

Clarksburg Ten Mile Creek Sewer Study – Conceptual Alternatives

Public Meeting

December 17, 2014

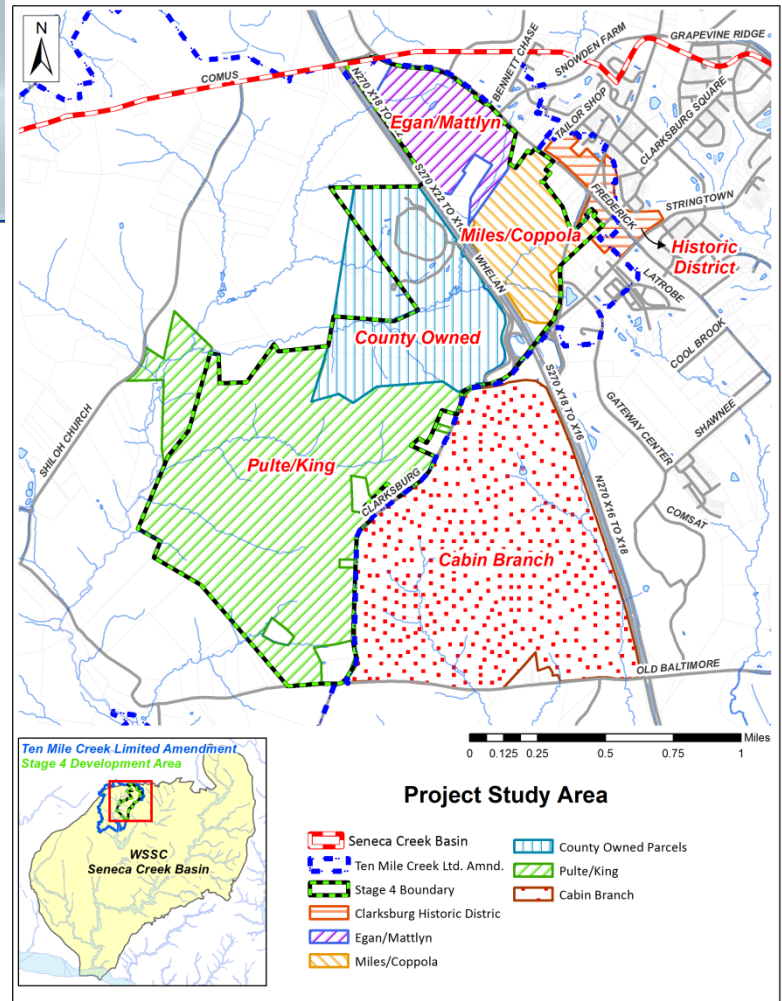


Meeting Agenda

- Introductions
 - Montgomery County Department of Environmental Protection (DEP) Staff
- 1994 Clarksburg Master Plan
- 2014 Clarksburg Ten Mile Creek Limited Amendment to the Master Plan
 - East and West Environmental Overlay Zones
 - Special Protection Areas/Legacy Open Space Program
 - Rezoning of properties
- Conceptual alternatives to provide sewer service to Stage 4 Development Area
- Summary of alternative evaluation – Pros/Cons, Costs etc.
- Citizens Advisory Committee
- Schedule and next steps

Sewer Study Area

- Approximately 980-acre sewershed
- Major Properties
 - Egan/Mattlyn
 - Miles/Coppola
 - County Owned
 - Pulte/King
 - Clarksburg Historic District
- Conceptual alternatives based on Limited Master Plan Amendment:
 - imperviousness limits
 - open space requirements
 - environmental buffer zones

