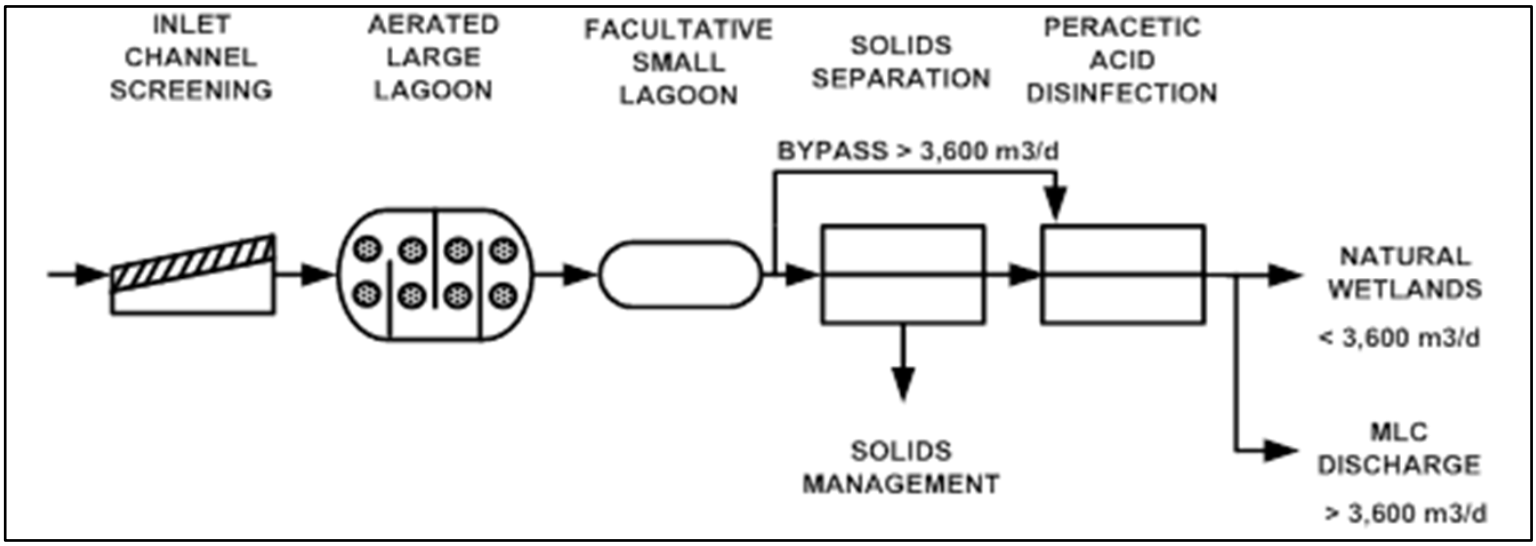
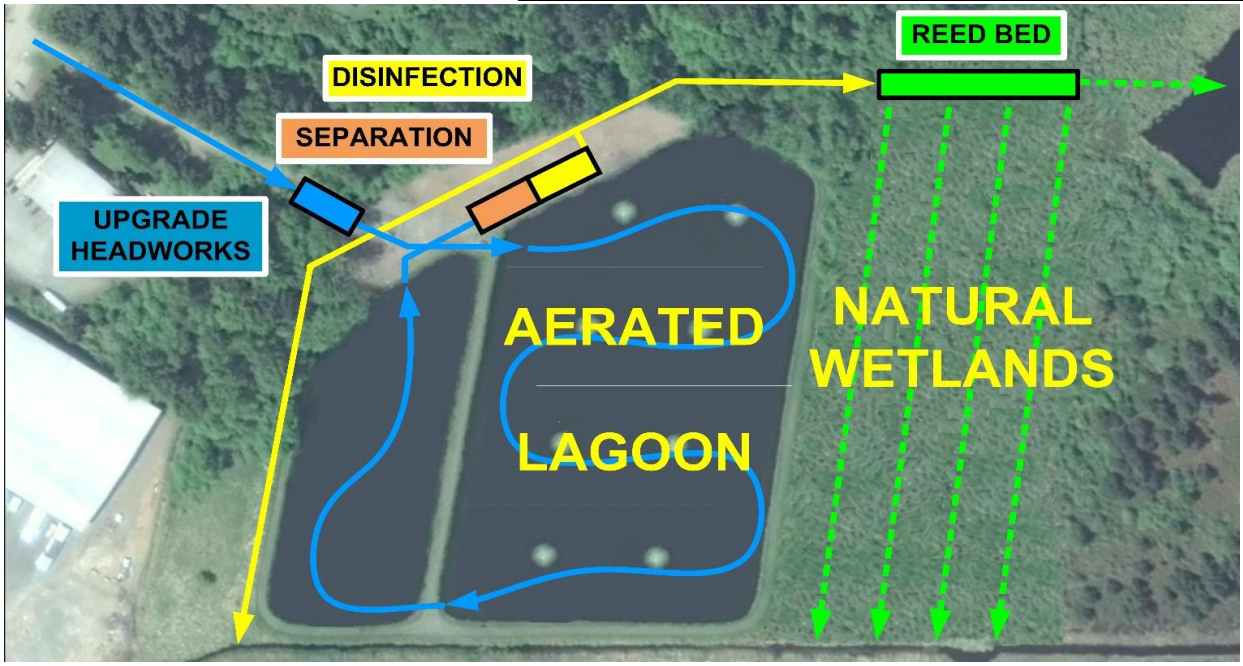
LWMP Open House Nov 23 2017
Treatment Option 1A: Upgraded Lagoon
Effluent Quality – Moderate Exposure Potential "MEP"



