CHAPTER 11: INFRASTRUCTURE, UTILITIES AND SOLID WASTE

Introduction

This chapter assesses the potential effects of the Proposed Project on water supply, sanitary sewage infrastructure, storm water management infrastructure and utilities. This chapter also includes an analysis of solid waste, regulated waste and hazardous waste generated on the Project Site, and evaluates the potential effects of the Proposed Project on the operations and capacity of solid waste and sanitation services. Energy consumption resulting from the Proposed Project is discussed in Chapter 12, “Energy.” The main utility services entering the campus off of Nicolls Road include water, natural gas, electric, storm, sewer, and heating and chilled water lines. The utility services provided to the East Campus are distributed to the Medical Center, and the HSC.

Methodology

Existing conditions were determined based on a review of extant documentation and records, interviews with management and planning staff at SBU, correspondence with service providers and site observation. The Future No-Build Condition was estimated based upon growth projections for SBU. The Future Build Condition was estimated using worst-case assumptions on the square feet of proposed buildings, the number of workers, and changes in the amount of impervious surface. The incremental difference between the Future No-Build Condition and the Future Build Condition was used to determine the impact of the Proposed Project on infrastructure and utilities.

Existing Conditions

Water Supply System

All water utilized by the Proposed Project is supplied by Suffolk County Water Authority (“SCWA”). Countywide, SCWA operates over 603 wells via over 5,890 miles of water mains and has a water storage capacity of 66.4 million gallons. With over 379,500 customers, SCWA serves a population of over 1.13 million people. For the 2010 calendar year, 75.0 billion gallons of water were pumped by SCWA.\(^1\) According to information provided by SBUMC, the Project Site utilized 174,725,028 gallons of water during the 2009/2010 fiscal year (the most recent year for which data are available). Water is available throughout the Project Site via a series of water distribution mains. According to the 2009 SBUMC Master Plan, the main water supply for the East Campus is provided by a 12-inch water main in the bed of the service entrance road off Nicolls Road (at the Nicolls Road overpass/tunnel connecting the East and West Campuses).

The SCWA has a well near the south entrance to Health Sciences Drive that feeds into the Nicolls Road 12-inch water main. There are three services entering the SBUMC campus. One service is a 12-inch main tapped off of the Nicolls Road main at the Nicolls Road overpass/service entrance road. The second service is an 18-inch main that taps off of a 12-inch main at the north end of the Health Sciences Drive, about 800 feet west of Nicolls Road. The third service is a 12-inch main from the SCWA well near the south entrance to Health Sciences Drive. All three services are metered. In addition a meter was also found within the Hospital mechanical room. A 6-inch water main also loops around both the HSC and Hospital which is fed from the 12-inch main in the service entrance road.

**Sanitary Sewage System**

Sanitary sewage generated by the Project Site under Existing Conditions is conveyed to the Suffolk County Department of Public Works (“SCDPW”) Sewer District 21 Wastewater Treatment Plant (“WWTP”), which has the capacity to treat 2.5 million gallons per day (“mgd”). This facility is located on the northern portion of the West (Main) campus of SUNY Stony Brook. SBU, including the Medical Center and SUNY Stony Brook campus, is allowed an average daily capacity of 1.94 mgd. According to information provided by SBUMC, SBU (including SBUMC) currently operates below this level with a daily average flow of 1,329,523 mgd for 2009/2010 fiscal year (the most recent year that data are available) – or approximately 62 percent of SBU’s total daily capacity. As allowed by permit, treated water from the plant is discharged by SCDPW into the Long Island Sound. The Project Site is served by a network of sewer mains that transmit sewage to the District 21 WWTP. Storm water is disposed of separately from sanitary sewage.

According the 2009 *SBUMC Facilities Master Plan*, the existing sanitary sewer system flows from Health Sciences Drive, crossing the site along the service entrance road and then continues north along the west shoulder in the Nicolls Road right-of-way to the treatment plant. The sewer pipe sizes vary from 15 inches in Health Sciences Drive to 24 inches in Nicolls Road. The sewers were constructed as part of the original Hospital construction nearly 40 years ago.

