

## Summary:

The eight originally recommended BMP sites were reviewed and evaluated based on feasibility criteria including proximity to conveyance channels, topography, parcel accessibility, natural and cultural resources, and soil characteristics. It was discovered that the Shanklin Road M2 site is being used as a wetland restoration and mitigation project for the Marine Corp Air Station, and thus unavailable for use as a BMP site. The Salt Creek South M1 and the Factory Creek M2 sites were determined to be limited in feasibility, so BMP design work on these three sites was suspended to allow additional budget on the more feasible projects. The Okatie West site was added as a ninth retrofit project to better serve the Okatie River 3 water quality basin and budget to analyze and prepare the conceptual BMP design was transferred from the three suspended projects.

Conceptual BMP designs were prepared for the selected project sites and the BMPs were analyzed for effectiveness using hydrologic/hydraulic modeling. Construction cost estimates for each BMP were prepared and compared to the original cost estimates from the SWMP. The sites were then prioritized using the feasibility results, the BMP effectiveness results, retrofit sensitivity results from the 2006 SWMP, recent monitoring results from Beaufort County, and the estimated construction costs.

Table S-1: BMP Site Feasibility & Priority

Site	Feasibility	Recommended Priority	Estimated % Runoff Rate Reduction (95 <sup>th</sup> Percentile Storm)	Estimated % Runoff Volume Reduction (95 <sup>th</sup> Percentile Storm)
Battery Creek West M1	Medium (property)	Medium (high cost)	80%	9%
Grober Hill M2	High (wetlands)	Medium (high cost & benefit)	87%	33%
Burton Hill M2	Medium (tidal issues)	High (property owner & low cost)	35%	4%
Salt Creek South M1	Low (property)	Low	N/A	N/A
Shanklin Road M2	Low (property)	Low	N/A	N/A
Okatie East	Medium (wetlands & property owner)	High (high benefit & low cost)	27%	13%
Okatie West	High	High (property owner)	20%	6%
Camp St. Mary's M2	Medium (site grades)	Low (TMDL)	81%	63%
Factory Creek M2	Low (property)	Low	N/A	N/A

### Feasibility and Priority Summary:

- Battery Creek West M1 is listed as medium feasibility because property and/or easements would have to be acquired from multiple property owners. Although the BMP would have excellent treatment for runoff rate reduction and a modest amount of volume reduction, the high cost lowers the priority
- Grober Hill M2 is listed as a high feasibility because of the apparent lack of wetlands onsite. If field wetland verifications determine otherwise, the feasibility would be lower. Although the site has a property owner apparently willing to cooperate and a high benefit, the priority is listed as only medium due to the high projected construction cost. If field soil tests indicate the material is suitable as structural fill, the construction cost could be reduced and the priority increased.
- Salt Creek South is listed as low feasibility and priority because of limited suitable site options and the current SCDHEC restriction on shellfish harvesting in the receiving waters due to waste water treatment facility discharges.
- Shanklin Road M2 is listed as low feasibility and priority because of limited suitable site options and the current SCDHEC restriction on shellfish harvesting in the receiving waters due to waste water treatment facility discharges.
- Okatie East is listed as a medium feasibility because of the uncertainty on the ownership and covenant restrictions on the wetlands. It is listed as high priority because of the high benefit and low construction cost.
- Okatie West is listed as high feasibility because of the availability of the uplands in close proximity to and at the same grades as the sub-basin conveyance channel. It is listed a high priority because of the apparent availability of the property and the potential the property will develop if not secured as a BMP site.
- Camp St. Mary's M2 is listed as medium feasibility because of the significant difference in grades between the conveyance channel and the BMP site. It is listed as low priority because it is not within a required load reduction area for the Okatie River TMDL.
- Factory Creek M2 is listed as low feasibility and priority because of limited suitable site options.

Table 0-2: Original and Updated BMP Construction Cost Comparison

Site	2006 SWMP Construction Cost Estimate	Updated Construction Cost Estimate	Cost Difference
Battery Creek West M1	\$2,111,340 <sup>&amp;</sup>	\$4,095,300 <sup>*</sup>	+ \$1,983,960
Grober Hill M2	\$781,000 <sup>&amp;</sup>	\$2,469,720 <sup>*</sup>	+ \$1,688,720
Burton Hill M2	\$1,480,000	\$736,088	- \$743,912
Salt Creek South M1	\$2,033,000	N/A	N/A
Shanklin Road M2	\$3,301,000	N/A	N/A
Okatie East	\$1,467,400	\$107,000	- \$1,360,400
Okatie West	N/A	\$1,211,100 <sup>*</sup>	+ \$1,211,100
Camp St. Mary's M2	\$1,544,400 <sup>&amp;</sup>	\$3,754,740 <sup>*</sup>	+ \$3,754,740
Factory Creek M2	\$1,678,000	N/A	N/A

& - Original cost estimate under estimated volume of soil to be excavated

\* - Cost could be reduced if soil material is suitable as structural fill