

Birch Bay Watershed Action Plan



Tools to facilitate community supported development while improving water quality and habitat

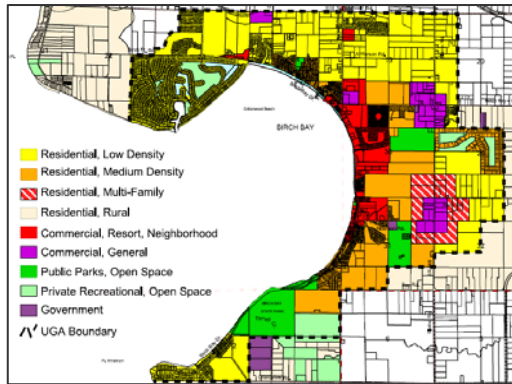
Public Meeting
February 17, 2011

Goals for Work Session

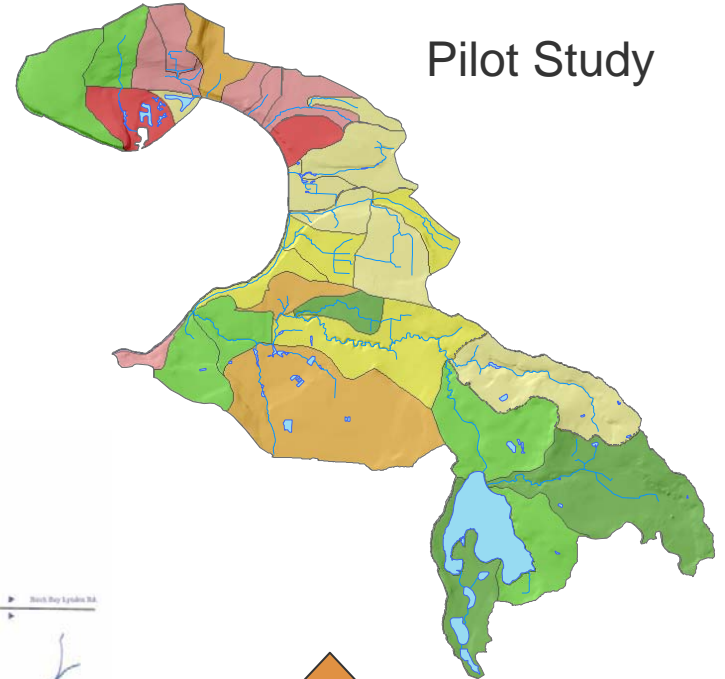
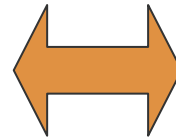
- Why Are We Doing This?
- Implementation Tools
 - LID Manual
 - Habitat Mitigation Fund
- Next Steps
- Comments and Questions



