

A. INTRODUCTION

The State Environmental Quality Review Act (SEQRA) and its implementing regulations require the consideration of project alternatives, which are formulated in response to potential impacts of the proposed project. As requested in the adopted scope of work, this chapter analyzes the following alternatives: 1) No Action Alternative, where no new development would occur on the Watchtower Educational Center (WEC) properties; 2) As-of-Right Alternative, which does not require a height variance; 3) Reduced Project Size Alternative, in which less site disturbance would occur and less impervious surface would be created; and 4) Alternative Use, where the WEC properties would be developed according to its existing zoning designation. Using conclusions from the preceding chapters, the impacts of each alternative are compared to the impacts of the proposed project.

PRINCIPAL CONCLUSIONS

The alternatives analyzed in this chapter offer both pros and cons. However, none of these alternatives would adequately meet the needs of the applicant while effectively conserving the greatest number of environmental resources. The Reduced Project Size Alternative would reduce impervious surface coverage and the total limit of disturbance area needed for construction. However, this alternative would result in taller buildings having greater visual and construction impacts. The No Action Alternative and Alternative Use options would forego many of the benefits to the Town described throughout this DEIS, particularly in Chapter 13, "Economics." The proposed project would offer the most environmentally sound development that also fulfills the purpose and needs of the applicant.

B. DESCRIPTION OF ALTERNATIVES

SEQRA requires that an evaluation of each alternative should be at a level of detail sufficient to permit a comparative assessment of the alternatives discussed. **Table 16-1** is provided to assist in this comparison.

Table 16-1
Summary Comparison of Alternatives

Potential Impacts	Proposed Project	No Action Alternative	As-of-Right Alternative	Reduced Project Size Alternative	Alternative Use
Project Description					
<i>New Building Coverage</i>	186,000 sf	0 sf	307,000 sf	152,000 sf	91,250 sf
<i>Total Building Coverage</i>	715,542 sf	529, 711 sf	836,711 sf	681,711 sf	620,961 sf
<i>Additional Impervious Surface Coverage</i>	444,478 sf	0 sf	579,706 sf	402,998 sf	1,850,000 sf
<i>New Gross Floor Area</i>	904,000 sf	0 sf	902,000 sf	904,000 sf	182,500 sf - 219,000 sf ¹
<i>Total Gross Floor Area</i>	2,845,256 sf	1,941,256 sf	2,843,256 sf	2,845,256 sf	2,123,756 sf - 2,160,256 sf
<i>Maximum Building Height</i>	76 ft	75 ft	38 ft	111 ft	2 ½ stories
<i>Number of New Parking Spaces</i>	434 spaces	0 spaces	434 spaces	434 spaces	146 spaces ²
Land Use, Zoning, and Public Policy					
<i>Variances</i>	Building Height; Fence Height	None	Fence Height	Building Height; Fence Height	None
<i>Waiver</i>	Parking Dimensions	None	Parking Dimensions	Parking Dimensions	None
<i>Zoning Use</i>	Permitted Use w/Special Permit	Permitted Use w/Special Permit	Permitted Use w/Special Permit	Permitted Use w/Special Permit	Permitted Use
<i>Comprehensive Plan</i>	Complies	Complies	Contradicts	Complies	Contradicts
Community Services and Facilities					
<i>Police, Fire and EMS</i>	Onsite security and routine and emergency medical services; Fire-resistant construction	No Impact	Onsite services; Lower buildings	Onsite services; Taller buildings	Relies on Town services; Single-family housing typically greater tax burden than benefit
<i>Schools</i>	No School-Age Children	No School-Age Children	No School-Age Children	No School-Age Children	Generates school-age children
<i>Parks and Recreation</i>	Onsite recreation	Onsite recreation	Onsite recreation	Onsite recreation	Municipal recreation
Geology, Soils, and Topography					
<i>Limit of Disturbance Area</i>	2,138,529 sf	0 sf	2,361,646 sf	1,970,844 sf	7,400,000 sf
<i>Excess Fill</i>	85,524 cu yd	0 cu yd	211,434 cu yd	0 cu yd	100,000 cu yd

<i>Bedrock Disturbance</i>	42,910 cu yd	0 cu yd	40,226 cu yd	24,194 cu yd	Unknown
<i>Steep Slopes Disturbance (greater than or equal to 25%)</i>	5.6 acres	0 acres	5.8 acres	4.8 acres	62.8 acres
<i>Excavated Material</i>	196,088 cu yd	0 cu yd	285,270 cu yd	98,343 cu yd	320,000 cu yd
Water Supply and Utilities					
Water & Wastewater Demand ³	50,548 gpd (29,048 gpd)	0 gpd	50,548 gpd (29,048 gpd)	50,548 gpd (29,048 gpd)	58,400 gpd
Electricity / Gas	0.9 MW / 200 Dth	0 MW / 0 Dth	0.9 MW / 200 Dth	0.9 MW / 200 Dth	Unknown
Solid Waste	32.49 tons/month	0 tons/month	32.49 tons/month	32.49 tons/month	Unknown
Stormwater					
<i>Water Quality Volume (2-year event)</i>	3.66 acre-feet	0 acre-feet	4.23 acre-feet	3.45 acre-feet	Greater Impact Replacement of wooded areas with lawns
Surface Water and Wetlands					
<i>Buffer Disturbance</i>	48,994 sf	0 sf	61,881 sf	48,994 sf	125,000 sf
Natural Resources					
<i>Limit of Disturbance Area</i>	2,138,529 sf	0 sf	2,361,646 sf	1,970,844 sf	7,400,000 sf
<i>T/E Species</i>	No Adverse Impact	No Impact	Greater habitat area disturbed	No Adverse Impact	Habitat Fragmentation
Traffic					
<i>Weekday AM Peak</i>	16 trips	0 trips	16 trips	16 trips	56 trips
<i>Weekday PM Peak</i>	47 trips	0 trips	47 trips	47 trips	75 trips
<i>Weekday late evening peak</i>	63 trips	0 trips	63 trips	63 trips	Less
<i>Saturday midday peak</i>	64 trips	0 trips	64 trips	64 trips	66
Air Quality					
	No Adverse Impacts	No Impact	No Adverse Impacts	No Adverse Impacts	No Adverse Impacts
Historic and Visual Resources					
<i>Historic and Architectural Resources</i>	No Adverse Impacts	No Impact	No Adverse Impacts	No Adverse Impact	Potential Impact to Rocco's Diner
<i>Archaeological Resources</i>	3 potentially sensitive areas	No Impact	Requires APE Expansion	1 potentially sensitive area	Requires APE Expansion
<i>Visual Resources</i>	Consolidated Construction	No Impact	Greater Sprawl	Consolidated Construction; Taller buildings	Greater Sprawl; Inconsistent with existing Rt 22 character

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Socioeconomics					
<i>Construction Employment</i>	1,173 person years	0 person years	1,173 person years	1,173 person years	Unknown
<i>Economic Activity from Construction⁴</i>	\$229.32 million	\$0.00	\$229.32 million ⁵	\$229.32 million ⁵	Single-family residential development is typically a greater tax burden than benefit
Construction					
	No Adverse Impacts	No Impact	No Adverse Impacts	No Adverse Impacts	Greater limit-of-disturbance area and greater environmental impacts
Notes: Figures shown are <i>changes</i> from existing. For example, the numbers shown for water demand indicate the <i>increase</i> from existing demand. Terms herein such as “greater” or “less” refer to comparisons with the Proposed Project. ¹ Assumes 2,500 - 3,000 sf per residence. ² Assumes two parking spaces per residence. ³ These figures indicate <i>increases</i> in demand from existing conditions. Numbers in parentheses indicate increases in demand with implementation of proposed water conservation measures. ⁴ The extent to which volunteers can be used for construction depends on future market conditions. To the extent volunteers are used, the paid direct employment and direct wages and salaries would be reduced. ⁵ Because new floor space would be similar under the proposed project, the As-of-Right alternative, and the Reduced Project Size alternative, construction costs are assumed to be similar. However, slight variations may occur due to the varying site layouts and building heights.					

NO ACTION ALTERNATIVE

The No Action Alternative assesses future conditions of the site without the proposed project. This is the condition described in preceding chapters under the section titled “The Future Without the Proposed Project.” The proposed project would primarily occur on a 362.5-acre parcel east of New York State (NYS) Route 22. This alternative assumes that no new development would occur on this parcel and the existing WEC would continue its current operations with ongoing challenges due to temporary and inadequate facilities. The No Action Alternative would avoid land disturbance discussed in preceding chapters, but it would forego the economic and other benefits to the Town and impede the expansion of the applicant’s religious and educational purposes that would be realized by the proposed project.