The existing sanitary sewer network and manhole locations are shown in Figure 11-1. The East Campus has nine manholes, labeled MH-1 through MH-9, where all the East Campus facilities discharge into the system. The total flow generated for the SBUMC campus was calculated in the 2009 *SBUMC Facilities Master Plan*. The sanitary sewer system for the East Campus flows from Manhole MH-9, which has a 23 cubic-feet-per-second (“CFS”) capacity, to the District 21 WWTP. The East Campus discharges into MH-8 which has an existing flow of 6 CFS and a capacity of 10.5 CFS. At MH-9 two additional flows from the University campus enter the system, resulting in a total flow of approximately 10 CFS, or slightly less than 50 percent of the capacity of MH-9.
Locations of Sanitary Sewers and Manholes

Source: SBUMC Facilities Master Plan (Figure 1), prepared by Ellerbe Becket and STV, 2009.
**Storm Water**

Under Existing Conditions, storm water on the developed portions of the Project Site is collected and recharged onsite with the use of drywells to minimize the transport of nutrients, metals and organic chemicals to the groundwater. The Project Site comprises vegetated areas, buildings, parking facilities, and access roadways. Based on a drainage study completed for the East Campus, the existing drainage system consists of circular reinforced concrete piping in sizes varying from 8 inches to 42 inches in diameter, interconnected with catch basins and manholes. Positive flow systems drain the site and store runoff in recharge basins and natural depressions, drainage reserve areas (“DRAs”), and isolated leaching systems.

The storm water flows on the Project Site are divided into three main areas (see Figure 11-2). The drainage area boundaries are where the topographic ridges split storm water flows in either direction (to the north or south in this case). The three main areas are:

- the North Basin (±79 acres),
- the Pellegrino Basin (±33 acres), and
- the South Health Sciences Drive Basin (±12 acres).

Storm water from the 12-acre South Health Sciences Drive basin flows off site to the south. Storm water flows within the catchment area’s drainage basins are illustrated in Figure 11-2. These three catchment areas were further broken down into seven subcatchment areas in the drainage study. Table 11-1 below indicates the capacity of the five available storm water storage areas for the Proposed Project.

**Table 11-1 Existing Drainage Basin Storage Capacity and 25-year Storm Volumes**

<table>
<thead>
<tr>
<th>Drainage Basin</th>
<th>Available Storage (cubic feet)</th>
<th>Existing Conditions 25-year Storm Flow (cubic feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Recharge Basin</td>
<td>617,735</td>
<td>379,787</td>
</tr>
<tr>
<td>Ambulatory Care North</td>
<td>125,280</td>
<td>19,221</td>
</tr>
<tr>
<td>Ambulatory Care South</td>
<td>27,918</td>
<td>68,309</td>
</tr>
<tr>
<td>Pellegrino Road Storage</td>
<td>32,940</td>
<td>33,297</td>
</tr>
<tr>
<td>Medical Center Parking Lot*</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>840,002</strong></td>
<td><strong>584,284</strong></td>
</tr>
</tbody>
</table>

*This is the area beneath the Hospital’s visitor parking lot (just south of the Hospital parking garage).

Source: Cameron Engineering and Associates, LLP, 2011.

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Stony Brook University Medical Center
Medical Facilities and Parking Project

Drainage Areas and Drainage Flows

Source: Cameron Engineering and Associates, LLP, November, 2011.
As presented in Table 11-1, the drainage basins overall have capacity to handle a 25-year storm event due to excess capacity in the two north basins. However, three of the five basins (Ambulatory Care South, Pellegrino Road Storage and Medical Center Parking Lot) have insufficient storage capacity to accommodate a 25-year storm. The storm water conveyance pipes were generally found to be of adequate size to deliver a 25-year storm event to the campus drainage basins.

Utilities

The service entrance road located at the Nicolls Road overpass acts as a major utility corridor that contains a 6-inch gas main and electric and communication duct banks. Electricity, natural gas, and telephone service would be supplied to the Proposed Project by connecting to existing SBUMC campus utility networks.