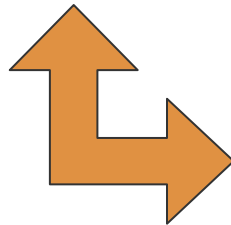
Plan Implementation



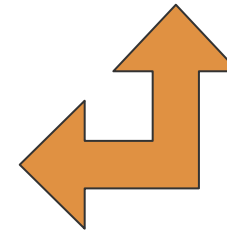
BB Community Plan



Pilot Study



Design Guidelines



Stormwater Plan

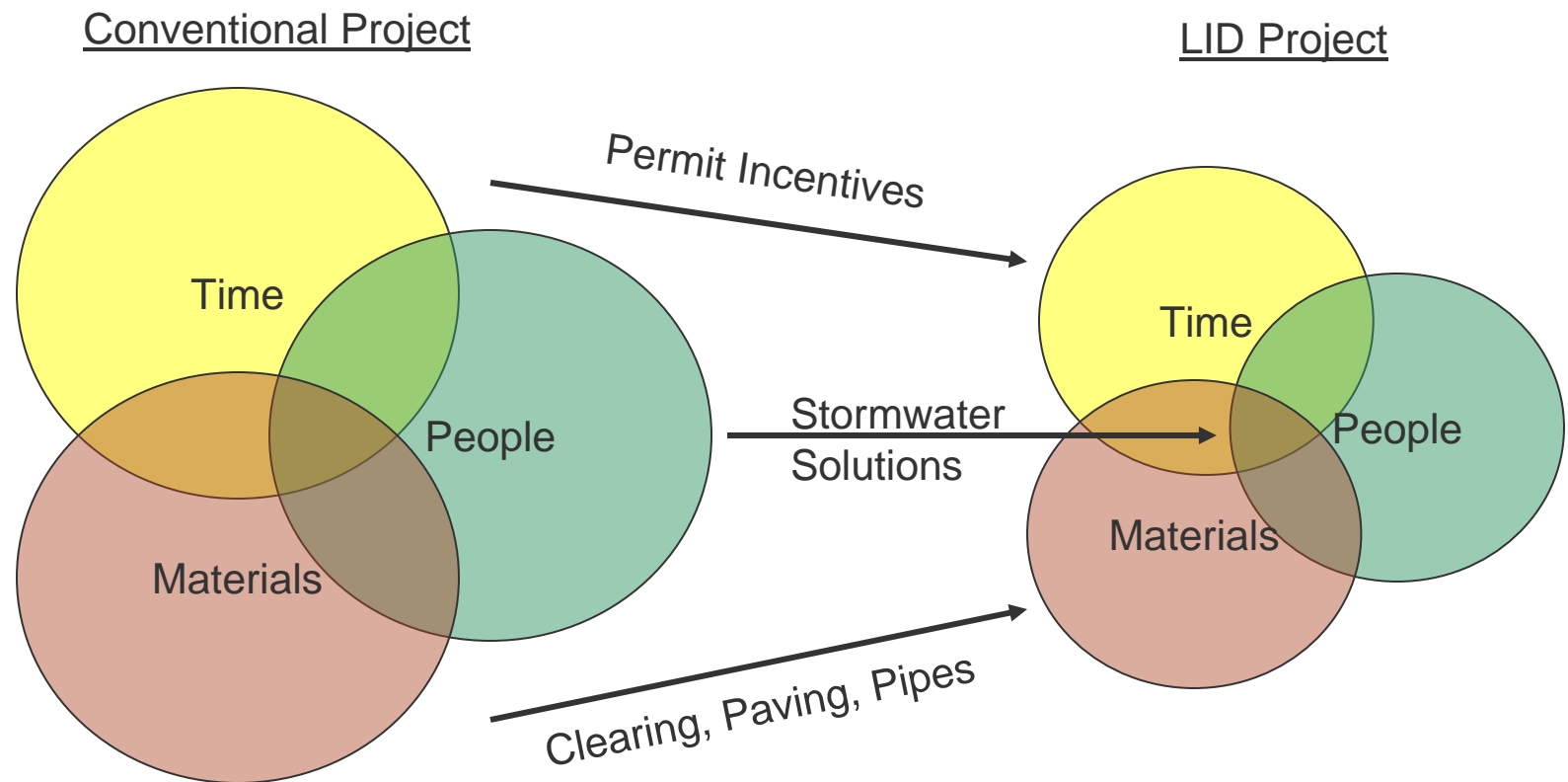


Implementation will result in:

- Flexible guidelines for “Green” development projects
- Customer service improvements related to permit expectations and review
- Improved mitigation outcomes and better stormwater management

