

2013 NEIC Findings for GWA Wastewater Collection and Treatment System, dated 02/18/2015

Facility/function	#	Findings	GWA Response
Pump Station Inspection Observations	1	GWA's ability to respond to pump station failures and operational issues in a timely manner is a major concern. Of GWA's 73 pump stations, only 7 were equipped with telemetry and alarm systems, while the remainder had no alarm systems to alert GWA of pump system failures and other problems. (p.12)	Current SCADA Master Plan schedules Phase A by 2016: central (Master) and 207 water/wastewater sites. Phase B by 2018, SCADA at 132 additional water/wastewater sites (totaling 339). Phase C by 2020, SCADA at remaining water/wastewater sites.
Pump Station Inspection Observations	2	GWA's rover system is not a reliable means for detecting all pump station issues and spills. A review of rover travel sheets for all three wastewater districts for January through April 2012 shows numerous instances when no visit to certain pump stations was documented during a given shift. (p.12)	See response to #1 GWA restructured Wastewater collection management to allow oversight of SOP and elevate enforcement of SOP to site supervisor. This change is intended to improve documentation and oversight of the rovers.
Pump Station Inspection Observations	3	GWA staff discovered a spill at the Yigo pump station on January 25, 2012 that was estimated to have been occurring for at least two days, following the failure of the rovers to make a documented scheduled visit to the pump station. (p.12)	See response's # 1 and #2 COMPLETED
Pump Station Inspection Observations	4	Seven of the 29 pump stations inspected had one or more pumps out of service for periods ranging from 1 week to more than 1 year. Three of the inspected pump stations had no backup power. (p.12)	See items 4a through 4i below.
	4a	Two of four pumps at the Route 16 (Liguan Terrace) pump station were out of service.	The new pumps are now installed and are undergoing final testing by the contractor and GWA for final acceptance by GWA. This is expected to be completed in March 2014.
	4b	No backup power was available at the Santa Ana pump station. Backup power has not been available at the pump station for at least 2 years.	GWA will develop a project to provide a back-up power or emergency pumping capabilities through telemetry for the SPS and use funds from 2011/2012 SRF.
	4c	One of two ejector pumps was out of service at the Namu pump station. The ejector pump had been out of service for approximately 6 months. In addition, no backup power was available at the Namu pump station.	Both ejector pumps are currently in service. GWA will develop a project to provide a back-up power or emergency pumping capabilities through telemetry for the SPS and use funds from 2011/2012 SRF.
	4d	No backup power was available at the Casimero pump station.	GWA will develop a project to provide a back-up power or emergency pumping capabilities through telemetry for the SPS and use funds from 2011/2012 SRF.
	4e	One of four pumps at the Agaña Main pump station was out of service. The pump had been out of service for about 1 week due to a bearing issue.	In May 2013, GWA completed the Agaña Main SPS rehabilitation project which replaced non-functioning pumps and motors, controls systems, etc. COMPLETED
	4f	One of three pumps at the Mamajanao pump station was out of service. The pump had been out of service for about 1 year.	In May 2013, GWA completed the Mamajanao SPS rehabilitation project which replaced non-functioning pumps and motors, controls systems, etc. COMPLETED
	4g	One of two pumps at the Umatac-Merizo pump station #20 was out of service. The pump had been out of service for about 1 month.	Pump Station #20 is a single pump station, not a dual station. The pump is fully functional. COMPLETED
	4h	One of two pumps at the Inarajan Main pump station was out of service. The pump had been out of service for about 2 months.	In May 2012 GWA completed a pump/motor change out to the non-functioning pump. Two pumps are currently operational. COMPLETED
	4i	One of two pumps at the Talofoto pump station was out of service. The pump had been out of service for about 1 week.	In July 2012 GWA completed a pump/motor change out to the non-functioning pump. Two pumps are currently operational. COMPLETED
Pump Station Inspection Observations	5	GWA lacks a robust spare parts and equipment inventory and is unable to repair certain pieces of equipment in a timely manner. (p.13)	EPA is currently funding an Asset Management Program via CDM Smith. GWA acknowledges importance of spare parts and robust equipment inventory. GWA Operations and warehouse staff are also working with Performance Management Contract (PMC) to provide a spare parts and robust equipment inventory. Full implementation is dependent on completion of the Asset Management Program.