Electricity is provided to the East Campus by the Calpine Corporation Cogeneration Plant located at the far west side of SBU West (Main) Campus. The Calpine Cogeneration Plant services the Project Site via the Nicolls Road underpass, then merges with the utility tunnel on the west side of the Hospital. Heating and cooling for the Hospital and the HSC is provided by the Central Utility Plant (“CUP”) which receives its primary steam service from the Calpine Cogeneration Plant. The existing buildings on the Project Site are heated and cooled via high temperature hot water (“HTHW”) and chilled water (“CW”) systems emanating from the CUP’s East Boiler Plant and Chiller Plant, respectively (both are located on the SBUMC campus). A utility tunnel interconnects the CUP with the main Hospital building at the N-8 level. Vents for the utility tunnel and the cogeneration plant trench are located on the west side of the East Campus, proximate to Nicolls Road.3

Solid Waste

Under Existing Conditions, solid waste produced by the Project Site is stored on site, collected by a private carter and disposed of at a licensed off-site landfill. SBUMC has a recycling program in place to reduce the amount of solid waste leaving the campus for disposal. According to information provided by SBUMC, the total SBU campus, including the Project Site, generated approximately 8,671 tons of municipal solid waste for the 2009/2010 fiscal year (most recent year for which data are available).

Regulated Wastes

For the 2009/2010 fiscal year, information provided by SBUMC indicates that 323,764 pounds of regulated medical was disposed of for the Hospital. This waste is handled by a private carter and disposed of at a licensed, regulated medical waste disposal facility. SBUMC also generates low-level radiological waste (“LLRW”). SBUMC maintains a broad scope Academic and a broad scope Medical Radioactive Materials License through the New York State Department

3 Stony Brook University Medical Center Facilities Master Plan, Ellerbe Becket and STV, July 2009
of Health ("NYSDOH") Bureau of Environmental Radiation Protection, permitting the possession and use of radioactive materials. For the 2009/2010 fiscal year, the SBUMC campus (including SBUH and HSC) generated 1,312.5 cubic feet (or 175 55-gallon drums) of radioactive waste, 90 percent of which is decay-in-storage ("DIS") waste. A radioactive waste broker is used to dispose of the LLRW on a bimonthly basis. Isotopes are stored onsite as part of the DIS program. The licensed DIS program allows the SBU to decay all isotopes that have a half-life of less than 90 days in appropriate vessels on site. A separate building, the Hazardous Materials Management Facility ("HMMF"), is maintained by SBU in order to run the DIS program and collect all other LLRW prior to offsite disposal. All infectious waste generated by the Hospital is transported off site in compliance with New York State Department of Environmental Conservation’s ("NYSDEC") regulations for Waste Transporter Permits (6 N.Y.C.R.R. Part 364) and Storage, Treatment and Disposal of Infectious Waste (6 N.Y.C.R.R. Part 360), which is mandatory. Compliance with NYSDEC's regulations for Low-Level Radioactive Waste Transporter Permit and Manifest System (6 N.Y.C.R.R. Part 381) is also mandatory.

Information supplied by SBUMC indicates that SBUMC generated 12.66 tons of hazardous waste in 2010. This waste is appropriately stored based on applicable regulations and a private carter is used to collect and dispose of the hazardous waste at a licensed disposal facility.

**Future No-Build Condition**

Construction of the Proposed Project would not occur in the Future No-Build Condition. Under the Future No-Build Condition, infrastructure (including water supply, sanitary sewage, storm water collection and utilities) and solid waste conditions would likely remain similar to their current state. An increase in the need for each infrastructure component and each utility will be driven mostly by the Campus Hotel and ABSL-3 Laboratory projects. The SBUMC infrastructure projects — electrical feeder replacement, boiler replacement and chiller replacement — will help save energy by providing a more modern and efficient supply of electricity, heating and cooling.

The combined water demand for the Campus Hotel and ABSL-3 and Laboratory No-Build projects was estimated to be approximately 21,300 gallons per day ("gpd"), and sanitary waste water flow is expected to be approximately 19,600 gpd based on the environmental review documentation provided for these projects. Adding this additional flow of sanitary sewage to the District 21 WWTP would yield an average daily flow of approximately 1,349,123 gpd from SBU, which is below the 1.94 mgd that SBU is allowed.

