

Sewer Master Plan Update

Francis City Council Meeting

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Carollo Engineers

 **carollo**
Engineers...Working Wonders With Water®

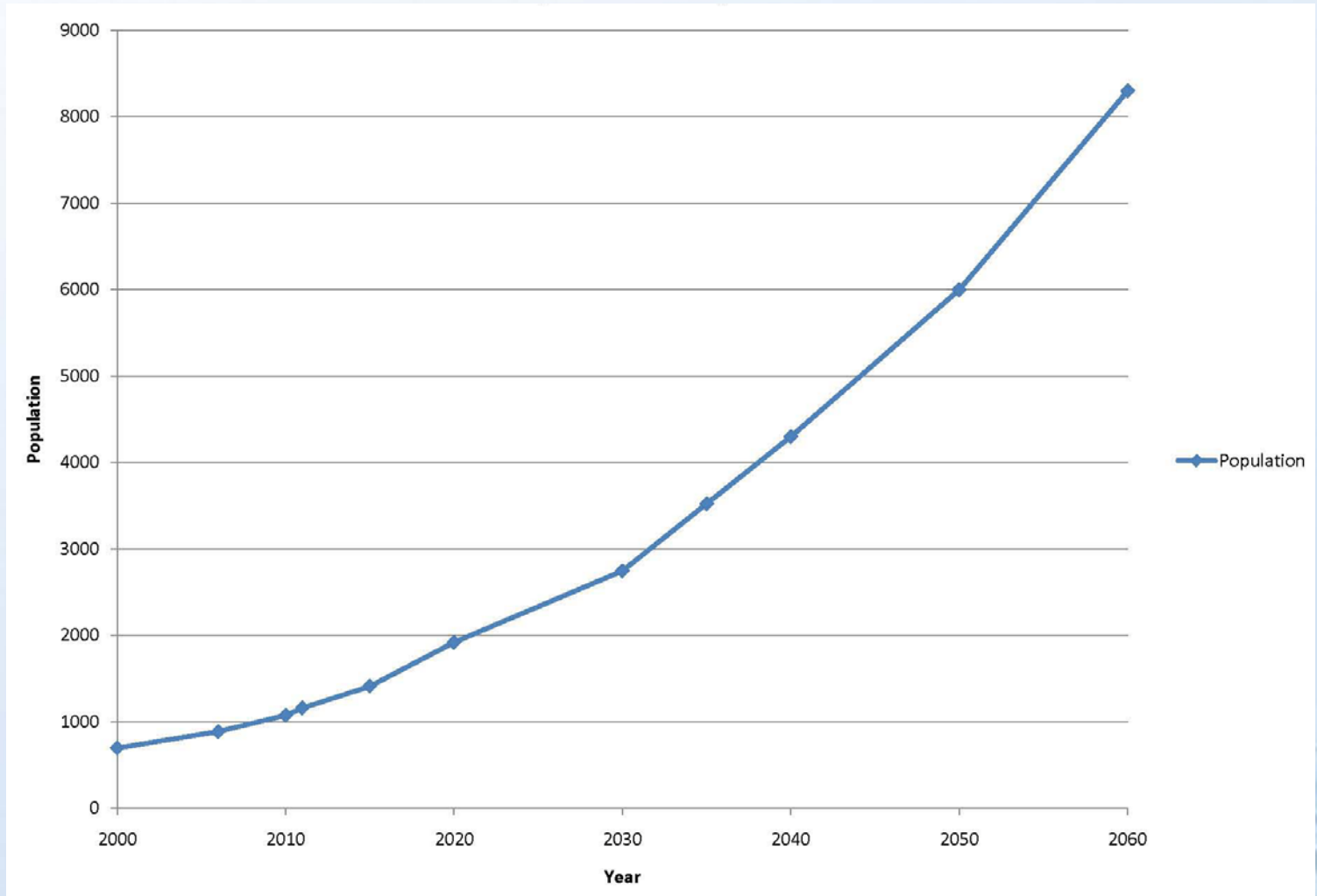
Outline

- Background
- Wastewater Disposal Options
- Wastewater Treatment Options
- Collection System Modeling

