

Table of Contents

Executive Summary	1
Background	3
Methodology	4
Treatment of Nodal Flooding.....	4
Vertical Datum.....	5
Modeling Configurations	5
Modeling Results	6
Master Drainage Plan Improvements.....	8
Master Drainage Plan Caveat.....	12
Environmental Restoration and Protection Opportunities	12
Contact Information	13

Figures

Figure 1. Southern Chesapeake 1 Watershed MDP Map.....	14
Figure 2. Soils with Wetlands Overlay	15
Figure 3. Existing Conditions Subcatchments with Shaded Imperviousness	16
Figure 4. Future Conditions Subcatchments with Shaded Imperviousness	17
Figure 5. Potential Increase in Imperviousness	18
Figure 6. Link-Node Diagram – Existing Conditions and Survey Locations	19
Figure 7. Link-Node Diagram – Future Conditions.....	20
Figure 8. Flooding for 10-Yr and 50-Yr Storms: Existing Hydrology, Existing Drainage (Scenario 1).....	21
Figure 9. Flooding for 10-Yr and 50-Yr Storms: Future Hydrology, Existing Drainage (Scenario 2).....	22
Figure 10. Future Improvements with Wetlands Underlay and FAA Separation Areas.....	23
Figure 11. Flooding for 10-Yr and 50-Yr Storms: Future Hydrology, Future Drainage (Scenario 3).....	24
Figure A1. Photo Locations	A-1

Tables

Table C-1. Existing Conditions Peak Water Surface Elevations (Scenario 1).....	C-1
Table C-2. Future Conditions Peak Water Surface Elevations (Scenario 3)	C-6
Table D-1. Existing Conditions Peak Discharges (Scenario 1)	D-1
Table D-2. Future Conditions Peak Discharges (Scenario 3)	D-6

Appendices

A. Photographs.....	A-1
B. Survey Data	B-1
C. Maximum Water Surface Elevations	C-1
D. Peak Discharges	D-1