Pump Station Inspection Observations	6	Of the 136 total Sanitary Sewer Overflows (SSO's) reported by GWA from October 2011 through September 2012, 44 SSO's were associated with pump stations. 31 of the pump station related SSO's (23 percent of the total) were attributed to pump station equipment failure or power outages. (p.13)	See items 6a through 6f below.
	6a	8 SSO's were reported at the Harmon pump station (identified as "Rojas Dr."), 7 of which were attributed to high flows exceeding the capacity of the pump station.	COURT ORDER ISSUE See response to #1, Additionally GWA is currently in negotiation with an engineering consultant to conduct an I/I & SSES study for the central system which the Harmon SPS falls under. This study will help GWA identify high areas of I/I from which GWA can address areas of high SSO's. GWA to conduct wastewater hydraulic model update to further evaluate system capacity.
	6b	5 SSO's were reported at the Astumbo No. 1 pump station (also identified as "Ch. Fago or Chalan Fago St."), all of which were attributed to equipment failures.	GWA has replaced two pump/motor and level control systems (pressure transducers). COMPLETED
	6c	4 SSO's were reported at the Yigo pump station (identified as "Chn. or Chalan. Nanalao"), all of which were attributed to repeated bubbler level control compressor failures.	GWA currently in the process of replacing level control systems (pressure transducers).
	6d	3 SSO's were reported at the Mangilao pump station, all resulting in the overflow of sewage from a nearby baseball field restroom.	GWA has replaced one pump/motor and level control systems (pressure transducers). COMPLETED
	6e	3 SSO's were reported at the Mongmong Toto pump station for varying causes.	This is a telemetry issue, see response to #1
	6f	2 SSO's were reported at the Namu pump station, both attributed to equipment failures.	This is a telemetry issue, see response to #1
Infiltration and Inflow Analysis	7	During the time frame of October 2011 through September 2012, GWA reported 22 SSO's that were attributed to capacity-related issues and heavy rainfall. (p.14)	COURT ORDER ISSUE Item #7 is being addressed through I/I/SSES studies (underway), line cleaning and hot spots in addition to alarm system upgrades (see response to #1). GWA is planning to upgrade the wastewater hydraulic model to further evaluate system capacity.

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Infiltration and Inflow Analysis	8	EPA's contractor, PG Environmental, determined that GWA's collection system hydraulic model was inadequate for depicting collection system capacity limitations. (p.14)	GWA has upgraded the wastewater hydraulic model and meets the needs of GWA planning an O&M. The model continues to be refined in areas where more detail is needed. Management of the hydraulic model will remain an ongoing process as changes are made to the system.