Capacity	7,000 people
Dry Weather Flow	1,800 cu.m/day
Wet Weather Flow	14,500 cu.m/day
Effluent Quality up to 3600 cu.m/day	25-25 MEP
Wet Weather Treatment	Lagoons + Disinfection

Bioreactor type	Aerated Lagoon
Operational Complexity	Moderate - Class 2
Capital Cost Range	$8.7 - 9.5M
Operating Cost	$375k/yr
Carbon Footprint	Moderate
Discharge	North Wetlands



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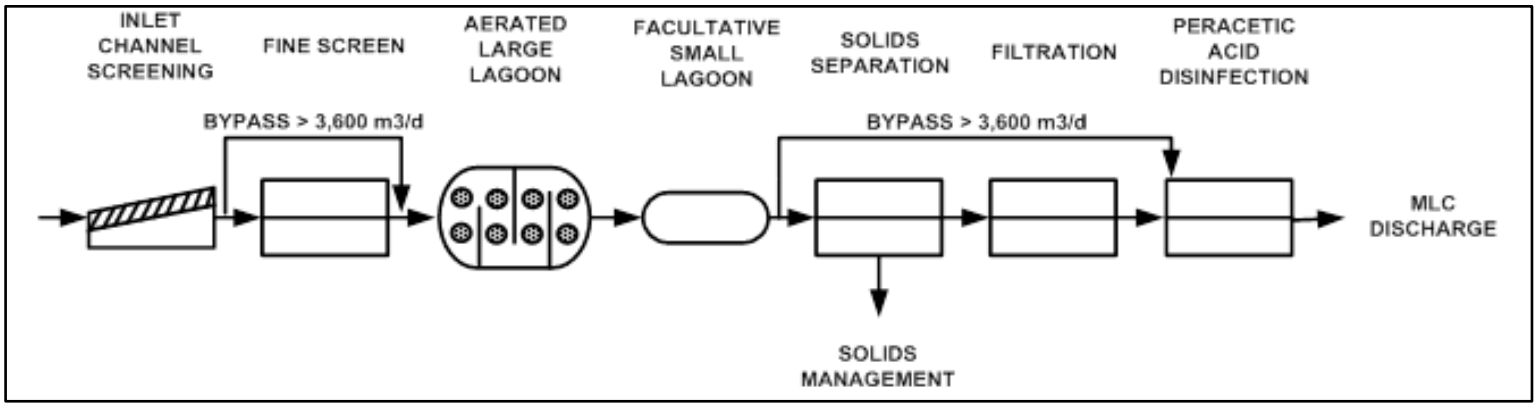
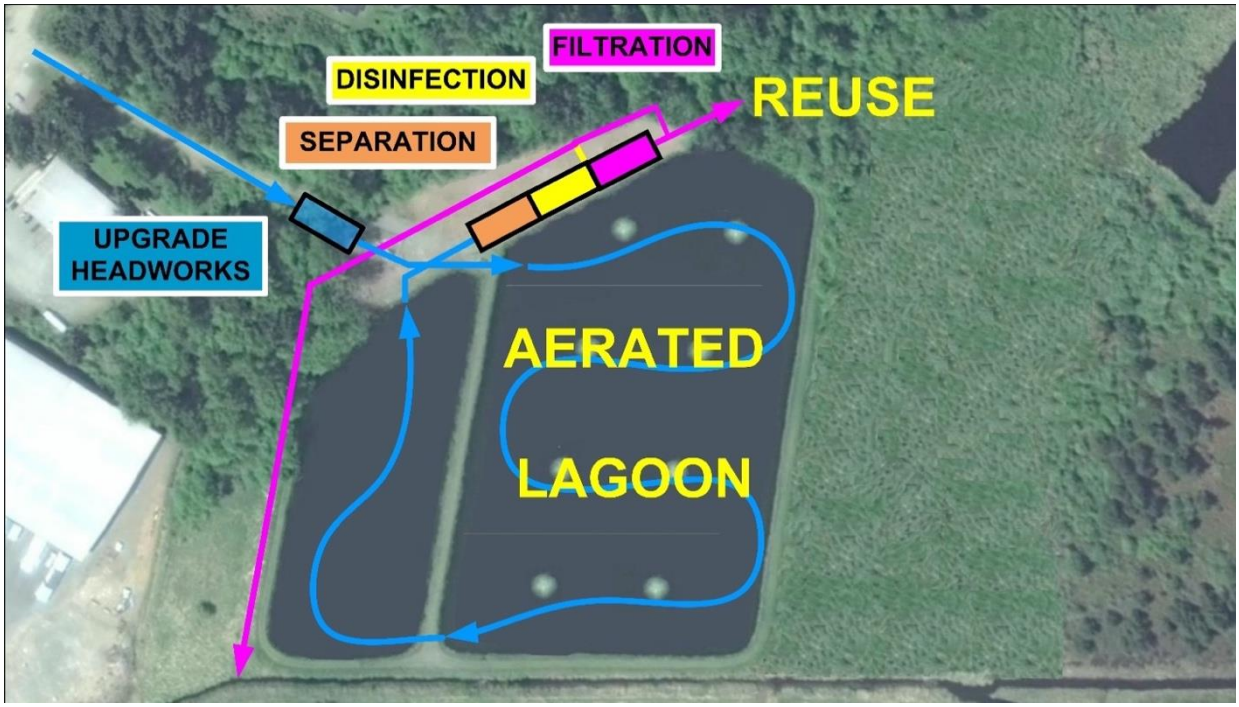
Treatment Option 1B: Upgraded Lagoon with Tertiary Treatment
Effluent Quality – Greater Exposure Potential "GEP"