This No Action Alternative would adversely impact the public. For example, audio/video services staff would continue to use substandard facilities to produce videos for the public, including the deaf community. As mentioned in Chapter 2, “Project Description,” there is an ever growing need for audio and video religious publications, which are significant tools in teaching Bible principles. This alternative would adversely impact the production of audio and video religious publications that are used locally and internationally.

LAND USE, ZONING, AND PUBLIC POLICY

In the No Action Alternative, land use and zoning of the WEC properties would continue under existing conditions. The WEC would continue its existing level of religious and educational operations with no new development occurring on its properties. This alternative would continue the current land use and have no significant adverse impacts on zoning or public policy.

COMMUNITY SERVICES AND FACILITIES

In the No Action Alternative, no changes to the WEC properties would occur that would increase demand on public services and facilities. Police, fire, and medical services would continue to support the WEC with no added burden. WEC residents would be expected to continue having little demand on public recreational facilities. This alternative would have no significant adverse impacts on community services and facilities.

GEOLOGY, SOILS, AND TOPOGRAPHY

In the No Action Alternative, no new development would occur on the WEC properties and existing topography and soils would remain unchanged and unaffected. This alternative would not cause any significant adverse impacts to geography, soils, or topography.

WATER SUPPLY AND UTILITIES

In the No Action Alternative, demand on water supply, energy, wastewater facilities, and other utility facilities would remain unaffected as the maximum number of residents at the WEC would remain unchanged. Demand on energy and solid waste services is expected to remain fairly steady in the No Action Alternative. Therefore, this alternative would cause no significant adverse impacts to water supply and utilities.

STORMWATER

In the No Action Alternative, development on the WEC properties would remain unchanged. No new impervious surfaces would be created that would increase stormwater runoff. Existing stormwater detention facilities would continue to adequately manage stormwater on-site. This alternative would cause no significant adverse impacts to stormwater.

SURFACE WATER AND WETLANDS

In the No Action Alternative, no changes to watercourses or wetlands on the WEC properties would occur. This alternative would cause no significant adverse impacts to surface water and wetlands.

NATURAL RESOURCES

In the No Action Alternative, all existing vegetation and wildlife habitats would remain undisturbed. This alternative would cause no significant adverse impacts to natural resources. However, with the proposed project, the applicant intends to allow more than four acres of current mowed lawn area to grow into a more natural state, which would not occur with the No Action Alternative. These areas include fields west of existing residences and east of the existing warehouse.

TRAFFIC

In the No Action Alternative, there would be no adverse impacts to traffic as the function and residential population of the WEC would remain unchanged. The current low levels of service at existing intersections would remain unaddressed.

AIR QUALITY

In the No Action Alternative, there would be no adverse impacts to air quality as the WEC would function under existing operations.

HISTORIC AND VISUAL RESOURCES

In the No Action Alternative, historic and visual resources would remain unchanged. No new development would occur on the project site that would compromise historic and visual resources.

SOCIOECONOMICS

In the No Action Alternative, there would be adverse impacts to socioeconomic conditions in the Town of Patterson. This alternative would not provide the direct and indirect economic benefits that would result from employment of construction workers, purchase of goods and services during construction, and subsequent increase in the number of residents that would be seen with the proposed project. Although the WEC is tax-exempt, this alternative would not add new residents to the Town who would potentially purchase goods in the community and contribute to the Town's economy and tax revenue.

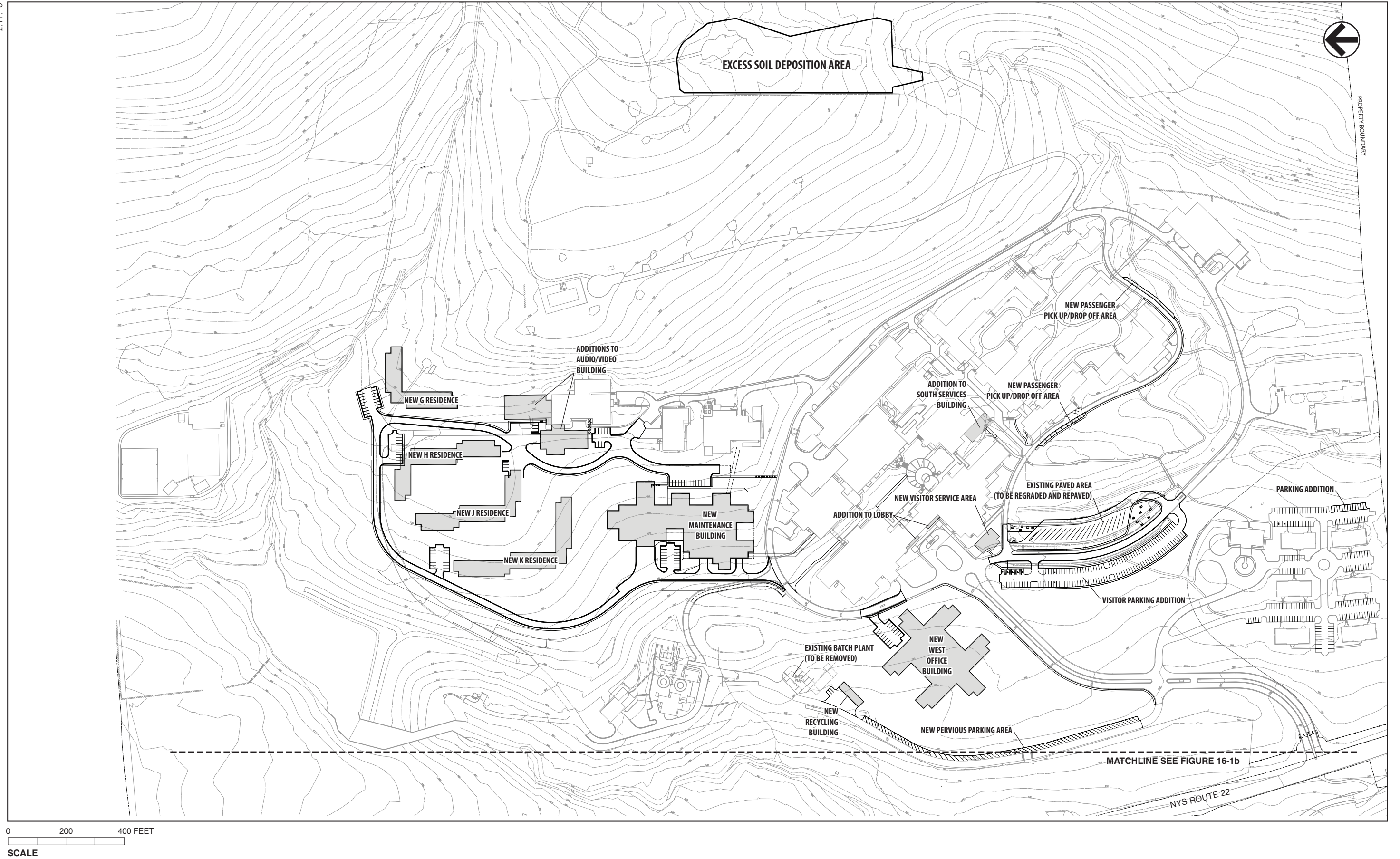
CONSTRUCTION

In the No Action Alternative, no construction activity would occur on the project site. Therefore, this alternative would not result in any adverse impacts related to construction.

AS-OF-RIGHT ALTERNATIVE

In conformance with provisions in the adopted scope of work, an As-of-Right alternative site plan layout has been created that eliminates the need for building height variances from the Town. Regulations set forth by the Town Zoning Code for the R-4 district in which the project site is located limit building heights to 38 feet above the average grade. In order to maintain the necessary building space required to accommodate residential and office needs, new development would be more spread out over the site, therefore creating more impervious surface coverage.

