5 Findings and Conclusions

The evaluation of the proposed action, identified as the Army's preferred alternative, indicates that the physical and socioeconomic environments at Fort Belvoir and in the ROI would not be significantly affected with the mitigation measures identified in Section 4.14. The predicted consequences on resource areas are briefly described below. Table 5-1 provides a summary and comparison of the consequences of the proposed action versus the no action alternative, which are discussed in detail in Section 4.0.

For the purposes of this EA, “short-term” refers primarily to construction-related impacts, which will cease when construction ends. However, it is acknowledged that these impacts will occur, in different areas of the post, for up to 8 years, which is not a short period of time.“ Long-term” refers to the effects of ongoing housing operations, to permanent impacts that will result from lease, transfer or construction, and to impacts that will take many more years to recover from.

5.1 Findings

The evaluation of the proposed action, identified as the Army's preferred alternative, indicates that the physical and socioeconomic environments at Fort Belvoir and in the ROI would not be significantly affected. The predicted consequences on resource areas are briefly described below. Table 5-1 provides a summary and comparison of the consequences of the proposed action versus the no action alternative.

5.1.1 Consequences of the Proposed Action

5.1.1.1 Land Use

Overall, the proposed action would result in long-term minor beneficial effects on installation land use. Locating the New South Post Village closer to community services is an improvement in land use. Existing residential areas would be improved for the designated land use through housing revitalization and reconditioning. The proposed action would increase acreage currently designated Family Housing land use and reduce the existing acreage designated for Administrative/Educational and Community Facilities land use categories.

5.1.1.2 Aesthetics and Visual Resources

Short-term minor adverse effects would be expected due to the loss of some mature trees in the existing villages and in the New South Post Village. However, all trees will be replaced on Fort Belvoir. Long-term minor beneficial effects would be expected as a result of rehabilitating existing housing units that are currently in need of upgrading; constructing new, modern housing; and adding recreational areas and native-plant landscaping.

TABLE 5-1
Summary of Potential Environmental and Socioeconomic Consequences

Resource	Environmental and Socioeconomic Consequences	
	Proposed Action	**No Action Alternative**
Land Use	Long-term minor beneficial	No effects
Aesthetic and Visual	Long-term minor beneficial	No effects
Air Quality	Adverse effects over the 8-year construction period; not significant as emissions are less than *de minimis*.	No effects
Noise	Short-term minor adverse	No effects
Geology and Soils		
• Geology	No effects	No effects
• Topography	No effects	No effects
• Soils	Short-term minor adverse Long-term minor beneficial	Long-term minor adverse
• Prime Farmland	No effects	No effects
• Seismicity	No effects	No effects
Water Resources		
• Surface Water	Short-term minor adverse Long-term beneficial	Long-term minor adverse
• Groundwater	Long-term minor beneficial	No effects
• Floodplains	Long-term minor beneficial	Long-term minor adverse
Biological Resources		
• Vegetation and Wildlife	Short-term minor adverse	No effects
• Rare, Threatened, and Endangered Species	Short-term minor adverse (from noise) No long-term effects	No effects
• Wetlands	Short-term minor adverse	No effects
• Coastal Zone Management	No effects	No effects
Cultural Resources	Long-term adverse	No effects
Socioeconomics		
• Economic Development	Short-term and long-term minor beneficial	No effects
• Demographics	Minor increase in population	No effects
• Housing	Long-term beneficial	No effects

TABLE 5-1
Summary of Potential Environmental and Socioeconomic Consequences

Resource	Environmental and Socioeconomic Consequences	
	Proposed Action	**No Action Alternative**
• Quality of Life	Long-term beneficial for housing and recreation Possible minor adverse for school	No effects
• Public Health and Safety	No appreciable effects	No effects
• Environmental Justice	Short-term minor adverse	No effects
• Protection of children	Short-term minor adverse Long-term minor beneficial	No effects
Transportation		
• Roadways and Traffic	Long-term minor adverse	No effects
• Public Transportation	No effects	No effects
Utilities		
• Potable Water	Long-term minor beneficial Possible short-term adverse impacts as construction is ongoing until final reductions are achieved	No effects
• Sanitary Sewer	Long-term minor beneficial Possible short-term adverse impacts as construction is ongoing until final reductions are achieved	No effects
• Energy (Electricity and Gas)	Long-term minor beneficial	No effects
• Communications	Long-term minor beneficial	No effects
• Solid Waste	Short-term minor adverse	No effects
Hazardous and Toxic substances	Long-term minor beneficial	Long-term minor adverse

