3.10 Utilities

This section of the DEIS addresses the project's effects on the Village and related inter-municipal, county and regional wastewater collection, water supply, solid waste collection and energy systems and resources.

3.10.1 Wastewater Treatment

Existing Conditions

The Harriman Sewage Treatment Plant is an Orange County facility that handles wastewater for a number of the municipalities located within the county. The plant receives wastewater flow from the "Moodna Group" which consists of seven municipalities or parts thereof: The villages of Chester, Woodbury and South Blooming Grove and the towns of Chester, Monroe, Blooming Grove and Woodbury. The Moodna Basin Joint Operation and Maintenance Commission ("Moodna Basin Commission") operates as an intra-municipal agency that manages the public wastewater treatment for three of the Moodna Group municipalities or parts thereof: the Village of Chester, the Town of Chester and the Town of Monroe. The commission operates and maintains a network of pipes and pump stations (owned by the municipalities in which they lie) within the service area of the Moodna Basin Commission. All of the wastewater within the service area of the Moodna Basin Commission is collected and eventually transported to the Harriman Sewage Treatment Plant for treatment before being discharged to the Ramapo River.

The project site lies entirely within the service area of the Moodna Basin Commission. The entire Village of Chester, where three of the project parcels are currently located, is within that service area. The site parcel presently located within the Town of Chester is within the Town's Consolidated Sewer District No. 1, which also lies entirely within that service area. All of the parcels have been assessed appropriate sewer fees for the duration of their existence within that service area.

In 2006, the Harriman Sewage Treatment Plant expanded its treatment capacity from approximately 4 million gallons per day (mgd) to 6 mgd. The Harriman Sewage Treatment Plant receives wastewater flow from the Moodna Group municipalities as well as Orange County Sewer District No. 1, which consists of all or parts of the villages of Harriman, Monroe, and Kiryas Joel, and the Town of Monroe.

According to usage reports provided by the Moodna Basin Commission (see Appendix J), as of September 2008 the Harriman Sewage Treatment Plant was processing approximately 4.5 mgd, meaning the Treatment Plant has approximately 1.5 mgd of excess wastewater capacity.

The Moodna Group has a total allocation of 2.015 mgd to the Harriman Sewage Treatment Plant of which 347,000 gallons per day (gpd) and 410,000 gpd are allocated to the Village of Chester and Town of Chester, respectively. According to the usage report, the Moodna Group discharged approximately 1.775 mgd to the Harriman Plant with the Village of Chester discharging approximately 363,600 gpd of wastewater to the plant (16,600 gpd over the Village's allocated amount) and the Town of Chester discharging approximately 262,000 gpd (148,000 gpd under the Town's allocated amount). The net combined available and remaining allocation for the Village and Town is 131,400 gpd.

The Moodna Basin Commission operates and maintains an extensive sewer network within the town and village, including 8-inch diameter gravity sewer in Route 17M along the site frontage. The 8-inch sewer runs northerly to a pump station (Moodna Pump Station No. 5), from where it is pumped back up to the intersection of Route 17M and West Avenue via a 4-inch force main into a gravity sewer that runs to the south.

A new sewage treatment plant (the "Black Meadow Creek plant") has been contemplated on Town of Chester-owned land to handle some of the sewage from the service area of the Moodna Basin Commission. The treatment plant would be located on Route 94 along Black Meadow Creek, which would receive the treated effluent. The contemplated Black Meadow Creek Plant would be owned and operated by the Town and/or Village of Chester and would serve properties in the respective municipalities. If the Black Meadow Creek Plant were to be developed, the Town and/or Village could choose to reallocate some of their existing wastewater flow that currently goes to the Harriman plant to the new Black Meadow plant.

Billing for sewer services is allocated on a per unit basis to Village consumers. Each residential home is counted as its own unit with a standard charge per unit.

Pending or Approved Projects

According to available records, the projects listed in Table 3.10-1 are pending or approved in the Town and Village of Chester and may be eligible for sewer service on a first-come, first-serve basis.