Capacity	7,000 people
Dry Weather Flow	1,800 cu.m/day
Wet Weather Flow	14,500cu.m/day
Effluent Quality up to 3600 cu.m/day	10-10 "GEP"
Wet Weather Treatment	Lagoons + Disinfection

Bioreactor type	Aerated Lagoon
Operational Complexity	High class 3
Capital Cost Range	$11.6-$13.7
Operating Cost	$450k/yr
Carbon Footprint	Moderate
Discharge	Maple Lake Creek



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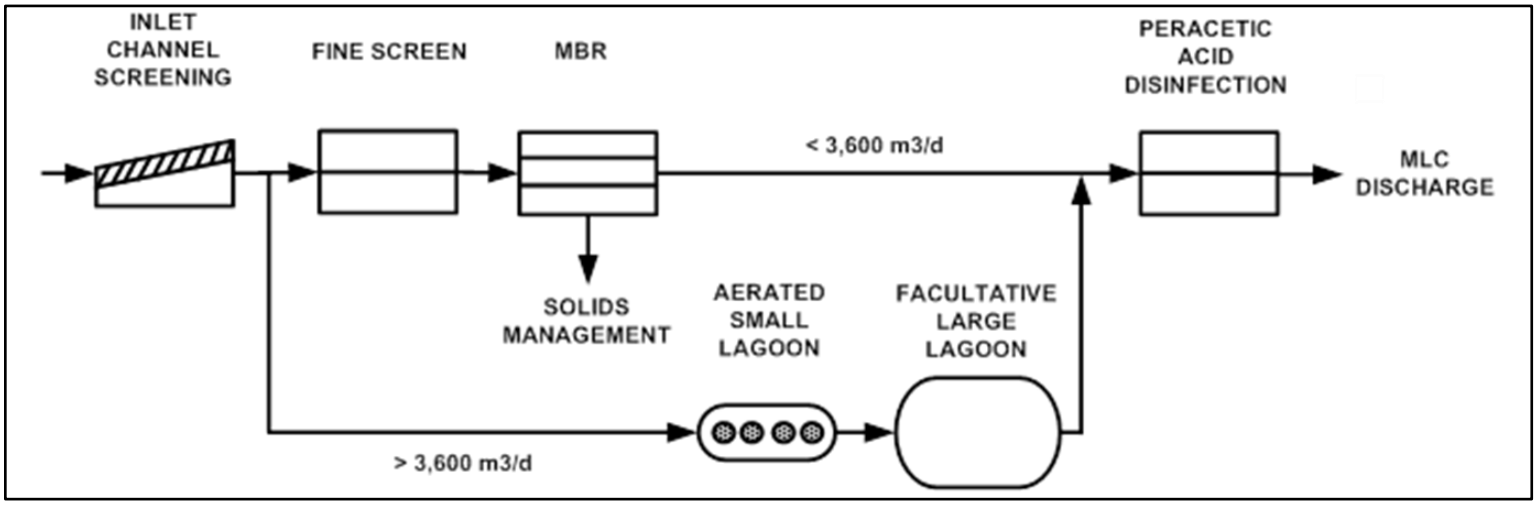
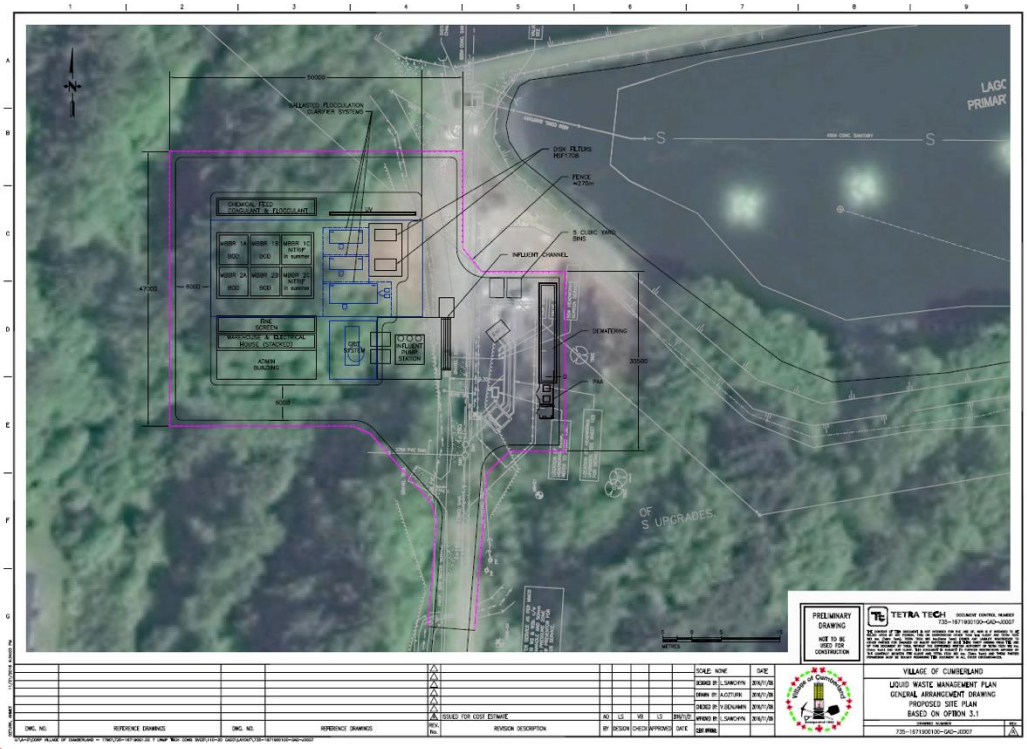
LWMP Open House Nov 23 2017
Treatment Option 2: Base Flow Mechanical
Effluent Quality – Greater Exposure Potential – "GEP"



Capacity	7,000 people
Dry Weather Flow	1,800cu.m/day
Wet Weather Flow	14,500cu.m/day
Effluent Quality up to 3600 cu.m/day	10-10 "GEP"
Wet Weather Treatment	Lagoons + disinfection

