New York Gaming Facility Location Board
Response to Request for Applications to Develop and Operate a Gaming Facility in New York State

TIOGA DOWNS RACETRACK, LLC

Exhibit VIII.17.a.

INFRASTRUCTURE REQUIREMENTS

Electrical Demand

Estimated electricity demand for the new facilities and construction phases were determined through engineering analysis and reflected in the table below. The electrical utility, New York State Electric and Gas (NYSEG), confirmed the existing utility system and service point capacity are adequate for the addition of new facilities loads.

	Garage Phase 1 Demand (KW)	Amenities Phase 2 Demand (KW)	Hotel Phase 2 Demand (KW)	Casino Expansion Phase 2 Demand (KW)	Restaurant Office Expansion Phase 3 Demand (KW)
LIGHTING	63	104	137	48	22
AIR CONDITIONING	42	385	178	140	136
FANS	18	146	106	52	39
RECEPTACLES	3	13	69	6	9
PUMPS	0	34	24	0	1
SLOT MACHINES	0	0	0	146	0
SIGNAGE	64	24	17	58	5
LOW VOLTAGE EQUIPMENT	0	68	7	11	6
FOOD SERVICE EQUIPMENT	0	240	6	5	73
MISCELLANEOUS EQUIPMENT	0	212	5	44	25
ELEVATORS	30	72	30	0	8
HEAT	23	54	23	45	39
FIRE PUMP	0	64	0	0	0
ESTIMATED OPERATING DEMAND (KW)	220	1,296	579	554	362

	CURRENT	PHASE 1	PHASE 2	PHASE 3
ESTIMATED DEMAND AFTER PHASE COMPLETION (KW)	1,191	1,411	3,840	4,202

Feasibility for Onsite Electricity Production for Demand

Onsite production of electricity is limited to diesel generators for standby and emergency power when offsite utility power is not available. Emission control modifications required to use the diesel generators for other than emergency and standby operation are not cost effective without a demand curtailment program which is not available from the utility. Electricity production for select load groups from solar and wind sources are under consideration.

Exhibit VIII.C.17.a - Projected Water Usage

1.0 GENERAL

The purpose of this report is to provide a projection of the estimated water demand for the proposed gaming facility at Tioga Downs Casino. This report acts as an update to the water study portion of the evaluation performed by Keystone Associates, titled *Tioga Downs Water and Sewer Systems Engineering Report*, dated August 8, 2005. The original evaluation was based on development of a 100 room hotel. Tioga Downs is proposing a larger development consisting of, but not limited to:

- Phase 2 Expansion including
  - Amenity Building, including PJ Clarke's Restaurant, Event Center, Spa and Fitness Center
  - Hotel
  - Outdoor Pool and Bar
  - Casino Gaming Floor Expansion
  - Waterslide
  - Office Expansion
- Phase 3 Expansion, including
  - Virgil's Real BBQ and Honky Tonk
  - Parking Lot Expansion
  - Mini-Golf and Fun Center

2.0 EXISTING CONDITIONS

The existing water system serving the Tioga Downs Racino facility, located at 2384 West River Road in the Town of Nichols, Tioga County, NY, consists of two wells, a pump house, storage tank, and water distribution system. The water system has been classified as Transient Noncommunity (TNC) by Tioga County Health Department (NYS PWS ID#NY5330037), which currently requires a Grade C certified operator. The facility consists of a horse racing track and casino with other amenities. Within the facility, the water is used for daily needs of the workers and visitors such as washing hands, cleaning, flushing of toilets, drinking, and food preparation. Treated water from the storage tank is also used for watering the track from April to November of each year. Stored water can also be used for facility fire protection.

3.0 EXISTING WATER SUPPLY

There are two groundwater supply wells that serve the facility. Both wells are currently connected to an automated level control system with the water storage tank.

Well #1 shall be defined as the pre-existing well that has served the property since the 1970's. There are no known records for the development of Well #1 but field measurements indicate a well depth of 81 feet and a static water depth of 45 feet below the adjacent ground surface. The well pump for Well #1 is known to pump at 90 gallons per minute (GPM).

