Public Meeting 3
Glen Hills
Sanitary Study
Phase 2

Department of Environmental Protection

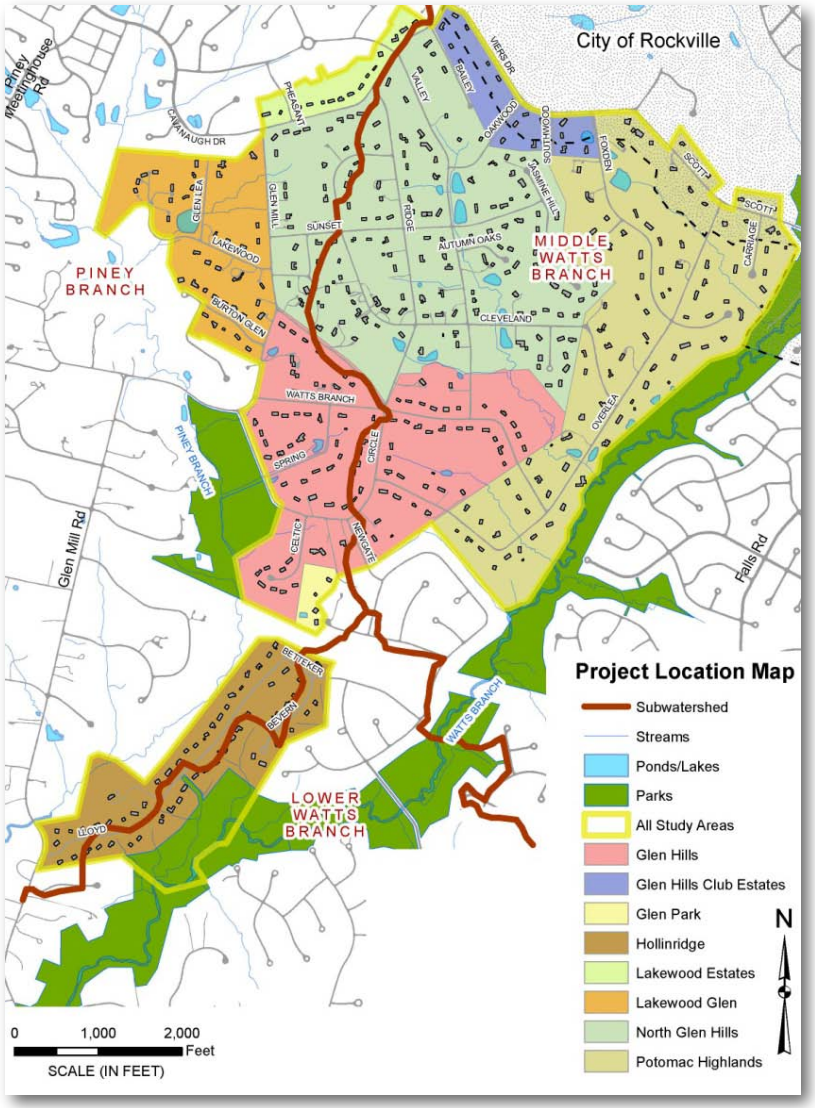
Montgomery County
Maryland

AMT

A. Morton Thomas and Associates, Inc.

Project Goals

- 2002 Potomac Subregion Master Plan recommended sanitary survey of Glen Hills area
- MCDPS raised concerns about the periodic septic failures which occur
- “Subsurface conditions do not allow for replacement which satisfy current regulations”