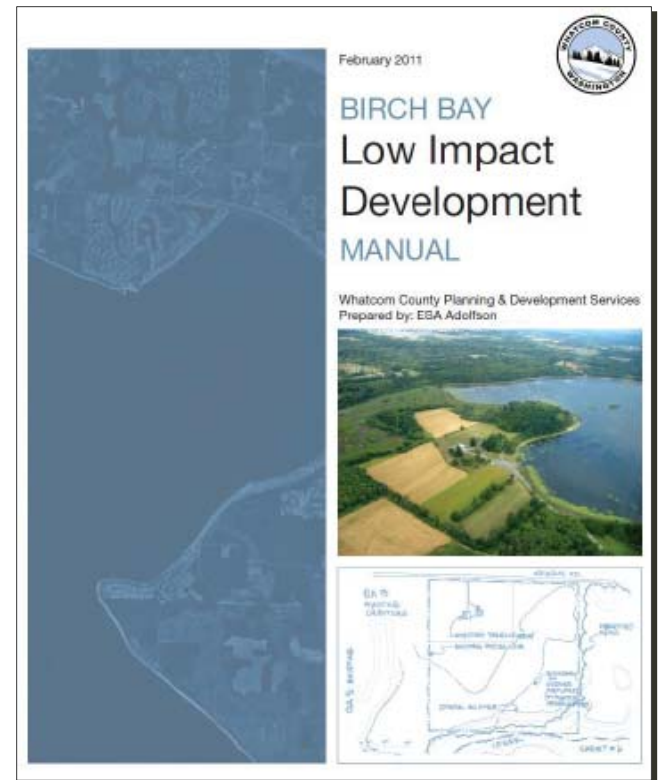
Benefits of New Approach

For Land Owner

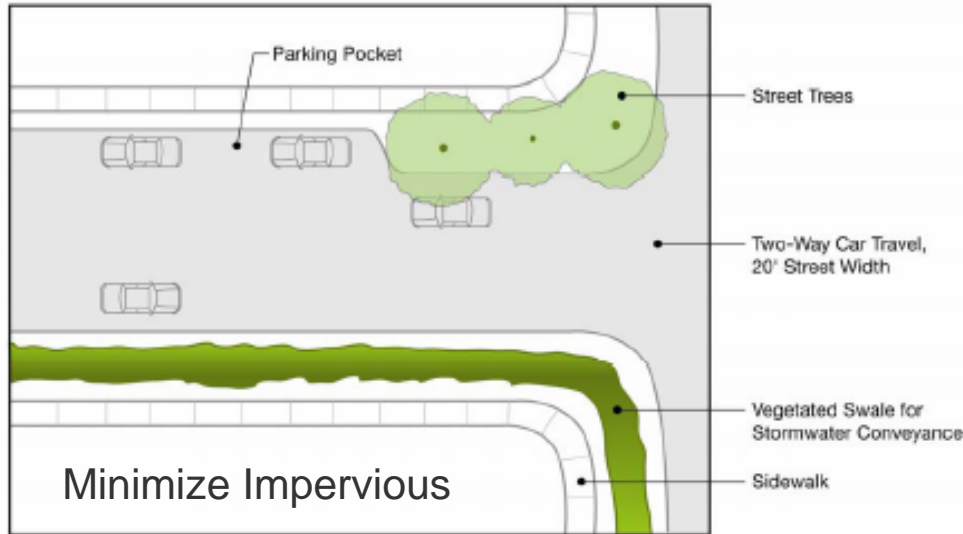


Low Impact Development Manual

- Best practices for habitat protection, wetland function, & stormwater
- Scoring System for determining benefits
- User Friendly
- Optional program
- Not another layer of regulations



Low Impact Development Practices



Rain water cistern



Cottage Housing to Max Open Space



Rain Garden

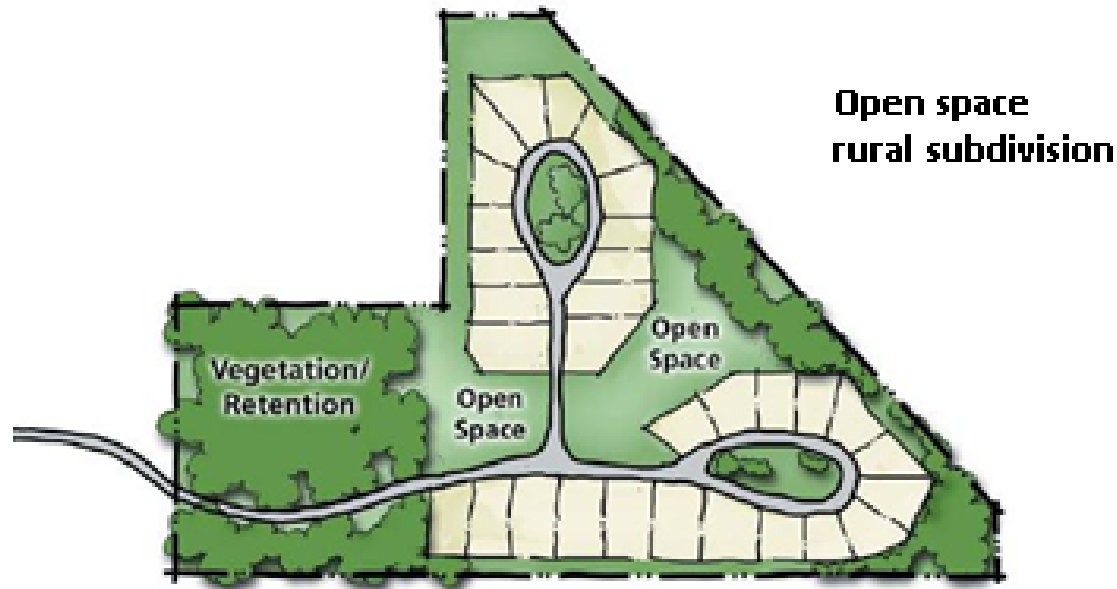
Point Categories

LID Technique	Points
1. Open Space	16
2. Protect Wetlands, Streams, Buffers	10
3. Landscaping and Revegetation	22
4. Tree Retention	14
5. Minimize Impervious Surface	12
6. Manage Stormwater Onsite	12
7. Amend Compacted Soils	9
8. Green Building	5

Incentives for participation

- Free Screening w/ LID Coordinator
- Access to Habitat Mitigation Fund
- Dedicated point of contact
- Permit preference

