

Attachment B

Stormwater System Operation & Maintenance Plan

Section 6

Stormwater Operation Plan

The purpose of this section is to assist the operator in operating the HCRRF stormwater system. The HCSWMD operator (operator) shall retain all responsibility and liability of operations of the stormwater system including the operations described herein. The operator will train additional personnel in the field as necessary. The protocol for recording rainfall, staff gauge readings and weir adjustments will be emphasized in the training.

The operator shall monitor weather conditions and use an adjustable weir gate to control the water elevations on an as needed basis, in advance of anticipated storm events such as hurricanes and winter storms and prevent contaminated water from entering the waters of the State. Staff gauges and rain gauges shall be used to assist the operator in controlling the water elevations on a daily basis, particularly for unanticipated storms events. Staff gauges referenced NAVD1988 datum shall be installed in ponds C and B. One (1) wireless rain gauge shall be installed near Pond C to measure daily rainfall and monitor real time rainfall data.

The operator will be on-site 5 days a week to check and operate the weirs. The operator shall check and record the staff gauge elevations and 24 hour rainfall events and make daily adjustments as necessary or in advance of anticipated and unanticipated storm events. HCRRF facility operators are also on-site 7 days per week, 24 hours per day to make adjustments to operate the stormwater system in the absence of the operator. The operator and the facility operators will communicate using 2-way radios when all are on site.

6.1 Emergency Operations

Weir #1 Emergency Operating Conditions

(Located in Pond B at the southwest corner of the HCRRF property)

For Spills from the AWTP and HCRRF that have a reasonable potential to contaminate the stormwater ponds, the adjustable weir gate shall be closed by the operator at a minimum elevation 31.5 feet to minimize potential contamination to the waters of the State. The weir gate shall remain in the closed position until such time the spill has been assessed and appropriate corrective action is taken. The HCRRF facility operator, at the discretion of the operator, can operate the adjustable weir gate to minimize potential contamination to the waters of the State or mitigate elevated water levels in the facility ponds. The HCRRF facility operator shall report spills in accordance with all local, State, and Federal requirements.

Weir #2 Emergency Operating Conditions

(Located in Pond C near the northeast entrance of the HCRRF property)

For Spills from the AWTP and HCRRF that have a reasonable potential to contaminate the stormwater ponds, the adjustable weir gate shall be closed by the operator at a minimum elevation 36 feet to minimize potential contamination to the waters of the State. The weir gate shall remain in the closed position until such time the spill has been assessed and appropriate corrective action is taken. The HCRRF facility operator, at the discretion of the operator, can operate the adjustable weir gate to minimize potential contamination of the waters of the State or mitigate elevated water levels in the facility ponds. The HCRRF facility operator shall report spills in accordance with all local, State and Federal requirements.

Emergency Contracts

HCSWMD Operator (Facility Office): (813) 744-5591.

HCRRF Contracted Operator (Control Room): (813) 689-7585 or (813) 684-5688 x3018

6.2 Normal Operation

The operator or his designated agent will utilize the staff gauges and rain gauges to control the water elevations of the wet detentions ponds. The operator will record the 24 hour rainfall and staff gauge readings upon arrival to the site. The rain gauge will be manually or automatically emptied for the next 24 hour period. For rain events occurring during the day, the operator will monitor the rainfall in real time using the wireless rain gauge and transmitter from the tipping floor office. During rain events, the operator will utilize the real time rainfall data to make adjustments to the gates for unanticipated rainfall conditions as necessary. Before leaving the site, the operator will check the total real time rainfall and make any additional adjustments in accordance with the established operating conditions for Weirs No. 1 and No. 2.

Weir #1 Operating Conditions

(Located in Pond B at the southwest corner of the HCRRF property)

For rain events greater than 8 inches in 24 hours, the adjustable gate should be set at elevation 28.00 feet.

For rain events less than 8 inches in 24 hours but greater than 4 inches in 24 hours, the adjustable gate should be set at elevation 29.50 feet.

For rain events equal to or less than 4 inches in 24 hours, the adjustable gate may be set at elevation 30.70 feet.

If conditions warrant, the gate may be adjusted downward by the general relationship 1 in. rainfall = 0.2 feet (above set elevation) for anticipated and unanticipated rainfall conditions.

Summary Operating Conditions for Weir #1

If Rain Event > 8 inches/24 hrs., then set gate at control elevation 28.00 feet.

If Rain Event ≤ 8 inches/24 hrs. but > 4 in./24 hrs., then set at elevation 29.50 feet.

If Rain Event ≤ 4 in./24 hrs., then set gate at elevation 30.70 feet.

If the set elevation was adjusted downward, then after the peak stage has been reached or 24 hours after the storm event, the gate shall be adjusted to the previous set elevation.