Project Goals

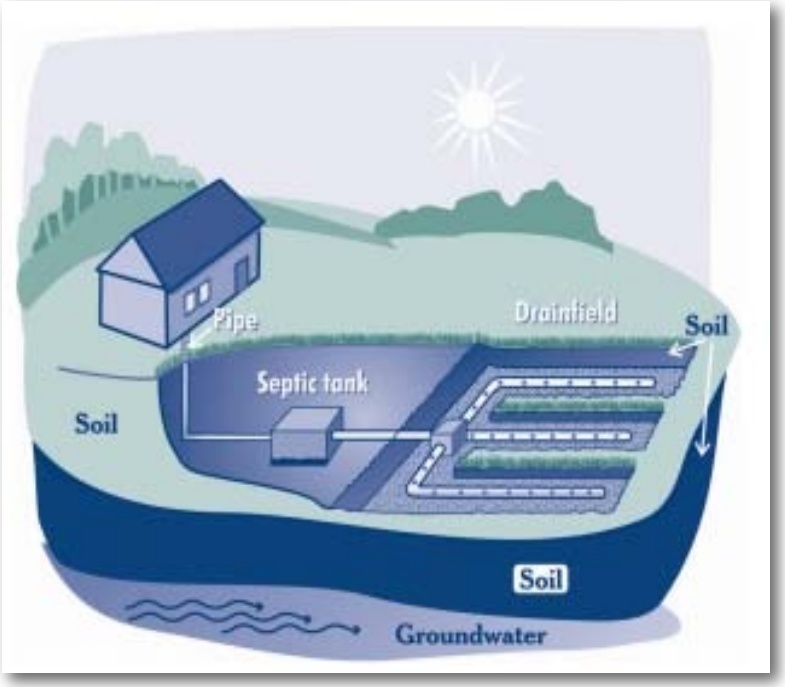
- **Evaluate site constraints and environmental conditions of septic systems**
- **Determine factors that affect the probability of continued use of these facilities**
- **Examine alternatives to ensure long-term wastewater disposal**
  - Alternative septic systems
  - Limited public sewer extensions

Phase I Report Updates

- **Determine Review Areas** ***"with potential to constrain long-term use of deep trench septic systems"***
  - Streams and Flood Plains
  - Topography Steep Slopes
  - Depth to Groundwater
  - Percolation Rate
  - Depth to Bedrock
  - USDA Soils Classification