Infiltration and Inflow Analysis	9	GWA staff identified manhole structural defects as a major source of infiltration and inflow. (p.15)	I/I&SSES studies in the southern basin has been COMPLETED . Underway is the Central basin SSES and I/I evaluation. The Northern basin study is in procurement. The studies include metering for I/I, manhole inspection and smoke testing to locate unknown connections to the WW collection system/
Infiltration and Inflow Analysis	10	Another source of inflow identified by GWA was the direct connection of yard drains into the sewer system, most prevalent in the Southern District. (p.15)	COURT ORDER ISSUE The I&I/SSES study, in the southern basin, has been COMPLETED . GWA will provide an action plan to address identified sources of I&I on the CO schedule of June 27, 2014
Infiltration and Inflow Analysis	11	A review of influent wastewater data for the Agat and Umatac-Merizo Sewage Treatment Plants (STP's) shows that relatively low strength influent wastewater was being discharged to those two Southern District STP's, which may be indicative of potential I/I problems. (p.15)	COURT ORDER ISSUE The I&I/SSES study, in the southern basin, has been COMPLETED . GWA will provide an action plan to address identified sources of I&I on the CO schedule of June 27, 2014
Sewer Cleaning and Televising	12	One of GWA's two combination Vactor/jet cleaning trucks was out of service for repairs at the time of the inspection. (p.16)	Both GWA Vactor/jetter cleaning trucks are operational. An additional jetter truck has been purchased and is operational. COMPLETED
Sewer Cleaning and Televising	13	GWA staff stated that they were on schedule for 2012 to meet the 2011 Court Order sewer cleaning requirements, but behind schedule on meeting the CCTV inspection requirements. (p.16)	GWA has met schedule for both CCTV and cleaning requirements in 2012. COMPLETED
Sewer Cleaning and Televising	14	GWA does not typically clean the sewer lines prior to CCTV inspections, resulting in delays when CCTV cameras become stuck in sewer lines. (p.16)	GWA's current policy requires cleaning prior to CCTV. COMPLETED
Sewer Cleaning and Televising	15	During the inspection, GWA's CCTV camera winch and the camera transporter malfunctioned. This was the third such equipment issue in the last 4 months. (p.17)	GWA has purchased second van and currently has five cameras and transporters. All are operational. COMPLETED
Sewer Cleaning and Televising	16	GWA's CCTV inspection data was being sent exclusively to Veolia at an off-island location for analysis. GWA engineers were not receiving CCTV inspection data. (p.17)	GWA Planning Section is the custodian of CCTV data; all video has since been transferred to date. COMPLETED
Fats, Oils, and Grease (FOG) Management Program	17	M. Roush indicated that GWA does not have a formal FOG management program and that grease trap and interceptor enforcement is handled by the Guam Public Health Department and GEPA. (p.17)	New Source Control Manager has been appointed in May, 2013 to formulate FOG management program. COMPLETED
Fats, Oils, and Grease (FOG) Management Program	18	From October 2011 through September 2012, GWA reported 61 SSO's as attributed partially or exclusively to grease blockages, accounting for 45 percent of the SSO's during that time frame. (p.18)	COURT ORDER ISSUE See also response to # 17, in addition GWA has taken on the scheduled cleaning of identified hot spots as specified in CO Section II A, Paragraph 18 Reported on 08/13/2012
Fats, Oils, and Grease (FOG) Management Program	19	GWA staff indicated that large amounts of grease are being discharged to the STP's, specifically mentioning that grease is causing effluent issues at the Hagåtña STP. (p.18)	COURT ORDER ISSUE See response # 17. Currently the Agaña WWTP upgrade to Advanced Primary Treatment is substantially complete and the facility is in the startup phase of the CEPT implementation. In addition an interim measures project has addressed removal of grease at the treatment plant.
Overflow Locations	20	GWA staff identified known recurring SSO locations. (p.18)	See below
	20a	From October 2011 through September 2012, GWA reported 7 weather related SSO's from a manhole in Route 4, downstream of the New Chaot pump station.	GWA completed the Chaot SPS rehabilitation project which installed a new pump/motor and controls to stabilize flow pumped into the collection system instead of surging it. In addition GWA will be conducting I/I & SSES study to be for central system from which a CIP rehabilitation/replacement program is planned. See Also No. 8 Above.