This alternative aims to satisfy all the objectives of the proposed project without exceeding the Town's height limitations while still conserving environmental features as best as possible. Gross square footage of new buildings for this alternative would be approximately 902,000 square feet (similar to the 904,000 square feet of the proposed project), and total building coverage would be about 307,000 square feet, a large increase from the approximately 186,000 square feet of the proposed project. Unlike the proposed project, this alternative would require four new residential buildings (as opposed to two in the proposed project), and the Maintenance and West Office Building would be separate buildings. **Figures 16-1a** shows the layout of the As-of-Right alternative site plan. Specific components of this alternative are described below:



- **Maintenance Building.** In this alternative, the Maintenance Building would be constructed in the same general vicinity as with the proposed project. The Maintenance Building would be two stories with a maximum height of 38 feet, and would have one basement and two cellar levels. Total gross square footage would be 395,000 square feet. This building would contain office space, maintenance shops space, storage, central receiving, and exercise and locker facilities, and would be accommodated with parking.
- **West Office Building.** In this alternative, a new office building would be constructed at a location just west of the existing Office Building and main site driveway. This building would comprise 112,000 square feet in two stories with a maximum height of 38 feet. It would provide office and storage space.
- **Residences.** As stated above, four new residential buildings would be constructed with this alternative, each containing residential units, storage areas, and common areas.
 - G Residence: G Residence would have an area of 63,000 square feet and would be two stories with a basement. Maximum height would be 38 feet.
 - H Residence: H Residence would have an area of 86,000 square feet and would be two stories with a basement and partial cellar. Maximum height would be 38 feet.
 - J Residence: J Residence would have an area of 86,000 square feet and would be two stories with a basement and partial cellar. Maximum height would be 38 feet.
 - K Residence: K Residence would have an area of 97,000 square feet and would be two stories with a basement. Maximum height would be 38 feet.
- **North and West Additions to Audio/Video Building.** Similar to the proposed project, additions to the Audio/Video Building would total about 47,000 square feet with this alternative. The north addition would have a maximum height of 31 feet, and the west addition would have a maximum height of 31 feet. These additions would provide a video recording stage, sign language recording stages, offices, support, and storage areas. Lowering the building height would compromise the internal circulation between the addition and the existing building.
- **Recycling Building.** In this alternative, the Recycling Building would have the same dimensions and placement as with the proposed project. It would be 3,000 square feet and one story with a maximum height of 29 feet. The Recycling Building would provide dumpsters to hold materials until they are ready for transport.
- **Visitor Services Building.** The new Visitor Services Building would be the same as with the proposed project. It would comprise 4,000 square feet and be one story with a maximum height of 23 feet. It would provide tables and sitting areas for visitors, as well as restroom facilities.
- **South Services Building.** Approximately 8,000 square feet of new space would be added to the South Services Buildings, similar to the proposed project. This addition would be one story and basement, with a maximum height of 33 feet and would facilitate the modernization and enlargement of existing central laundry equipment.
- **Main Lobby Building.** Similar to the proposed project, this alternative would add approximately 1,000 square feet of new space to the Main Lobby Building. The addition would be one story with a maximum height of 20 feet. This addition would provide storage areas, seating areas, and coat rooms.

- **Additional Features.** As with the proposed project, this alternative would include the following additional components:
 - Bridges and tunnels between the new buildings and connections into the existing building network;
 - New road and sidewalks to service the new buildings;
 - Stormwater basins;
 - Modification of the visitor parking lot to improve pedestrian safety and increase on-site parking by a total of 434 new spaces;
 - Addition of sidewalks and pull-off parking to improve pedestrian safety;
 - Widening of the road for event parking;
 - Diesel fueling station with a 2,500 gallon tank and associated containment facilities;
 - Addition of 13 new parking spaces at the Patterson Inn (included in the 434 parking space count above);
 - Connection of new buildings to existing power, water, and sanitary systems;
 - Upgrade of the existing concrete Batch Plant to serve this project with eventual dismantling and removal of the Plant;
 - Enhancements to improve stormwater management, reduce water and sewer use, and improve efficiency of heating and cooling systems;
 - Enlarge potable water surge tank to improve reliability of water system; and
 - Fence and gate at property entrance.

The potential impacts of this alternative are discussed below.

LAND USE, ZONING, AND PUBLIC POLICY

In this alternative, a more sprawl-type development pattern would result on the WEC properties than would be seen in the preferred project alternative. Remaining within height limitations established by the Town Zoning Code requires building space to be spread out over a greater area. This is contrary to the goals set forth in the Town's Comprehensive Plan that aim to preserve open space and promote environmentally sound development. Like the proposed project, this alternative would be consistent with land use on the WEC properties, but placement of the proposed West Office Building closer to NYS Route 22 would result in a greater alteration of the visible landscape. As a result, perception of the character and land use along the NYS Route 22 corridor in this area would be more greatly affected. Further, the site disturbance area would need to be expanded to the WEC property west of NYS Route 22 for stormwater detention.

This alternative would create approximately 307,000 square feet of new building footprint on the WEC properties, compared to approximately 186,000 square feet with the proposed project. Total building coverage for the site in this alternative would be approximately 836,711 square feet, or 5.30 percent. Further, had structures remained within height limitations in past development on site, as described in Chapter 3, "Land Use and Zoning," total building coverage for the site in this alternative would be about 953,000 square feet, or 6.04 percent. Like the

proposed project, these figures are in compliance with the 15 percent building coverage limitation set forth in the Town Zoning Code for educational centers having a special use permit in a residential zoning district. However, building coverage would be significantly greater than the proposed project.

COMMUNITY SERVICES AND FACILITIES

This alternative would add approximately the same gross square footage of new building space and the same number of new residents to the WEC properties as the proposed project. Therefore, the conclusions in Chapter 4, “Community Services and Facilities,” are the same for this alternative. Additional building space and residential population at the WEC would minimally increase demand on municipal police, fire, medical, and recreational services, but these services have adequate capacity to accommodate this additional growth.

GEOLOGY, SOILS, AND TOPOGRAPHY

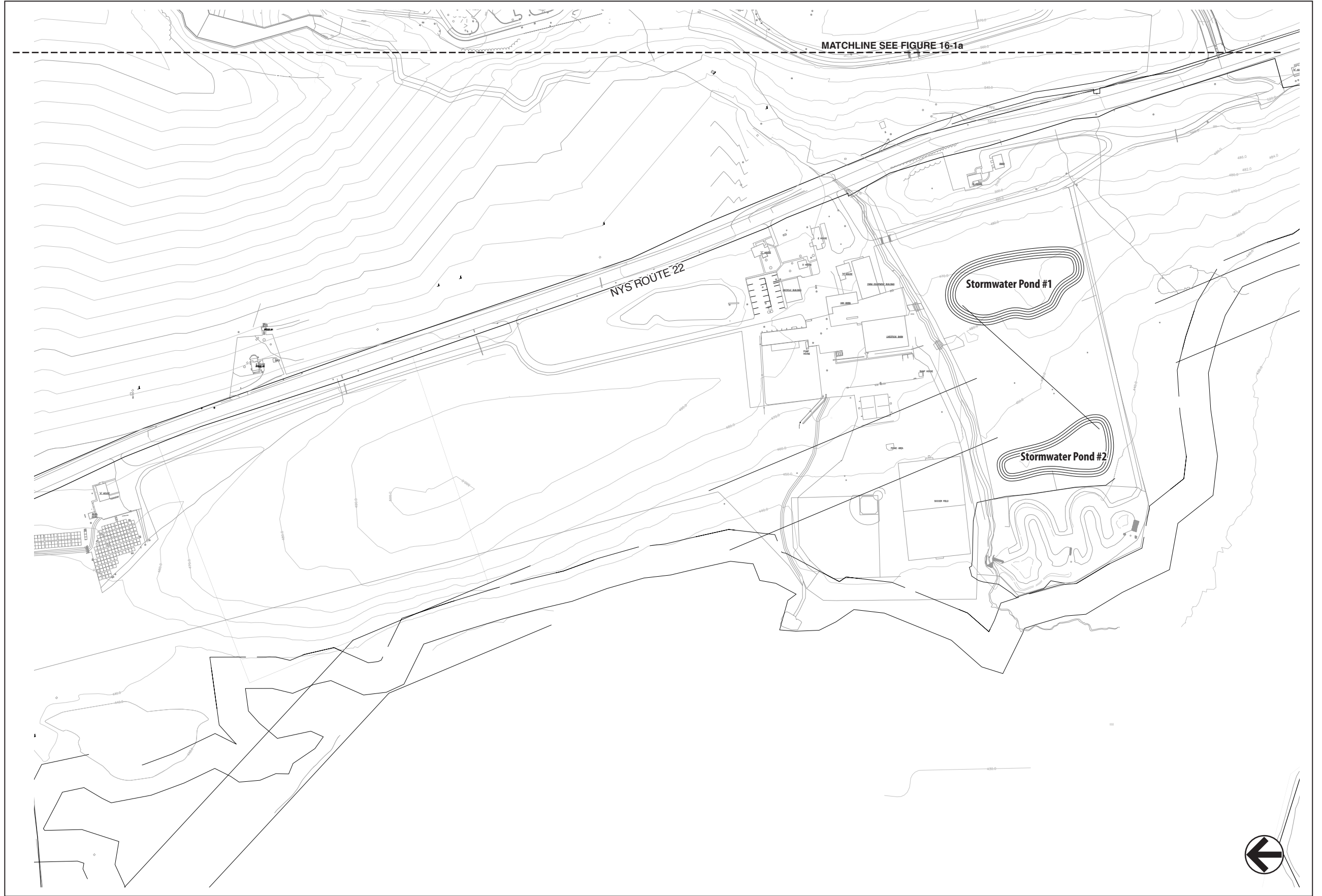
In this alternative, a significantly larger area of disturbance would be required than with the proposed project. This alternative would result in a total of approximately 307,000 square feet of new building coverage whereas the proposed project would result in approximately 186,000 square feet of new building coverage. Consequently, substantially more blasting, grading, excavation, and disturbance of steep slopes would be required. This alternative would result in 285,270 cubic yards of excavated material, as opposed to 196,088 cubic yards with the proposed project. The excess fill would be 211,434 cubic yards, as opposed to 85,524 cubic yards with the proposed project. Approximately 40,226 cubic yards of bedrock would be excavated. The disturbance to slopes greater than 25 percent would total 5.8 acres as compared to 5.6 acres for the proposed project.

