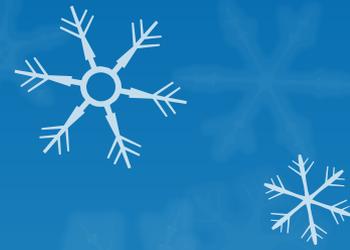


Ocracoke Village Restroom Study

Interim report of findings

December 14, 2011



Issues, Goals and Objectives

- 1) Issues
- 2) Goals
- 3) Objectives/Possible Solutions
- 4) Next Steps



How do we serve the Ocracoke visitors, maintain the unique identity of Ocracoke, protect our environment and stay within a reasonable budget?

Current Issue



- Traveling public does not have adequate restrooms in the village.
- There is only 1 public restroom in the village, only 3 on the entire island.
- Some private businesses within the village pay for port-a-johns.
- Some private businesses such as shops and restaurants have restrooms but ability to openly serve travelers may be limited by septic capacity.
- Existing port-a-johns are not pleasant
- Travelers may leave village sooner than desired because they want a pleasant restroom.

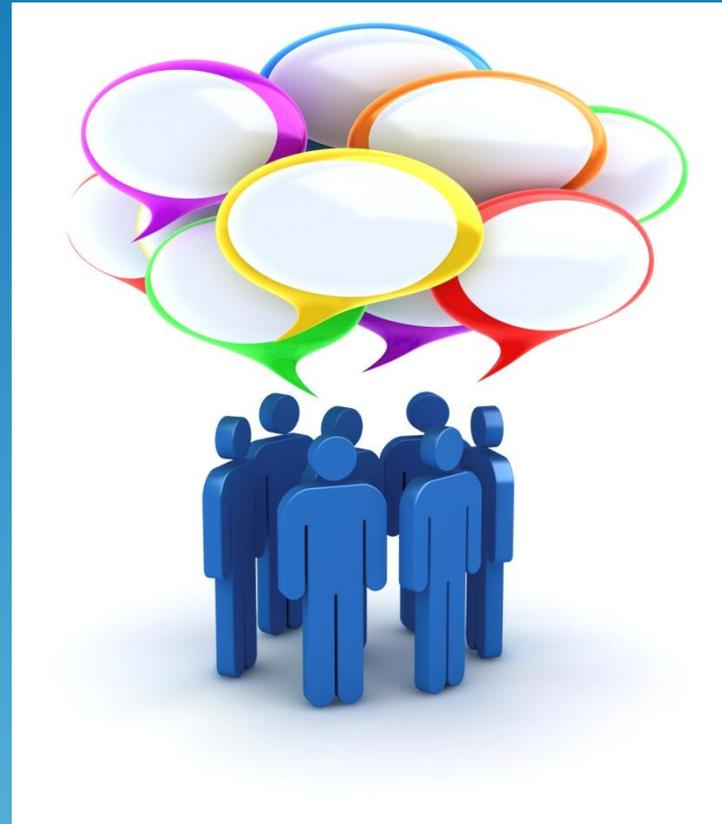
Goals

- Keep public circulating in the village to shop, eat, sightsee, etc.
- Ensure public leaves with a pleasing village experience.
- Provide environmentally friendly solution compliant with applicable laws, rules and policies.



Objectives

- Examine potential solutions.
- Get feedback from community.



Potential Solutions

- 1) Do nothing
- 2) More standard port-a-johns
- 3) High end port-a-johns
- 4) Conventional wastewater systems
- 5) Composting toilets
- 6) Vault privies (pre-fab and custom)



Option 1 – Do Nothing

- Cheapest option

-
- Doesn't improve situation



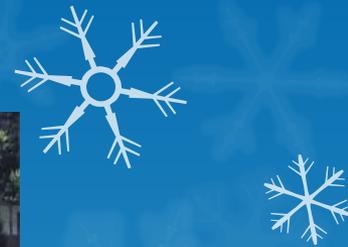
Option 2 – More standard port-a-johns

- Inexpensive option
 - Easiest way to increase restroom capacity issue
-
- Space constraints
 - Doesn't address the restroom experience problem



Option 3 - High end port-a-johns

- Really nice experience
-
- Expensive (over \$2,000 per month plus pumping cost)
- Space constraints
- Vulnerable to abuse
- Require very frequent pumping and cleaning
- Requires electricity and filling of a clean water tank.
- Too nice?