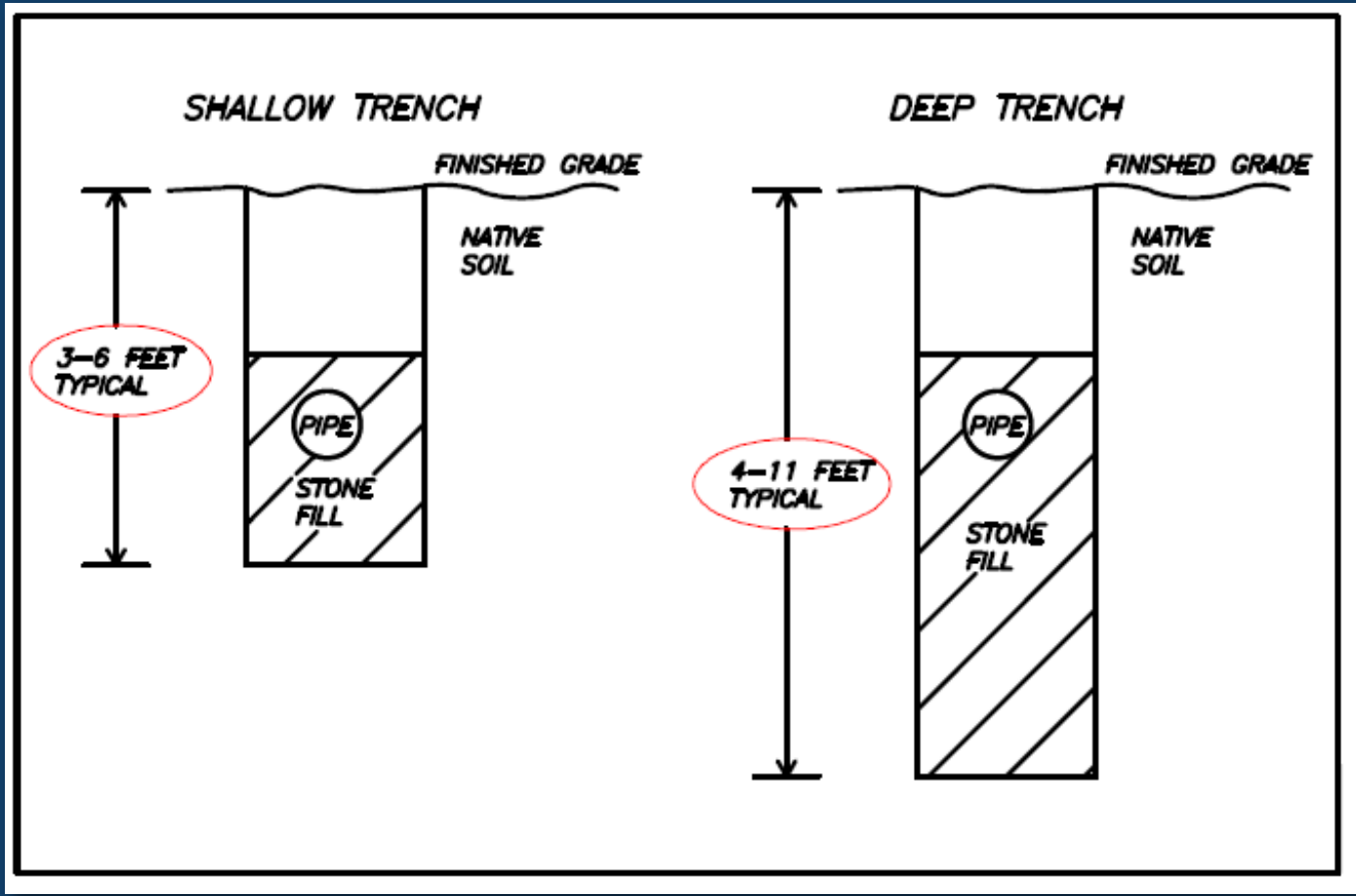
Phase 2 - Alternatives

- **On-site sewage disposal**
  - Shallow trench
  - Sand mound
  - Drip disposal