Weir #2 Operating Conditions

(Located in Pond C near the entrance to the HCRRF at the northeast corner of the property)

For rain events greater than 8 inches in 24 hours, the adjustable gate shall be set at elevation 34.50 feet.

For rain events equal to or less than 8 inches in 24 hours, the adjustable weir gate shall be set at elevation 36.00 feet.

If conditions warrant, the gate may be adjusted downward by the general relationship 1 in. rainfall = 0.12 feet (above set elevation) for anticipated and unanticipated rainfall conditions.

Summary Operating Conditions for Weir #2

If Rain Event > 8 inches/24 hrs., then set gate at control elevation 34.50 feet.

If Rain Event ≤ 8 inches/24 hrs., then set gate at elevation 36.00 feet.

If the set elevation was adjusted downward, then after the peak stage has been reached or 24 hours after the storm event, the gate shall be adjusted to the previous set elevation.

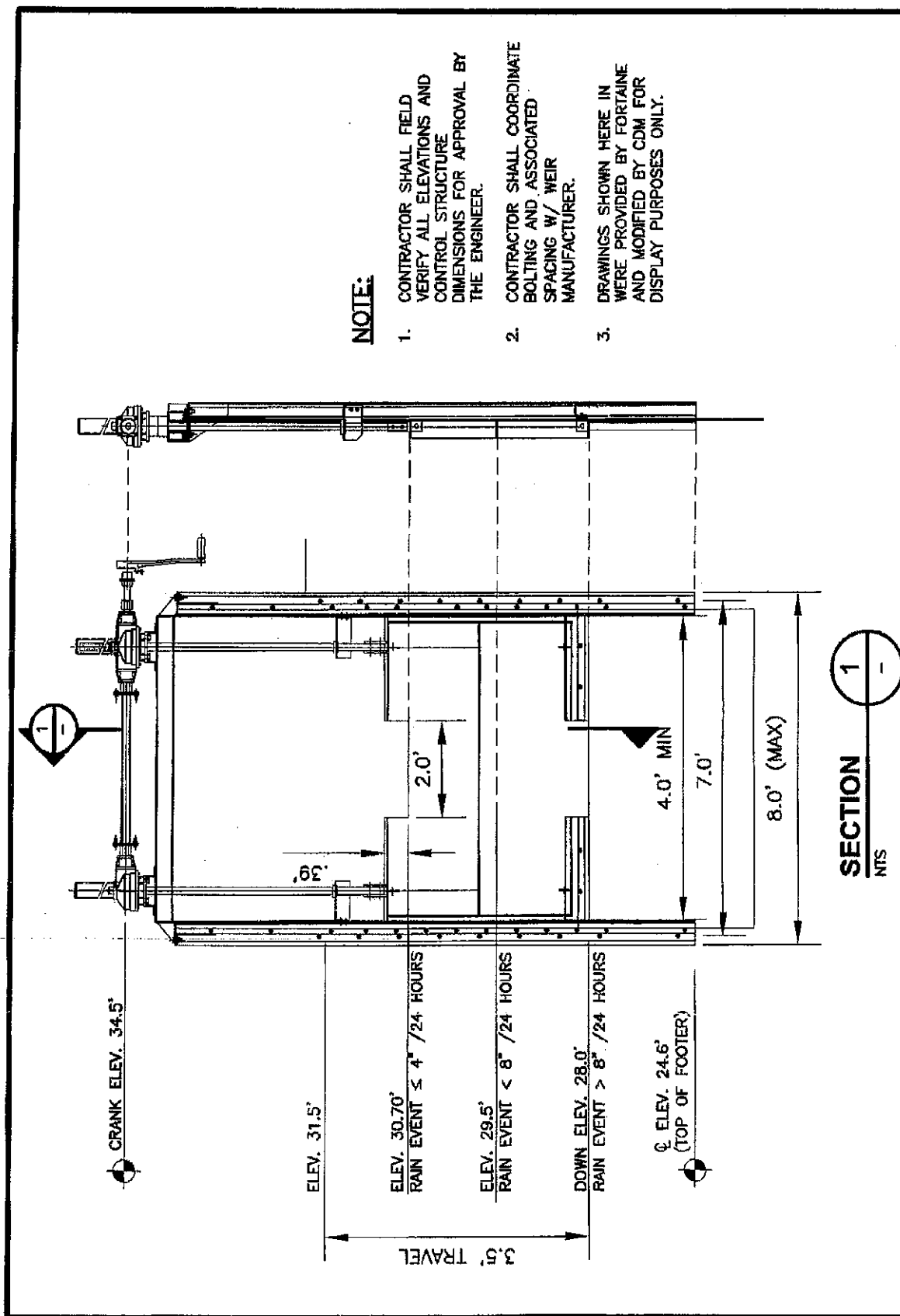


Figure 1
Adjustable Weir Gate No. 1
Stormwater Design And Operations Plan Report
Hillsborough County Resource Recovery Facility