Bioreactor type	Membrane Bio Reactor
Operational Complexity	Highest Class 4
Capital Cost	$9.3 - $11.7M
Operating Cost	$450k/yr
Carbon Footprint	High
Lagoons	Retained for wet weather



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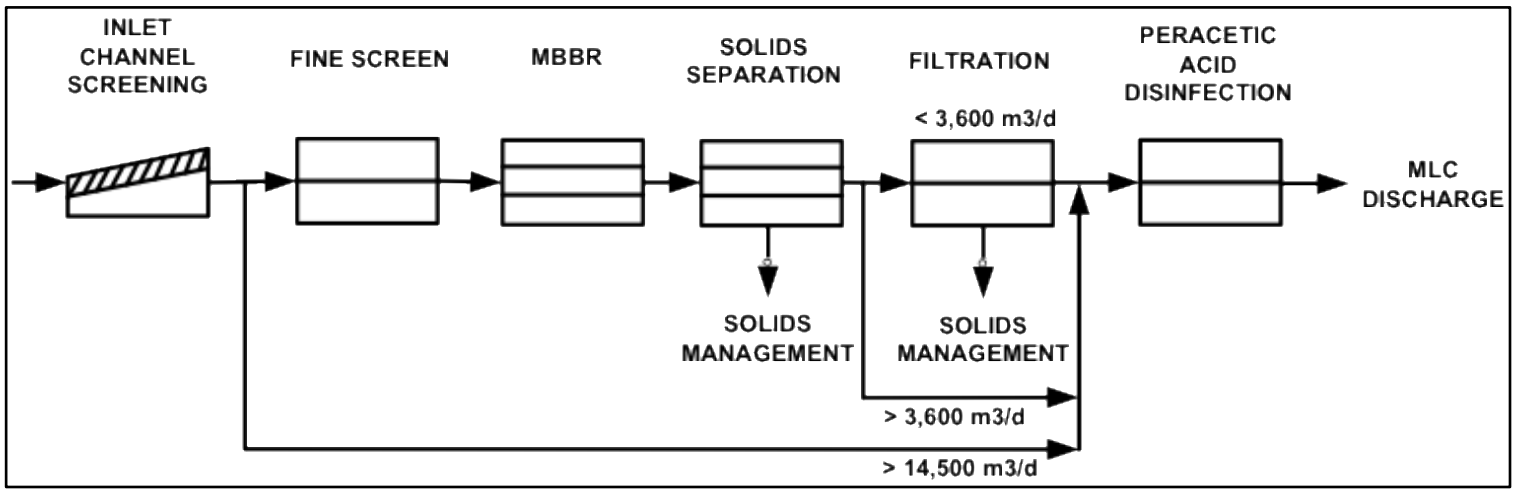
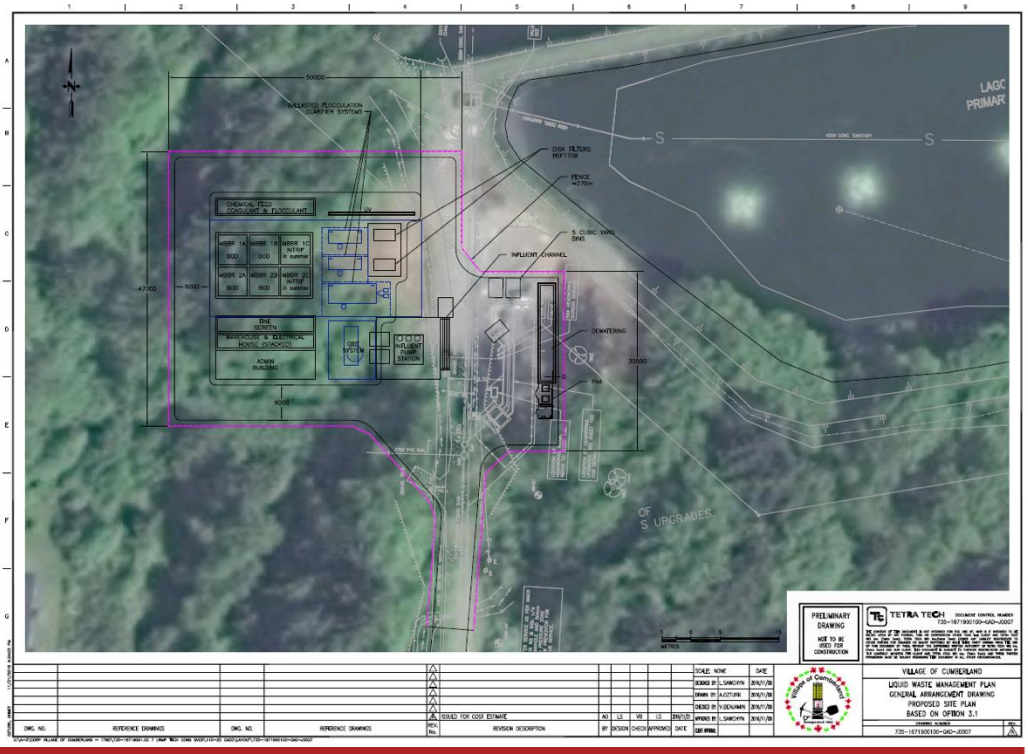
LWMP Open House Nov 23 2017
Treatment Option 3: Full Flow Mechanical
Effluent Quality Greater Exposure Potential "GEP"