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4 According to the NYSDOH, broad licenses differ from all other types of materials licenses in that they are based primarily on the administrative procedures and organizational qualifications of the licensee to operate safely under the license rather than on a detailed review by NYSDOH of the qualifications, equipment, and procedures for each use and user. The applicant, through its radiation safety officer and radiation safety committee and based on past experience and performance under specific licenses, performs these detailed reviews in lieu of such reviews by the NYSDOH.

5 *Finding of No Significant Impact/Environmental Assessment for the Animal Biosafety Level 3 Laboratory at The State University of New York, Stony Brook University Health Science Center, U.S. Department of Health & Human Services, National Institutes of Health, February 14, 2012. Stony Brook University Hospital Project Environmental Assessment, April 2010, AKRF.*
Storm water generation from the ABSL-3 Laboratory would be minimal due to the small amount of impervious area, and storm water from the Campus Hotel would be directed to a dedicated series of drywells and not be disposed of in the campus network. Storm water generated by the HSC and LIHTI Parking Lot Expansions and Improvements project would be retained on-site and collected in bio-retention swales proximate to each parking lot. The swales are intended to accommodate a two-inch rainfall event and to allow for storm water permeation at a natural rate. Overflow units have been provided that would direct overflow (beyond a two-inch rain event) to an existing, subgrade drainage reserve area that outflows into the NYSDEC Freshwater Wetland PJ-14 (also referred to as the North Recharge Basin). NYSDEC is currently reviewing a freshwater wetland permit application that was submitted for the HSC and LIHTI Parking Lot project.

Electricity, heating and cooling would be supplied via on-site generation facilities described above under Existing Conditions – Utilities.

**Future Build Condition**

**Water Supply System**

The Proposed Project would include multiple uses with varying water demands within three occupied buildings that would total approximately 500,000 gsf of floor area. Proposed uses would include medical offices, laboratories, patient beds, administrative space and other uses. The latest estimate for water demand is less than approximately 75,000 gpd.

Water would continue to be supplied to the SBU campus by SCWA. Based on an initial, conservative estimate of water demand for the Proposed Project (more than 4 times higher than the current estimate), the SCWA expressed concern that the amount of water needed by SBUMC may require that additional water supply sources be developed. SCWA also expressed concerns that water pressure could be an issue and that measures to alleviate that situation may need to be applied as well (see the December 1, 2011 SCWA letter from Carrie Meek Gallagher in Appendix A).

The new estimate of water consumption given above indicates that water use would likely be significantly lower than initially estimated, but given SCWA’s expressed concern and the need for more highly-developed plans to obtain permits, SBU will perform detailed engineering estimates for both water consumption and wastewater generation as the design of the Proposed Project progresses. It is DASNY’s understanding that SCWA and SBU have had discussions concerning the development of additional water supply sources and the need for

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6 Letter from Kim A. Gennaro, AICP, Director, Environmental Division, VHB Engineering, Surveying and Landscape Architecture, P.C. to Kevin A. Kispert, NYSDEC Region 1, 02/08/12.

7 Detailed estimates of the Proposed Project’s water demand cannot be completed until the space in the three proposed buildings is more fully programmed. The estimate here is based on anticipated sewage generation inflated upward by approximately 20 percent to account for water lost to evaporation and other means.
additional pressure in the vicinity of the Proposed Project. SBU is currently working with SCWA to place a new well and pumping station on approximately 2.6 acres of land within SBU’s Research and Development Campus on Stony Brook Road, southwest of the Main Campus. The new well and pumping station would include a conveyance system (e.g., water mains and other infrastructure as necessary) to bring the water supply to the SBUMC campus.

SBU will continue to work closely with the SCWA in developing this or other mitigation measures that may be required to ameliorate impacts on water pressure or supply from the Proposed Project.

**Sanitary Sewage System**

The additional amount of sanitary sewage that would be generated by the Proposed Project has been estimated at approximately 58,772 gpd. As stated previously, Sewer District 21 has a capacity of 2.5 mgd, with a capacity of 1.94 mgd for sanitary sewage from all SBU facilities. The Proposed Project’s estimated sanitary sewage flow was added to the anticipated Future No-Build Condition flow in order to derive the estimated daily amount of sanitary sewage generated in the Future Build Condition (1,407,895 gpd). This Future Build estimate would be approximately 523,105 gpd below SBU’s allowable average daily limit of 1.94 mgd at the Sewer District 21 WWTP. As sufficient capacity would remain in the Future Build Condition, the Proposed Project would not have a significant adverse impact on the sanitary sewage system or the wastewater treatment plant.