	20b	Similar surcharging conditions exist at the Mamajanao pump station where GWA reported 1 SSO's from this location between October 2011 and September 2012.	GWA completed the Mamajanao SPS rehabilitation project which installed a new pump/motor and controls to stabilize flow pumped into the collection system instead of surging it. COMPLETED
	20c	From October 2011 through September 2012, GWA reported 8 SSO's at the Harmon pump station, 7 of which were attributed to high flows exceeding the capacity of the pump station.	This is a duplicate of #6a
	20d	Evidence of a recent SSO was observed at a manhole in the sewer line just upstream of the New Chaot pump station on April 30, 2012. No SSO in this area or time frame was reported by GWA as part of its quarterly SSO report to EPA.	See response to #2 and #20a
Sanitary Sewer Overflow Identification, Response, Reporting, and Notification	21	The five separate spill response SOPs provided by GWA appear to be duplicative in purpose and/or scope in some instances. The existence of multiple SOPs with similar, but not identical, concurrent provisions could create confusion. (p.21)	GWA will review latest SOP's and report template and eliminate redundant SOP's fourth quarter CY 2013.
Sanitary Sewer Overflow Identification, Response, Reporting, and Notification	22	GWA does not have a public notification process for informing the public of SSO incidents and the potential associated health impacts. (p.22)	GWA does have a normal process to address public notification for SSO or other events that may pose a potential impact on public health. GWA's SOP is to use the EPA 861-R-07-003, March 2007 <i>Revised Public Notification Handbook</i> when it is deemed beneficial by mutual agreement with GWPA.
Sanitary Sewer Overflow Identification, Response, Reporting, and Notification	23	For the January 25, 2012 spill at Yigo Pump Station, NEIC noted a discrepancy between the spill duration and volume recorded in GWA's Incident Notification Form (45 minutes, 180 gallons), GWA's report to EPA (680 gallons) and GWA staff description of the spill. GWA staff acknowledged during the NEIC inspection that the incident was of significantly greater duration and volume than reported to EPA. (p.23)	GWA has revised the incident reporting methods and QA/QC of spill calculations. COMPLETED
Sanitary Sewer Overflow Identification, Response, Reporting, and Notification	24	GWA's spill rate for October 2011 through September 2012 was 43.26 SSO's per 100 miles per year. By comparison, the average spill rate for the state of California, for data collected from 2007 through 2011, was 8.2 SSO's per 100 miles per year and the median spill rate was 3.4 SSO's per 100 miles per year. For similar sized municipal sewer systems to GWA (200 to 999 miles of sewer pipe), the average spill rate for the state of California was 4.32 SSO's per 100 miles per year and the median spill rate was 1.48 SSO's per 100 miles per year. (p.24)	GWA's position is that comparison to California is inappropriate. Comparison to other tropical island would be more appropriate, using ones operating in "Run to Failure" mode as was Guam prior to the formation of the Consolidated Commission on Utilities in 2002. To expect such a utility to have achieved performance comparable to a maintained system in only 14 years is not realistic. GWA is conducting an I/I & SSES studies as well as upgrading the wastewater hydraulic model. This will help evaluate system capacity and identify and prioritize improvements in the collection systems.
Northern District STP	25	At the time of the inspection, the Northern District STP was undergoing major modification to provide enhanced primary treatment. (p.26)	Enhanced Primary Treatment Upgrade completed and facility has been in compliance since Feb. 2013 COMPLETED
Northern District STP	26	At the time of the inspection, only one of two influent channels at the Northern District STP was in operation. The other channel was out of service and being bypassed to allow installation of an automatic mechanically cleaned bar screen and conversion of the aerated grit chambers into a mixing tank for chemically enhanced primary treatment. (p.26)	Only one influent channel originally existed, the other mentioned channel was actually for a comminutor. The second channel was a bypass channel to provide maintenance of comminutor. A new mechanical bar screen is now place along with bypass channel. COMPLETED

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Northern District STP	27	Six months before the inspection, the drive system for one clarifier failed, requiring it to be taken out of service for repair. At the time of the inspection, only one of the clarifiers was in operation, with the other being bypassed. The out-of-service unit was being overhauled as per the modification plan. (p.27)	Both clarifiers have been completely renovated including new drive systems as of Jan. 2013 and are operational. COMPLETED