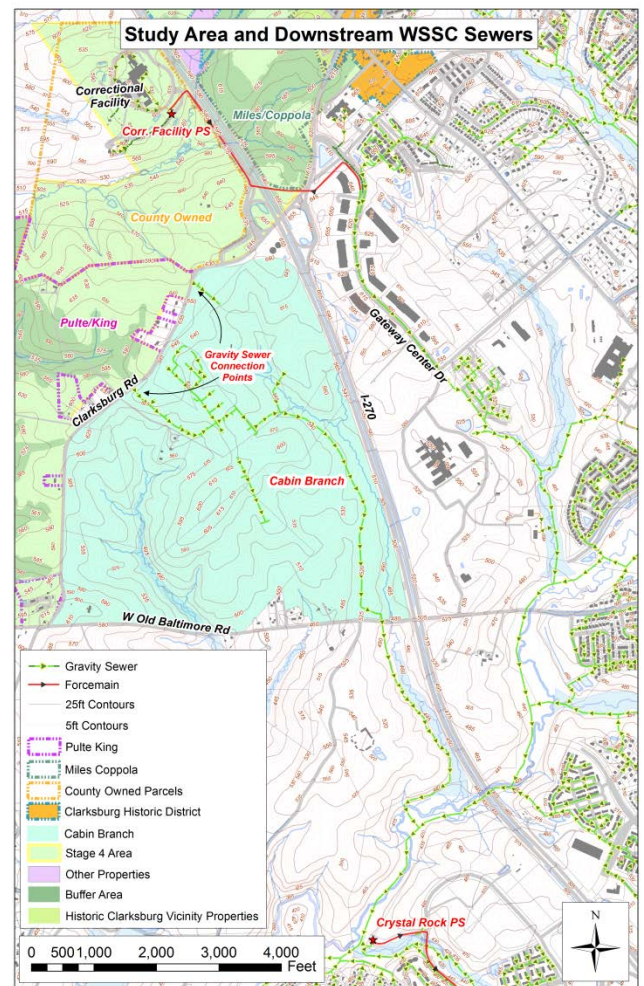


Study Limitations

- High level conceptual alternatives
- Only considers “major” infrastructure (e.g. pumping stations and main sewer)
- Does not include all required local sewers
- Detailed development/site plans for major properties not yet available
- May have to be refined some as development progresses

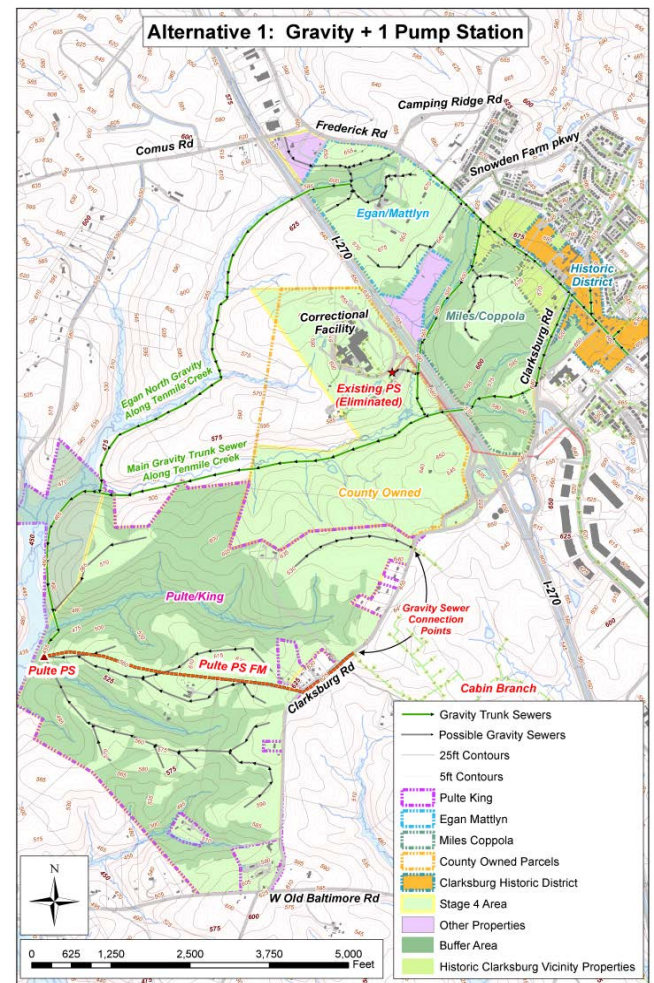
Existing WSSC Facilities

- Gravity sewers in Cabin Branch Development sized to convey wastewater from Stage 4 Development Area
- Wastewater conveyed to Crystal Rock PS, which then pumps to Seneca WWTP
- Major WSSC sewer facilities in the area have sufficient capacity to handle all wastewater from development in study area
- Existing WSSC pump station serving County Correctional Facility – pumps wastewater to gravity sewers on Gateway Center Drive (East of I-270) using an existing tunnel under I-270