**Storm Water**

The Proposed Project would increase the amount of impervious surface area on the Project Site due to the proposed new development which, in turn, would result in a net increase in storm water runoff from the Project Site. Impervious surface within the 112-acre development area evaluated in the drainage study would increase from 30 percent under Existing Conditions to 56 percent in the Future Build Condition.

According to the November 2011 drainage study, the estimated 25-year storm flow for the Future Build Condition would be 672,517 cubic feet. This represents an increase of 88,233 cubic feet of flow from a 25-year storm event after the Proposed Project is constructed. As shown in Table 11-2, if the additional flow were to be distributed to the five available storm water storage areas, the existing overflow conditions found at three of these storage facilities

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8 The amount of sanitary sewage that would be generated by the anticipated uses proposed in the three new buildings was estimated utilizing the Suffolk County Department of Health Services, Division of Environmental Quality Standards for Approval of Plans and Construction for Sewage disposal Systems for Other than Single-Family Residences. Since the size and exact nature of the uses within the proposed buildings are not known, and since Table 1 in this document (Project Density Loading Rates & Design Sewage Flow Rates as amended April 5, 2010) does not contain all possible uses, SBUMC provided guidance regarding assumptions that were applied for the purposes of sanitary sewage estimation. These assumptions were provided via email communication from Sharon Meinster, Director, Facilities Planning, SBUMC, to Matthew A. Stanley, Senior Environmental Manager, DASNY, 04/11/12.

(Ambulatory Care South, Pellegrino Road and Medical Center Parking Lot) would worsen in the Future Build Condition. However, the overall capacity of the five available storm water storage areas would not be exceeded due to sizable excess capacity in the North Recharge Basin.\textsuperscript{10}

Table 11-2: Comparison of Existing and Future Build Condition Drainage Basin Storage Capacity and 25-year Storm Volumes

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<td>Ambulatory Care North</td>
<td>125,280</td>
<td>19,221</td>
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<tr>
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<td>83,670</td>
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<tr>
<td>Totals</td>
<td><strong>840,002</strong></td>
<td><strong>584,284</strong></td>
<td><strong>672,517</strong></td>
</tr>
</tbody>
</table>

*This is the area beneath the Hospital’s visitor parking lot (just south of the Hospital parking garage).
Source: Cameron Engineering and Associates, LLP, 2011.

The majority of the proposed development is located in the Pellegrino Road basin and would increase the impervious area and runoff within this basin. The natural depression that currently stores storm water runoff from Pellegrino Road, overland flows, and overflow from the parking lot south of the Hospital garage would be filled in by construction. Consequently, alternate means of conveyance and storage of storm water would be required to ensure that there is no significant flooding.

The East Campus is located within the South Setauket Woods Special Groundwater Protection Area (“SGPA”) (see Chapter 9, “Natural Resources”). If not controlled by best management practices, development on the East Campus has the potential to impact groundwater quality (by introducing added pollutants, such as organic carbon and chloride) as well as surface storm water quality.

According to the drainage study, new roads and parking areas would increase impervious area, and rain or melting snow would collect on these impervious areas before the water would be carried to the drainage system (pipes, underground structures, vegetated recharge areas, etc.). Measures would need to be implemented to ensure that surface storm water in the newly-paved surfaces would not become mixed with soil or sediment, or become contaminated by waste products such as motor oil, pesticides, and road salt. Otherwise, water that flows into the drainage system would carry these contaminants into the storm water drainage system,

\textsuperscript{10} The Ambulatory Care North drainage basin is located in the general area of the proposed Medical Office Building and, therefore, would be unavailable for future drainage flows (as noted in Cameron study, p. 3-4 & fig. 2-3). It was included in this table for demonstration purposes.
potentially causing degraded water quality. Likewise, measures would need to be in place to ensure that groundwater in the Sole Source Aquifer does not experience a significantly higher concentration of pollutants.