Northern District STP	28	Northern STP has reported frequent effluent limit violations for BOD and TSS. Substantial amounts of solids were observed passing over the weir at the clarifier and were observed being discharged at the plant outfall. (p. 27)	See Comment #25 COMPLETED
Northern District STP	29	At the time of the inspection, both of the two anaerobic sludge digesters were being used as sedimentation tanks only and for storing solids and, therefore, were not functioning as designed for solids stabilization. This condition had been ongoing since 2006. The out-of-service condition of the digesters increases BOD in the STP discharge. Finally, the inability to stabilize the solids at Northern STP places the burden of doing so on the facility at Hagåtña STP. (p. 27)	See comment #25 Upgrade to the WWTP plant has addressed the BOD permitted limits. Anaerobic digesters are also not in the plant process flow. COMPLETED
Northern District STP	30	The sludge dewatering centrifuges had been removed at the time of the inspection and the building housing them was under reconstruction to accommodate GWA's planned installation of replacement units. (p.28)	Building renovation and 2 new centrifuges installed and operational since Dec. 2012. Replaced under CO 4a. COMPLETED
Northern District STP	31	At the time of the inspection, GWA was not disinfecting effluent discharged to the ocean outfall. (p.28)	Although disinfection is not a specific NPDES permit requirement, GWA does recognize the Bac-t limits in the NPDES Permit. Because of the most recent refurbishment of the WWTP, the optimum pathogen control method for the WWTP is not yet known. A project being planned to manage this issue. Discussions on this subject are in progress with EPA.
Northern District STP	32	The effluent Parshall flume, designed for measuring effluent flow rate, was not in use at the time of the inspection. All plant flow was being reported based on the temporary flow measurement system at the headworks. (p.28)	New permanent mount flow meters installed at influent and effluent structures and both operational as of May 2013. COMPLETED
Northern District STP	33	At 12 MGD, the maximum flow recorded at the Northern District STP, the design peak hydraulic loading rate for the primary clarifiers is just met with both clarifiers in service; it is greatly exceeded when only one clarifier is in operation. Under those conditions, there is an increased risk of solids wash out, which could lead to permit effluent limit violations for BOD and Total Suspended Solids (TSS). (p.29)	See Comment #25 Reference AECOM NDWWTP Capacity Report July 2013; "The rated capacity of the existing primary clarifiers was provided by VWG. According to record plans and documentation the clarifiers are 130 feet diameter with a minimum side water depth of 7 feet. The documentation provided indicates that the effective treatment capacity is based on the following criteria: • Surface overflow rate at average flow = 900 gal/day/ft2 or 11.9 mgd average flow capacity" The design of the plant is 12 MGD. 2011 Court Order limits the NDWWTP to 6 MGD however the CO allows GWA to petition USEPA to move to 9 MGD. Currently GWA is only using one clarifier but should the second clarifier be required GWA will put the other on-line. (all flow based upon monthly average) COMPLETED
Northern District STP	34	With only one of two clarifiers in operation at the time of the inspection, if the operating clarifier fails, there will be no alternative but to bypass partially treated sewage. David Fletcher indicated that the acquisition of parts for the plant takes months, suggesting that major component failures may take considerable time to correct. (p.29)	See comment #27 COMPLETED
Northern District STP	35	The plant is incapable of adequately treating waste septage. (p.30)	New septage receiving station was completion date of June 2013 with satisfactory results. Required under CO 5(b) COMPLETED
Hagåtña STP	36	At the time of the inspection, one of the three clarifiers was out of service and being by-passed. The clarifier had been out of service for approximately two years at the time of the inspection. (p.31)	GWA currently has design build project to rehabilitate the plant which includes renovation of clarifier #2 that is out of service. Completion December 2013
Hagåtña STP	37	The Hagåtña STP receives unstabilized solids from the Northern District STP and septage waste into its Gravity Thickener. These waste streams may contribute substantial concentrations of BOD, particularly soluble BOD, to the plant effluent. (p.32)	Hagåtña no longer receives solids from NDWWTP and the new Septage Receiving Station located at NDWWTP will be completed in June 2013 COMPLETED
Hagåtña STP	38	No effluent disinfection was being provided at the time of the inspection. (p.32)	Although disinfection is not a specific NPDES permit requirement, GWA does recognize the Bac-t limits in the NPDES Permit. Because of the most recent refurbishment of the WWTP, the optimum pathogen control method for the WWTP is not yet known. A project being planned to manage this issue. Discussions on this subject are in progress with EPA.