5.1.1.3 Air Quality

Adverse effects would be associated with demolition, rehabilitation, and construction activities and their accompanying generation of fugitive dust and vehicle air emissions over the 8-year construction period. These impacts are not considered significant as the emissions are below the *de minimis* level with the annual phasing of construction.

5.1.1.4 Noise

Short-term minor adverse effects of noise in the annoyance range (70 decibels and above) for residents and wildlife would be expected during construction and rehabilitation activities.

5.1.1.5 Geology and Soils

No effects to geology, topography, prime farmland, or seismic activity would be expected from the proposed action.

Both short-term minor adverse effects and long-term minor beneficial effects to soils would be expected in those areas within the villages where demolition of existing houses and new construction are expected. In the long term, implementation of the proposed action would decrease soil erosion from storm water runoff through the creation of storm water BMPs.

5.1.1.6 Water Resources

Both long-term beneficial and short-term minor adverse effects would be expected for surface water as a result of storm water management during the construction of new housing villages. Long-term minor beneficial effects would be expected on groundwater because of storm water management measures envisioned that will promote infiltration. Long-term beneficial effects would be expected on surface waters, because water quality and quantity treatment will be provided where there are currently none. Short-term adverse effects would be expected due to deteriorated water quality during construction. Erosion control measures will be provided to limit thi s impact, however some minor impacts to water quality will be expected.

5.1.1.7 Biological Resources

Construction activities and associated clearing will cause temporary short-term adverse effects to the vegetation and wildlife. However, all trees lost to clearing (greater than 6 dbh) will be replaced on Fort Belvoir in coordination with ENRD. Wildlife will avoid the areas in the housing villages while construction activities are underway, however, it is expected some will return once construction is complete. Short-term adverse effects may be expected to wildlife and sensitive species due to noise. No long-term adverse effects are expected for sensitive species.

Wetlands impacted during construction are expected to be minor due to maintaining the forested buffers associated with streams that contain the majority of the wetland systems. Long-term effects are not expected because construction activities will seek to avoid impacts to wetlands and all impacts will be mitigated with compensation in the form of creation, restoration, or enhancement.

5.1.1.8 Cultural Resources

Long-term adverse effects will result from the transfer of historic buildings to FBRC, demolition and rehabilitation of historic housing, and construction that may impact archeological sites. However, the undertaking is not expected to result in significant impacts, because adverse effects on historic properties will be mitigated in accordance with the Programmatic Agreement that is being developed by the Army in consultation with the Virginia SHPO and other consulting parties.

5.1.1.9 Socioeconomics

Short-term minor beneficial effects to the regional economy and long-term beneficial effects to quality of life would be expected. A minor increase in population could result in some increased demand for services, but is not expected to have an appreciably adverse effect.

Short-term adverse effects of construction on off-post minority population from noise, dust, and traffic generated by construction will be minimized through construction plans and controls.

5.1.1.10 Transportation

As a result of the proposed action to rehabilitate and replace units in existing housing villages, there will be increases in traffic on roadways on and surrounding Fort Belvoir. The overall impact of this added traffic is not considered significant. Many study area intersections are expected to be at or to exceed their theoretical capacity, with or without the proposed action , beyond those that are expected to do so without the proposed action. Additional trips generated by the RCI development do not result in any intersections within the study area exceeding their theoretical capacity, beyond those that are expected to do so without the proposed improvements. Planned projects by others for roadways surrounding Fort Belvoir have the potential to reduce congestion on roadways serving the area.