**Drainage Study Recommendations.** The North Recharge Basin has adequate capacity above the existing water level to store the post-development runoff from the 112-acre relevant portion of the East Campus. As part of the future development, the drainage design should reconfigure the conveyance system at the Ambulatory Care Pavilion, Pellegrino Road, and the Medical Parking Lot. The recommendation in the drainage report is to reroute these flows and the remaining post-development flows to the North Recharge Basin.\(^\text{11}\)

As noted in the drainage study, this activity would likely require a freshwater wetland permit from NYSDEC due to the mapping of the North Recharge Basin as a freshwater wetland (PJ-14). Additionally, construction of the Proposed Project would require a NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001) due to the total area of disturbance (greater than one acre in size). A Stormwater Pollution Prevention Plan (“SWPPP”) and an Erosion and Sediment Control (“ESC”) plan would be prepared as part of the SPDES construction permit application. The SWPPP and ESC plan would be provided as part of the construction documents and cannot be completed until more details about design are available. The drainage study indicates that a SPDES permit would not be required for increasing the storm water flow into the basin.\(^\text{12}\)

Additionally, according to the drainage study, a pretreatment system would need to be designed and installed as part of the drainage system prior to discharging to the North Recharge Basin. At this pre-design stage, no specific system design has been developed, apart from a standard system of baffles (to separate out the solids) and filters (to remove grease and oil). The new drainage design would also need to provide an alternate conveyance line at the southwest corner of the HSC, since the proposed future development would likely eliminate this line. Additionally, since drainage system maintenance is paramount to drainage system functionality, the drainage report recommends cleaning the existing drainage system.

The drainage study also recommends the use of storm water best management practices (“BMPs”) measures to control storm water runoff and allow pollutants to settle out before surface water infiltrates to groundwater. These storm water BMPs should include sediment control and soil stabilization, as well as measures to prevent or reduce the kinds of pollutants not associated with specific point sources (such as a prohibition against the use of ice melt chemicals on the East Campus).

\(^{11}\) Drainage Feasibility Study for East Campus Parking SUNY Stony Brook, Cameron Engineering and Associates, LLP, November, 2011, page 6-1.

\(^{12}\) As noted in the Drainage Feasibility Study, SBU maintains a SPDES permit for the existing use of North Recharge Basin as NYS Permitted Discharge Point (SPDES permit NY 0109291-001).
The exact BMPs to be used would depend on their cost-effectiveness, pollutant removal efficiency, available land, soil slopes, and other factors that must be considered. The recommended BMPs could include “green” storm water pollution prevention methods, such as:

- **Bioswale**: A shallow channel or depression where storm water runoff collects, so natural sedimentation can remove the pollutants.

- **Bioretention Plots**: Land devoted to using either soil or plants to filter runoff. These structures are well suited to treat surface runoff from parking lots and other paved areas. Storm water flows in, ponds on the surface and then gradually seeps into the soil bed. The filtered water may be allowed to process naturally, or it may be collected into an underground area and redirected to the storm drain system.

- **Filter Strips**: Densely-planted strips of ground used to contain runoff from paved areas such as roads and parking lots. Natural sedimentation filters pollutants.

- **Gravel Trenches**: Man-made excavations lined with filter material. The trench holds and filters the stormwater until it eventually seeps into the surrounding soil. Gravel trenches are typically used in areas where the soil does not drain quickly.

- **Garden Planters**: Man-made raised areas planted with vegetation to act as strip filters for parking lots, sidewalks, and other paved areas.

- **Permeable Pavement**: When properly maintained, porous pavement can remove 65 to 95 percent of pollutants and sediments. There are maintenance issues (to ensure pores remain clear), but they are suitable driving surfaces in parking lots.

Based on the above analysis, it is expected that no significant adverse impacts related to storm water management would result from the Proposed Project.

**Utilities**

Electricity, natural gas, and telephone services would be supplied by connecting to existing SBUMC campus utility networks. Electricity, heating and cooling would be supplied by on-site cogeneration facilities; natural gas, telephone and cable service would continue to be supplied by outside vendors. It is expected that the demand for these utilities would be met; thus, no significant impacts are anticipated.