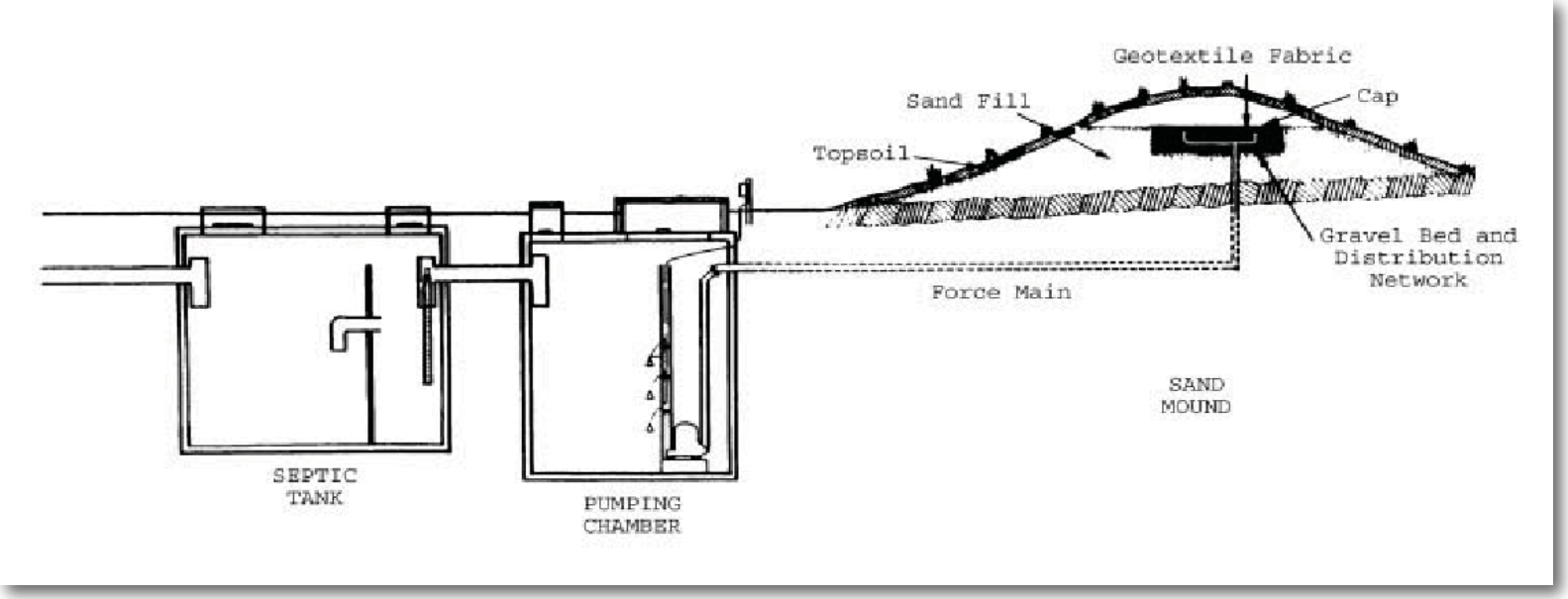
Phase 2 - Septic System Alternatives

- Shallow Stone Trench



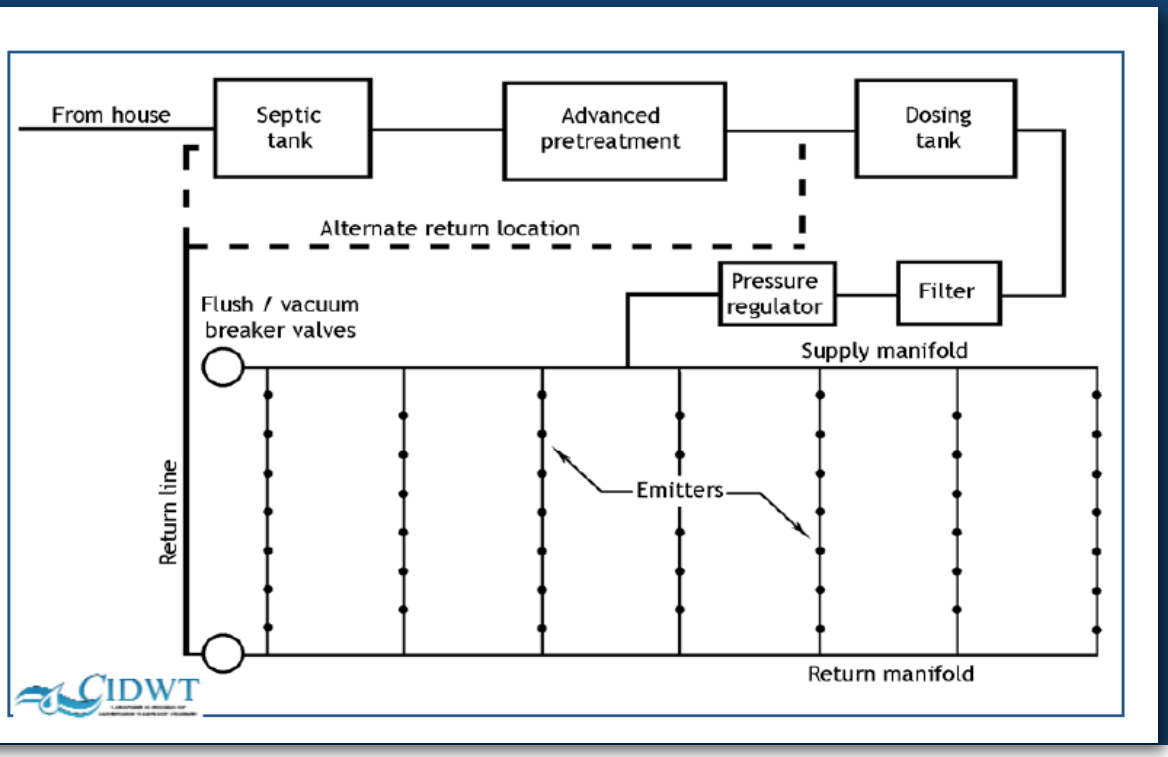
Phase 2 - Septic System Alternatives

- **Sand Mound**
  - Constructed on ground surface



Phase 2 - Septic System Alternatives

- **Drip disposal (plan view)**
  - Small tubing disperses waste water
  - 1 to 2.5 ft depth