#1 Open Space Development



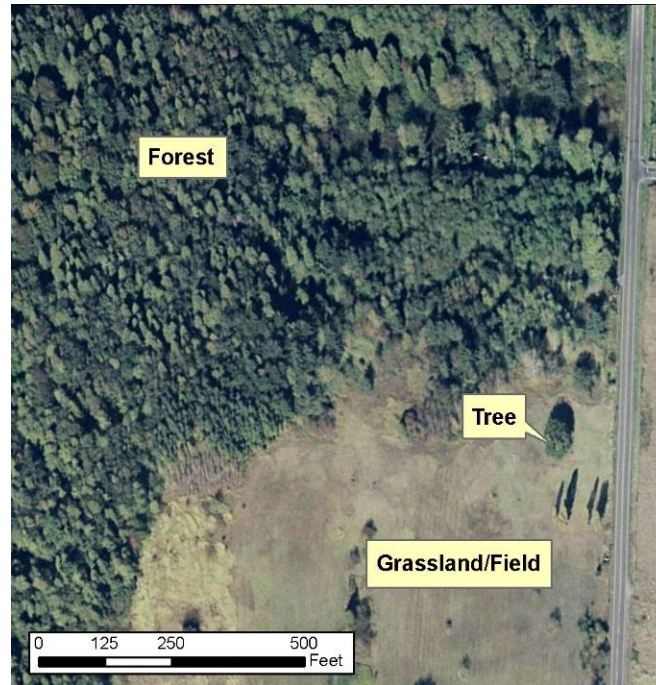
- Leave open space areas, without reducing lot yield
- Provides space for people and wildlife

#2 Protect Wetlands and Streams



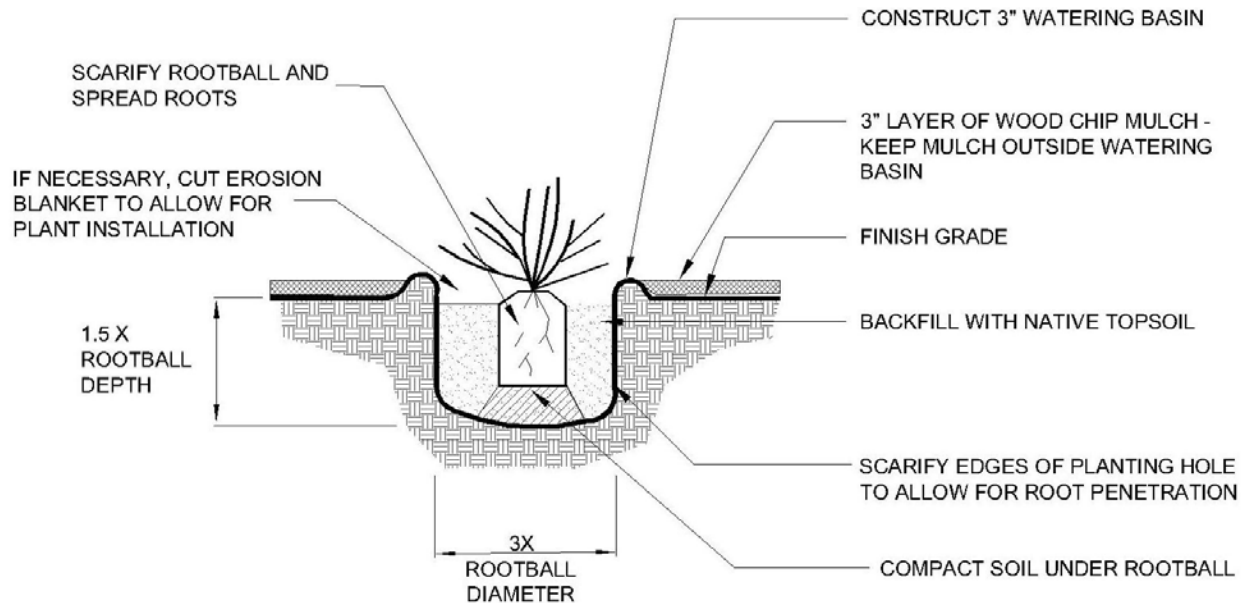
- Avoid impacts to wetlands and stream, where possible
- *LID manual does not require larger buffers*

