

8.0 PROJECT IMPACTS

This section describes the impacts of the final levee plan on the natural and socioeconomic resources discussed in Section 4. The impacts discussed are those anticipated from construction and operation of the levee in the final plan. Environmental effects of the levee project were determined from previous project documentation, agency coordination, and analysis of construction activities necessary to implement the project. Operation of the project was also considered to determine potential long-term impacts after construction is completed.

8.1.1 Topography

The total land area that would be disturbed during construction of the levee and associated excavation for ponding within the park and elevation of Fenwick Drive is approximately 10.3 acres. The levee would range from 10 to 15 feet higher than existing elevations and would be approximately 75 feet wide, resulting in minor permanent impacts to topography totaling approximately 4.5 acres. Staging areas would be returned to their existing condition to the extent practicable immediately after construction. Approximately 5.6 acres will be excavated 1-2 feet to an elevation of 6.0 feet within the fields of Huntington Park to address ponding issues due to stormwater runoff trapped by the levee. Fenwick Drive will be elevated by a maximum of 4 feet to accommodate the diversion culverts.

8.1.2 Land Use

Residential land use is not expected to change after implementation of the proposed action. Project construction is expected to preserve the existing density of residential land use by reducing flood damages to duplex homes and townhouses. Permanent minor impacts to parkland/recreational land use would occur since some of this area would be converted to open space due to the land requirements of levee construction.

Impacts to the RPA were unavoidable but minimized. The selected levee alignment minimized impacts to wetlands and the vegetated buffer to the wetlands and Cameron Run.

8.1.3 Geology and Soils

The embankment will be constructed primarily using earth materials obtained from local and commercial borrow sources provided by the contractor. The materials required to construct the various structures associated with the levee include: select (impervious earth) and random fills, processed sand and gravel drainage materials (aggregates), riprap, topsoil, pavement and sidewalk materials (concrete, asphalt, etc.), concrete, and various geosynthetics and plastic pipe. Soils from required excavation will be used to the extent practicable for levee construction in the random fill zone.

8.1.4 Prime and Unique Farmlands

No adverse impacts as a result of the proposed project are anticipated since area surrounding the

project area is widely developed and previous land disturbing activities within the project area have altered native soils.

8.1.5 Hydrology

The levee project will impact overland sheetflow of stormwater from the project area to Cameron Run. Drainage structures will be placed along the levee to mitigate this impact. Ponding may occur on the landward side of the levee during high water events, when the storm drain pipes are closed, and the stormwater runoff from the community backs up behind the levee. An Interior Residual Flooding Analysis is located in Appendix G5 that presents an analysis of pumping station requirements to prevent ponding on the landward side of the levee during high water events.

8.1.6 Water Quality

No beneficial or adverse impacts to water quality are expected to occur as a result of the proposed project. Implementation of best management practices and adherence to the erosion and sediment control plan should minimize the risk of unintentional water quality effects.

8.1.7 Aquatic Resources

8.1.7.1 Fisheries

No beneficial or adverse impacts to fisheries are expected to occur as a result of the proposed project.

8.1.7.2 Aquatic Habitats Including Wetlands

Permanent direct adverse impacts to wetlands would occur as a result of the proposed project. The levee alignment was altered early in the planning phase to avoid such impacts to the extent practicable. Approximately 935 square feet (~0.02 acres) of palustrine forested wetlands would be converted to levee and roughly an additional 850 square feet (~0.02 acres) would be cleared of woody vegetation on both sides of the levee to allow for a 15-foot easement. Impacts to wetlands are shown in Figure 7.1. All appropriate Federal, state and local permits required for impacting wetlands would be obtained prior to any construction activities.

8.1.8 Floodplain Management

As a result of levee construction, it is anticipated that the FEMA FIRMs will be revised and the structures in Huntington will be removed from the special flood hazard area and the requirement to purchase flood insurance. However, flood insurance can be purchased at a lower rate and is highly recommended to reduce risk to home owners from the high costs of repairs from flood damages.

The levee project could increase the flood elevations upstream by a maximum of 0.6 feet during a 1 % annual chance event. Figure 6.10 shows the increases in flood levels during the 1% annual chance flood. The increase in flood elevations only extends upstream to Telegraph Road. This increase will affect four structures just upstream of Huntington. However, two of them have low openings above the 1% annual chance flood, so the levee will have no impact. The other two buildings (Mid-Town High Rise and Huntington Car Care) are already located in the floodplain and would be flooded during a 1% annual chance flood even without the levee.

8.1.9 Terrestrial Resources

8.1.9.1 Flora

As a result of levee construction there would be permanent direct adverse impacts to existing flora due to removal of mature trees, saplings, shrubs and other established vegetation. Approximately 4.85 acres (231,928 square feet) of forest are proposed for removal within the levee alignment, the 15-foot easement on both sides, and the ponding area (Figure 7.1). These areas would be seeded and converted to grassy areas. Temporary direct adverse impacts would occur to areas used for staging and access. These areas would be restored to pre-existing conditions post construction.