Capacity	7,000 people
Dry Weather Flow	1,800cu.m/day
Wet Weather Flow	14,500 cu.m/day
Effluent Quality up to 3600 cu.m/day	10-10 "GEP"
Wet Weather Treatment	Mechanical

Bioreactor Type	Moving Bed Biofilm Reactor
Operational Complexity	High Class 3-4
Capital Cost	$14.8-$17.8M
Operating Cost	$500k/yr
Carbon footprint	High
Lagoons	Decommissioned



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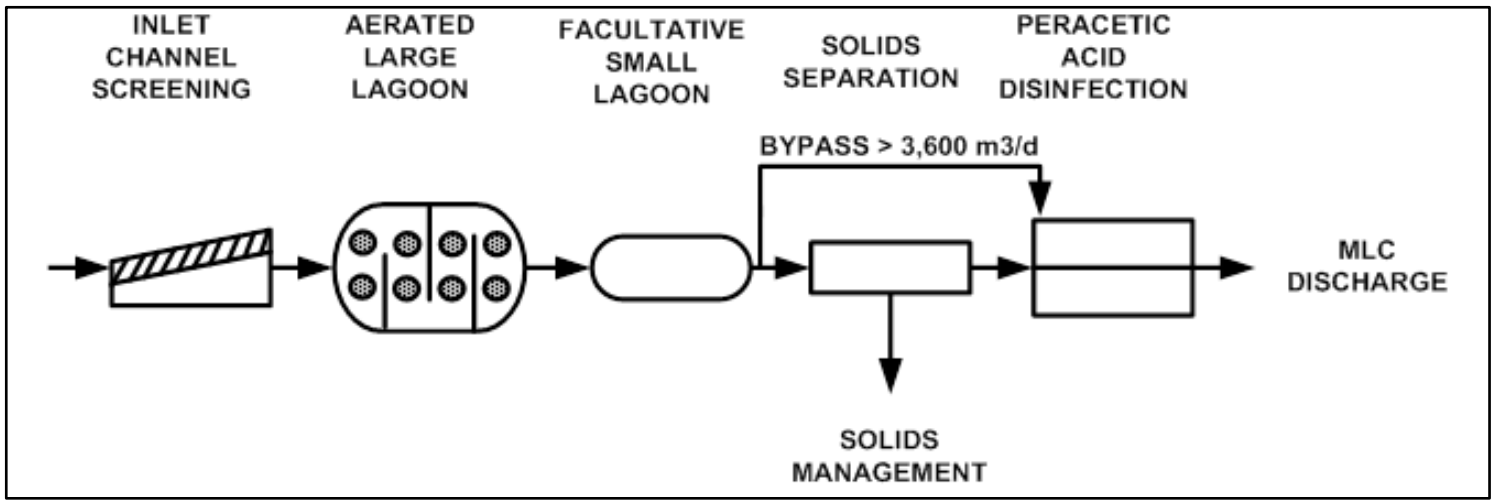
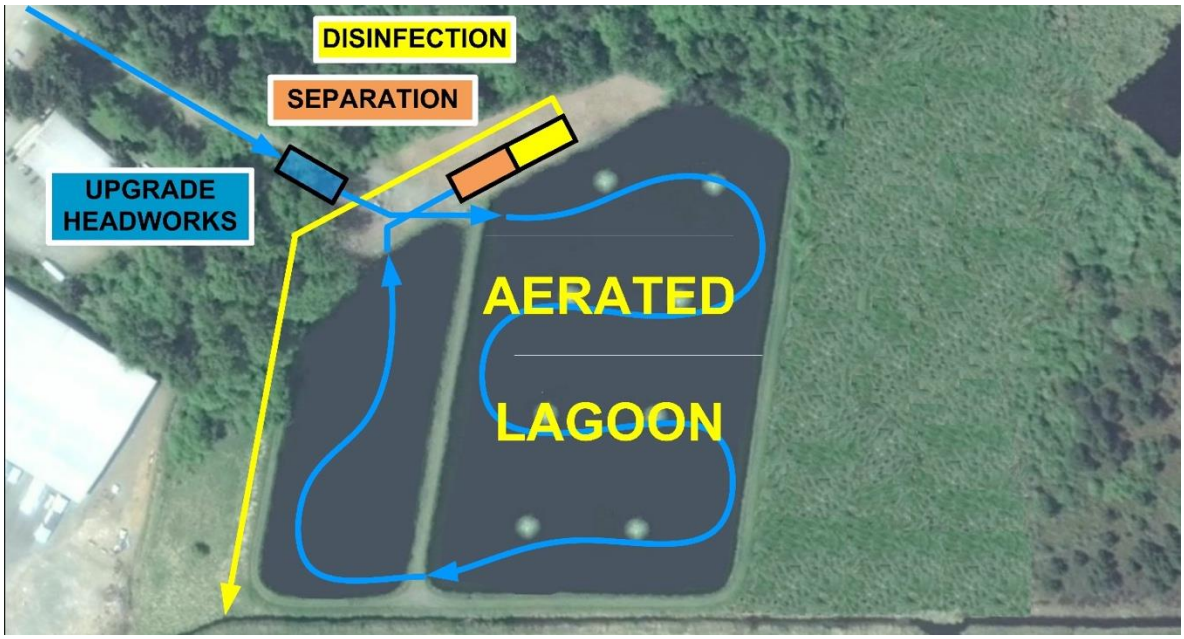
LWMP Open House Nov 23 2017
Potential Phase 1: Upgraded Lagoon for Permit Compliance
Effluent Quality - Moderate Exposure Potential "MEP"