Septic System Types

- **Shallow Stone Trench**
  - Minimum depth 30 inches – 18 inch depth of stone, 12 inch soil cover
  - 4 ft clearance groundwater/bedrock
  - Could function with 6.5 ft minimum depth to groundwater or bedrock
  - Shallow trench systems are currently operating in Glen Hills

Septic System Types

- **Sand Mound**
  - 2 ft minimum clearance to groundwater and bedrock
  - Requires permeability rates less than 30 minutes per inch
  - Located shallow bedrock good permeability rate

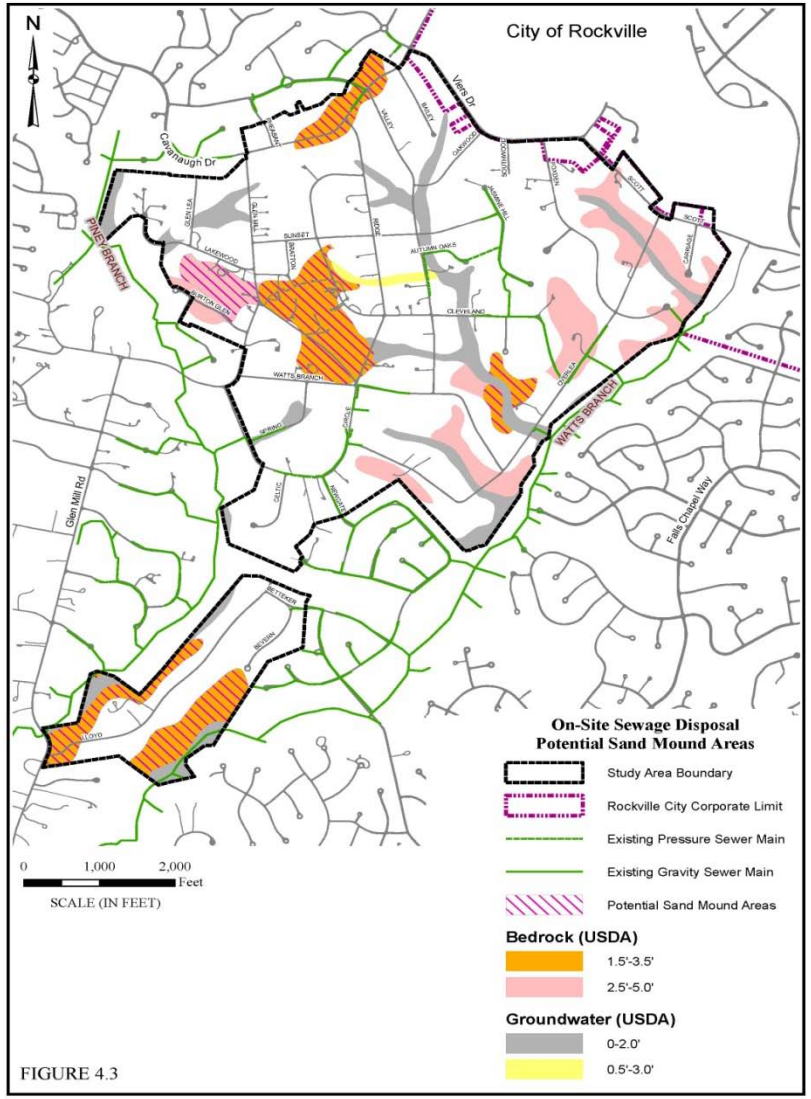


FIGURE 4.3

Septic System Types

- **Drip Disposal**
  - Considered innovative systems
  - Considered where site constraints prevent installation of conventional systems
  - Requires more site area
  - Requires 4 ft clearance to groundwater and bedrock
  - Allows flexibility in design with percolation rates greater than 30 minutes
  - 9 lots have successfully installed drip systems