Table 10-1
Pending or Approved Wastewater Projects

Project Name	Municipality	Project Description	Calculation	Estimated Wastewater Generated
The Castle Entertainment Complex	Town of Chester	10,000 sf expansion	10,000 sf x 0.10 gpd/sf	1,000 gpd
Frozen Ropes Sports Center	Town of Chester	20,200 sf building	20,200 sf x 0.10 gpd/sf	2,020 gpd
Coach USA	Town of Chester	191,040 sf bus garage and offices	60 employees x 15 gpd/emp	900 gpd
Best Mexican Foods	Town of Chester	20,000 sf warehouse	10 employees x 15 gpd/emp	150 gpd
Lowe's Home Improvement*	Village of Chester	150,000 sf building	166 employees x 15 gpd/emp	2,500 gpd*
C& S Wholesale Foods	Village of Chester	356,022 sf warehouse expansion	120 employees x 15 gpd/emp	1,800 gpd**
Greens of Chester	Town of Chester	431 residential units	N/A***	N/A***
Hills of Chester	Town of Chester	20 single family homes	20 x 400 gpd/home	8,000 gpd
Meadow Hill Development	Village of Chester	142 residential units	142 units x 150 gpd/home	20,000 gpd****
			Total	***36,370 gpd***

Source: Langan Engineering 2009.

* Although Lowe's is currently open and operating, it was still under construction September 2008 usage report was published.

**Not including wastewater generated from potential cooling towers (if any).

*** The Greens of Chester has agreed to construct a new wastewater treatment plant as part of their project and therefore would not contribute any flow to the Moodna Basin Service Area.

****As reported by Tom Becker, Village Water Superintendent.

Potential Impacts

As discussed herein in Section 2.0, Description of the Proposed Action, the BT Holdings project would involve the development of 458 dwelling units consisting of 100 senior apartments and 358 multifamily townhomes. Based on the project engineer's estimates, the project's average daily wastewater flow would be 125,160 gallons per day (gpd). The calculations per NYSDEC standards are provided in the Wastewater Report prepared by the Project Engineer, Langan Engineering and Environmental Services, in Appendix J.

By virtue of the project site's location within the Town of Chester's sewer district and within the Village of Chester, the project will remain entitled to sewer service from both the Town and the Village. According to usage reports provided by the Moodna Basin Commission, the Village of Chester discharged approximately 363,600 gpd of wastewater to the plant which is 16,600 gpd over the Village's allocated amount. The Town of Chester discharged approximately 262,000 gpd which is 148,000 gpd under the Town's allocated amount. The net combined available allocation for the Village and Town is 131,400 gpd. The estimated 125,160 gpd of wastewater the proposed project is expected to generate is 22,840 gpd below the Town's available and remaining allocation and 6,240 gpd below the combined available and remaining allocation between the Town and Village. As such, there presently exists available capacity in the wastewater system to handle the proposed project.

If the pending or approved projects should come on line prior to the BT Holdings project and additional allocation was needed, the Town and/or Village can request additional allocation from the Harriman Sewage Treatment Plant which, as mentioned above, has approximately 1.5 mgd of available capacity. The project sponsor would reimburse the appropriate municipality for any fees related to the increase in allocation necessary to service the proposed project. At present, a Court ordered injunction prohibits the County from allocating any additional amounts to the Moodna Group municipalities. However, it is anticipated that the legal proceedings will be brought to conclusion prior to construction of the BT Holdings project and, depending upon the results of those legal proceedings, additional allocation may become available from the Harriman Treatment Plant source.

Should wastewater disposal via the contemplated Black Meadow Wastewater Treatment Facility become available, that would provide an additional potential source of wastewater capacity for the Project.

If the pending or approved projects came on line prior to the BT Holdings project and additional allocation to service the BT Holdings project was needed but unavailable from the alternate sources described above, construction of units beyond available capacity would be prohibited until such capacity became available.