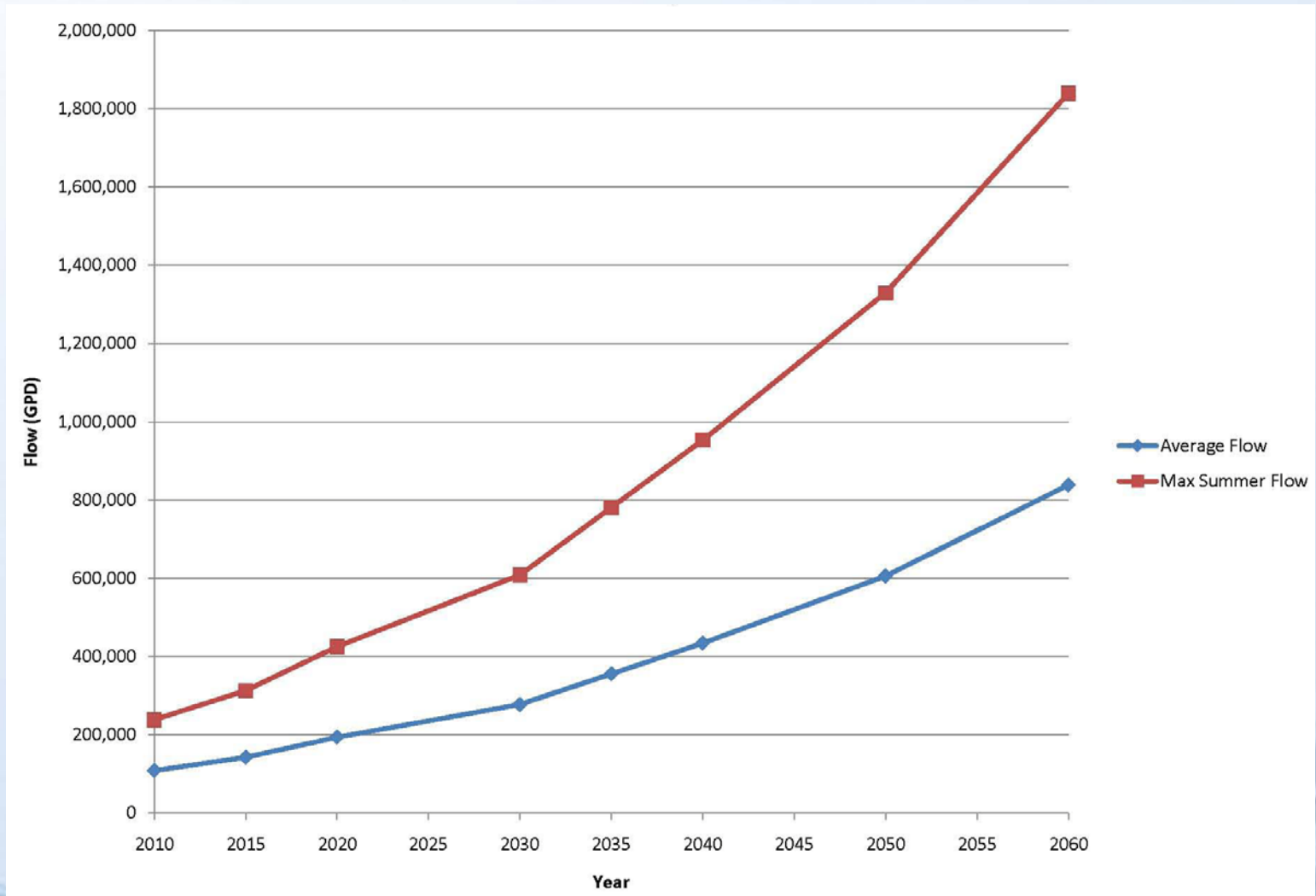
Background



Population Projections



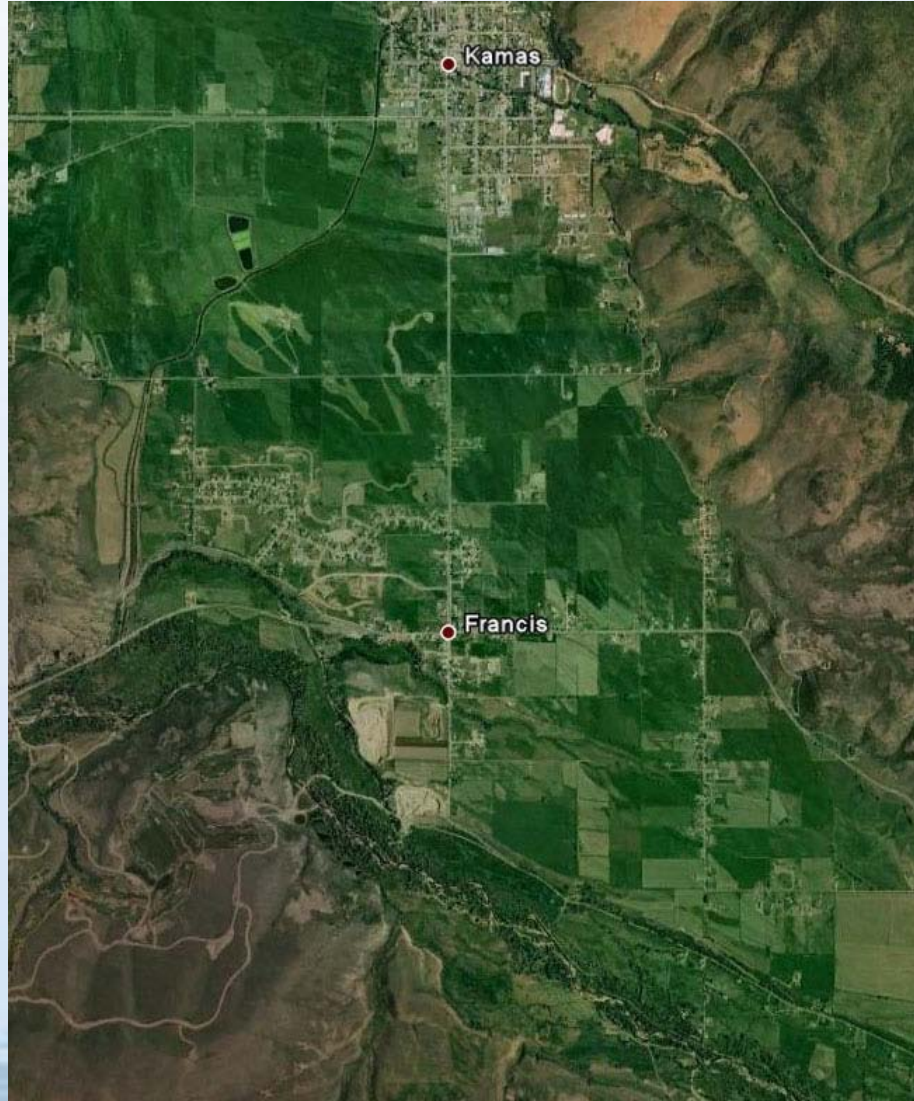
Flow Projections



Outline

- Background
- **Wastewater Disposal Options**
- Wastewater Treatment Options
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Disposal Options



Disposal Options

- Land Application (non-public access)
- Land Application (public access)
- Weber River Basin Discharge
- Provo River Basin Discharge
- Water Rights Issues

Water Rights Summary

Description	Water Right ID #	Source	Water Right Irrigation Area (acres)	Defined Consumptive Use (acre-feet/acre)	Total Water Right (acre-feet)	Allowable Depletion (acre-feet)
River Bluffs	55-12331	Provo	25.835	1.6075	77.5	41.529
Washington Irrigation Co.	55-12355	Provo	5.2	1.6075	15.6	8.36
Washington Irrigation Co.	55-9139	Provo			160.2	?
South Kamas Irrigation Co.	55-7830	Provo			162.36	?
Source: Francis City Records and Utah Division of Water Rights website						