Well #2 shall be defined as secondary well supply installed in the summer of 2012. . Well #2 is an 8" well with a 10" casing and 3" discharge. The pump is a CentriPro model VIS-T, size 5CLC, 7.5 hp, 3 stage well pump rated at 100 gpm for 145' of total dynamic head pressure. Well #2 has a static, non-pumping water level of 48.72 feet below the top of the well casing and has a total depth of 99 feet and screened over the depth interval of 84 to 99 feet.

Well #1 and #2 are located in close proximity to each other, approximately 16 feet away from each other. A pump test report is provided in Appendix A for pump testing procedures during Well #2. In summary, the pump test results indicate the aquifer serving the two wells has "sufficient available drawdown to support an intended rate of extraction of up to 100,000 gallons per day". An extraction rate of 100,000 gallons per day (roughly 70 GPM); can be served by one of the existing individual wells.

4.0 EXISTING WATER STORAGE

The existing 200,000 gallon steel tank is twenty feet (20') in diameter and 85 feet tall. During the redevelopment project in 2005, the tank was cleaned of any sediment and recoated. It is unknown if a cathodic protection system was installed as recommended by Keystone Associates. The tank anchoring system is showing signs of corrosion. The current piping configuration in the existing control building is an individual waterline into the water storage tank. Based on this configuration, the water storage tank is providing little to no disinfection contact time.

5.0 EXISTING WATER DISTRIBUTION

The water distribution system consists of primarily 10" and 8" PVC pipe installed as part of the 2005 redevelopment project. Cross contamination protection with the horse barns is provided via a double check valve assembly. A 10" mainline runs from the control building to western edge of the grandstand apron. From there, an 8" watermain loops around the existing casino facility and down to the east around the proposed hotel area. Gate valves and hydrants are located along the watermain routing for maintenance, operation and fire protection.

The distribution system through the barn area is original is comprised of asbestos-cement (AC) piping and will remain in service. Breaks have occurred on this branch system, but the 2005 distribution system upgrades and valving prevents disruption to the main water service to the casino facility.

6.0 EXISTING WATER DEMAND

Water usage from February 1, 2013 to November 31, 2013 has been analyzed for existing water demand. The calculations will be disseminated between racing season flows and non-racing season flows. As noted above, the existing water supply and storage system is used for domestic water use, barn use, and track watering purposes. Water usage is based on metering readings of the raw untreated well water pumped and the in-house domestic meter. Domestic Usage shall be defined as the water being used by the existing casino facility, i.e. as indicated by the in-house domestic meter reading. NON-Domestic Usage is the difference between the total amount of water pumped and the water used in the existing casino facility. Therefore, NON-Domestic Usage includes water used by the existing maintenance building, paddock, horse barns and racetrack watering.

Summary:

Racing Season (April through September)

Average Day Domestic Usage: 19,300 gallons per day
Maximum Day Domestic Usage: 60,100 gallons
Average Day NON-Domestic Usage: 23,100 gallons per day
Maximum Day NON-Domestic Usage: 64,100 gallons

NON-Racing Season

Average Day Domestic Usage: 17,300 gallons per day
Maximum Day Domestic Usage: 33,500 gallons
Average Day NON-Domestic Usage: 5,000 gallons per day

As seen in above, and reiterated in Table 1, there is a significant difference between the average day NON-domestic usage and the maximum day flow experienced during the racing season. This is attributed to the amount of water needed for racetrack watering purposes. For example, there were 19 occurrences in the 2011 racing season where the NON-domestic daily flow was over 50,000 gallons in a day, in 2012 there were 12 occasions.

Table 1. Existing Water Demand.

Description	Units	Standard Flow Rate Unit	Average Day Flow (gpd)
Existing Casino Facility	N/A	N/A	**19,300**
Other Domestic Water Usage			
Paddock Barn (per square foot)	12,000	0.1	1,200
Maintenance Office (per employee)	10	15	150
Horse Barns (per stall)	260	6	1,560
Subtotal			**2,910**
Track Watering	N/A	N/A	25,000

7.0 PROPOSED DEVELOPMENT WATER USAGE

The table below lists the predicted water consumption, based upon the components of the proposed Phase 1 & 2 development.