5.1.1.11 Utilities

Long-term minor beneficial effects would be expected as a result of providing new delivery lines for potable water supply and new wastewater collection lines, upgrading electric service, and installing communication lines underground in all new areas of construction. Long-term beneficial effects would result from the new construction and rehabilitation of existing housing units with the installation of energy efficient materials and systems. Short-term adverse (but not significant) effects would be expected from the debris associated with the construction, demolition, and rehabilitation of family housing units and initial increases in water and sewer demand until final reductions in usage are achieved after construction is complete. Water consumption for the construction activities is not expected to adversely affect the water system.

5.1.1.12 Hazardous and Toxic Substances

Overall, long-term minor beneficial effects would be expected with the removal and proper disposal of all hazardous materials brought in (i.e., for construction activities) or existing on the property. The long-term beneficial effects will be realized as FBRC coordinates with the Army to minimize disturbance or impacts affecting the current status of SWMU sites, closed POL sites, and on-going remedial activities on the RCI properties as well as the adjacent properties.

5.1.1.13 Cumulative Effects

Long-term adverse cumulative effects are expected in traffic and air quality and biological resources. For air quality, development projects such as DCEETA, DAAF FS, INSCOM HOT, DTRA, DeWitt Hospital, AMC and other planned construction projects, combined with the proposed action, will most likely result in post-wide NOx net emission increases above the NSR threshold of 25 tpy. Therefore, it is probable that future new stationary sources to the post may be subject to nonattainment NSR requirements because of the potential post-wide NOx net increase.

Long-term beneficial cumulative effects are expected in storm water management with the mitigation measures described. Increased impervious surface from RCI, AMC, DeWitt Hospital and New North Post Chapel will result in an increased volume of stormwater

runoff, however the proposed stormwater management for each facility is anticipated to provide sufficient mitigation to prevent cumulative adverse impacts. Potential impacts to vegetation, wildlife, and wetlands from the RCI project are not expected to significantly increase overall effects from the relocation of DeWitt Hospital, DTRA and AMC headquarters and the construction of the New North Post Chapel.

5.1.2 Mitigation

Mitigation actions would be expected to reduce, avoid, or compensate for most adverse effects. Refer to Table 4-34 in Section 4.14 for a summary of proposed mitigation measures.

5.1.3 Consequences of the No Action Alternative

Only those resources that would be affected by the no action alternative are discussed below.

5.1.3.1 Aesthetic and Visual Resources

Long-term minor adverse effects would be associated with deterioration of on-post housing over time and from the continuation of existing conditions such as overhead utility lines and visibility of Lewis Heights housing from Woodlawn Plantation.

5.1.3.2 Water Resources

Long-term minor adverse effects on streams are expected, due to the lack of storm water management in many of the existing housing villages under existing conditions, because streams will continue to erode and adjust, creating steep and undercut stream banks, until a new, stable channel alignment is reached.

5.1.3.3 Socioeconomics

Long-term minor adverse effects would be associated with deterioration of on-post housing over time.

5.1.3.4 Hazardous and Toxic Substances

Minor adverse effects could be associated with housing units that contain special hazards such as LBP and tiles made with ACM. Fort Belvoir would continue to manage and abate these potential hazards in accordance with all applicable laws, but abatement could be over a greater period of time than the period under the proposed action, and therefore the possibility of adverse effects must be recognized. However, no additional adverse effects beyond those currently present for the actual and suspected hazardous or POL materials in the RCI footprint would occur if construction of rehabilitation activities did not occur.

5.1.3.5 Geology and Soils

Construction activities related to normal maintenance and repair of housing units would result in some disturbance to soils. Short -term minor adverse effects from erosion are possible, due to the lack of storm water management facilities in many of the existing housing villages under existing conditions.

5.1.3.6 Cumulative Effects

The no action alternative would not be expected to result in any cumulative effects.

5.2 Conclusions

Implementation of the preferred alternative, coupled with coupled the mitigation measures identified in Section 4-14, will result in no significant, long-term effects on the quality of the natural or human environment. An Environmental Impact Statement is not required and will not be prepared. Issuance of a Finding of No Significant Impact is appropriate.