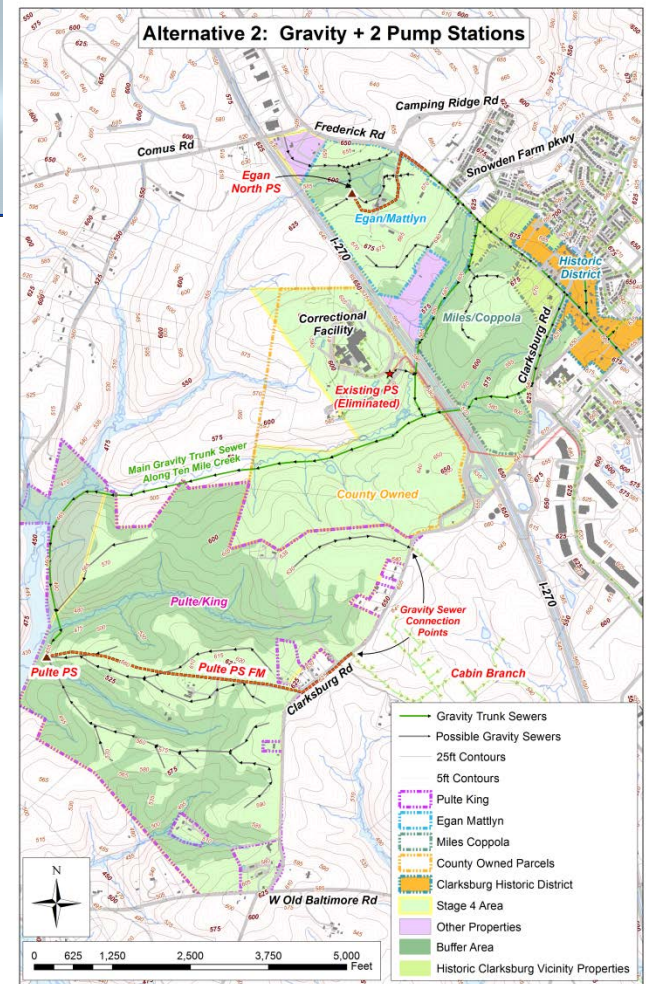
Conceptual Alternative 1

- Gravity trunk sewers along Ten Mile Creek convey all wastewater from Stage 4 to the (new) Pulte pump station (PS)
- Pulte PS pumps wastewater to Cabin Branch gravity sewers
- Total Gravity Sewer Length – 27,570 feet
- Total Force Main Length – 5,180 feet
- Number of Pump Stations – 1
- New Tunnel Crossings under I-270 – 3
- Estimated Costs
 - Capital - \$9,111,000
 - Annual O&M - \$34,000