#3 Preserve Forest Land



- Forests provide valuable habitat, and water quality/flood control benefits

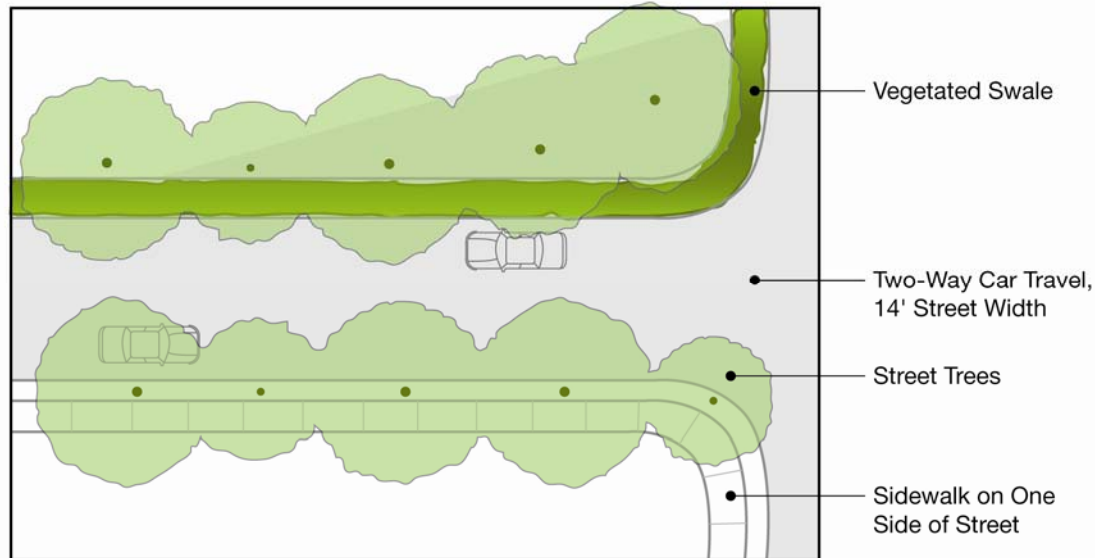
#4 Revegetation



- Planting with native species provides wildlife habitat, decreases irrigation needs, and improve water quality

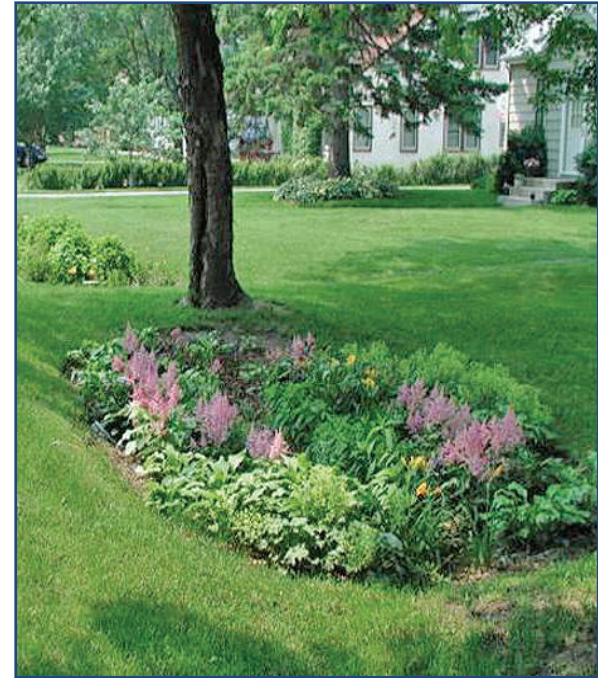


#5 Minimize Impervious Surfaces



- Helps improve water quality
- Can result in decreased development costs

#6 Management Stormwater Onsite



- Provides de-centralized stormwater management
- Results in improved water quality
- Less reliance on large stormwater detention ponds

Stormwater Calculator

Project Information						
Site Name	Smith Property					
Impervious Surface	965	sf				
Hydrologic Soil Group	B					
Runoff Surface and Stormwater Practices						
Runoff Surface	Area (sf)	Select a Practice		Size	Units ¹	Comments
1 Roof	400	Drywell		1	Drywell(s)	Applies to HSG A Only!!
2 Roof	200	Rain Garden		28	SF	
3 Roof	200	Dispersion, Splash Block		100	LF	
4 Driveway/Road	150	Rain Garden		21	SF	
5 Hardscape	15	Dispersion, Sheet Flow		50	LF	
6	0					
7	0					
8	0					
9	0					
10	0					
Total Area	965	sf mitigated by practices				
	Good					
Points Achieved	12	points				

#7 Soil Amendment



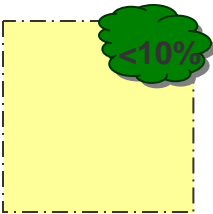
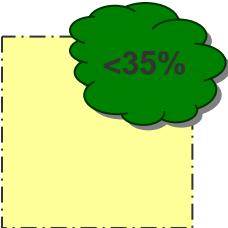
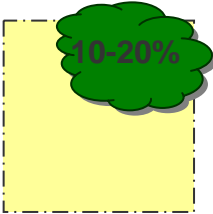
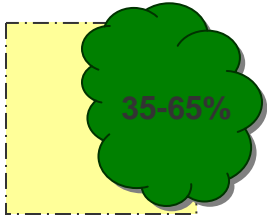
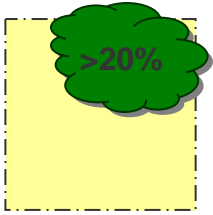
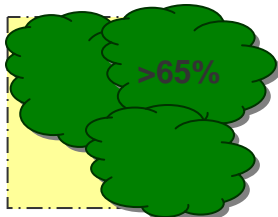
- Applying and mixing in compost improves soil quality
- Healthier lawns and landscaping
- Water infiltrates better