**Solid Waste**

The proposed facilities would add to the amount of solid waste generated on campus. In addition the amount of medical waste, hazardous waste and LLRW would increase. The exact nature of the uses, equipment and research has not been determined to the point that precise estimates of these types of waste can be given. Solid waste produced by the Proposed Project
would be stored on site, collected by a private carter and disposed of at a licensed off-site landfill as is done now for existing SBU facilities. Thus, no significant adverse impacts are anticipated relating to solid waste.

**Regulated Wastes**

Regulated medical waste would be appropriately stored on site and collected and disposed of by a licensed private carter, at a regulated medical waste disposal facility as it is presently. Thus, no significant adverse impacts are anticipated relating to medical waste.

It is anticipated that LLRW would be captured in the waste stream, appropriately stored and decayed based on applicable regulations. A radioactive waste broker would continue to be used to dispose of the LLRW on a bimonthly basis. Thus, no significant adverse impacts are anticipated relating to LLRW.

It is expected that all additional infectious waste generated by the Proposed Project would be transported off site in compliance with NYSDEC's regulations for Waste Transporter Permits (6 N.Y.C.R.R. Part 364) and Storage, Treatment and Disposal of Infectious Waste (6 N.Y.C.R.R. Part 360), which is mandatory. It is similarly expected, that all additional LLRW generated by the Proposed Project would be handled in compliance with NYSDEC's regulations for Low-Level Radioactive Waste Transporter Permit and Manifest System (6 N.Y.C.R.R. Part 381), which is also mandatory.

As is currently the case, hazardous waste would be captured in the waste stream, appropriately stored based on applicable regulations, and a licensed private carter would collect and dispose of the hazardous waste at a licensed disposal facility. Hence, no significant adverse impacts are anticipated relating to hazardous waste.

**Conclusions**

Water supply and water pressure are potential concerns that would need to be resolved in coordination with the SCWA as design details about the Proposed Project, well field and pump station become available. SBUMC is committed to resolving any water supply or pressure issues that are identified during design and, consequently, no significant adverse impact is anticipated.

It is anticipated that the sanitary sewage produced by the Proposed Project and the Future No-Build projects would not cause the District 21 WWTP to exceed its permitted capacity; thus, no significant adverse impacts are anticipated.

Three of the five existing storm water storage basins are over capacity during a 25-year storm event. This situation would be exacerbated due to the increase in impervious area inherent in the Proposed Project. Since there is available capacity in the remaining storm water storage area to hold the flow from a 25-year storm, it is recommended that the storm water collection system for the Proposed Project be designed and developed to discharge into this drainage storage area (North Recharge Basin). A freshwater wetland permit may be required from
NYSDEC to allow additional volume to be discharged into North Recharge Basin, since it is a mapped freshwater wetland. Additionally, a SPDES General Permit for Stormwater Discharges from Construction Activities would be required to construct the Proposed Project. Once sufficient design detail is available, SBUMC would obtain all necessary permits prior to construction. Therefore, no significant adverse impacts are anticipated with respect to storm water runoff or storage.

Electricity, heating and cooling would be supplied by on-site facilities and natural gas, telephone and cable service would be supplied by outside vendors as it is currently on the campus. As it is expected that the demand for these utilities would be met, significant adverse impacts are not anticipated.

The proposed facilities would add to the amount of solid waste, medical waste, hazardous waste and LLRW generated on campus. Solid waste produced by the Proposed Project would be stored on site and collected by a private carter and disposed of at a licensed off-site landfill. Regulated medical waste would be appropriately stored on-site and collected and disposed of by a licensed private carter at a regulated medical waste disposal facility. It is anticipated that LLRW would be captured in the waste stream, appropriately stored and decayed based on applicable regulations. A radioactive waste broker would continue to be used to dispose of the LLRW on a bimonthly basis. As is currently the case, hazardous waste would be captured and segregated from the general waste stream, appropriately stored based on applicable regulations, and a licensed private carter would then collect and dispose of the hazardous waste at a licensed disposal facility. The Proposed Project would not be expected to result in significant adverse impacts anticipated relating to solid waste, medical waste, LLRW or hazardous waste.