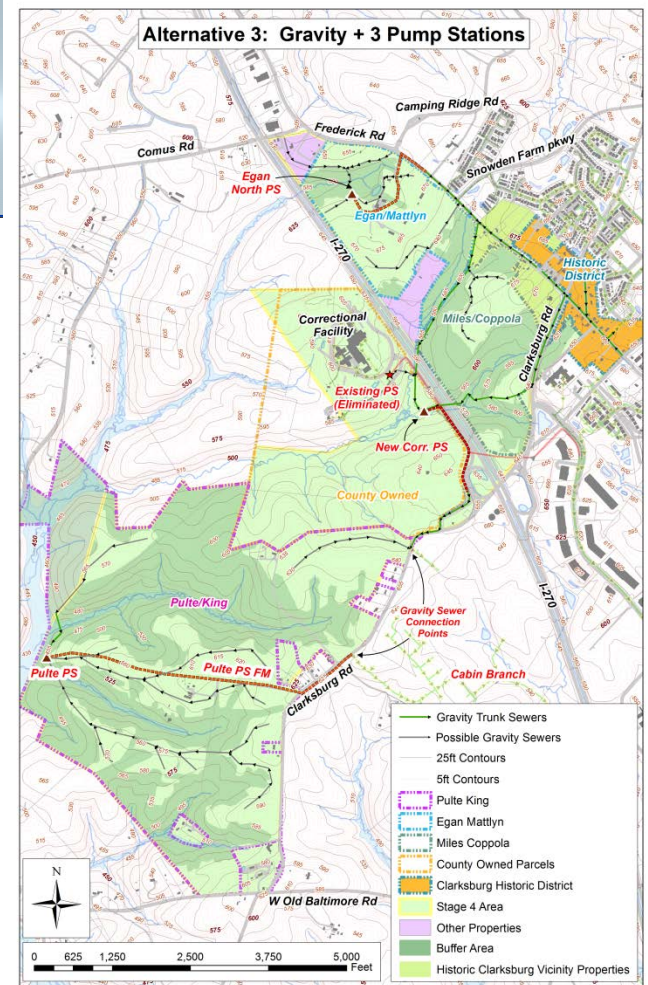
Conceptual Alternative 2

- Eliminates a large portion of gravity trunk sewer in Ten Mile Creek
- Adds a new pump station on the Egan/Mattlyn property
- All wastewater still eventually flows to Pulte PS
- Total Gravity Sewer Length – 20,320 feet
- Total Force Main Length – 7,010 feet
- Number of Pump Stations – 2
- New Tunnel Crossings under I-270 – 2
- Estimated Costs
 - Capital - \$7,822,000
 - Annual O&M - \$68,000



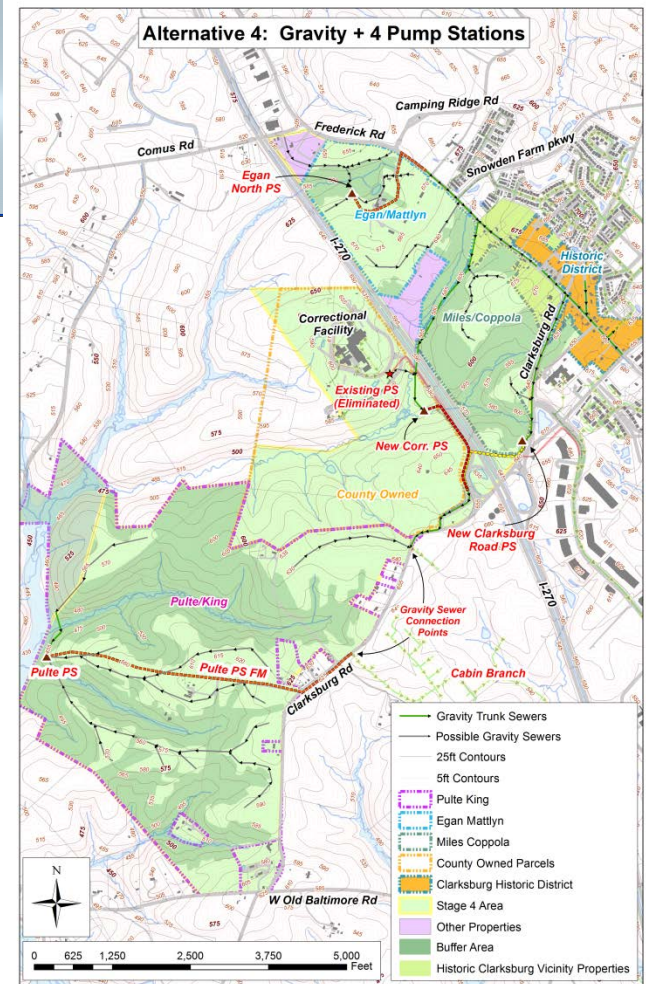
Conceptual Alternative 3

- Further reduction of gravity trunk sewer in Ten Mile Creek
- Adds a new pump station on County owned property (New Correctional Facility PS)
- Pulte PS does not receive any flow from properties east of I-270
- Total Gravity Sewer Length – 14,030 feet
- Total Force Main Length – 8,810 feet
- Number of Pump Stations – 3
- New Tunnel Crossings under I-270 – 2
- Estimated Costs
 - Capital - \$7,294,000
 - Annual O&M Cost - \$102,000