#8 Green Building



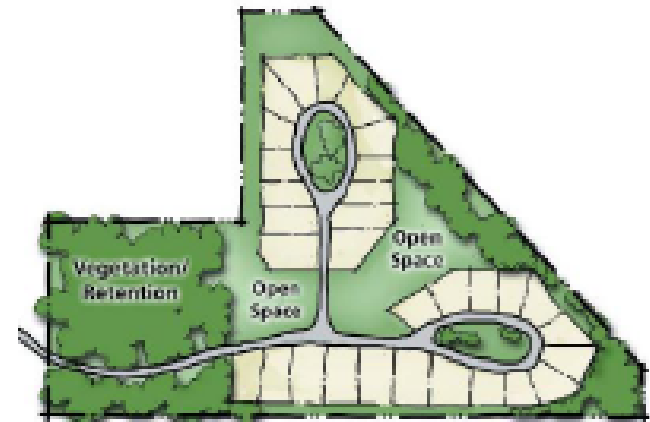
- Less energy usage = money savings
- Better for the environment

Scoring Example: Tree Retention

UGA	RURAL	
		0 Pts
		5 Pts
		10 Pts
Easement or Separate Tract		Additional 4 Pts

- Based on the % of Parcel that utilizes the development technique

- 35% Tree Retention
- Separate Tract



LID Cost

■ Construction savings

Table 4. Cost Comparison for Auburn Hills Subdivision¹⁹

Item	Conventional Development Cost	Auburn Hills LID Cost	Cost Savings*	Percent Savings*	Percent of Total Savings*
Site preparation	\$699,250	\$533,250	\$166,000	24%	22%
Stormwater management	\$664,276	\$241,497	\$422,779	64%	56%
Site paving and sidewalks	\$771,859	\$584,242	\$187,617	24%	25%
Landscaping	\$225,000	\$240,000	-\$15,000	-7%	-2%
Total	\$2,360,385	\$1,598,989	\$761,396	—	—

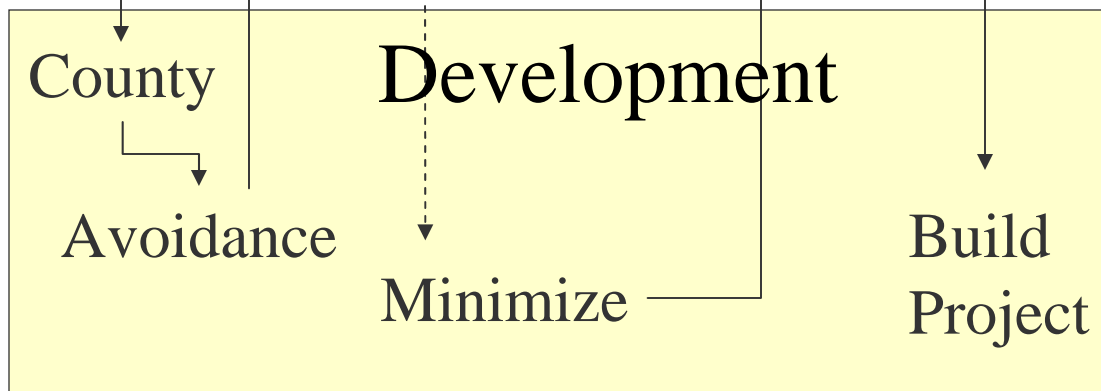
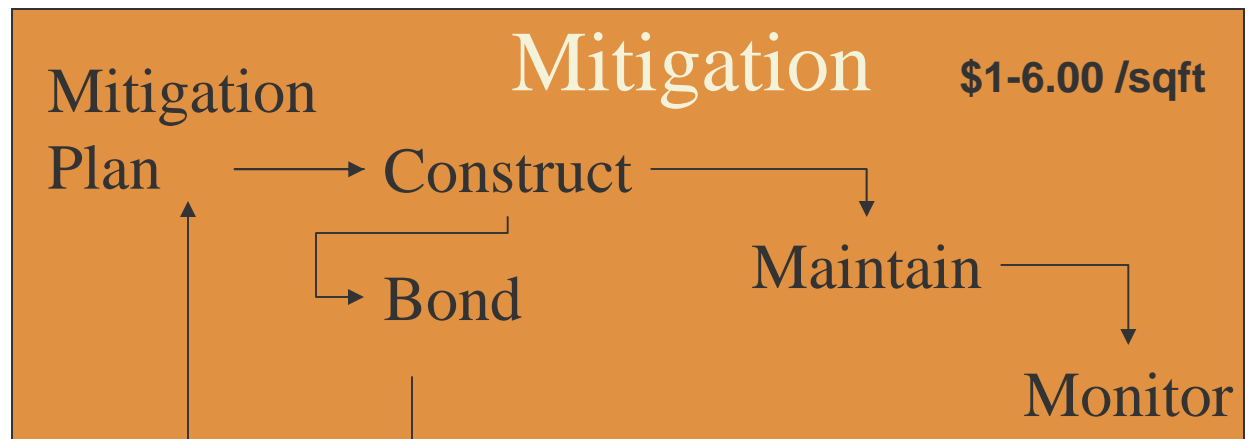
* Negative values denote increased cost for the LID design over conventional development costs.



