Honeywell
301 Plainfield Road
Suite 330
Syracuse, NY 13212
315-552-9700
315-552-9780 Fax

June 18, 2014

To: Harry Warner, NYSDEC, Region 7 (1 bound)
Holly Sammon, Onondaga County Public Library (1 bound)
Samuel Sage, Atlantic States Legal Foundation (1 bound)
Cara Burton, Solvay Public Library (1 bound)
Mary Ann Coogan, Camillus Town Hall (1 bound)
Moon Library, SUNY ESF (1 bound)
Diane Carlton, NYSDEC, Region 7 (1 PDF)
Joseph J. Heath, Esq., Onondaga Nation (cover letter only)
Chris Fitch, Communications

Re: Letter of Transmittal – Onondaga Lake Repository Addition

The below document has been approved by the New York State Department of Environmental Conservation (NYSDEC) and is enclosed for your document holdings:

- Onondaga Lake – Supplemental Treatment and Lake Discharge Design, Construction, and Operations Work Plan dated January 2014

Sincerely,

John P McAuliffe by CCC

John P. McAuliffe, P.E.
Program Director, Syracuse

Enc.

cc: Richard Mustico - NYSDEC

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D, 12th Floor
625 Broadway, Albany, New York 12233-7013
Phone: (518) 402-9676 • **Fax:** (518) 402-9020
Website: www.dec.ny.gov

Joe Martens
Commissioner

March 5, 2014

Mr. John P. McAuliffe, P.E.
Program Director, Syracuse
Honeywell International
301 Plainfield Road, Suite 330
Syracuse, NY 13212

Re: Onondaga Lake Bottom SCA Water Treatment Plant, Supplemental Treatment and Lake Discharge Design, Construction and Operations Work Plan, January 2014 (No. 7-34-030)

Dear Mr. McAuliffe:

The New York State Department of Environmental Conservation (Department) has reviewed the January 2014 Supplemental Treatment and Lake Discharge Design, Construction and Operation Work Plan. This document was submitted to the Department *via* your January 31, 2014 letter. The report is hereby approved.

Copies of the document, along with the cover letter, should be placed in the site document repositories. If you have questions regarding this letter, please feel free to call me at 518-426-9676.

Sincerely,

Richard A. Mustico, P.E.
Project Manager
Remedial Bureau D
Division of Environmental Remediation

ec: Tim Larson - NYSDEC
Brian Baker - NYSDEC
Catherine Hardison - NYSDEC
Margaret Sheen, Esq. - NYSDEC, Syracuse
Mary Jane Peachey - NYSDEC, Syracuse
Harry Warner – NYSDEC, Syracuse
Joe Zalewski – NYSDEC, Syracuse
Tara Blum - NYSDEC, Syracuse
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Maureen Schuck - NYSDOH
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Michael Lannon – OCDWEP
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Fred Kirschner – AESE
William Hague - Honeywell
Larry Somer - Honeywell
Brian Israel, Esq. - Arnold & Porter
Steve Miller – Honeywell, Syracuse
Chris Calkins - O'Brien & Gere
Paul Schultz - O'Brien & Gere
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315-552-9700
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January 31, 2014

Mr. Richard Mustico
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D
625 Broadway
Albany, NY 12233-7013

Re: **Onondaga Lake Bottom Subsite – Onondaga County, NY**
Consent Decree 89-CV-815
SCA Water Treatment Plant
Supplemental Treatment and Discharge Design Work Plan

Dear Mr. Mustico:

Included in this submittal is a Supplemental Treatment and Discharge Design, Construction, and Operations Work Plan.

If you have any other questions, please contact Brian White at (315) 956-6862 or me at (315) 552-9700.