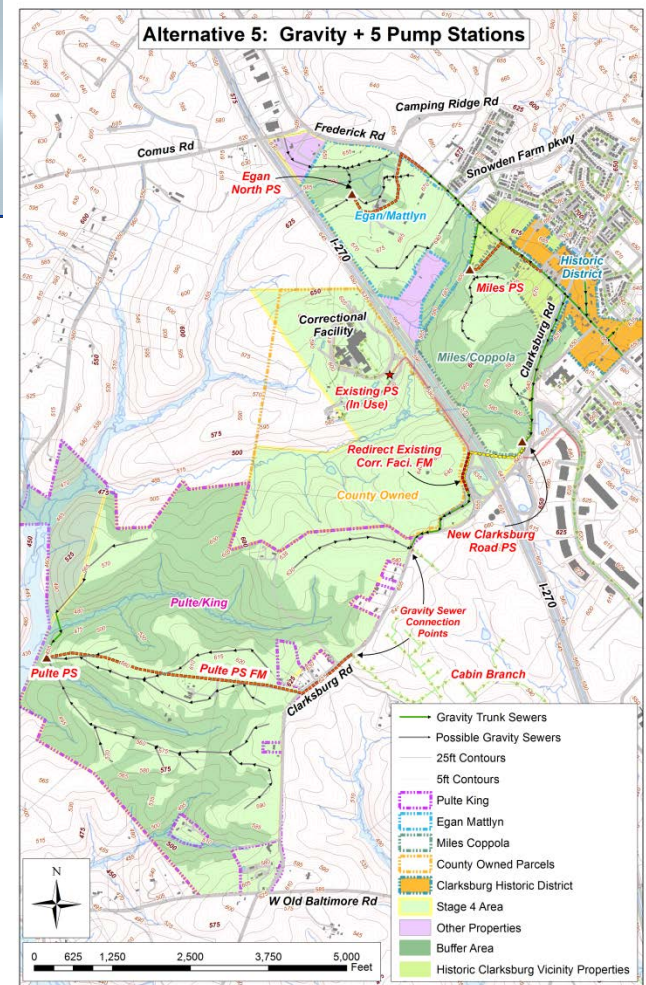
Conceptual Alternative 4

- Adds a new pump station on Clarksburg Road to pump wastewater from Historic District and portion of Miles/Coppola
- Total Gravity Sewer Length – 13,160 feet
- Total Force Main Length – 10,500 feet
- Number of Pump Stations – 4
- New Tunnel Crossings under I-270 – 1
- Estimated Costs
 - Capital - \$6,974,000
 - Annual O&M Cost - \$136,000



Conceptual Alternative 5

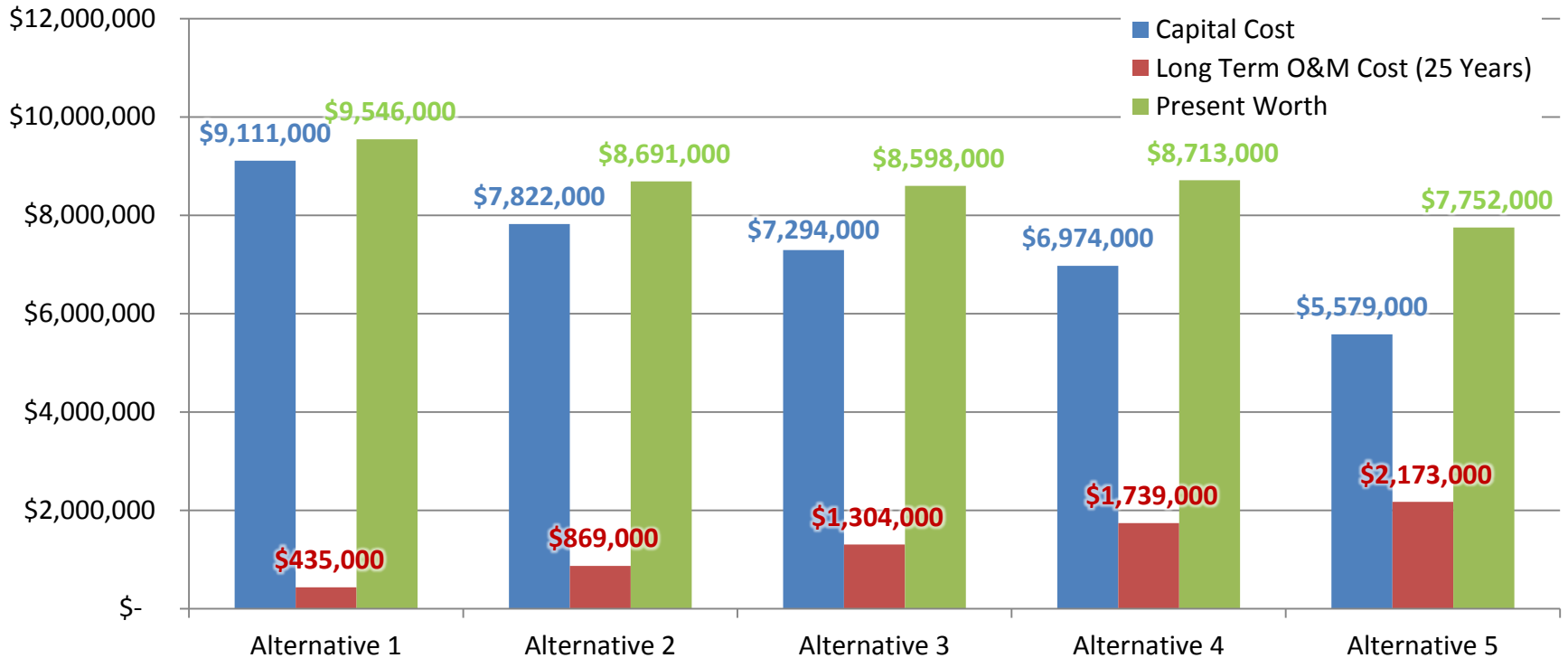
- Adds a new pump station on Miles/Coppola property
- Existing pump station at Correctional facility remains operational
- Total Gravity Sewer Length – 10,530 feet
- Total Force Main Length – 10,860 feet
- Number of Pump Stations – 5
- New Tunnel Crossings under I-270 – None
- Estimated Costs
 - Capital - \$5,579,000
 - Annual O&M Cost - \$170,000