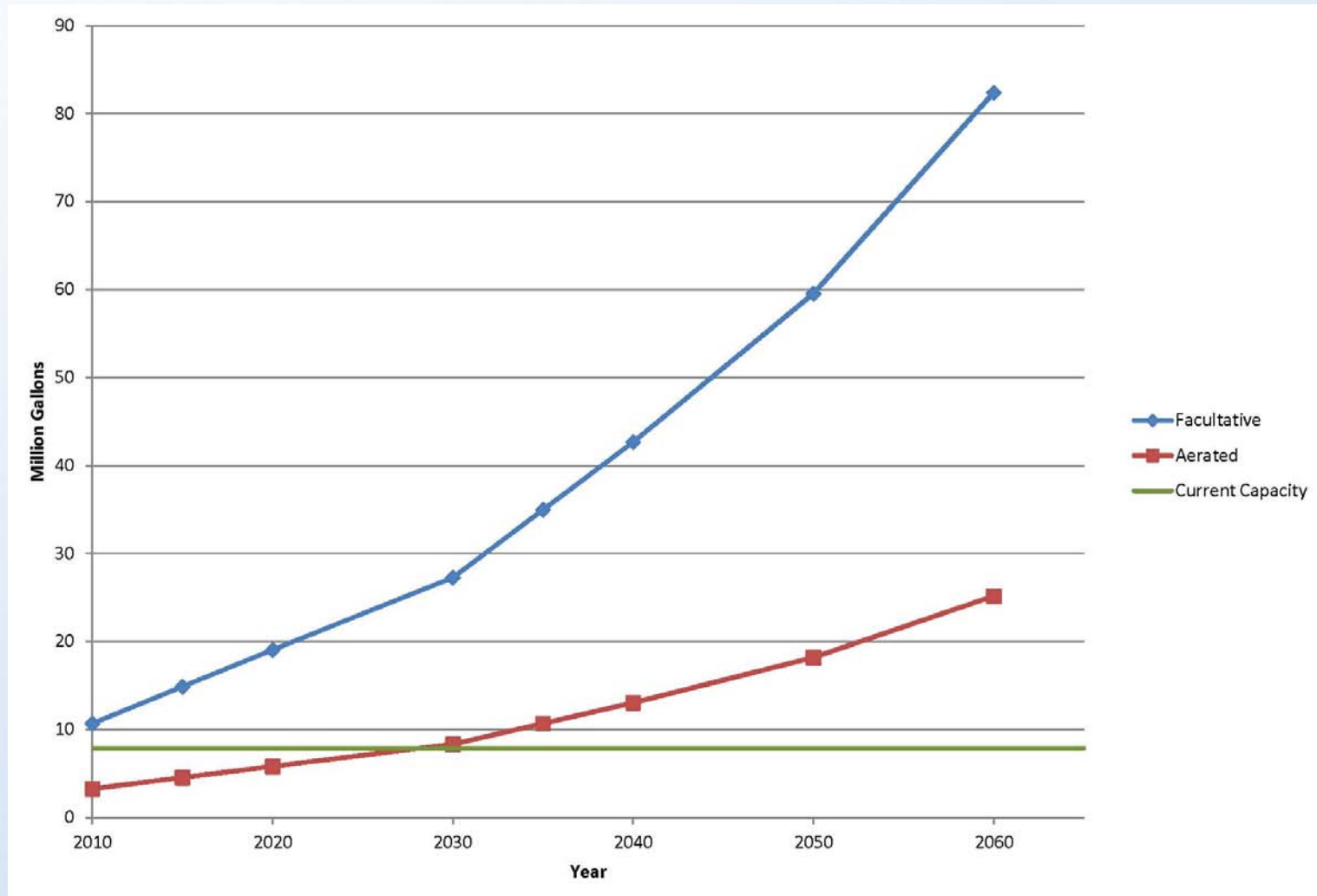
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