WATER SUPPLY AND UTILITIES

In this alternative, total gross square footage of new buildings and total number of additional residents on-site would be unchanged from the proposed project. Demand on water, wastewater, solid waste, and energy services would be similar to that described in the Chapter 6, “Water Supply and Utilities.” However, the sprawling nature of development in this alternative would require more extensive infrastructure on-site in terms of piping and telecommunications wiring as compared to the proposed project. Developing this type of infrastructure is more complicated, costly, and wasteful than having a more compact development.

STORMWATER

In this alternative, total new building coverage would equal approximately 307,000 square feet, as compared to approximately 186,000 square feet with the proposed project. Total additional impervious surface coverage would be approximately 579,706 square feet, as compared to 444,478 square feet with the proposed project. The 135,228 square feet of additional impervious surface would result in an increase in stormwater runoff volume and peak flows. Further, the sprawling nature of the As-of-Right site plan layout would create space limitations, making it unfeasible to locate the stormwater management system on the WEC property east of Route 22 (i.e., the portion of the property containing the existing and proposed buildings). The stormwater ponds would need to be located on the adjacent WEC property parcels west of Route 22 (see **Figure 16-1b**) creating greater disturbance. This would cause significant cost in the construction of the stormwater conveyance system.



SURFACE WATER AND WETLANDS

In this alternative, G Residence would be constructed in closer proximity to Mountain Brook, abutting its watercourse setback. This alternative would disturb approximately 61,881 square feet of stream buffer areas due to the increased footprint and limited location options for the residences and stormwater ponds. The greater site disturbance and overall impervious surface coverage in this alternative would potentially increase stormwater runoff and pollutant loading into surface water bodies and wetlands near the project site. As mentioned above, a stormwater management program would be implemented, although having greater impervious surface coverage increases the complexity of retaining stormwater runoff.

NATURAL RESOURCES

In this alternative, approximately 307,000 square feet of new building coverage would be created as opposed to about 186,000 square feet with the proposed project. The limit of disturbance area would be approximately 54.2 acres, which is 5.1 acres greater than the proposed project. As a result, greater areas of vegetation and wildlife habitat would be removed. Similar to the proposed project, this alternative would disturb an existing orchard on-site. However, this alternative would require greater disturbance to the forested habitats on-site, particularly due to placement of G Residence. The sprawling nature of this alternative would be contradictory to goals of the Green GlobesTM program which encourages clustered development.

TRAFFIC

In this alternative, total gross square footage of new buildings and total number of new residents would remain equal to the proposed project. As discussed in Chapter 10, "Traffic, Parking, and Public Transportation," these increases would not result in a significant adverse impact to traffic in the study area. However, distances driven internally by vehicular traffic would increase due to the sprawling layout.

AIR QUALITY

In this alternative, new building space and new residences would be equal to that with the proposed project. As discussed in Chapter 11, "Air Quality," no significant adverse mobile or stationary source impacts would result with the amended site plan of the WEC.

HISTORIC AND VISUAL RESOURCES

In this alternative, greater site disturbance would occur than in the proposed project. Much of the concentration of development in this alternative would occur in the same general location as the proposed project, but would disturb other areas as well due to its sprawling layout. While no significant impacts to historic or archaeological resources were found for the proposed project (see Chapter 12, "Historic and Visual Resources"), the archaeological analysis may need to be expanded to determine whether the additional development in this alternative would disturb any archaeologically sensitive areas.

This alternative would have a reduced visual impact for the residential buildings in the NYS Route 22 viewshed due to lower building heights. However, the West Office Building would be much more visually prominent in this alternative from the NYS Route 22 viewshed due to its proximity to the road. In addition, this alternative would increase the visual impact for all of the buildings for the viewshed from across the valley. Buildings would also be setback from

neighboring properties and NYS Route 22 at similar distances as the proposed project with the exception of the new West Office Building. However, the spread out nature of this alternative would give an impression of more massive development and reduced open space, leading to a more sprawling overall appearance.

Lighting practices would be consistent with existing conditions on-site and those proposed in the proposed project. Spillover to surrounding areas would be minimal or non-existent. However, the need to place the 112,000-square-foot office building closer to NYS Route 22 in this alternative may result in light being visible from public roadways.

SOCIOECONOMICS

In this alternative, the applicant would be able to enhance its creation of religious materials and its educational services, as it would with the proposed project. Therefore, conclusions in Chapters 2, “Project Description” and 13, “Economic Analysis,” that the proposed project would have a significant positive social and fiscal impact would also apply to this alternative.

CONSTRUCTION

In this alternative, construction and site disturbance would be more widespread throughout the site than with the proposed project. More extensive stormwater management and erosion control measures would need to be implemented. This alternative would result in about 307,000 square feet of new building footprint, whereas the proposed project would create approximately 186,000 square feet of new building footprint. This alternative would result in 135,228 square feet more impervious surface coverage than the proposed project and have a 5.1-acre greater total limit of disturbance area.

With the proposed project, stormwater runoff would be contained in several aboveground detention basins. In this alternative, those detention basins would be replaced by K Residence and the new West Office Building, as shown on Figure 16-1 (see Figure 2-1 for site plan with the proposed project). Therefore, new stormwater detention practices would be required. These are expected to be significantly more extensive than the stormwater management plans designed for the proposed project and would involve detention basins on adjacent WEC parcels west of Route 22.

To mitigate impacts from construction, a phasing plan would be implemented that does not disturb more than 10 acres of the site at one time, as with the proposed project. Because more of the site would be disturbed, the total period of construction would be lengthened. Like the proposed project, mitigation measures would be in place to minimize noise, impacts from construction traffic on surrounding areas, and air quality concerns, although prolonged construction could potentially extend disruption to operations of existing on-site facilities and the surrounding community. This alternative would incur additional long-term operational costs due to the additional surface area being maintained.

REDUCED PROJECT SIZE ALTERNATIVE

The Reduced Project Size Alternative discussed below is intended to reduce building coverage and impervious surface coverage while maintaining all the objectives of the proposed project.

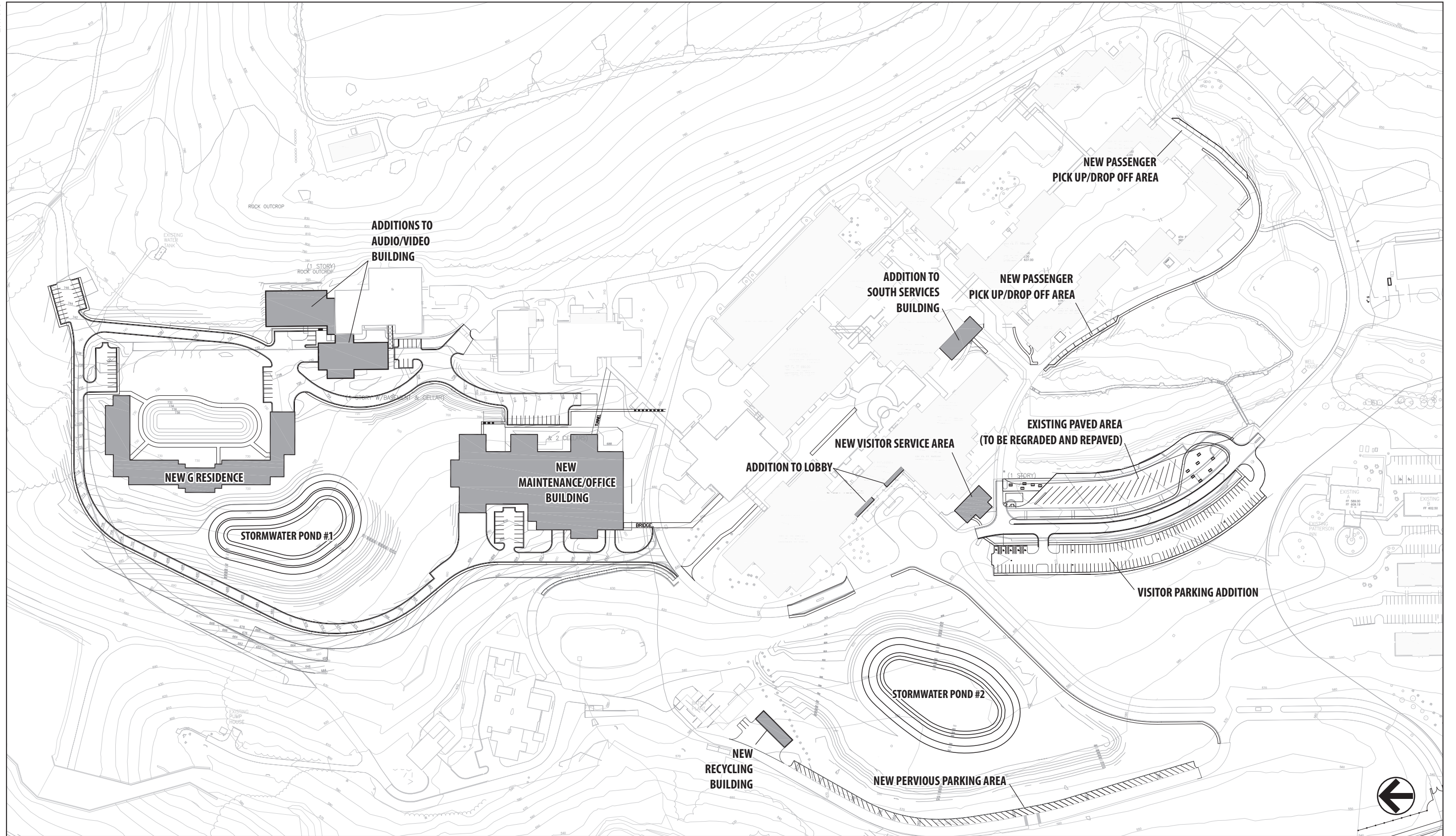
However, it must be noted that the proposed project itself was carefully designed to minimize environmental impacts to the extent possible. The applicant has investigated various sizes for the proposed project. One of the earlier alternates that was investigated, added housing to