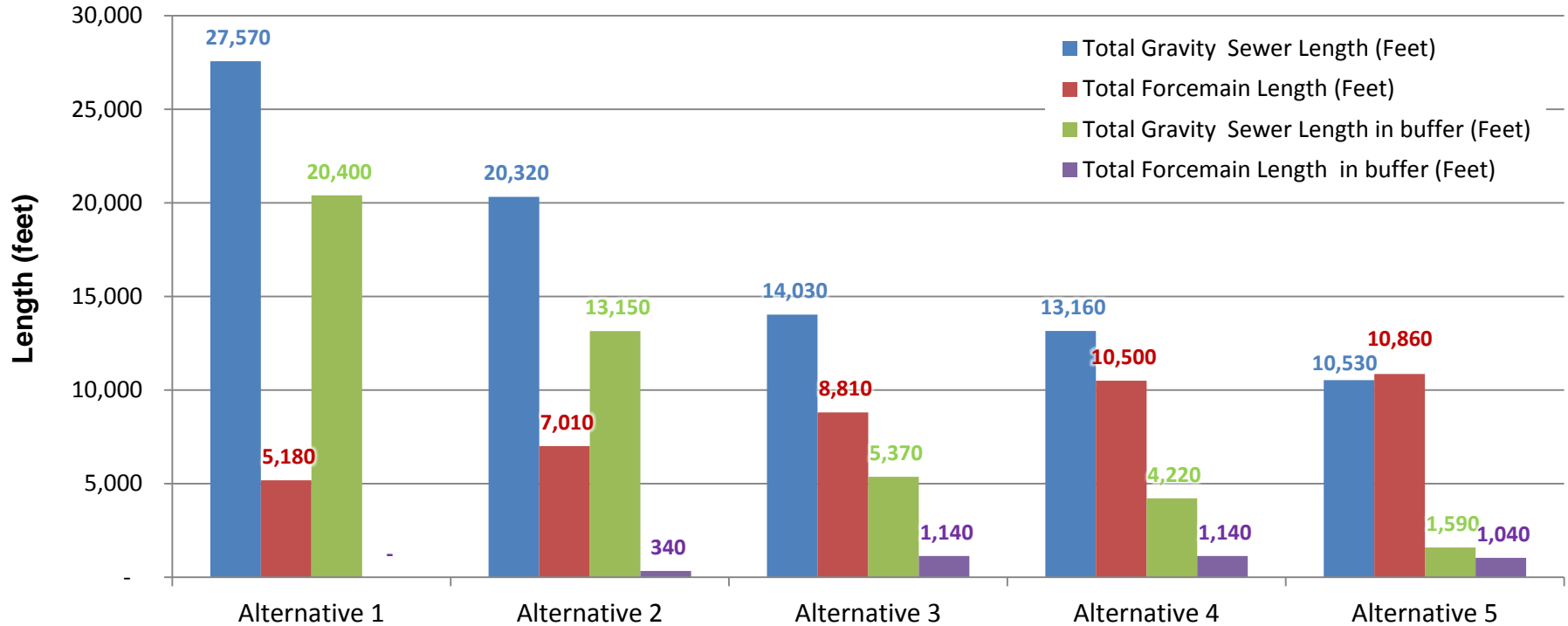
Summary – Pump Stations

Alternative	Description	Pulte PS	Egan North PS	New PS at Correctional Facility	Clarksburg Rd PS	Miles PS	Existing Correctional Facility PS in use	Total Number of Pump stations in service
Alternative 1	Gravity + 1 PS	Yes	No	No	No	No	No	1
Alternative 2	Gravity + 2 PS	Yes	Yes	No	No	No	No	2
Alternative 3	Gravity + 3 PS	Yes	Yes	Yes	No	No	No	3
Alternative 4	Gravity + 4 PS	Yes	Yes	Yes	Yes	No	No	4
Alternative 5	Gravity + 5 PS	Yes	Yes	No	Yes	Yes	Yes	5

Summary – Preliminary Cost Estimates



Summary – Sewer Lengths



Summary – Other Details

- Alternatives 1 and 2 – **Not selected for further evaluation** due to significant length of gravity sewer within buffer zones.
- All alternatives could provide public sewer service to Clarksburg Historic District
 - Additional local sewer extensions may still be required.
- Under Alternatives 3, 4 and 5, sewer service to properties east of I-270 is independent of development of Pulte/King properties and Pulte PS.
- Generally, sewer system operation and reliability decrease with increasing number of pump stations.
- Long term O&M costs increase with increasing number pump stations.

Summary - Advantages and Disadvantages

Alternative	Pros	Cons
Alternative 3 – Gravity & 3 Pump Stations	<ul style="list-style-type: none"> • Moderate cost • Higher reliability • Lower engineering concerns • Small impact on Community 	<ul style="list-style-type: none"> • Higher constructability issues with two gravity sewer tunnels under I-270 • Higher environmental impacts due to higher relative number of stream crossings and sewers and force mains constructed in buffer zones
Alternative 4 – Gravity & 4 Pump Stations	<ul style="list-style-type: none"> • Moderate reliability • Moderate constructability issues • Moderate engineering concerns • Moderate impacts on Community 	<ul style="list-style-type: none"> • Higher cost • Moderate impacts on the environment due to steam crossings and sewers and force mains constructed in the buffer zones