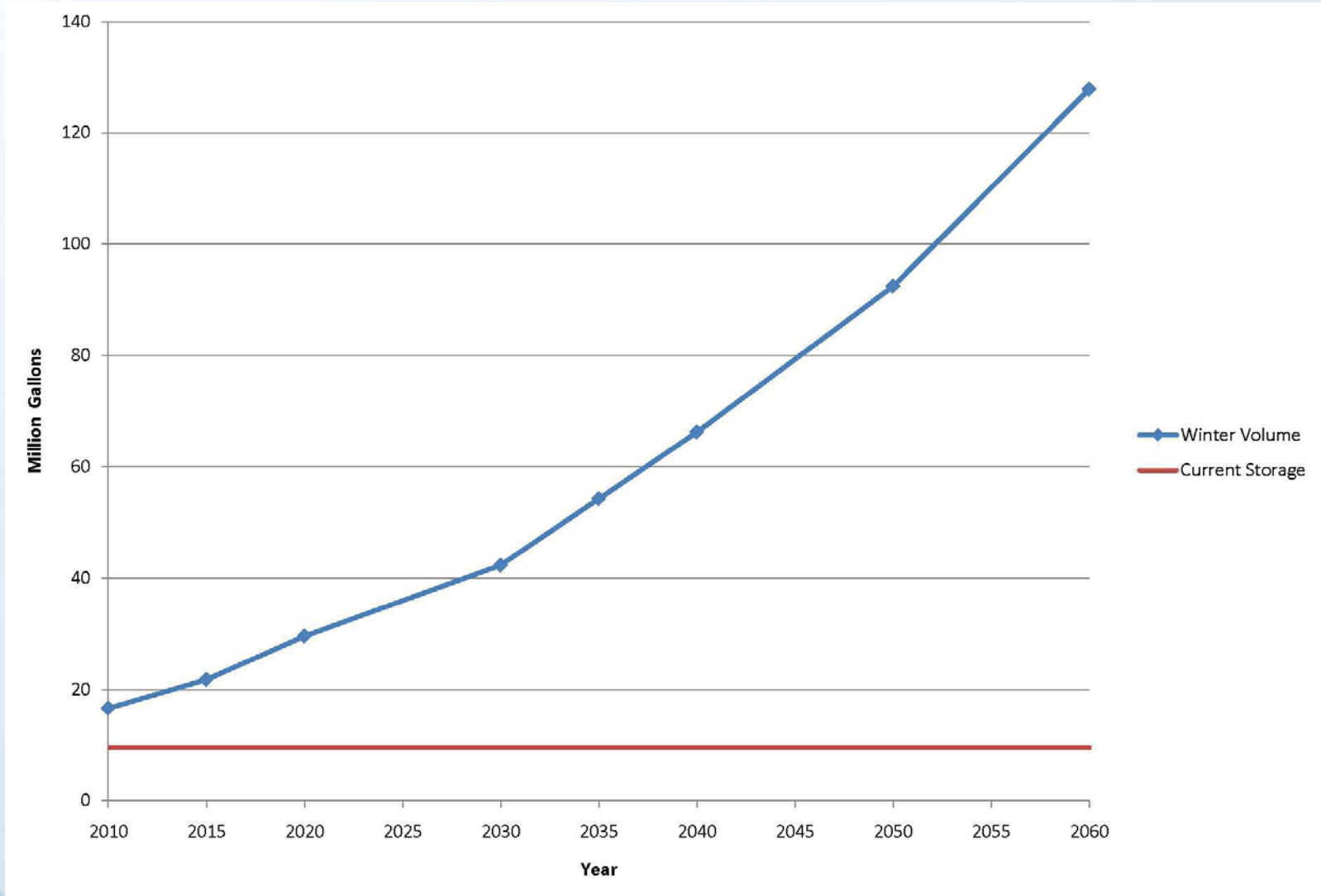
Wastewater Treatment Options