The proposed BT Holdings development would require construction of an on-site wastewater collection system and some off-site improvements to existing sewer infrastructure as described below:

- An on-site gravity sewer system would be constructed to convey wastewater to the existing 8-inch sewer main in Rte 17M;
- Moodna Pump Station No. 5 would be assessed for its ability to handle the additional flow from the developed site and upgraded to SPS 5; If the project's flow were to be directed to the contemplated Black Meadow Plant new infrastructure would be needed to convey sewage from the intersection of Rte 17M and West Avenue (the end of Pump Station No. 5's force main) to the proposed Black Meadow Plant.
- The proposed water main running through the site from Route 17M to Oakland Avenue via Road 'A' and the emergency egress driveway to Oakland Avenue, including any associated hydrants, is proposed to be a village-owned public water supply main. An easement will be provided for this main and the associated hydrants. The applicant intends to run this main within the proposed paved site roads. All other water mains onsite, including any booster stations, are proposed to be privately owned and maintained.

More detailed description of these improvements is provided in the Wastewater Report in Appendix J. The proposed water and wastewater infrastructure will benefit both the project and the surrounding community. The proposed water infrastructure includes the replacement of a 4-inch water main in Route 17M with a new, larger 10-inch main, and the installation of a new 10-inch main through the property that will interconnect the new 10-inch main in Route 17M and the existing 8-inch main in Oakland Terrace. This new 10-inch main will not only service the project site, but it will also strengthen the water service in the surrounding area by providing a redundant source of water to 17M from the tank on Oakland Terrace. In addition, the project will include the assessment of Sanitary Pump Station No. 5, and will likely include upgrades to the pump station that will in turn benefit the project as well as the other contributors to the sanitary sewers in the immediate area. The construction and costs for the above-described improvements would be borne by the developer of the site, thus benefiting the Moodna Basin Commission, Town of Chester and Village of Chester. Design, permitting and construction of these improvements will be in accordance with Village, Moodna Basin Commission, Orange County and NYSDEC standards and requirements.

The plans and specifications for these improvements would be presented during future actual site plan review. As part of the future review process, the proposed sanitary sewer collection system would be reviewed by the Village Engineer and Sewer District to assure it conforms to pertinent local and district requirements and specifications. It is not anticipated that there would be any adverse impacts associated with the construction of the wastewater collection system.

Mitigation Measures

The estimated 125,160 gpd of wastewater the proposed project is expected to generate is 22,840 gpd below the Town's available and remaining allocation and 6,240 gpd below the net combined available and remaining allocation between the Town and Village of Chester. If the pending or approved projects should come on line prior to the BT Holdings project, the Village and/or Town can request additional capacity from the Harriman Sewage Treatment Plant which, as mentioned above, has approximately 1.5 mgd of available capacity. The project sponsor

would reimburse the appropriate municipality for any fees related to the increase in allocation necessary to service the proposed project. At present, a Court ordered injunction prohibits the County from allocating any additional amounts to the Moodna Group municipalities. However, it is anticipated that the legal proceedings will be brought to conclusion prior to construction of the BT Holdings project and, depending upon the results of those legal proceedings, additional allocation may become available from the Harriman Treatment Plant source.

Should the contemplated Black Meadow Treatment Plant become a viable alternative, that would provide an additional potential source of wastewater capacity for the Project. The applicant could both contribute to the cost of construction of the initial phase of the plant as well as the construction of the on-site wastewater collection system and off-site improvements necessary to convey the site-generated sewage to the Black Meadow Plant.

If the pending or approved projects came on line prior to the BT Holdings project and additional allocation to service the BT Holdings project was needed but unavailable from the alternate sources described above, construction of units beyond available capacity would be prohibited until such capacity became available.

As part of the proposed action, the project developer would construct the on-site wastewater collection system and off-site improvements necessary to convey the site-generated sewage to Harriman Sewage Treatment Plant. The cost of this construction would be borne by the developer.

Since the project sponsor would contribute to and complete the improvements necessary to address any capacity problem in the sewage treatment system, no further mitigation is proposed.