accommodate 1,000 additional residents on-site. However, the project scope was reduced to the currently proposed size which adds housing for 500 residents on-site. The area of new impervious surface was also already reduced in the proposed project by consolidating building area into multi-story construction. This approach was noted in the review of the amended site plan application.

The *Final Scope for a Draft Environmental Impact Statement* from the Town of Patterson requires consideration of the following alternative: “Reduced project size which will result in substantially less disturbance and impervious surface.” In addition to the measures already taken as noted above, this requirement is met by the conceptual layout drawing represented in **Figure 16-2** showing buildings that have been further consolidated as compared to the proposed project.

Gross square footage of new buildings for this alternative would be approximately 904,000 square feet, and total new building coverage would be about 152,000 square feet. This area of building coverage is approximately 18.3 percent less than the approximately 186,000 square feet of the proposed project. Unlike the proposed project, this alternative would require only one new residential building (as opposed to two in the proposed project), and the Maintenance and West Office Building would be further consolidated. Figure 16-2 shows the layout of the Reduced Project Size Alternative site plan. Specific components of this alternative are described below:

- **Maintenance/Office Building.** In this alternative, the Maintenance and North Office Buildings are consolidated into one building and would be constructed in the same general vicinity as with the proposed project. The Maintenance/Office Building would be eight stories with a maximum height of 111 feet, and would have one basement and two cellar levels. Total gross square footage would be 523,000 square feet. This building would contain office space, maintenance shops space, storage, central receiving, and exercise and locker facilities, and would be accommodated with parking.
- **Residence.** As stated above, only one new residential building would be constructed with this alternative containing residential units, storage areas, and common areas. The G Residence would be eight stories with a maximum height of 100 feet and would have one basement and partial cellar. Total gross square footage would be 318,000 square feet.
- **North and West Additions to Audio/Video Building.** Similar to the proposed project, additions to the Audio/Video Building would total about 47,000 square feet with this alternative. The north addition would have a maximum height of 31 feet, and the west addition would have a maximum height of 31 feet. These additions would provide a video recording stage, sign language recording stages, offices, support, and storage areas. Lowering the building height would compromise the internal circulation between the addition and the existing building.
- **Recycling Building.** In this alternative, the Recycling Building would have the same dimensions and placement as with the proposed project. It would be 3,000 square feet and one story with a maximum height of 29 feet. The Recycling Building would provide dumpsters to hold materials until they are ready for transport.
- **Visitor Services Building.** The new Visitor Services Building would be the same as with the proposed project. It would comprise 4,000 square feet and be one story with a maximum height of 23 feet. It would provide tables and sitting areas for visitors, as well as restroom facilities.
- **South Services Building.** Approximately 8,000 square feet of new space would be added to the South Services Buildings, similar to the proposed project. This addition would be one



story and basement, with a maximum height of 33 feet and would facilitate the modernization and enlargement of existing central laundry equipment.

- **Main Lobby Building.** Similar to the proposed project, this alternative would add approximately 1,000 square feet of new space to the Main Lobby Building. The addition would be one story with a maximum height of 20 feet. This addition would provide storage areas, seating areas, and coat rooms.
- **Additional Features.** As with the proposed project, this alternative would include the following additional components:
 - Bridges and tunnels between the new buildings and connections into the existing building network;
 - New road and sidewalks to service the new buildings;
 - Stormwater basins;
 - Modification of the visitor parking lot to improve pedestrian safety and increase on-site parking by a total of 434 new spaces;
 - Addition of sidewalks and pull-off parking to improve pedestrian safety;
 - Widening of the road for event parking;
 - Diesel fueling station with a 2,500 gallon tank and associated containment facilities;
 - Addition of 13 new parking spaces at the Patterson Inn (included in the 434 parking space count above);
 - Connection of new buildings to existing power, water, and sanitary systems;
 - Upgrade of the existing concrete Batch Plant to serve this project with eventual dismantling and removal of the Plant;
 - Enhancements to improve stormwater management, reduce water and sewer use, and improve efficiency of heating and cooling systems;
 - Enlarge potable water surge tank to improve reliability of water system; and
 - Fence and gate at property entrance.

The potential impacts of this alternative are discussed below.

LAND USE, ZONING, AND PUBLIC POLICY

As discussed above, the Reduced Project Size Alternative would result in approximately 152,000 square feet of new building coverage as compared to approximately 186,000 square feet with the proposed project. This would primarily be due to the removal of H Residence; the consolidation of the Maintenance and North Office Buildings; and the greater height of eight stories instead of the maximum five stories in the proposed project. Under this alternative, the Maintenance/Office Building would comprise eight stories above grade, instead of five stories as in the proposed project. The residence building would be eight stories above grade, as opposed to the five-story H Residence in the proposed project. Road coverage and parking areas would remain similar under this alternative. Overall impervious surface coverage would total approximately 402,998 square feet, as compared to 444,478 square feet under the proposed project. Development under this alternative would be more compact and reduce impervious

surface coverage, but in order to accommodate the space necessary to meet the needs of the WEC, buildings would need to be significantly taller than in the proposed project. Height variances from the Town of Patterson Zoning Board of Appeals (ZBA) would be required for G Residence and the Maintenance/Office Building at 100 feet (8 stories) and 111 feet (8 stories), respectively.

Similar to the proposed project, the Reduced Project Size Alternative would result in development that is consistent with existing facilities and operations at the WEC. Its compact development would be in line with goals of the Town Comprehensive Plan by reducing site disturbance. Although this alternative would result in only one new residence and a consolidated Maintenance and Office Building, it would not have a significant effect on reducing the overall appearance of building mass on the project site. Individual buildings would be larger, and their orientation and site placement would result in an appearance similar to the proposed project.

COMMUNITY SERVICES AND FACILITIES

The Reduced Project Size Alternative would result in less building coverage onsite, but would have similar overall gross floor area as the proposed project. This alternative would result in the same number of new residents as the proposed project. As with the proposed project, on-site security services and medical services would continue to operate, and buildings would be constructed with fire resistant materials and be equipped with fire protection systems such as sprinklers. Building heights of 100 feet and greater may present challenges to local emergency protection services, particularly fire protection services. Existing fire apparatuses may not be able to accommodate buildings of these heights.

GEOLOGY, SOILS, AND TOPOGRAPHY

The Reduced Project Size Alternative would require less site disturbance than the proposed project and require less grading and other site modifications. This alternative would require excavation of 98,343 cubic yards of material, of which 24,194 cubic yards would be bedrock. In this option, 10,919 cubic yards of fill would need to be brought to the site. Approximately 4.8 acres of steep slopes would be disturbed. Decreased bedrock excavation may reduce the amount of blasting required, but it would not avoid the potential for blasting. If blasting becomes necessary, all proper protocols would be followed and all necessary erosion and sediment control measures would be put in place.

WATER SUPPLY AND UTILITIES

This alternative would result in similar building area and the same number of residents as the proposed project. Therefore, demand on utilities and infrastructure would likely be similar. Greater building heights would be more difficult to service with water supply and provide adequate water pressure.