- Aerated Lagoons
- Extended Aeration with Nutrient Removal
- Membrane Bioreactor with Nutrient Removal
- Membrane Bioreactor with Advanced Oxidation Process
- Regionalization Options

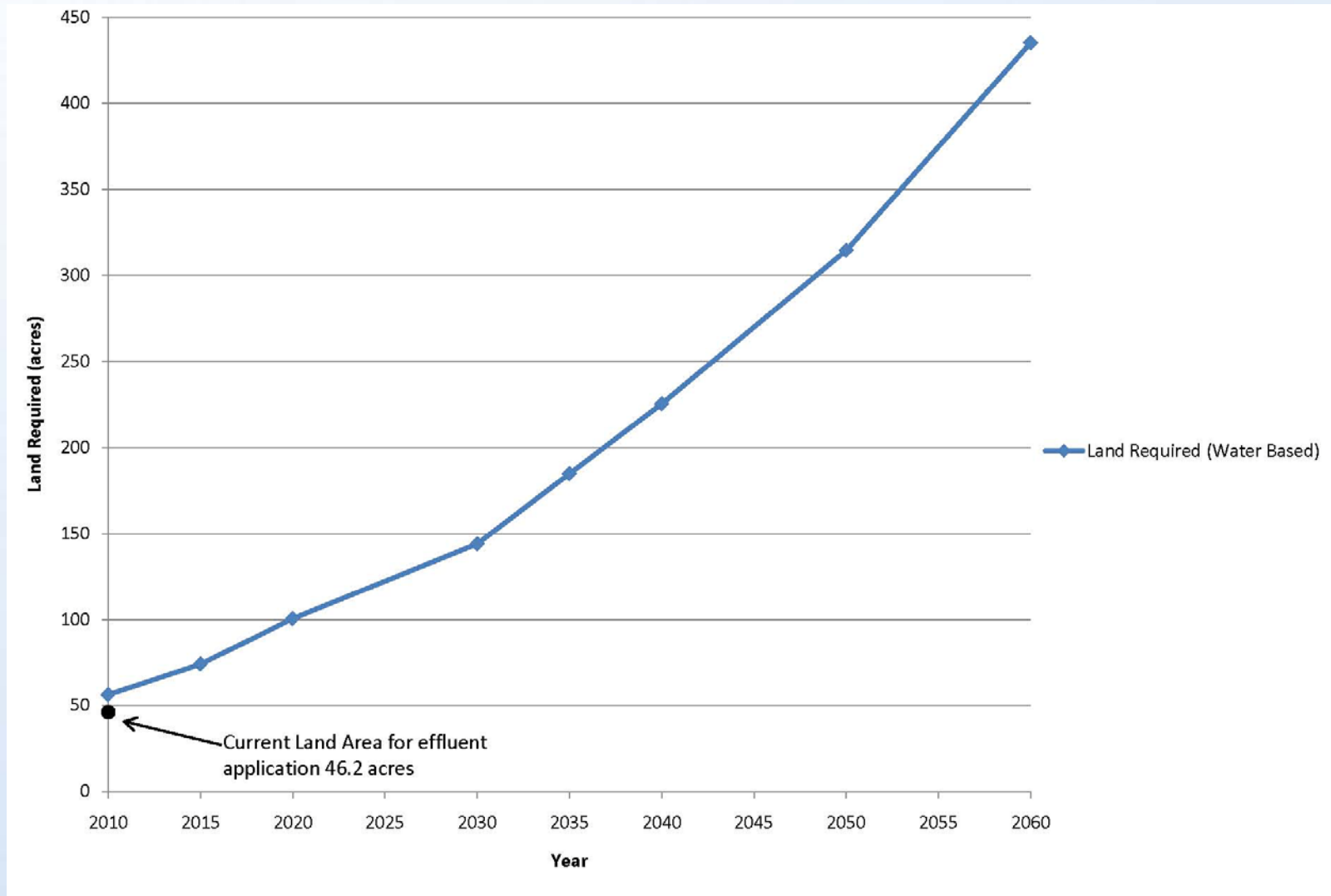
Lagoon Capacity Required



Winter Storage Requirements



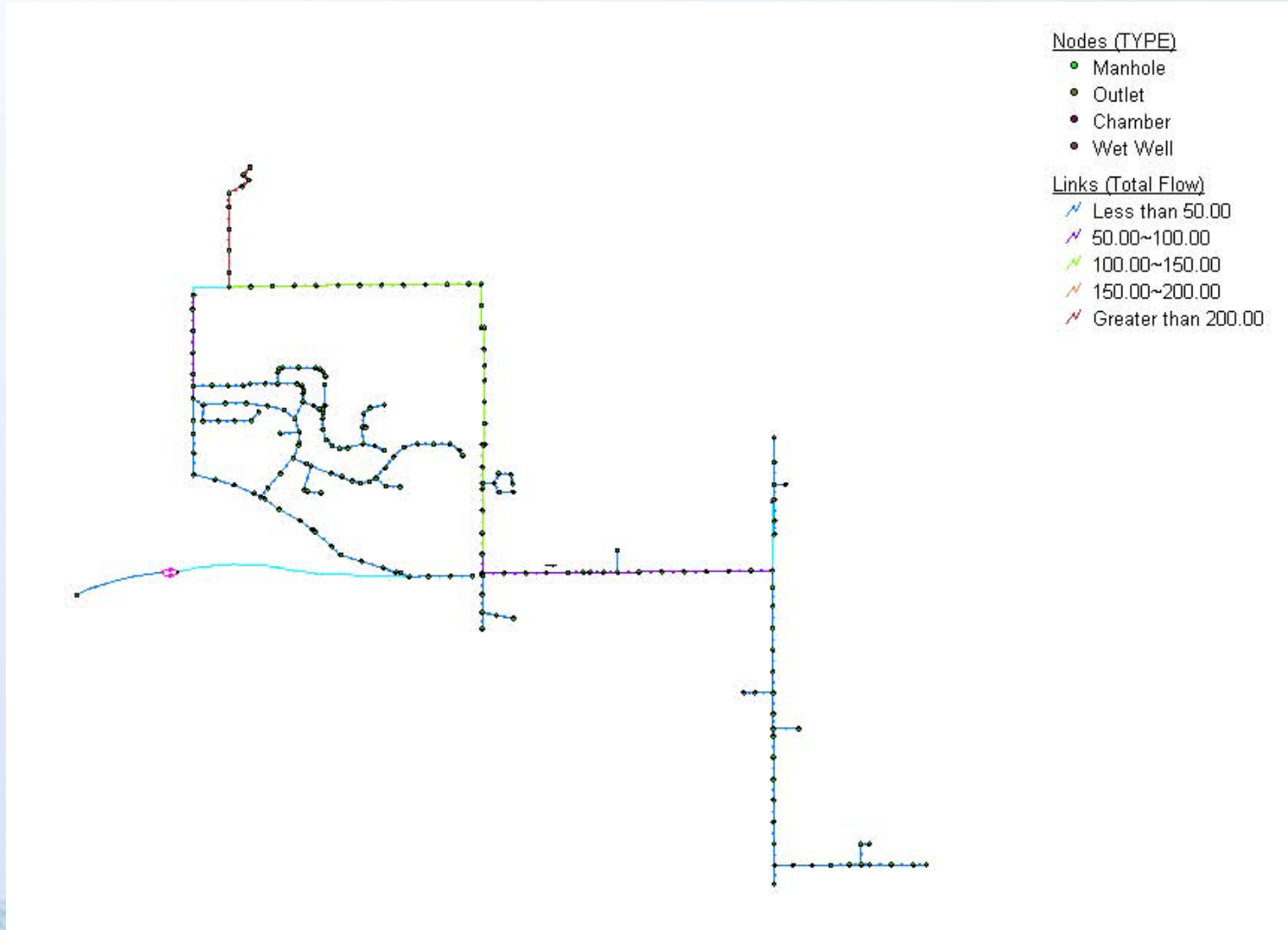
