



Update on Lake Worth Water/Sewer Projects and Watershed Protection Study

Lake Worth Regional Coordination Committee
June 9, 2016

Presented by:

Water Department



Recent Utility Work



Love Circle Water/Sewer Project



- 54 water/sewer services
- 8,000 LF water pipe
- 7,000 LF low pressure sewer
- 2,000 LF sewer FM
- Advertise in July, Bid in August



Watershed Protection Study

- Lake Worth Watershed Protection Plan Feasibility Study Authorized by Fort Worth City Council on February 3, 2015
- Cost of the study is \$323,500
 - Builds on the Greenprinting study and lessons learned from the Lake Worth dredging project
 - Goal to reduce sediment and nutrient loading to Lake Worth
 - Focus on removing sediments from Silver Creek and Live Oak Creek through the use of off-channel sedimentation basins
 - Determine the feasibility of utilizing constructed wetlands
 - Develop best management practices
 - Recommend a water quality monitoring plan



Study Status

- Task 1 – Baseline Modeling- Complete
 - SWAT (Soil& Water Assessment Tool) Model developed
- Task 2 – BMP Evaluation – In Progress
 - Load SWAT Model Results into BATHTUB Model
 - BMPs Selected: Filter Strips, Grassed Waterways, Terraces
- Task 3 – Develop Monitoring Plan – In Progress
- Scheduled Completion – Fall 2016

Sedimentation facilities feasibility - Silver Creek & Live Oak Creek



- Met with quarry owners
 - Site visit
 - Sampling
- Flow with most sediment
- Storage Volumes
- Detention times
- Conceptual design
 - Most sediment at high flows
 - Very large pumps
 - Very large diversion structure
 - High capital cost
 - Pumps run very seldom
 - Maintenance issues



Sedimentation facilities feasibility - Silver Creek & Live Oak Creek



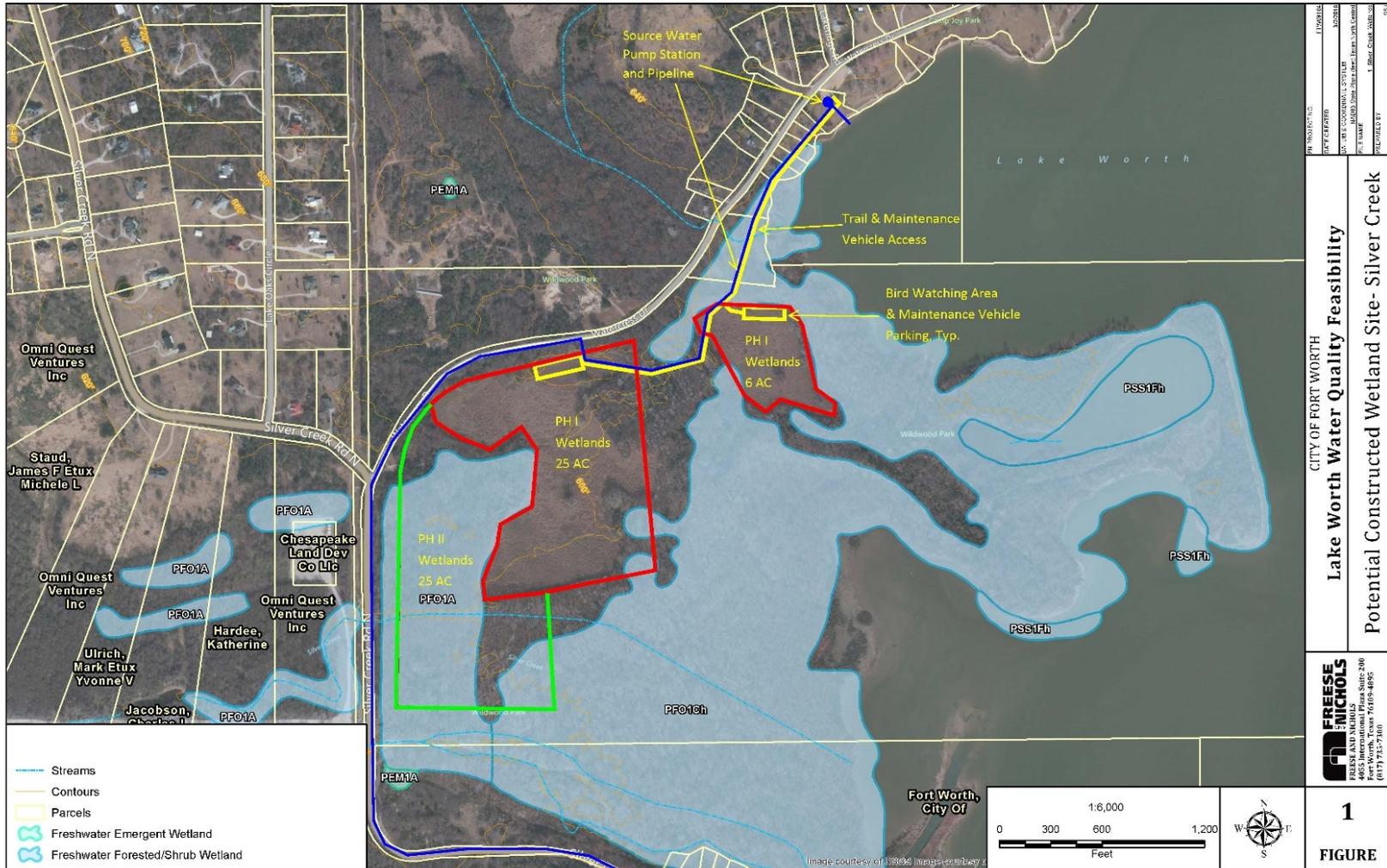
- Alternate solution
- Streamside Technology Sediment Collector system
 - Infrastructure across streambed
 - Captures sediment by gravity into structure
 - Sediment pumped off-channel site; dewatered
 - Sediment reclaimed as clean sand; water returned to stream
- COE has used this technology
- Developing estimates of sediment removal
- Developing cost estimates, \$/tons removed



Constructed wetlands feasibility



- 2 phases - Phase I in Red, Phase II in Green (partial, see next slide)



Path: H:\ENVIRONMENTAL\FINAL_EXHIBITS\1_Silver_Creek_Wetlands.mxd

Image courtesy of USGS Imagery

Base Map: 2013 Landsat Imagery



Summary

- Both Love Circle and Watershed Protection Plan have a common goal of minimizing pollutants to Lake Worth
 - Lake Worth is a water supply source for Fort Worth/wholesale customers and River Oaks
- Both projects consider managing growth in an environmentally responsible manner
- Both projects treat Lake Worth as a valuable resource and asset that is to be valued and protected

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QUESTIONS