STORMWATER

The Reduced Project Size Alternative would comprise less building coverage and total impervious surface coverage than the proposed project, but stormwater runoff volume reductions would not be significant. The water quality volume for the 2-year storm event under this alternative would be about 0.21 acre-feet less than the proposed project, resulting in stormwater detention ponds that would be substantially similar in design and layout as the proposed project.

SURFACE WATER AND WETLANDS

Disturbance to wetland and watercourse buffer areas would be the same under this alternative as the proposed project. Approximately 48,994 square feet of these buffer areas would be disturbed during construction. Over 15,000 square feet of disturbed buffer areas would be revegetated and restored to their original condition. This alternative would result in approximately 41,480 square feet less new impervious coverage than the proposed project, which would reduce stormwater runoff and potential impacts to surface water quality.

NATURAL RESOURCES

Since this option produces no excess fill material, the existing excess soil deposition area would not need to be disturbed. As a result, the limit of disturbance under the Reduced Project Size Alternative would be reduced by more than 167,000 square feet as compared to the limit of disturbance under the proposed project. Therefore, this alternative would have less impact to plant and wildlife habitats as the proposed project. Much of the disturbed area would include existing lawns and an orchard, which are heavily maintained and have limited ecological value. This alternative, like the proposed project, would result in minimal habitat fragmentation and have no significant adverse effects to natural resources.

TRAFFIC

As with the proposed project, this alternative would result in 500 additional residents at the WEC. The traffic analysis conducted for the proposed project would apply to this alternative. As discussed in Chapter 10, "Traffic, Parking, and Public Transportation," the proposed project would not have any significant adverse impacts to traffic in the study area. See Table 16-1 for a summary of potential traffic generation from the proposed project and the Reduced Project Size Alternative.

AIR QUALITY

Under the Reduced Project Size Alternative, new building space and number of new residences would be equal to that with the proposed project. As discussed in Chapter 11, "Air Quality," no significant adverse mobile or stationary source impacts would result with the amended site plan of the WEC.

HISTORIC AND VISUAL RESOURCES

Since this option produces no excess fill material, the existing excess soil deposition area would not need to be disturbed. As a result, the limit of disturbance would be reduced by more than 167,000 square feet as compared to the limit of disturbance of the proposed project. Therefore, the historic and archaeological analysis of the proposed project would not need to consider the locations flanking Mountain Brook in the northwestern portion of APE segment 1, the north pasture or the existing excess soil deposition area. As discussed in Chapter 12, "Historic and Visual Resources," the project site does not contain any significant historic or architectural resources. Most of the project site has been determined to have low sensitivity for archaeological resources except for one area that may be affected by the proposed project. Further testing has been recommended for this area to determine the presence or absence of significant archaeological resources. If important resources are identified, proper avoidance or mitigation measures would be established to ensure no significant adverse effects to archaeological resources would result from the proposed project, or the Reduced Project Size Alternative.

This alternative would comprise two buildings ranging from 100 to 111 feet tall, which is significantly higher than the tallest building of 76 feet under the proposed project. These structures would be visible from a greater distance and have a greater visual impact than the proposed project. Removal of H Residence and the consolidation of the Maintenance and North Office Building would not have a significant effect on reducing the appearance of building massing since each individual building would be larger and the siting of each building would be similar to that of the proposed project.

SOCIOECONOMICS

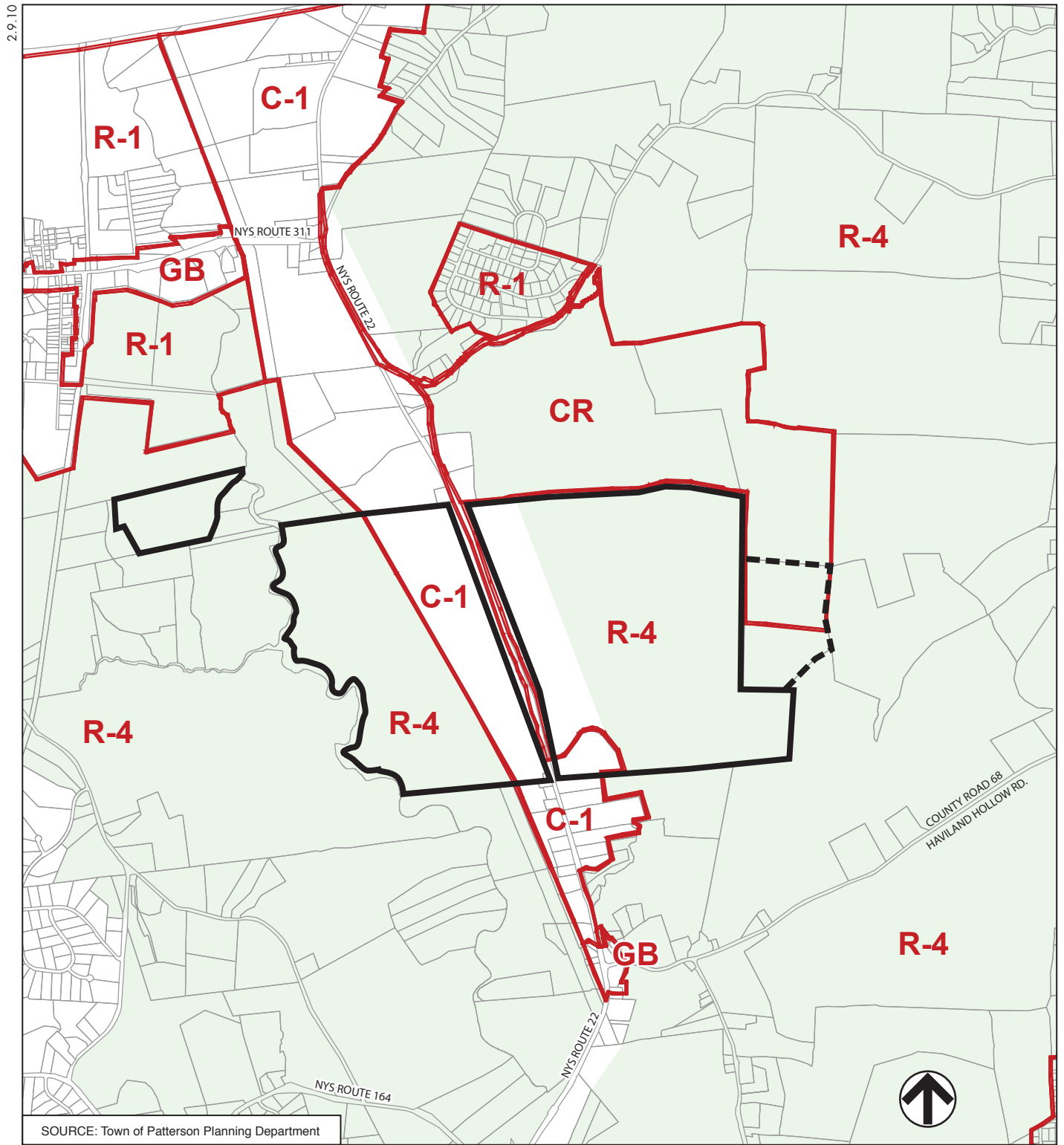
This alternative would result in similar overall gross floor area as the proposed project. Therefore, this alternative would require a similar quantity of construction materials, similar number of construction workers, and a similar duration of time to complete as the proposed project. However, greater building heights upward of 100 or more feet would require more sophisticated and potentially more costly construction methods. This alternative would allow the WEC to enhance its creation of religious materials and its educational services needed to meet increasing demand. Similar to the proposed project, this alternative would have beneficial socioeconomic impacts to the community and the WEC.

CONSTRUCTION

The limit of disturbance under this alternative would be reduced by 3.9 acres as compared to the 49.1-acre limit of disturbance under the proposed project. Overall gross floor area of new buildings would be equivalent to than the proposed project and the extent of roads, sidewalks, and other site improvements would be similar. This alternative would result in greater construction traffic than the proposed project due to the need for fill material. Greater building heights under this alternative would require more challenging and sophisticated construction methods than the proposed project. Stormwater management and erosion and sediment control measures during construction similar to the proposed project would need to be put in place. Under the Reduced Project Size Alternative, two stormwater treatment ponds would be created in the same areas as under the proposed project. A similar phasing plan would also be enacted to ensure no greater than 10 acres is disturbed at one time. Despite its reduced size, this alternative would still require many of the similar site improvements as the proposed project.

ALTERNATIVE USE

This project alternative analyzes development of an alternate land use on the WEC properties in accordance with existing zoning regulations, but would not accomplish the goals being sought by the applicant. Lot #53 is located within the R-4 zoning district, which is primarily intended to allow detached single-family residences on lots of at least 4 acres. As shown on **Figure 16-3**, a portion of the WEC properties (approximately 282 acres) is also located within an Open Space Overlay Zone, which outlines additional requirements for subdivisions that involve clustering development to preserve open space. For this analysis, the number of single-family residential lots that could potentially be subdivided on the undeveloped portion of the project site was calculated. This alternative assumes that the undeveloped portion of the WEC properties would be purchased by a private developer and that new residential lots would be occupied by the general public and not be associated with WEC operations. To be conservative, these residences are assumed to be four-bedroom houses. Subsequently, potential impacts from this type of development were assessed.