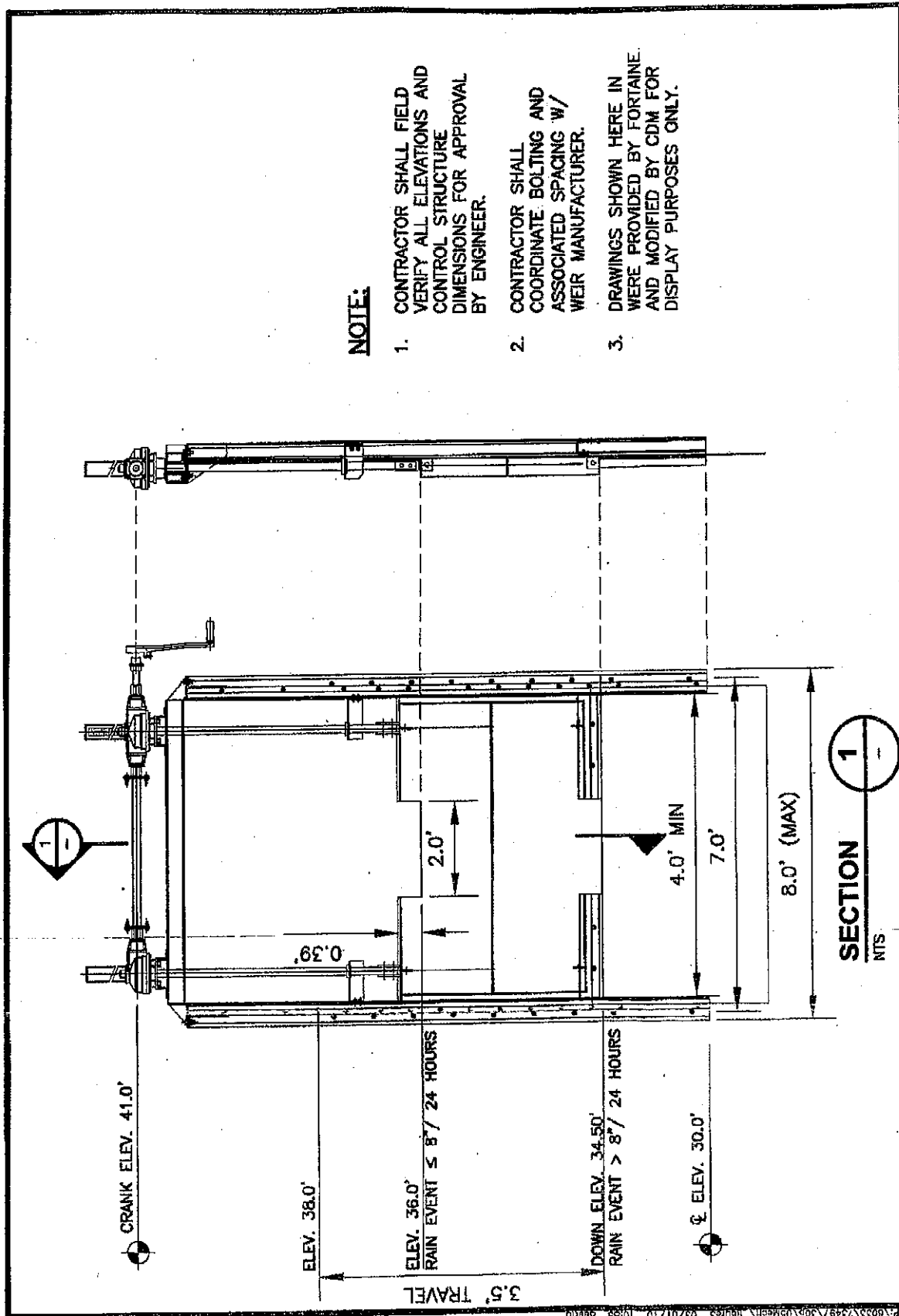


Figure. 3
Adjustable Weir Gate No. 2
Stormwater Design And Operations Plan Report
Hillsborough County Resource Recovery Facility

Attachment B

Additional Operation and Maintenance Instructions for the HCRRF Surface Water Management System

The following normal maintenance items, including cleaning or replacement of the various elements of the system, will be required for the surface water management system to continue to operate as designed.