Hagåtña STP	39	Flow monitoring is not provided at the effluent discharge. (p.32)	Effluent flow monitoring is not a permit requirement and current layout does not allow for flow monitoring.
Hagåtña STP	40	Hagåtña STP has reported repeated violations of the BOD and TSS limits. This may be due to exceptionally high ratios of soluble BOD to Total BOD in the incoming wastewater and to poor settlability of the incoming solids. Also, the BOD contributed by septage waste and unstabilized solids being added to the gravity thickener as described above may contribute to the problem. (p.33)	COURT ORDER ISSUE Enhanced Primary Treatment Upgrade construction project underway and planned completion date of Dec. 2013 to bring plant into compliance.
Agat-Santa Rita STP	41	The low influent BOD and TSS concentrations and peak influent flows reported at the Agat-Santa Rita STP (Agat) are indicative of high amounts of infiltration and inflow into the collection system. (p.34)	COURT ORDER ISSUE GWA has conducted I/I & SSES study for southern system. GWA will continue to upgrade the wastewater hydraulic model to further evaluate system capacity and with the I/I & SSES studies is evaluating possible mitigation projects.
Agat-Santa Rita STP	42	The wastewater influent line just upstream of the Agat headworks bar screen is hydraulically overloaded during high influent flow conditions such as those experienced during rain storms. To alleviate this overloading, GWA uses a trailer mounted pump to bypass influent wastewater around the bar screen and directly into the contact tank. Wastewater solids that would normally be removed by the bar screen can cause operational and maintenance problems in the STP. (pp. 34, 37)	COURT ORDER ISSUE GWA is currently conducting I&I/SSES study for southern system. GWA awaiting USEPA response to CO 9(c) to allow GWA to further develop an action plan.
Agat-Santa Rita STP	43	The Agat plant regularly operates in excess of its maximum hydraulic design capacity and far in excess of the clarifier design surface loading rate. This increased surface loading rate may result in washing out of the clarifier, leading to possible permit limit exceedances of both BOD and TSS. (pp. 36, 39)	COURT ORDER ISSUE GWA is currently conducting I&I/SSES study for southern system. GWA awaiting USEPA response to CO 9(c) to allow GWA to further develop an action plan.
Agat-Santa Rita STP	44	Peak wet weather flows at the Agat STP, including flow bypassed around the bar screen, cause hydraulic overloading in the biological treatment portion of the STP, resulting in under treatment of wastewater and solids washout to the plant discharge. GWA reported solids washout on at least 8 days during the period January 2011 through October 2011. (pp. 37, 38)	COURT ORDER ISSUE GWA is currently conducting I&I/SSES study for southern system. GWA awaiting USEPA response to CO 9(c) to allow GWA to further develop an action plan.
Agat-Santa Rita STP	45	The aeration system does not provide even mixing and aeration throughout the contact basin, stabilization basin or the digester sections of the Agat STP. Inadequate aeration and mixing impairs the biological treatment system resulting in incomplete treatment of pollutants including BOD and ammonia. (pp. 35, 39)	COURT ORDER ISSUE New aeration and fine bubble diffuser system purchased. GWA seeking EPA approval to bypass facility to allow installation of equipment. GWA awaiting USEPA response to CO 9(c) to allow GWA to further develop an action plan.