8.1.9.2 Fauna

Permanent direct adverse impacts would occur to existing fauna due to the conversion of forested areas to grassy areas.

8.1.10 Rare, Threatened and Endangered Species

Due to the study area's proximity to the Capital Beltway, the United States Fish and Wildlife Service responded that there is low probability of federally-listed rare, threatened or endangered species under their jurisdiction. There are also no documented occurrences of threatened or endangered wildlife resources under the jurisdiction of the Virginia Department of Game and Inland Fisheries in the proposed project area. Refer to Appendix A for copies of these letters.

8.1.11 Air Quality and Climate

The levee project would have minor, short-term, adverse impacts to air quality in the project area due to construction equipment emissions and dust from construction activities. All appropriate regulations on dust control measures will be complied with. There will be some dust generated during construction, but this will be short term and temporary. No lasting air quality problems should be attributed to this project when construction has been completed.

No impacts to climate are anticipated.

8.1.12 Noise

There would be no permanent changes to the noise levels in the project area. Minor and temporary increases in noise would occur primarily during the daylight hours of construction. Such noise would be produced by construction equipment such as backhoes, front-end loaders and dump trucks. Material placement and back-up alarms will produce the loudest sounds, but these sounds are periodic in nature. Sound levels from back-up alarms can vary from 85 to 110 dBA at 50 feet. The placement and excavation of material during construction will also generate sound levels in this range. These activities would occur only during daytime hours. A sound at the 110 dBA level attenuates to daytime background levels within 10,000 ft of the source. Construction of the levee would take no more than two and half years to complete.

The proposed construction work is located in parkland/open space, which is adjacent to residential neighborhoods. Short-term and minor impacts to local residents adjacent to the construction site are anticipated during construction. Due to the close proximity of the project to existing residents, measures to minimize noise, such as equipment mufflers, would be required of the construction contractor. In accordance with the Fairfax County noise ordinance, construction would only occur from sun up to sun down to prevent noise disturbance to residents of the area. Noise associated with this temporary construction is not expected to significantly impact wildlife in the area. Therefore, no long-term impacts are anticipated.

8.1.13 Cultural Resources

Because the proposed project area between the Huntington Community and Cameron Run was formerly a marshland, and contains a considerable amount of fill material, the area is considered disturbed and no archeological investigations are warranted for this project.

An evaluation of the historic nature of the Huntington Community found that the entire neighborhood is composed of 1947 brick duplex housing. The Baltimore District determined that there were no significant architectural resources within the view shed of the proposed project.

Therefore, proposed construction of a levee along Cameron Run in the vicinity of the Huntington Community neighborhood would have no effect upon cultural resources.

8.1.14 Transportation

Short term, minor, adverse impacts to transportation would occur during construction along roadways surrounding the project area, including Huntington Avenue, Fenwick Drive, and Arlington Terrace, as a result of additional construction-related traffic. Numerous trucks and equipment would be needed for levee construction. Parking areas, trails, sidewalks or roads damaged during construction would be properly repaired and replaced as needed.

8.1.15 Utilities

The project design includes the modification of two sanitary sewer pipes (16 and 48 inches in diameter). Both of these pipes are located at the eastern end of the proposed levee. No service interruptions are planned so no adverse impacts are expected. Please refer to Section 7.1.3 for further information.

8.1.16 Demographics and Socioeconomic Conditions

No impacts to demographics and socioeconomic conditions are anticipated.

8.1.17 Hazardous, Toxic and Radioactive Substances

The proposed construction area appears to have no negative impacts from hazardous wastes and the discovery of hazardous materials during construction is highly unlikely and not anticipated.

8.1.18 Recreation

Adverse impacts to the park are anticipated as a result of levee construction. The baseball field would likely be replaced with other forms of recreation due to a shortened outfield. Due to the excavation to promote interior drainage, drainage within the field will be slowed resulting in the field being wet for a longer period of time after rain events. Recreational uses of this area may be limited. Minor, permanent, beneficial impacts would also result from construction of a hiker/biker trail on top of the levee and potentially a pier overlooking the wetland area on the east side of the levee along Cameron Run.

8.1.19 Child Health and Safety

Risks to children during construction would be minimized by use of appropriate construction practices. The contractor would be expected to comply with safety standards at all times, to ensure a safe area around the construction site. All equipment on site would be locked during non-working hours. In accordance with Fairfax County's noise ordinances, construction would only occur from sun up to sun down. To the extent practicable, the construction site would be marked or fenced off to prevent access of unauthorized persons.

8.1.20 Environmental Justice

No significant, long-term, direct, or adverse impacts to minority populations, in terms of environmental justice, are expected to result from the proposed project. The flood damage reduction project would improve conditions within the project area and are not expected to result in disproportionately high and adverse human health or environmental effects on minority or low-income populations.