Alternative 5 – Gravity & 5 Pump Stations	<ul style="list-style-type: none"> • Lower cost • Lower constructability issues • Lower environmental Impacts 	<ul style="list-style-type: none"> • Lower reliability due to need for continuous power and possible equipment issues at 5 pump stations • Higher engineering concerns from operational and long term maintenance requirements • Higher long term impacts on community from periodic maintenance visits and potential noise and odor issues at 5 pump stations

Summary – Ranking Based on Evaluation Criteria

Alternative	Capital Cost	Annual O&M Cost	Reliability	Constructability	Engineering Impacts	Environmental Impacts	Community Impacts	Total Score
Alternative 3 – Gravity & 3 Pump Stations	1	3	1	3	1	3	1	<u>13</u>
Alternative 4 – Gravity & 4 Pump Stations	2	2	2	2	2	2	2	<u>14</u>
Alternative 5 – Gravity & 5 Pump Stations	3	1	3	1	3	1	3	<u>15</u>

Additional Information / Contacts

- Sign-in Sheet
- **Clarksburg - Ten Mile Creek Area Sewer Facility Study Draft Report available at** <http://www.wsscwater.com/home/jsp/content/ten-mile-creek.faces>
 - Available for public review and comment on communications@wsscwater.com
- If you have any comments or would like to be on the **Citizens Advisory Committee (CAC)**, please contact:
 - Kenneth Dixon, *Unit Coordinator, Planning Group WSSC*
kenneth.dixon@wsscwater.com, 301-206-8809
 - Indicate reason for your interest in this project

Schedule

- WSSC and DEP to meet with Citizens Advisory Committee (CAC) at least a couple of times over next few months.
- Comments from CAC will be taken into consideration during the selection of an alternative.

Goal:

- WSSC and DEP recommendation in March 2015.
- Inclusion in WSSC's Capital Improvement Program as appropriate.

Thanks for coming!

We appreciate your participation and cooperation

Questions/Discussion