Table 2. Phase 1 & 2 Predicted Water Consumption

Phase	Development	Description	Units	Hydraulic Loading Rate (gpd)	Water System (gpd)	Water System with 20% Reduction (gpd)
Phase 1	Parking Garage	N/A	N/A	N/A	N/A	N/A
Phase 2	Amenity Building	Spa (per station w/ sink)	10	200	2,000	1,600
		Laundry Room (per machine)	4	580	2,320	1,856
		Swimming Pool (per swimmer)	37	10	370	296
		Restroom Facility (per visitor)	1,000	5	5,000	4,000
		Staff Changing Rooms (per employee)	50	20	1,000	800
		Restaurant (per seat)	100	35	3,500	2,800
		Restaurant Lounge (per seat)	15	20	300	240
		Private Dining/Breakout (per seat)	50	20	1,000	800
		Multipurpose Room (per seat)	540	10	5,400	4,320
		Roof Terrace Lounge (max occupancy)	400	20	8,000	6,400
	New Hotel & Outdoor Pool	Guest Rooms (per room, including pool usage)	136	130	17,680	17,680
	Casino Gaming Floor Expansion	Lounge (per seat)	60	20	1,200	960
		Casino (per employee)	50	15	750	600
		Casino (square feet)	17,400	0.3	5,220	4,176
	Office Expansion	Office Space (per worker)	50	20	1,000	800
Total Phase 1 and Phase 2 Water Consumption					**System Water Consumption**	**With 20% Reduction for Water Saving Plumbing Fixtures**
					54,740	**47,328**

Table 3 represents the predicted water consumption outlined based upon the components of the Phase 3 development.

Table 3. Phase 3 Predicted Water Consumption

Phase	Development	Description	Units	Hydraulic Loading Rate (gpd)	Water System (gpd)	Water System with 20% Reduction (gpd)
Phase 3	Restaurant	Restaurant (per seat)	200	50	10,000	8,000
		Restaurant Lounge (per seat)	20	20	400	320
	Mini Golf/Rock Climbing/Batting Cages	Fairgrounds (per visitor)	200	5	1,000	800
		Food Service (per seat)	20	50	1,000	800
					System Water Consumption	**With 20% Reduction for Water Saving Plumbing Fixtures**
Total Phase 3 Water Consumption					**12,400**	**9,920**

The hydraulic loading rate values used above are from the *Design Standards for Intermediate Sized Wastewater Treatment Systems 2014*, Section B.6.b., as issued by the New York State Department of Environmental Conservation (NYSDEC). With exception to the lodging value, the per-unit hydraulic loading rates may be decreased by twenty percent (20%) for establishments equipped with water saving plumbing fixtures. The proposed waterslide was not included in the predicted water usage calculations because it is believed the system will recirculate the majority of the necessary water. Any water lost through use and evaporation is assumed to be negligent.

8.0 FUTURE WATER DEMAND

As of May, 2014, Tioga Downs is installing a separate water system to be dedicated to the Track Watering operations as required by that business. All other Project Site uses will be potable water uses and operate through the current public water system, PWS ID#NY5330037. Based upon the existing water demand, and predicted water demand, as seen in the tables above, the predicted future water demand can be seen in Table 4.

Table 4. Future Water Demand with Proposed Development

Description	Average Water Demand (gpd)
Existing Facility	22,200
Future Phase 1 & 2	47,330
Future Phase 3	9,920
Total	79,450

The total predicted average day water demand of 79,450 gpd was developed including the 20% water reduction provided by water saving fixtures.

As detailed above, the current infrastructure related to the PWS, has adequate capacity to supply the future project demands. The existing water supply has a total pumping capacity of 190 gpm, approximately 270,000 gallons per day. The current well supply operates as a lead/lag system whereas an individual well supplies water when called for, unless in an emergency situation. An individual well can serve the future water demand in a 15 hour flow day.