3.10.2 Water Supply

Existing Conditions

The BT Holding development site is currently located partially (60.6 acres) within the Town of Chester with the rest of the project site in the Village of Chester. The Village of Chester public water supply system provides safe potable water for Village residents and is operated by the Village's Water Department. The water sources include a surface water supply at Walton Lake in Monroe and a second groundwater source at the Black Meadow well-field. The Village's total permitted maximum daily water-taking from these two sources is 1.1 million gallons per day (mgd). The current demand on this water supply system, according to the Water Commissioner, Mr. Thomas Becker, is approximately 0.45 mgd. Therefore, available excess capacity of approximately 0.65 mgd exists in the Village water supply system.

The Village of Chester water supply distribution system consists of the following key elements:

- An extensive watermain distribution network consisting of 28 miles of main with mains ranging in size from 2 inches to 12 inches;
- Along the system are 170 fire hydrants; 380 mainline water valves; 900 service connections; and
- Three storage tanks with a combined capacity of approximately 2 million gallons.

The watermain network includes a 4-inch main located in NYS Route 17M and an 8-inch mail located in Oakland Avenue. The 4-inch main is located along the site's frontage on Rte 17M. The site's eastern side includes an access strip on Oakland Avenue, which is the location of the 8-inch main. One of the three storage tanks is located on the Nexans property adjacent to the site's eastern boundary. Additional details about the Village's water supply system are provided in the Water Supply Report prepared by the project engineer, Langan Engineering and Environmental Services, in Appendix K.

According to available records, Table 10-2 lists the projects which are pending or approved and may seek water service from the Village. For the purposes of this analyses, the estimated water usage is assumed to be the same as the wastewater generation rates from NYS DEC.

Table 10-2
Pending or Approved Water Supply Projects

Project Name	Municipality	Project Description	Estimated Water Supply
The Castle Entertainment Complex	Town of Chester	10,000 sf expansion	1,000 gpd
Frozen Ropes Sports Center	Town of Chester	20,200 sf building	2,020 gpd
Lowe's Home Improvement*	Village of Chester	150,000 sf building	2,500 gpd*
C& S Wholesale Foods	Village of Chester	356,022 sf warehouse expansion	54,000 gpd
Meadow Hill Development	Village of Chester	142 residential units	20,000 gpd**
Korean Church	Village of Chester	Unknown	350 gpd***
Joe Dipolis	Village of Chester	Unknown	350 gpd***
Joe Mooze	Village of Chester	Unknown	350 gpd***
		Total	***80,570 gpd***

Source: Langan Engineering 2009.

* Although Lowe's is currently open and operating, it was still under construction September 2008 usage report was published.

**As reported by Tom Becker, Village of Chester Water Superintendent

*** According the Tom Becker, Village of Chester Water Superintendent, these landowners are eligible to receive up to 30,000 gallons of water per quarter.

Potential Impacts

As identified previously, the proposed BT Holdings project would consist of 458 dwelling units including 100 senior apartments and 358 multifamily townhomes. Based on the project engineer's estimates, the project's water supply demand would be 137,676 gallons per day (gpd). In addition to the domestic water demand, approximately 123,500 gpd may be required for irrigation of the site's lawn and landscaped areas during the summer months. As a result, the combined domestic and irrigation demand results in a total seasonal average water demand of approximately 261,180 gpd for the BT Holdings development. As explained in the Water Supply report in Appendix K, this is a conservative estimate of irrigation demand.

The combination of the domestic demand and irrigation demand for the proposed BT Holdings project in addition to the other pending or approved projects as listed in Table 10-2 is approximately 341,750 gpd which is significantly below the reported 650,000 gpd available excess capacity of the system. There is also ample storage capacity in the existing municipal tanks (2

million gallons) to store the average daily demand of the system once the BT Holdings project and the pending or approved projects are added to the existing water supply system.

In order to gain access to the Village's municipal water supply system, annexation of the Town of Chester lot is being pursued.