Capacity	5,000 people
Dry Weather Flow	1,000 cu.m/day
Wet Weather Flow	14,500cu.m/day
Effluent Quality up to 3600 cu.m/day	25-25 "MEP"
Wet Weather Treatment	Lagoons + Disinfection

Bioreactor type	Aerated Lagoon
Operational Complexity	Moderate - Class 2
Capital Cost	$5.6M
Operating Cost	$350k/yr
Carbon Footprint	Moderate
Discharge	Maple Lake Creek



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LWMP Open House Nov 23 2017 Treatment Option Comparison

	Present System	Phase 1	1A	1B	2	3
Description	Aerated and Facultative Lagoons	Upgraded Lagoon to Permit Compliance	Upgraded Lagoon to MEP	Upgraded Lagoon to GEP	Base flow mechanical to GEP	Full flow mechanical to GEP
Population capacity	<4,000	5,000	7,000	7,000	7,000	7,000
Discharge Location	Maple Lake Creek	Maple Lake Creek	North Wetlands	Maple Lake Creek	Maple Lake Creek	Maple Lake Creek
Effluent Quality (BOD-TSS, mg/L)	25-25 (winter) 50-50 (summer)	25-25	25-25	10-10	10-10	10-10
Disinfection by PAA	None	<100CFU/100mL	<100CFU<100mL	<1CFU/100mL	<1CFU/100mL	<1CFU/100mL
Biosolids Withdrawal	Periodic dredging (last done 2009)	Periodic dredging + low vol. continuous	Periodic dredging + low vol. continuous	Periodic dredging + low vol. continuous	Continuous	Continuous
Operational Class	1	2-3	2-3	3	4	3-4
Energy use	Low	Moderate	Moderate	Moderate	High	Highest
Carbon Footprint	Very Low	Low	Low	Low	High	Highest
Land Reclaimed	No	No	No	No	No	Yes –Lagoons 4Ha
Cost- Single Project		$5.6M	$8.7M	$11.6M	$9.3M	$14.8M
Cost, Two Phase			$9.5M	$12.7M	$10.7	$16.8M
N. Wetland		n/a	Included	$13.7M	$11.7M	$17.8M
Operating Cost		$350k	$375k	$425k	$450k	$500k

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