Agat-Santa Rita STP	46	The Agat STP was constructed as a single-train system. Failure of a major component in the STP would effectively shut down the plant and result in either overloading of the plant or failure to meet permit effluent limits. (p.38)	COURT ORDER ISSUE To be address through CO Paragraph 10 – Agat/Santa Rita Wastewater Systems Evaluation

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Agat-Santa Rita STP	47	There is no disinfection system being operated at the plant, even though the permit specifies discharge limits for e. coli and fecal coliform. GWA has reported effluent limit violations for both e. coli and fecal coliform in the Agat discharge. (p.38)	COURT ORDER ISSUE To be address through CO Paragraph 10 – Agat/Santa Rita Wastewater Systems Evaluation
Agat-Santa Rita STP	48	Agat STP flow is measured by a magmeter installed between the headworks building and the contact tanks. Flow monitored at this location is not representative of the effluent flow rate and does not conform with the permit requirement to measure effluent flow rate. (p.38)	COURT ORDER ISSUE The current I&I study and collection system repairs should minimize the need to pump influent flow through temporary piping and trash pump location presently being utilized to prevent SSO and customer backups.
Baza Gardens STP	49	At the time of the inspection, the grit chamber aeration system was shut off because the diffusers were plugged. (p.40)	Diffuser now operational as of March, 2013 COMPLETED
Baza Gardens STP	50	The configuration of the aeration system reduces the efficiency of the activated sludge process. Mixing and aeration are uneven throughout the basin, and solids tend to build up along the outside perimeter wall. (p.41)	COURT ORDER ISSUE New aeration/mixing system needed but would require bypass of facility as this is a single train system facility.
Baza Gardens STP	51	In appearance, the mixed liquor appears thin, with insufficient solids concentration. According to D. Fletcher, the MLSS concentration tends to be 400–600 mg/L, well below the target range. (p.41)	COURT ORDER ISSUE See response to #50
Baza Gardens STP	52	Baza Gardens STP is not configured or equipped to meet the precision operational control conditions needed to provide effective removal for either nitrate or orthophosphate. (p.41)	COURT ORDER ISSUE To be address through CO Paragraph 13 – Baza Garden Wastewater System Evaluations
Baza Gardens STP	53	At the time of the inspection, the clarifier gear box emitted an unusual amount of noise, possibly indicating problems with the gears. The skimmer arm appeared to hang at certain points in its rotation. (p.41)	The gear box was rebuilt in August 2012 and is in operation. COMPLETED
Baza Gardens STP	54	The plant has no operational disinfection system. There is no system for disinfection of the effluent, although the permit specifies an e. coli and fecal coliform limit. (p.42)	COURT ORDER ISSUE To be address through CO Paragraph 13 – Baza Garden Wastewater System Evaluations
Baza Gardens STP	55	The permit requires flow rates to be reported at the effluent monitoring point. However, data for the plant was being reported from the temporary flow meter installation at the influent headworks. (p.42)	COURT ORDER ISSUE To be address through CO Paragraph 13 – Baza Garden Wastewater System Evaluations and Paragraph 14 Baza Gardens Wastewater System Upgrades.
Baza Gardens STP	56	The tank walls were corroded through in several locations and the concrete was spalling on exposed surfaces. (p.42)	Structural repairs completed April, 2013 COMPLETED
Baza Gardens STP	57	The age of the mechanical components elevates the risk of major failures and makes it more difficult to secure replacement parts as these are not readily in stock. (p.42)	COURT ORDER ISSUE To be address through CO Paragraph 13 – Baza Garden Wastewater System Evaluations
Baza Gardens STP	58	Baza Gardens STP was constructed as a single train system. Failure of a major component would effectively shut down the plant resulting in either overloading of the plant or failure to meet permit limits. (p.43)	COURT ORDER ISSUE To be address through CO Paragraph 13 – Baza Garden Wastewater System Evaluations
Baza Gardens STP	59	The May 2011 monthly operating report indicated a 3-inch hole in the wall between the digester and aerator. As of the inspection on April 2012, the hole had not been repaired. (p.43)	Structural repairs completed April, 2013 COMPLETED
Baza Gardens STP	60	The plant has reported permit effluent limit violations for percent removal of BOD, and violations of the effluent concentration limits for nitrogen, nitrate, phosphorus, and e. coli. (p.43)	COURT ORDER ISSUE To be address through CO Paragraph 13 – Baza Garden Wastewater System Evaluations
Umatac-Merizo STP	61	The ultrasonic probe associated with the influent flow measurement Parshall flume was not functional at the time of the inspection. GWA was using an ISCO 2150 as a temporary system to measure influent flow. (p.44)	COURT ORDER ISSUE To be address through CO Paragraph 15 – Umatac-Merizo Wastewater System Evaluation ISCO 2150 is calibrated and operational.