General Maintenance

1. All surface water management system pipes, swales, inlets, catch basins, manholes, flumes, pond inflow and outfall structures (including oil skimmers), and discharge pipes should be inspected on a regular basis (monthly or quarterly) and following significant storm events. They should be maintained by removing built-up debris and vegetation and repairing deteriorating structures.
2. Chemicals, oils, greases or similar wastes are NOT to be disposed of in the surface water management system or through storm sewers. Treatment ponds are designed to treat normal road, parking lot, roof and yard runoff only. Some chemicals may interfere with a treatment pond's functions or kill vegetation and wildlife. Dispose of these potentially dangerous materials properly by taking them to recycling facilities or to collection locations sponsored by many local governments.

Also, do not dispose of grass clippings in a surface water management system. Grass clippings pose problems by smothering desirable vegetation, clogging outfall structures and, when they decompose, may cause unsightly algae blooms that can kill fish.

3. Accumulated pond sediments may contain heavy metals such as lead, cadmium and mercury, as well as other potentially hazardous materials. Therefore, sediments removed from surface water management system inlets, pipes and ponds should be disposed of at an approved facility (check with your county Solid Waste Department or the Florida Department of Environmental Protection for disposal facilities approved to accept treatment pond sediment).
4. During any repair or maintenance activity, use care to avoid causing erosion or siltation to adjacent or off-site areas.
5. Alterations (filling, enlarging, etc.) of any part of the surface water management system are not permitted without prior approval from the Department and all other applicable governing agencies.
6. It is usually more cost-effective to monitor and perform routine maintenance on a surface water management system rather than let it fail and have to reconstruct the entire system.

Attachment B

7. Mosquito growth can be minimized in a surface water management system by the following measures:
 - Do not dump grass clippings or other organic debris into a surface water management system — decaying grass clippings and other decomposing vegetation create ideal conditions for breeding mosquitoes.
 - Clean out any obstructions that get into the system. Debris can obstruct flow and harbor mosquito eggs and larvae.
 - Remove water lettuce and water hyacinth, which nourish and shelter mosquito larvae.
 - Stock ponds with predatory “mosquito fish” — *Gambusia minnows*, which may be collected from other ponds and ditches and introduced into your SWMS.
8. Notify the Department at (813) 632-7600 within twenty-four hours of observation of sinkhole development in the surface water management system.

Wet Detention Pond

1. The side slopes of the detention pond and adjoining swale shall be inspected for bare spots, damage or erosion. Bare areas shall be sodded or seeded to replace the grass cover. In the case of erosion, replace the missing soil and bring the affected areas back to grade.
2. Maintain, rather than remove, wetland vegetation that becomes established in the littoral zone. Do not cut, mow, use herbicide or grass carp to remove any of the vegetation in the littoral zone.
3. On a quarterly basis and following significant storm events, inspect the area in front of the outfall control structure to for built-up sediments, vegetation and debris that impair the operation of the structure. Remove sediments, vegetation, trash and debris to an approved disposal site.
4. When littoral zone vegetation and sediment accumulate to such an extent that water depth decreases, the littoral zone may need to be re-graded and re-vegetated. When it appears that the pond has reached this state, contact the Department prior top large scale maintenance.
5. The wet detention pond shall have a minimum of a 35 percent littoral zone, based on the ratio of vegetated littoral zone to the surface area of the pond at the control elevation. Should the establishment of native vegetation not be accomplished within 24 months of construction of the wet detention pond, the permittee shall plant (and mulch if necessary to sustain plant growth) the littoral shelf to achieve the required 35 percent vegetative cover. Native vegetation that becomes established in the littoral zone must be maintained

Attachment B

during the operation of the facility. Details of the percent cover of the vegetated littoral shelf shall be included with the required inspection certification reports. Periodic replanting is required if coverage falls below the 35 percent level.

6. Signs shall be posted around the perimeter of all Wet Detention Ponds as described below.

One sign fronting retention Pond A and visible to staff, across from the facility entrance gate.

One sign fronting retention Pond B and visible to staff, located where it is most prominent.

One sign fronting retention Pond C and visible to staff, located where it is nearest the point at which maintenance crews would first begin staging to perform pond maintenance or repairs.

One sign fronting retention Pond D and visible to staff, across from the proposed scale area.

The signs should be installed prior to transfer to operation and are required for the proper operation and maintenance of the surface water treatment system. The signs should read:

STORMWATER TREATMENT POND
NO MOWING OR SPRAYING OF AQUATIC VEGETATION
ALLOWED UNLESS AUTHORIZED BY FDEP.

Call (813) 632-7600 for more information.

The facility operator will communicate to the grounds maintenance personnel "not to mow or spray aquatic vegetation."

7. Notify the Department at (813) 632-7600 within twenty-four hours of observation of sink hole development in the surface water management system.

Attachment B