Septic System– Cost Comparisons

SEPTIC SYSTEM TYPE	ESTIMATED COST OF INSTALLED SYSTEM - 3 OR 5 BEDROOM HOUSE	
	3 BEDROOMS	*5BEDROOMS*
Deep Stone Trench	$10,000	$17,500
Shallow Stone Trench	$11,500	$20,500
Sand Mound	$20,000	$30,000
Drip Disposal	$37,000	$48,000

- **Best Available Technologies (BAT) enhancement for nitrogen removal cost added for drip disposal only**
- **Design, permit and testing costs excluded**

Phase 2 - Public Sewer Alternatives

- **Gravity System**
  - Larger gravity sloped sewer mains
- **Pump / Pressure System**
  - Smaller pressurized pipe
  - On-site grinder pumps

Public Sewer – Considerations

- Master plan only allows public sewer for documented public health problems
- Extend sewers to review areas where needed
- Locate sewer mains within public road right-of-way / avoid environmentally sensitive areas
- Maximize use of gravity lines
- Avoid the need for sewer main easements on private property

Public Sewer – Extension Layout

- 13 conceptual extension systems
- Outfalls to existing sewers in Watts Branch and Piney Branch

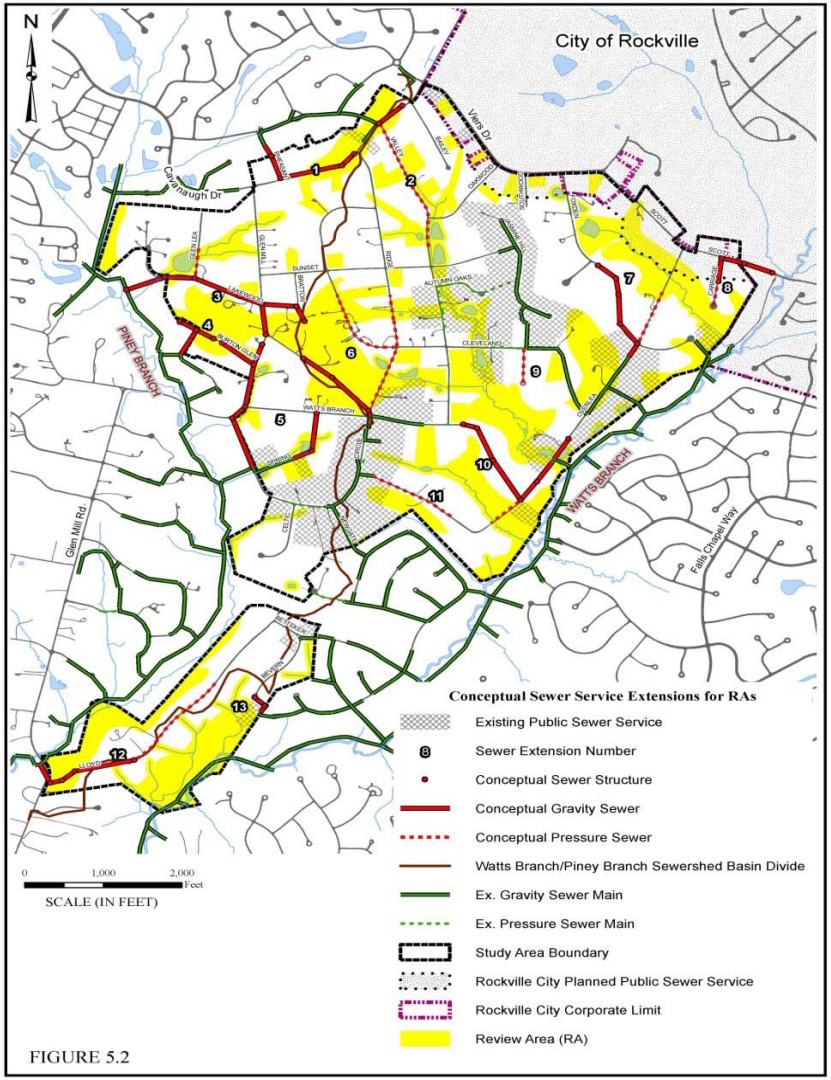
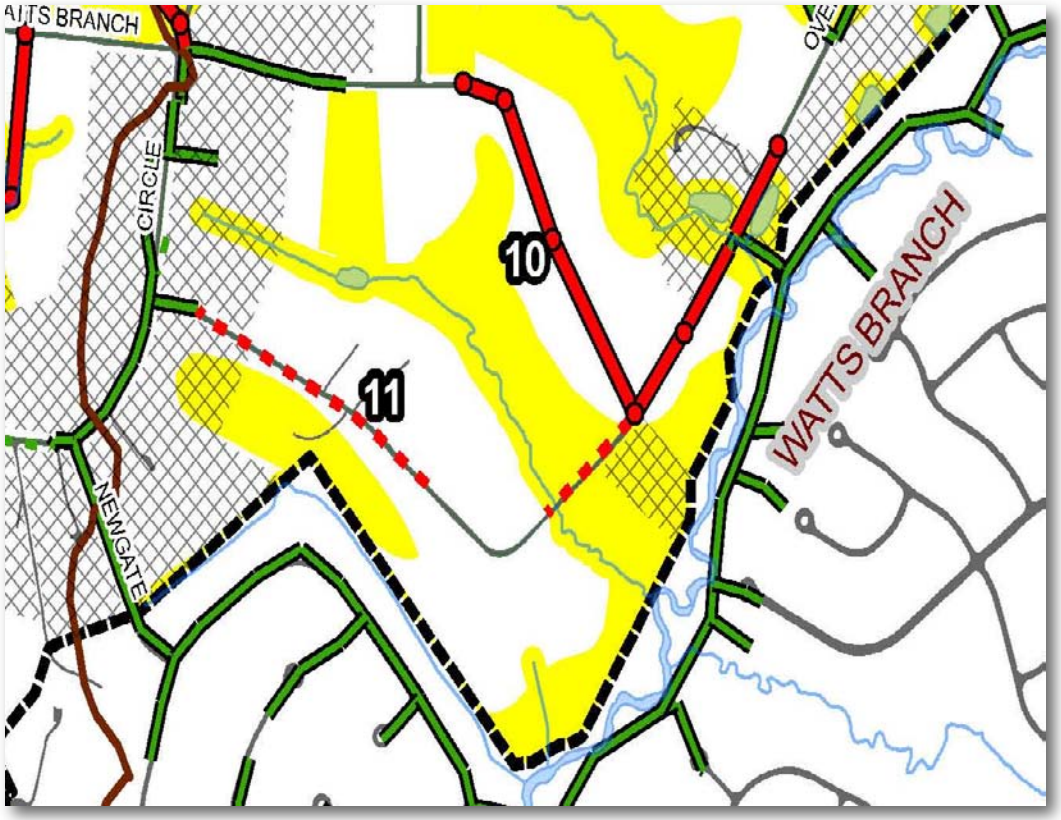