Habitat Mitigation Fund

- Proponents can ‘buy’ into mitigation program
- Buffer Impacts are consolidated to fund substantive projects
- A simpler way to meet mitigation obligations
- Voluntary participation
- Improves mitigation outcomes

Current: Wetland/Stream Buffer Mitigation Process



Proposed: Wetland/Stream Buffer Mitigation Process

Development



Minimize Impacts Build Project



Development



Minimize Impacts Build Project



Development



Minimize Impacts Build Project



Mitigation Fund

Plan Construct

\$2 - 4.00 /sqft
Includes Land Cost

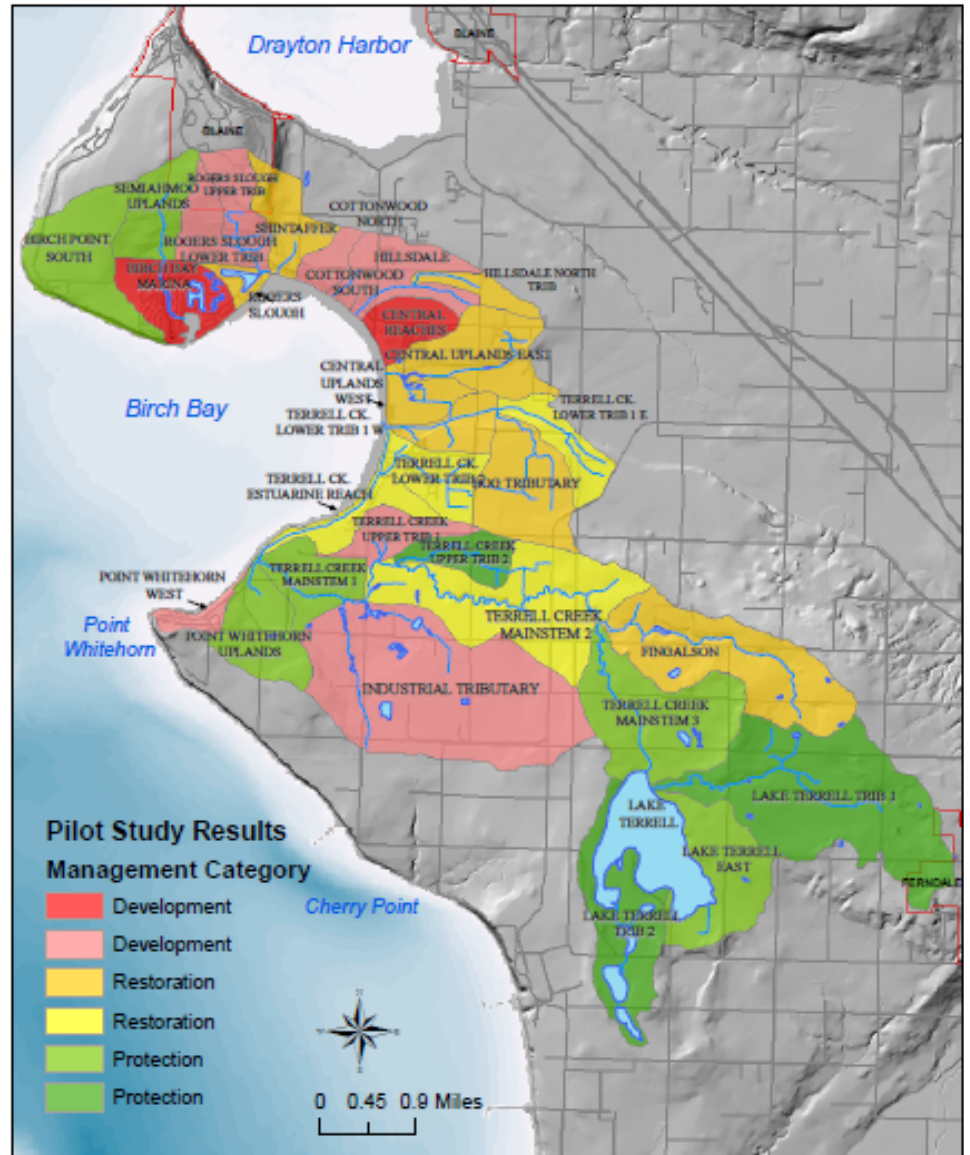


Monitor

Maintain



Mitigation Where it Provides the Greatest Ecological Benefit



Mt. Vernon Program

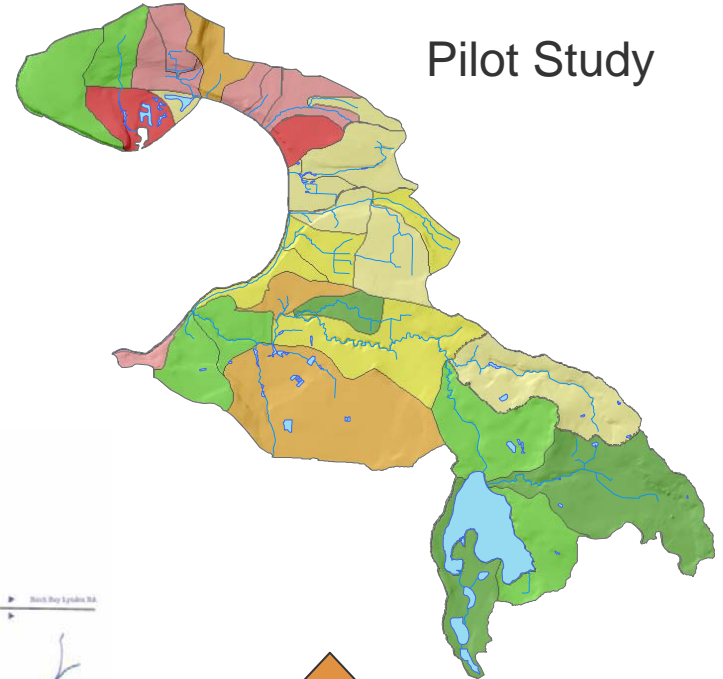
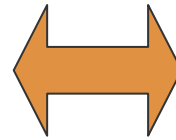
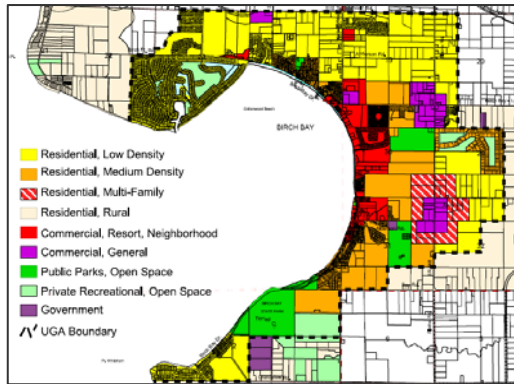
7. Managed Ecosystem Alternative Summary

Project #	Project Name	Type	Basin	Amount	Status
LU05-085	Montreaux	wetland	Trumpeter Creek	\$4,804	paid