The Water Supply Report (refer to Appendix K) summarizes the proposed improvements that would be made to serve the BT Holdings project. The following improvements would require approvals by the Village of Chester Water Department and the Orange County Department of Health:

- The existing 4-inch main along the site's frontage on Rte 17M would be replaced with a 10-inch main to connect with the existing 10-inch main located along the frontage for the Chester Mall.
- A new public water main trunk line with hydrants every 400 feet would be constructed through the site from the new 10-inch main in Rte 17M to the existing 8-inch main in Oakland Avenue.
- A new on-site water distribution network would be provided on the site consisting of pipes, valves, hydrants, tees, elbows and other components for domestic and irrigation needs and fire protection for the proposed development.

Although a private water-storage tank is not anticipated to be required for the proposed development, a booster station, which would be housed in a small structure on the project site, may be needed to maintain adequate pressure in the system at higher elevations in the system during events when there is demand for fire flow. The booster station structure would be about the size of a small garage.

The cost of the necessary water supply improvements, on-site and in Rte 17M, including the design, permitting and installation, would be borne by the project developer. The plans and specifications for these improvements would be presented during future actual site plan review. As part of the future review process, the proposed water supply system would be reviewed by the Village Engineer and Village of Chester Water Department to assure it conforms to pertinent local and department requirements and specifications. It is not anticipated that there would be any adverse impacts associated with the construction of the water supply system.

Mitigation Measures

As per the discussions with the Water Superintendent, it is not anticipated that the proposed project would have a negative impact on the Village's water distribution system. As noted above, the cost of all improvements necessary to serve the project would be borne by the developer of the project. As such, no mitigation measures are proposed.

3.10.3 Solid Waste

Existing Conditions

In both the Town and Village of Chester household refuse, recyclables and bulk waste are collected by Interstate Waste Services through a contract with the Town of Chester Garbage District. The Town Garbage District includes the Village and thus provides solid waste services to residents of the Village and the Town.

Garbage, recyclables and bulk materials are picked up each week. The types of recyclable materials alternate every other week for which residents are provided a schedule of pick up dates. Mixed paper, paperback books and phone books, and cardboard are picked up one week. Co-mingled items (cans, bottles, glass and plastic, etc.) are picked up the next week. Bulk includes non-freon appliances, but not electronic equipment. Yard debris is picked up periodically by either the Town Highway or Village Street Departments on specified dates.

Hazardous waste is not picked up as part of the Town of Chester Garbage district, which also serves Village residents. The Orange County Department of Environmental Facilities and Services provides opportunities for household hazardous waste collection on specified dates and locations throughout the county in the spring and summer. Last year, the nearest collection event for residents of the Village or Town of Chester was at the Orange County Fire Training Center in Goshen on October 17, 2008. However, many items of household electronic equipment, which are considered to be hazardous waste, must be brought to the nearest transfer station, which would be in Goshen.

Collected household garbage, recyclables and bulk materials are deposited at Orange County Transfer Station No. 1, located in Goshen. This transfer station is also used individually by Town or Village residents to drop off items not collected as part of the services of the Town of Chester Garbage District. Such items include tires, scrap metal, appliances containing freon, construction and demolition debris and other items listed on the Orange County Department of Environmental Facilities and Services page on the orange county website (www.co.orange.ny.us). There are specific fees for bringing many of these items to the transfer station.

As per telephone communication with Peter Hammond, Deputy Commissioner of the Orange County Department of Public Works on February 20, 2009, there is no landfill facility in operation in the county. Any former landfills are now closed. The ultimate destination for any non-recyclable materials that must be sent to a landfill should go to the Seneca Meadows facility in Waterloo, New York or the Alliance Landfill in Scranton, Pennsylvania. In any case, there is plenty of capacity in the Orange County solid waste facility system as waste from Chester can also go to Transfer Station No. 2, located in Newburgh and the county is building new transfer stations.

Billing for garbage collection is allocated on a per unit basis to Village consumers. Each residential home is counted as its own unit with a standard charge per unit.