Umatac-Merizo STP	62	GWA does not have a flow measurement device capable of measuring the effluent flow rate at the permitted Discharge Point 001 as required by the permit. (p.45)	COURT ORDER ISSUE To be address through CO Paragraph 15 – Umatac-Merizo Wastewater System Evaluation
Umatac-Merizo STP	63	GWA reports frequent violations of effluent limits at discharge point 001 including fecal coliform, e. coli, ortho Phosphate and BOD and TSS percent removal. (p.46)	COURT ORDER ISSUE To be address through CO Paragraph 15 – Umatac-Merizo Wastewater System Evaluation
Umatac-Merizo STP	64	The Umatac-Merizo STP was constructed as a single-train system. Failure of a major component, such as the internal pump stations, would result in an eventual bypass. (p.46)	COURT ORDER ISSUE To be address through CO Paragraph 15 – Umatac-Merizo Wastewater System Evaluation. Additionally the internal pump stations #13 & #19 are both dual pump stations.
Umatac-Merizo STP	65	GWA bypassed the Wetland Treatment System (WTS) on at least 27 days between January 2011 and March 2012 and made unpermitted discharges of the disinfected partially treated bypassed wastewater from the facultative pond overflow basin to the Toguan River. The bypasses are caused by insufficient pumping capacity at peak wet weather flows or due to pump failures. (p.47)	The design of the project to remedy this is to be completed by April 30, 2014 for the installation of new pump and discharge piping to increase pumping capacity at PS #19 and to eliminate non-permitted discharges from lower lagoon to river. This project will also refurbish the WTS and add a discharge flow monitor to the Treatment Process. Further plans for pathogen control of the Permitted effluent flow will be developed and implemented.
Umatac-Merizo STP	66	Although the plant is intended to be a no-discharge facility, during the inspection of the facility, the WTS was unable to absorb enough water to avoid discharging through Discharge Point 001. (p.48)	See response #65 Additionally, Umatac-Merizo WWTP is not a zero discharge plant.
Umatac-Merizo STP	67	There is no system for disinfection of the effluent, although the permit specifies an e. coli and fecal coliform limit. The plant has reported failing effluent limits for both e. coli and fecal coliform. (p.48)	COURT ORDER ISSUE To be address through CO Paragraph 15 – Umatac-Merizo Wastewater System Evaluation
Inarajan STP	68	Of the four cells in the treatment system, only one had a functioning aerator. (p.49)	Two cells are now aerated and cell # 3 is being utilized as a settling basin for clarification as of May 2013. COMPLETED
Pago-Socio STP	69	The plant did not appear to be receiving regular maintenance. (p.49)	GWA will conduct regular maintenance and monitor the facility. GWA will develop plans to convert the facility to handle the wastewater.
Pago-Socio STP	70	The aeration system was not operating. (p.49)	See response #69
Pago-Socio STP	71	The only access to the plant had been blocked by a retaining wall constructed across the gate. (p.49)	See response #69
Pago-Socio STP	72	The discharge percolation area had been taken over as a planting area by a local gardener. (p.49)	See response #69