9.0 REPORT PREPARATION

This report was prepared by:

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Exhibit VIII.C.17.a - Projected Sanitary Sewer

GENERAL

The purpose of this report is to provide a projection of the estimated wastewater demand for the proposed Tioga Downs Casino Resort. This report builds off of, and acts as an update to, the original Wastewater Treatment Facility Design Engineer's Report prepared for Tioga Downs Racino by Larson Design Group in September 2009. Tioga Downs is proposing a larger development consisting of, but not limited to:

- Phase 2 Expansion including
  - Amenity Building, including PJ Clarke's Restaurant, Event Center, Spa and Fitness Center
  - Hotel
  - Outdoor Pool and Bar
  - Casino Gaming Floor Expansion
  - Waterslide
  - Office Expansion
- Phase 3 Expansion, including
  - Virgil's Real BBQ and Honky Tonk
  - Parking Lot Expansion
  - Mini-Golf and Fun Center

The above mentioned Design Engineers Report is also included in this Exhibit VIII.C.17. for reference to existing wastewater flow and existing wastewater-related infrastructure.

1.0 PROPOSED DEVELOPMENT SEWAGE PRODUCTION

Table 1 lists the predicted sewage production, based upon the components of the proposed Phase 1 & 2 development.

Table 1. Phase 1 & 2 Projected Wastewater Flow

Phase	Development	Description	Units	Hydraulic Loading Rate (gpd)	Average Daily Flow (gpd)	Average Daily Flow with 20% Reduction (gpd)
Phase 1	Parking Garage	N/A	N/A	N/A	N/A	N/A
Phase 2	Amenity Building	Spa (per station w/ sink)	10	200	2,000	1,600
		Laundry Room (per machine)	4	580	2,320	1,856
		Swimming Pool (per swimmer)	37	10	370	296
		Restroom Facility (per visitor)	1,000	5	5,000	4,000
		Staff Changing Rooms (per employee)	50	20	1,000	800
		Restaurant (per seat)	100	35	3,500	2,800
		Restaurant Lounge (per seat)	15	20	300	240
		Private Dining/Breakout (per seat)	50	20	1,000	800
		Multipurpose Room (per seat)	540	10	5,400	4,320
		Roof Terrace Lounge (max occupancy)	400	20	8,000	6,400
	New Hotel & Outdoor Pool	Guest Rooms (per room, including pool usage)	136	130	17,680	17,680
	Casino Gaming Floor Expansion	Lounge (per seat)	60	20	1,200	960
		Casino (per employee)	50	15	750	600
		Casino (square feet)	17,400	0.3	5,220	4,176
	Office Expansion	Office Space (per worker)	50	20	1,000	800
Total Phase 1 and Phase 2					**54,740**	**47,328**

Table 2 represents the predicted water consumption outlined based upon the components of the Phase 3 development.

Table 2. Phase 3 Projected Wastewater Flow

Phase	Development	Description	Units	Hydraulic Loading Rate (gpd)	Average Daily Flow (gpd)	Average Daily Flow with 20% Reduction (gpd)
Phase 3	Restaurant and Office Expansion	Restaurant (per seat)	200	50	10,000	8,000
		Restaurant Lounge (per seat)	20	20	400	320
	Mini Golf/Rock Climbing/Batting Cages	Fairgrounds (per visitor)	200	5	1,000	800
		Food Service (per seat)	20	50	1,000	800
Total Phase 3					**12,400**	**9,920**

The hydraulic loading rate values used above are from the *Design Standards for Intermediate Sized Wastewater Treatment Systems 2014*, Section B.6.b.as issued by the New York State Department of Environmental Conservation (NYSDEC). With exception to the lodging value, the per-unit hydraulic loading rates may be decreased by twenty percent (20%) for establishments equipped with water saving plumbing fixtures.

2.0 SUMMARY OF TOTAL PROJECTED FLOW

Based upon the existing wastewater flow, and predicted wastewater flow, as seen in the tables above, the projected wastewater flow for the Tioga Downs Casino Resort can be seen in Table 4.

Table 4. Total Project Wastewater Flow

Description	Average Water Demand (gpd)
Existing Facility	22,200
Future Phase 1 & 2	47,330
Future Phase 3	9,920
Total	**79,450**

Note: The total projected average day wastewater flow of 79,450 gallons was developed utilizing a 20% water reduction rate for water saving fixtures.