— WEC Properties Boundary

- - - Valley Farms Corporation Property Boundary

Open Space Overlay Zone

R-1 Residence District

R-4 Residence District

GB General Business District

C-1 Commercial District

CR Commercial Recreation District

0 1/2 1 MILE
SCALE

Even though the applicant's property comprises six parcels in Patterson, development is proposed on one 362.5-acre parcel. As stated above, approximately 282 acres of this parcel are within the Open Space Overlay Zone. The remaining 80.5 acres of this parcel are outside the overlay zone and subject to standard single-family residential development under R-4 zoning.

Rough estimates show that approximately 46 acres of the 362.5-acre parcel are currently developed. This number does not solely reflect the amount of impervious surface development on-site, but accounts for lawns between buildings and other areas that would presumably be unavailable for subdivision. Nearly all of the 46 acres of existing campus development on-site are within the 282-acre portion of the property within the overlay zone. Therefore, approximately 236 acres of the undeveloped portion of the parcel are subject to open space subdivision design standards, and 80.5 acres are subject to standard R-4 zoning regulations. These calculations are summarized in **Table 16-1** below.

Table 16-2
Summary of Parcel Calculations

Parcel Portion	Area (in acres)
Total parcel size (Lot 53)	362.5
Total within OSOZ ¹	282
Total developed within OSOZ	(46)
Total undeveloped within OSOZ	(236)
Total outside OSOZ	80.5
Note: ¹ Open Space Overlay Zone (OSOZ).	

The undeveloped portion of the 362.5-acre parcel containing the project site within the Open Space Overlay Zone (236 acres) must comply with Chapter 138, (Subdivision of Land), Part 2 of the Town Code. Section 138-44 of the Code includes the following stipulations for the number of subdivided lots permitted in an Open Space Overlay Zone:

“The maximum number of lots created by the subdivision of the lot shall be the lesser of:

- (1) The total lot area minus ten percent (10%) for infrastructure improvements, divided by minimum lot area for that zoning district, rounded down to the nearest whole number; or
- (2) The total lot area minus any environmentally sensitive areas, minus ten percent (10%) for infrastructure improvements, divided by one and one-half acres, rounded down to the nearest whole number.”

Chapter 138, Part 2 also requires open space development to cluster buildings, as practicable, thereby preserving open space.

For a conservative estimate and to show the greatest possible number of potential subdivided lots, this chapter does not consider environmentally sensitive areas in its calculation. Accounting for environmentally sensitive areas could potentially reduce the number of total subdivided lots, and it is assumed that these factors would be considered if this alternative is realized. Complying with the guidelines under part “(1)” above, the portion of the subject parcel in the Open Space Overlay Zone could be subdivided into the following number of lots shown in the calculation below:

$$(\text{Total lot area} - 10\%) / \text{Min. lot area} = (236 - 23.6) / 4 = 53.1 = \mathbf{53} \text{ (rounded down)}$$

The remaining portion of the subject parcel not in the Open Space Overlay Zone (80.5 acres) could be subdivided into 20 lots based on R-4 zoning regulations, as shown below:

$$\text{Total lot area} / \text{Min. lot area} = 80.5 / 4 = 20.125 = \mathbf{20} \text{ (rounded down)}$$

In total, the WEC property could be subdivided into **73** lots, occupied by single-family residences.

Lot size standards for subdivisions pursuant to Chapter 138 are shown in **Table 16-3**.

Table 16-3
Open Space Overlay Standards

Standard	Requirement
Minimum lot size	40,000 square feet
Maximum lot size	80,000 square feet
Road frontage	125 linear feet
Maximum impervious coverage	20 percent
Side yard setback	30 feet
Rear yard setback	40 feet
Sources: Code of the Town of Patterson, Chapter 138, "Subdivision of Land"	

LAND USE, ZONING, AND PUBLIC POLICY

This alternative would comply with zoning regulations in the Town Code. However, it would create a 73-lot single-family residential subdivision along NYS Route 22 that would not be in character with the commercial and business uses that dominate the corridor. The portion of the project site closest to NYS Route 22 is not within the open space overlay zone. The 20 new single-family residences described above would be evenly spread out over this portion of the property on 4-acre lots. The clustered development on the remainder of the property would preserve more open space than the standard single-family lots, but would be setback from public areas and not as visible.

Most of the NYS Route 22 corridor near the WEC is zoned commercial (C-1) or general business (GB). The property for the proposed project was rezoned R-4 (originally R-80, which has subsequently become R-4) when it was initially developed in the late 1980s so that it could receive a special use permit for its unique situation. The property was not intended for a single-family residential subdivision, which would be out of character with the NYS Route 22 corridor.

COMMUNITY SERVICES AND FACILITIES

According to the 2000 US Census, average household size of owner-occupied units in the Town of Patterson was 2.97. Assuming that owner-occupied units generally refers to single-family residences in Patterson, a town characterized largely by this type of development, this number (conservatively rounded to 3) was used to calculate potential population increase caused by a 73-lot subdivision. The Alternative Use option could potentially add 219 residents to the existing WEC properties. Although this number is less than the 500 that would be added by the proposed project, it would likely include school-age children needing to be assimilated into the public school system (Carmel Central School District). In addition, these residences would not benefit from security and emergency response services that the applicant provides at the WEC, resulting in a greater burden to municipal police, fire, and emergency medical services.

GEOLOGY, SOILS, AND TOPOGRAPHY

This alternative would result in a total of 91,250 square feet of new building coverage whereas the proposed project would result in approximately 186,000 square feet of new building coverage. However, in this alternative, a very significant increase in area of disturbance would be required as compared with the proposed project. This alternative would result in a total of 7,400,000 square feet of disturbance area whereas the proposed project would result in 2,138,529 square feet of disturbance area. This alternative would result in 320,000 cubic yards of excavated material, as opposed to 196,088 cubic yards with the proposed project. The excess fill would be 100,000 cubic yards, as opposed to 85,524 cubic yards with the proposed project. Much greater areas of steep slopes would also be disturbed. The disturbance to slopes greater than 25 percent would total 62.8 acres as compared to 5.6 acres for the proposed project. This alternative proposes 20 new single-family residences along NYS Route 22, which is a steep area. If this alternative is realized, development would need to conform to local steep slope regulations, which would reduce the number of lots that could be subdivided.

WATER SUPPLY AND UTILITIES

As shown above, this alternative would potentially add 219 new residents to the WEC properties. Additional population would increase demand on water supply and utilities. As stated earlier, new residences are assumed to be four-bedroom houses. In accordance with Putnam County Department of Health guidelines that estimate water demand at 200 gallons per day (gpd) per bedroom, each residence would require 800 gpd. Therefore, this alternative would increase overall water and wastewater demand by 58,400 gpd. This figure is greater than in the proposed project, as discussed in Chapter 6, “Water Supply and Utilities.” This alternative would not make use of the water recycling and water reuse initiatives that are proposed with the proposed project, therefore having a greater demand on water supply and wastewater treatment.

Residences with this alternative would not be connected to the WEC water and wastewater system. Municipal water and sanitary sewer services are not currently available along NYS Route 22 in the vicinity of the project site parcel. Because this alternative assumes creation of 73 residential lots, a community water and sanitary sewer system would need to be created, pursuant to NYSDEC requirements. A waiver could be obtained to install individual septic systems, although potential issues with steep slopes, soil percolation rates and depth to bedrock would need to be considered.

As determined in Chapter 6, energy and solid waste services would be sufficient to handle increased demand from the proposed project and would also be sufficient to handle increased demand from this alternative.

STORMWATER

In this alternative, a large amount of new impervious surfaces would result from construction of new houses, driveways, and access roadways. The total new building coverage would equal 91,250 square feet, as compared to approximately 186,000 square feet with the proposed project. However the total additional impervious surface coverage would be approximately 1,850,000 square feet, as compared to 444,478 square feet with the proposed project. The 1,405,522 square feet of additional impervious surface would result in an increase in stormwater runoff volume and peak flows. A stormwater management plan would be developed to convey stormwater runoff to drains and detention basins. Impervious surfaces would be more scattered in this alternative than with the proposed project.

SURFACE WATER AND WETLANDS

In this alternative, 20 new single-family residences would be developed on 4-acre lots along NYS Route 22. Mountain Brook traverses this section of the WEC properties. Residences would need to be developed around this watercourse. The proposed project has been designed to avoid watercourses to the extent practicable; this alternative could have a greater adverse impact on surface water bodies.