Photos courtesy of Royal Restrooms

Option 4 – Conventional Wastewater Systems

- Would be a permanent solution
-
- Large capital investment
 - Pumped out every 4 to 5 years, not every week or month
 - Large land requirement
 - Simply no space available



2011 Housing Study by OFI and Brian Pompeii

Option 5 - Composting toilets

- Environmentally friendly
- Relatively inexpensive (\$3,000 unit, \$500 toilet assembly, add building price)
- Can be used with or without electricity

-
- Lots of pieces
 - Easily overloaded
 - Not designed for high peak use
 - Composting process is easily upset by high urine loads
 - Subject to odors



Photos courtesy of Sun-Mar

Option 6 – Pre-fab Vault Privies

- Meets all of our objectives for pleasant experience, environmentally friendly, low maintenance, durability, low odors, aesthetically pleasing
 - Turn-key product delivered on truck, set by crane in a hole dug by a backhoe
 - Many varieties of architectural styles to choose from
 - 15,000 uses before pumping is required
 - Robust and difficult to overload
 - No parts to break or replace, prefabricated out of concrete
 - Can be moved later if needed
-
- Relatively large footprint required
 - Expensive initial costs (\$18,000 single, \$36,000 double)



Photos courtesy of CXT



Comparison of Options



Option	Pros	Cons
Do Nothing	Cheap	Problem unresolved
More Port-a-johns	Relatively cheap	Doesn't address toilet experience issue
High-end Port-a-johns	Nice experience	Expensive, high maintenance costs, vulnerable to abuse
Conventional Wastewater	Would work	Can't be utilized – no space or good soil
Composting Toilets	Cost effective option	High risk of odors and breakdown and overuse
Vault Privies (pre-fab)	Meets all of our requirements	Large initial investment and relatively permanent
Vault Privies (custom)	Meets needs, custom designs	Unknown initial investment



Recommendation based on consideration of all factors

Vault Privies

Vault privy in small footprint



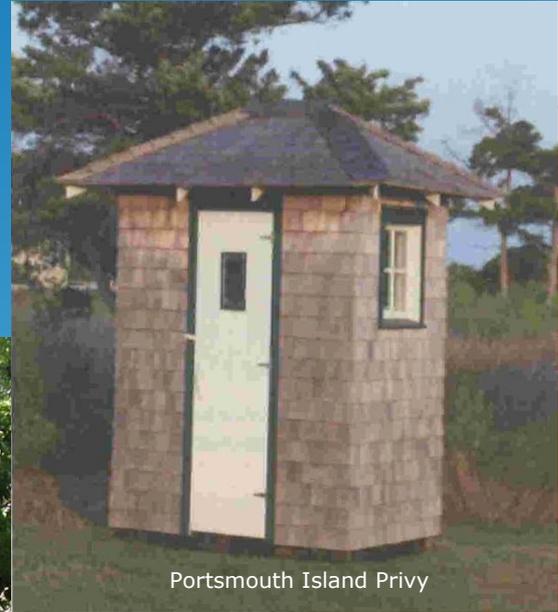
Vault privy survives Hurricane Ike in Texas without any damage

Photos courtesy of CXT

Potential architectural styles for Ocracoke vault privies



Berkley Manor Privy
Saved by Debbie Wells



Portsmouth Island Privy



Lighthouse Privy



Next Steps

- Where to locate and how many?
- Legalities?
 - Can public money be used on private property?
 - Who pays property taxes for the public building sitting on private land?
 - Who insures the building from loss and potential injury?
 - Who is responsible for operation and maintenance?
 - If a public health hazard is created, who does the health department have authority to go after with repair orders or administrative penalties?
 - Can a private land owner change their mind and ask for the public building to be removed at some point in time? Who pays for the removal?
- Funding? A) Supply and Install – Public and/or private funding?
B) Maintenance – ?



Summary

Questions?

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