# Exhibit VIII.C.17.a (Estimated Fresh Water and Electricity Demand):

Submit as Exhibit VIII.C.17.a. studies of independent engineers or other experts reporting projections of estimated fresh water and electricity demand (base and peak- period) and sanitary sewer and storm water discharge, each, for the proposed Gaming Facility. Include in those reports an assessment of the feasibility of any plans to accommodate that demand onsite (e.g. by onsite production of electricity, treatment of fresh or waste water, or detention of storm water).

The project is located in the Town of Newburgh at the intersection of NY State Route 17K and Interstate 84. The facility is approximately 547,000 gross sq.ft. in area (including the Hotel Tower) and has a building footprint of approximately 330,000 sq.ft. The project will be provided with domestic water supplies, electrical service, sanitary sewer connections and gas service from the surrounding municipal services located within Route 17K and Corporate Boulevard. A stormwater management plan will be developed utilizing a series of detention and retention tanks and ponds to enhance the water conservation strategies for the project as well as to maintain compliance with the Town of Newburgh stormwater management statutes.

## **Domestic Water Demand**

Domestic water will be utilized to supply all plumbing fixtures and water-consuming equipment including, but not limited to, water closets, urinals, lavatories, janitor sinks, showers, commercial kitchens, cooling tower makeup and similar uses. Based on a peak population of approximately 6,500 people and the utilization of domestic water for cooling tower makeup during periods of dry weather, our estimated daily domestic water demand for the facility is as follows:

Occupancy	Demand (gpd)
Hotel Tower (Guest Rooms - 500 keys)	60,000
Casino (general-use circulation)	65,000
Dining (cooking)	10,000
Cooling Tower Makeup	144,000
Total Estimated Water Demand	279,000

The estimated peak instantaneous domestic water demand for the facility, including cooling tower makeup utilizing domestic water, will be 700 gpm.

To enhance the performance and reduce the consumption of domestic water for swimming pool and cooling tower evaporative losses, a rainwater harvesting system will be provided to collect, treat and reuse rainwater for this purpose. As an additional enhancement to reduce water consumption, the use of rainwater for water closet and urinal flushing will be investigated during the design process. Additional information on the water conservation plan for the site is included in Exhibit X.C.5.

#### Sanitary Sewer Discharge

Sanitary drainage will be provided for all plumbing fixtures, Mechanical Rooms, toilet rooms, Commercial Kitchens and other occupancies that require drainage. The system will be arranged for gravity flow to a point of connection with the municipal sewer. Based on a peak population of approximately 6,500 people and operation of the condenser water system at the maximum cycles of concentration, our estimated sewer discharge for the facility is as follows:



Occupancy	Demand (gpd)
Hotel Tower (Guest Rooms - 500 keys)	60,000
Casino (general-use circulation)	65,000
Dining (cooking)	10,000
Cooling Tower Blowdown	20,000
Total Estimated Water Demand	155,000

To enhance performance and reduce the discharge of sewage, a water conservation plan will be implemented by using high-efficiency water-conserving plumbing fixtures, and condenser water filtration and treatment will be utilized to maximize the cycles of concentration maintaining minimum discharge from blowdown. Additional information on the water conservation plan for the site is included in Exhibit X.C.5.

## Natural Gas Demand

Natural gas will be provided to serve gas-fired condensing boilers for space heating, domestic hot water generation and restaurant cooking. The system will be arranged to provide medium-pressure gas to all heating equipment and low-pressure gas for all commercial cooking. Based on peak heating season and a population of approximately 6,500 people, our instantaneous demand for the facility is as follows:

Use	Demand (cfh)
Gas-Fired Boilers	30,000
Domestic Hot Water Generation	9,000
Dining	12,000
Total Estimated Natural Gas Demand	51,000

#### Stormwater Discharge

The project will be provided with a complete storm drainage system to serve the roof, all setback, roofs, terraces, plaza and areaway drains. The system will be arranged for gravity flow to a point of connection with the site storm drainage facility, which will utilize drainage ponds for discharge to the site. Based on the 100-year, 1-hour rainfall in accordance with the NYS Plumbing Code, the runoff from the main roof (330,000 sq.ft.) can reach a peak flow of 20.8 cfs, and the parking deck (200,000 sq.ft.) can reach a peak flow 12.6 cfs, which will be directed to the detention ponds on the site.

To enhance the performance of the project and reduce the stormwater discharge to the detention ponds, a rainwater harvesting system will be utilized to collect, treat and reuse rainwater for swimming pool and cooling tower evaporative losses. The harvested rainwater for the project will be funneled to multiple detention tanks to retain a minimum 90% of the onsite stormwater in accordance with LEED requirements as well as with Town of Newburgh guidelines for stormwater management. Additional information on the water conservation plan for the site is included in <u>Exhibit X.C.5.</u>

## **Electrical Demand**

Based on the space allocation program, the electrical lighting and utility distribution design criteria matrix and the energy use analysis performed with the energy modeling software DOE 2.2, the estimated electricity demand will be 4,000 kW. After preliminary analysis, we are currently not proposing to generate electrical power on site, but as more detailed design moves forward we intend to further evaluate and consider alternatives for on-site generation and incorporate where feasible.