Land Application Area



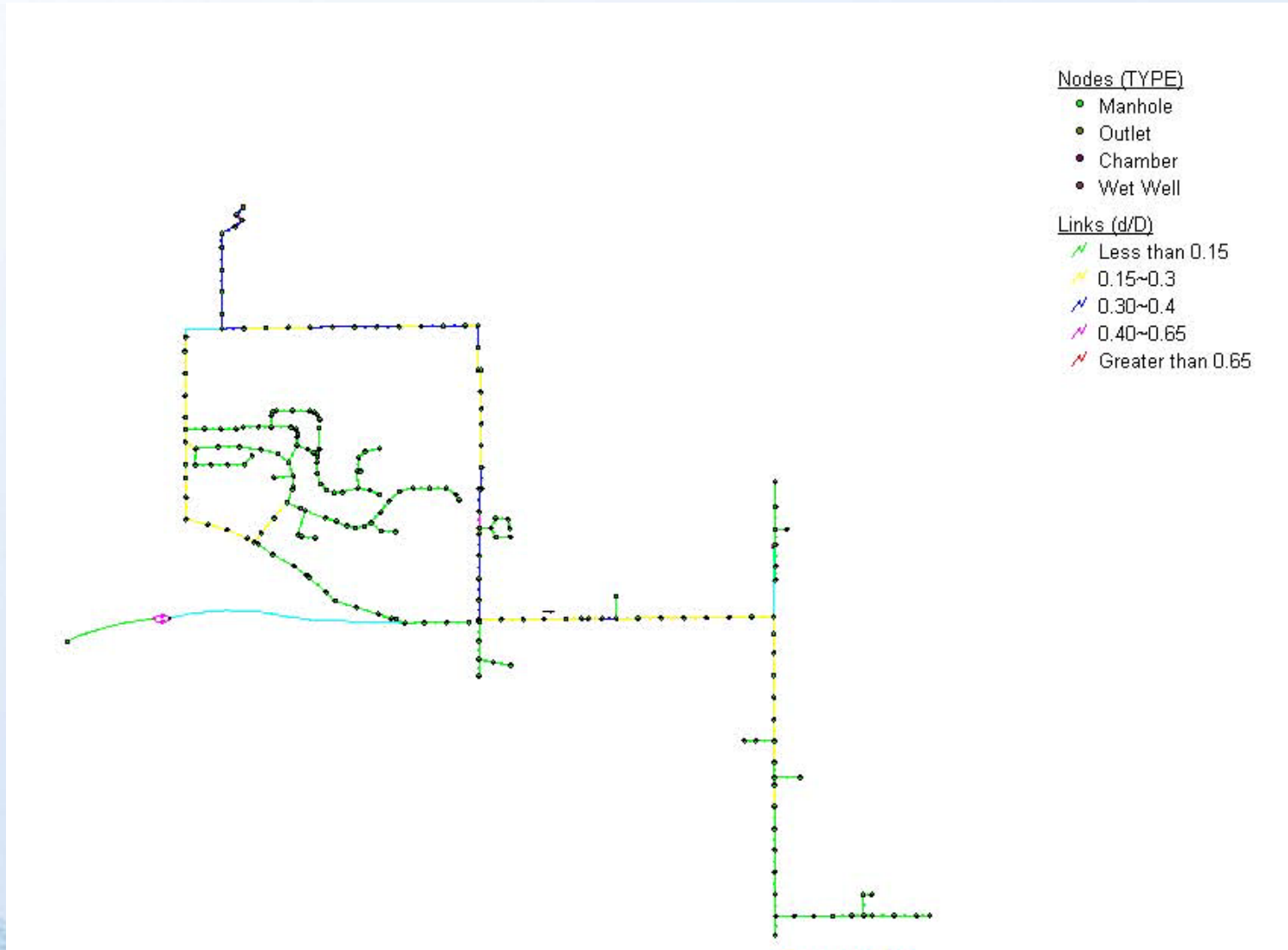
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Total Pipe Flow (gpm)



Pipe Capacity (d/D)



Questions ?