LU08-026	NW Eye Surgeons	combined wetland/stream	Kulshan Creek	\$31,000	paid
LU07-052	Skagit Valley Herald	stream	Maddox Creek	\$23,286	paid
LU07-048	Skagit County Admin Building Addition	stream	North Fork Kulshan	\$9,770	paid
LU06-060	Smith-Burkland	wetland	Trumpeter Creek	\$12,000	not paid
LU07-024	Skagit Meadows	wetland	Trumpeter Creek	\$53,000	on hold
LU07-037	Hanson Plat	Corps of Engineers required mitigation	Trumpeter Creek	\$20,000	on hold
			Total	\$153,860	

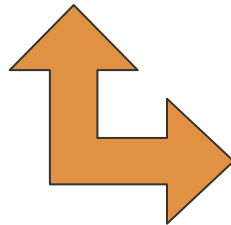
Operating Roles

- Plan Sponsors – Manage Program
- Review Team/Committee
 - Recommendations on restoration plans, monitor ledger, use of preservation
 - Public input into proposed actions
- County Council – Adjust Fee Schedule

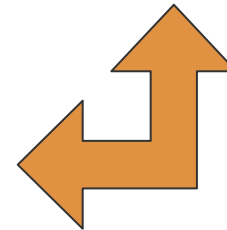
Plan Implementation



Sub-Area Plan



Design Guidelines



Stormwater Plan



Next Steps

- Public Meetings
- Revise Manual (Comment . Feb. 28)
- Draft Code
- Planning Commission March 10
- Council

Questions