NATURAL RESOURCES

In this alternative, development would be significantly more widespread on the 362.5-acre parcel containing the project site than the proposed project. This alternative would result in a total of 7,400,000 square feet of disturbance area whereas the proposed project would result in 2,138,529 square feet of disturbance area. Development of the overall WEC parcel east of NYS Route 22 as single-family residential would require significant forest clearing and would cause substantially more habitat fragmentation than the proposed project. Significant adverse impacts to the site's flora and fauna would result. The total additional impervious surface coverage would be approximately 1,850,000 square feet, as compared to 444,478 square feet with the proposed project requiring removal of large areas of vegetation and wildlife habitat.

TRAFFIC

In this alternative, traffic impacts would be greater than with the proposed project. During weekday AM and PM peak hours, vehicle trips in and out of the 73-lot subdivision would be about 56 and 75, respectively. With the proposed project, AM and PM peak vehicle trips would be approximately 16 and 47, respectively. A new entrance road would also need to be constructed to provide access to this subdivision from NYS Route 22. As recommended for the proposed project amended site plan, the intersection of NYS Route 22 and the main project site driveway should be monitored in the future for the possible installation of a traffic signal due to the additional traffic.

AIR QUALITY

The development of 73 single-family residences would not create any significant air pollution sources. Therefore, as with the proposed project, this alternative would not have any adverse impacts to air quality.

HISTORIC AND VISUAL RESOURCES

Chapter 12, "Historic and Visual Resources," concluded that no significant adverse impacts would result from the proposed project on historic resources. The archaeology study determined that there are no sensitive areas that would be disturbed. However, depending on the placement of residences in this alternative, the archaeology study may need to be expanded. In addition, this alternative would potentially have an indirect negative impact on Rocco's Diner, a recognized architectural resource adjacent to the project site parcel. The overall context of the area would be drastically altered with this alternative.

In this alternative, undeveloped portions of the applicant's property east of NYS Route 22 would be converted into a 73-lot single-family residential subdivision. This type of development would not be consistent with the existing character of the NYS Route 22 corridor. Single-family residences spread out over the property, particularly along NYS Route 22, would diminish the

appearance of open space that exists today and that would be preserved in the proposed project. This effect would be an adverse visual impact.

SOCIOECONOMICS

The creation of 73 single-family residences would increase the tax base for the Town, but would also increase expenditures for the Town. According to the American Farmland Trust, for every \$1.00 of revenue generated by residential development, the median increase of expenditures is \$1.16 to support infrastructure and municipal services. Two nearby communities that were analyzed in the study include the Towns of Amenia and Fishkill, which each showed a revenue-to-expenditure ratio of 1:1.23 for residential land uses. Therefore, single-family residential development is often more costly for a community than a sufficient revenue source and therefore this alternative would have an adverse economic impact. Although the proposed project would be tax-exempt, the site would also be self-sufficient and maintain its own infrastructure and not rely heavily on municipal services.

CONSTRUCTION

In this alternative, construction would occur closer to public roadways and neighboring properties, particularly NYS Route 22 and properties along the site's northern boundary. As a result, noise and other disruptions could be greater to these neighboring properties. This alternative would also require more mitigation features to protect water courses and steep slopes, especially in the northwestern portion of the WEC properties where Mountain Brook traverses the site. *

A. INTRODUCTION

This chapter assesses the potential for the proposed project to induce population and development growth in the area surrounding the Watchtower Educational Center (WEC). As described below, the proposed project is not expected to induce residential or commercial development in the community.

B. POPULATION GROWTH

The proposed project would add approximately 500 new residents and approximately 186,000 square feet of building coverage comprising 904,000 square feet of new residential, office, and other building space to the project site. The WEC is a self-sufficient facility where people live and work on-site. Residents do not seek employment off-site, and workers at the WEC facility are housed on-site. The increase in on-site residents would help facilitate the operations of the new building space. The WEC is a religious institution whose residents create and prepare artistic and recorded materials that are incorporated in the applicant's publications and where religious schools are conducted. It is not an employment center or a direct employee generator for the community. Therefore, the proposed project would not induce population growth in the Town of Patterson other than the 500 new residents that would live and work at the WEC.

C. DEVELOPMENT GROWTH

The proposed project would not add a substantial demand on municipal services such as police, fire, medical, and recreational facilities. As discussed in Chapter 4 "Community Services and Facilities," these services have adequate capacity to handle any minor increased demand from the proposed project and would not require expansion.

As stated above, the additional 500 residents at the WEC associated with the proposed project would not seek employment off-site. These residents would work on-site on behalf of the applicant and Jehovah's Witnesses' worldwide organization. Off-site employment opportunities would not be necessary to support these residents.

Commercial and retail establishments in the Town of Patterson and nearby communities would be sufficient to supply amenities to the new residents at the WEC. Commercial needs, including those of guests and visitors, would be adequately supported by existing establishments. *

Chapter 18: Irreversible and Irretrievable Commitment of Resources

This chapter describes the irreversible and irretrievable commitment of resources that would result from the proposed project. Certain resources, both natural and manmade, would be expended in the construction and operation of the project. These resources include use of the land, building materials, energy, and the human effort required to develop, construct, and operate the Watchtower Educational Center (WEC). They are considered irretrievably committed because their reuse for some purpose other than the project would be highly unlikely.

The land that makes up the project site is the most basic resource irretrievably committed. Construction of the project would commit a total of approximately 10.2 acres of the site to development of impervious surfaces and approximately one acre of pervious pavers. Should the proposed project be approved, once developed according to the proposed amended site plan, a portion of the land could no longer be used for agricultural or other purposes.

The actual building materials used in the construction of the project (wood, steel, concrete, and glass, etc.) and energy, in the form of gas and electricity, consumed during the construction and operation of the proposed project by the various mechanical systems (heating, hot water, and air conditioning) would also be irretrievably committed to this particular undertaking. It should be noted, however, that it is likely that a portion of the building materials could be reused or recycled as part of the applicant's commitment to a sustainable design approach. None of these impacts are considered significant. *

Chapter 19: Effects on the Use and Conservation of Energy Resources

A. INTRODUCTION

This chapter discusses the impacts on energy use from the proposed project and the energy conservation measures that would be implemented with the proposed project.

B. EFFECTS ON ENERGY USE

Electric and gas services are provided to the Watchtower Educational Center (WEC) by New York State Electric and Gas (NYSEG). As described in Chapter 6, “Water Supply and Utilities,” current peak electricity demand at the WEC is 2.6 megawatts (MW). Existing maximum daily transport quantity of natural gas is 650 decatherms (Dth). The WEC also has the capability to provide power to critical facilities during an emergency. Backup power is provided by generators at the on-site Powerhouse, as well as dedicated diesel generators located at the Wastewater Treatment Facility, Patterson Inn, and Warehouse.

The applicant is also actively investigating the installation of photovoltaic power on-site having an initial capacity of 50 kilowatts (kW) with the desire to expand in the future if feasible.

Projected increases in demand on electric and gas services from the proposed project are 0.9 MW and 200 Dth, respectively. Combined with existing usage, this would raise total electric and gas consumption to 3.5 MW and 850 Dth, respectively.

NYSEG’s current natural gas distribution system would comfortably accommodate the increase. However, NYSEG’s Haviland Hollow substation would require NYSEG to make adjustments to equipment within the existing substation to support the increased electric demand from the WEC campus. There will not be a need to enlarge the physical footprint or size of the existing Haviland Hollow Substation. NYSEG has agreed to meet the future demand with equipment adjustments.

Electric utilities, data, and telephone communications would be installed in underground duct banks to affected buildings under the proposed project.

C. ENERGY CONSERVATION MEASURES

The applicant would implement a number of energy conservation measures through the proposed project. It would also accommodate practices and technologies of the Green Globes program where possible, as described in Chapter 6 and Chapter 14, “Construction.” Energy-saving measures to be incorporated in the proposed project would include the following:

- Automated control of lighting systems using schedule-based lighting control panels, occupancy sensing devices, digital timers, fluorescent dimmable and light emitting diode (LED) lighting technologies, daylight harvesting, and photocells.

Watchtower Educational Center Amended Site Plan DEIS

- Automated control and temperature setback of heating, ventilation, and air conditioning (HVAC) systems. Energy-recovery air handlers and economizer operations would be used whenever possible.
- Commissioning of completed systems to confirm proper operation and compliance with design intent. Completed systems are periodically recommissioned to ensure continued efficiencies.
- Thermally efficient windows would be installed on all proposed new buildings. Window glazing would be effectively used to allow the transfer of heat from the sun during the winter and reduce heat gain during the summer where possible.
- Building and HVAC piping insulation meeting or exceeding current standards would be incorporated into the designs.
- High efficiency HVAC and electrical equipment.

*