FIGURE 5.2

Public Sewer – Extension Layout



Conceptual Gravity Sewer

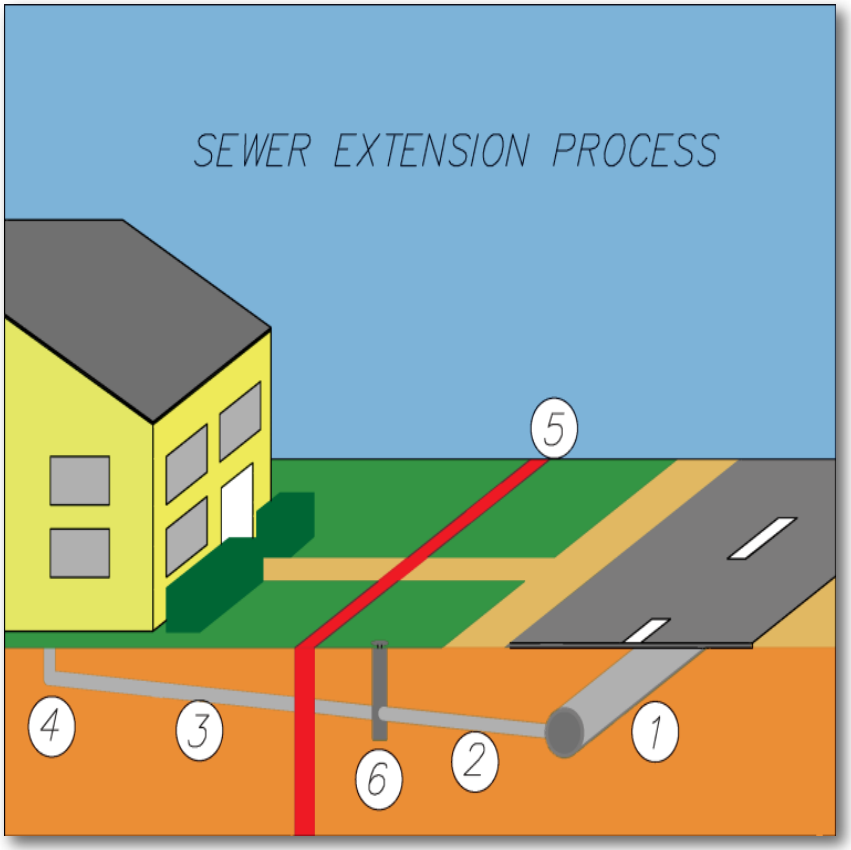
Conceptual Pressure Sewer

Ex. Gravity Sewer Main

Ex. Pressure Sewer Main

- Avoid streams
- Utilize roadways
- Maximize gravity

Public Sewer – System Components



1. Sewer Main Extension
2. Sewer House Connection
3. Sewer House Hookup
4. Building Hookup
5. Property Line
6. Clean-Out

Public Sewer – Cost Comparisons

DESCRIPTION	ESTIMATED COST PER PROPERTY
Gravity sewer main extensions	$40,000
Low-pressure sewer main extensions	$10,000
Gravity connection to a gravity sewer main	$4,500
Pressure connection to a gravity sewer main	$4,500
Gravity hookup and other on-site work	$900
Gravity hookup and other on-site work	$26,800
Pressure hookup and other on-site work	$22,100

Estimated cost range per property from $33,000 to $71,300. Developed from WSSC SEP current costs. Used for comparison purposes only.

In Summary

- **2002 Potomac Master Plan guidance**
- **Current policy focus on septic systems; restricts sewer service to health problems only**
- **Alternatives to deep stone trench septic systems in Review Areas**
  - On-site septic system alternatives (shallow trench, sand mound, & drip disposal)
  - Provision of public sewer service

Policy Issues

- **Septic system use depends on test results**
- **Public sewer use depends on Co. Council policy decisions – service for:**
  - Improved properties abutting existing and possible future sewer mains (with or without failed systems)?
  - Vacant, unimproved properties abutting existing and possible future sewer mains?
  - Properties without failed systems requesting sewer main extensions?

Next Steps – DEP & Co. Executive

DEP has not yet made any decisions or recommendations on policy issues

- **DEP to develop staff memo for the Co. Executive (June 2013)**
  - Summarize report findings
  - Address policy issues
- **Co. Executive reviews and transmits recommendations to the Co. Council (June – July 2013)**

Next Steps – Council Consideration

Co. Council considers Co. Executive's recommendations

- **What are appropriate wastewater policies for the Glen Hills study area?**
- **How are those policies established?**
  - Via the *Potomac Master Plan*?
  - Via the *Water and Sewer Plan*?
  - Both?
- **Both plans require a public process in order to amend**

Next Steps - Outreach

- **Glen Hills Citizens Advisory Committee**
- **Glen Hills webpage: DEP will continue to maintain and update the webpage**
  - Co. Executive's memo to the Council
  - Council meeting dates including public hearings
  - Planning Board meetings
- **Mailings and e-mails, as needed**