Potential Impacts

Based on data published by the Urban Land Institute, residents generate approximately four (4) pounds of solid waste per person per day. The projected 1,137 persons would generate approximately 68.22 tons per month of solid waste. Assuming that solid waste generated by future residents at the project site has a typical three to one ratio of non-recyclable to recyclable materials, the project will generate 51.17 tons per month of non-recyclable solid wastes and 17.05 tons per month of recyclable materials.

Residents of the Town and Village are billed on a per unit basis as part of their property taxes to cover the services provided by the Town of Chester Garbage District. Future residents of the BT Holdings townhouses would be billed on their individual property taxes. Since the senior units are rental apartments, it is assumed that the owner of the apartment buildings would pay a property tax bill that would include a per unit refuse fee for the Town of Chester Garbage District. The per unit refuse fee would be incorporated to rent or other fees collected by the property owner from tenants.

Mitigation Measures

Since no impacts relative to solid waste disposal are anticipated, no mitigation measures are proposed. However, during actual site plan review, central locations would be designated for collection of garbage, recyclables and bulk throughout the townhouse and condominium development and for each senior apartment building. The provision of fewer collection points on the developed site will make collection of solid waste by the contracted hauler more efficient thus reducing the time and energy necessary to service many new residents. Central facilities for solid waste collection would be properly fenced and landscaped to blend with the residential development and screen receptacles from view by residents and visitors.

3.10.4 Energy Resources

Existing Conditions

For residences in the Town and Village of Chester, electrical and gas service is provided by Orange and Rockland Utilities. Fuel oil service is available through several local companies located in Chester, Goshen, Monroe and other nearby localities.

Potential Impacts

Both short-term and long-term energy consumption effects are associated with all residential construction projects. Short-term energy consumption impacts would occur during construction of the proposed development, primarily due to the consumption of fossil fuels through the operation of power equipment and construction vehicles.

Once constructed, the 458 dwelling units would be occupied by households that would place long-term demands on various energy sources. In all residential dwellings, energy will be consumed for space heating, air-conditioning, water heating, lighting, refrigerators and other appliances.

The Energy Information Administration of the US Department of Energy conducts a Residential Energy Consumption Survey (RECS) which provides statistical information on the use of

household energy in the United States. RECS data for New York indicates that approximately 64 million BTUs[1] are consumed per household annually in New York State. It is expected then that the 458 households proposed for this project would consume 29.3 billion BTU of energy annually.

Electrical and gas service, provided by Orange and Rockland Utilities, would be extended to the project site via buried utility connections. Orange and Rockland Utilities does not anticipate any problems accommodating the projected electrical and gas demands created by the proposed development (phone call and letter on February 13, 2009, with Mr. Michael Popoloski, Senior Project Manager, New Construction Services, Orange and Rockland Utilities). All underground utility connections will meet Village Code and industry specifications. Orange and Rockland Utilities support programs of encouraging the use of renewable energy resources and conservation of energy.

Mitigation Measures

Since no impacts relative to energy resources are anticipated, no mitigation measures are proposed.

3.10.5 Mitigation for Utilities

The BT Holdings project will involve a maximum of 458 dwelling units including 100 senior apartments and 358 multifamily townhomes. Water supply, wastewater collection and energy distribution (electric and gas) systems would be installed primarily within the proposed roads, driveways and parking areas as shown on the conceptual plans provided herein. These areas will be used as they are proposed for disturbance as part of the overall development, rather than using undisturbed areas. The total area of roads, driveways and walkways proposed on the BT Holdings site is 14.27 acres.

To the extent practicable, these utilities will gain access to the site via the proposed entry road from NYS Route 17M and via the proposed emergency access road to Oakland Avenue wherein these utilities are already contained. During later site plan review any necessary easements will be delineated on the plans.

As with all other aspects of development of the site, the project will be constructed in 5 phases as shown on the conceptual phasing plan in Figure 2-12.

Central facilities for solid waste collection would be properly fenced and landscaped to blend with the residential development and screen receptacles from view by residents and visitors.

[1] *BTU, or British Thermal Unit, is a unit of heat measurement.*