Sincerely,

John P. McAuliffe by CCC

John P. McAuliffe, P.E.
Program Director, Syracuse

cc:	Brian D. Israel, Esq.	Arnold & Porter (ec or CD)
	William Hague	Honeywell (ec or CD)
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	Reggie Parker	NYSDEC, Region 7 (ec ltr only)
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	Sandra Lizlovs	NYSDEC, Region 7 (1 copy)
	Brian Baker	NYSDEC (ec and 1 copy)
	Catherine Hardison	NYSDEC (ec and 1 copy)
	Robert Nunes	USEPA (1 copy, 2 CDs)

Mark Sergott	NYSDOH (1 copy, 1 CD)
Maureen Schuck	NYSDOH (ltr only)
Harry Warner	NYSDEC, Region 7 (1 copy, 1 CD)
Joseph Heath, Esq.	(ec ltr only)
Thane Joyal, Esq.	(1 copy, 1 CD)
Fred Kirschner	AESE, Inc. (ec or CD)
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Paul D. Schultz	O'Brien &Gere
Brian E. White	O'Brien & Gere

SUPPLEMENTAL TREATMENT AND LAKE DISCHARGE DESIGN, CONSTRUCTION, AND OPERATIONS WORK PLAN

Honeywell SCA WTP

Honeywell International, Inc.
Syracuse, NY

January 2014

O'BRIEN & GERE

TABLE OF CONTENTS

ATTACHMENTS

1. INTRODUCTION

The Honeywell Sediment Containment Area (SCA) Water Treatment Plant (WTP) normally discharges treated effluent to the Metropolitan Syracuse Wastewater Treatment Facility (Metro) for supplemental treatment, prior to discharge to Onondaga Lake. The design average and peak discharge flows are 6.5 and 10 million gallons per day (MGD), respectively. During wet weather events, the hydraulic capacity of the Metro facility may be reached. This periodically results in Metro being unable to receive flow from the SCA WTP.

In order to maximize operational up-time for future dredging operations, provisions (supplemental treatment) will be made to facilitate discharge of up to 6.5 MGD of SCA WTP effluent to Onondaga Lake. A permit for discharge to Onondaga Lake via Outfall 15B is included as Attachment 1 to this document. This discharge is expected to occur only during wet weather shutdowns.

2. DESIGN OVERVIEW

2.1. SUPPLEMENTAL TREATMENT AND LAKE DISCHARGE DESIGN AREAS

The design includes modifications at two existing locations

- Lake shore area
- SCA WTP site

2.1.1. Lakeshore Area

New Outfall 15B will convey SCA WTP treated effluent to Onondaga Lake. The outfall will be constructed in the vicinity of the lake shore, via a connection to the Outfall 15 piping. Refer to drawing G-4. Tie-in #3 will be performed at an existing blind flange on the 24'' effluent line from the SCA WTP to Metro. Tie-in #4 will occur at a 36'' connection point on the 48" storm water pipe to Outfall 15. 24" diameter HDPE pipe will be installed above grade between Tie-ins #3 and #4. The compliance sampling point for Outfall 15 is currently in the vicinity of Tie-in #4. When this supplemental treatment and lake discharge modification is implemented, the Outfall 15 sampling point will be relocated upstream on the 72" diameter piping, to a manhole at the intersection of Willis Avenue and State Fair Boulevard.

2.1.2. SCA WTP Site

Eight 20,000 lb (each) liquid granular activated carbon (LGAC) vessels will be installed downstream of the SCA WTP Treated Water Tanks as the supplemental treatment. Refer to the attached drawings U-1, I-31, and I-46. These vessels will only be used during supplemental treatment and lake discharge events, and will be bypassed during normal operations. During supplemental treatment and lake discharge events, the plant effluent flow will be directed through the eight vessels, configured in parallel. A new pH instrument (AE/AIT/AI-3107) will be provided on the header pipe downstream of the eight LGAC vessels. This device will be used for out-of-spec alarming. A new effluent composite sampler will be provided. This sampler will be used to demonstrate compliance with the Outfall 15B permit. Weekly compliance samples will be collected during the first supplemental treatment and lake discharge event of the week. The week shall begin on Sunday and end on Saturday. Flow measurement and totalization will continue to be performed by flow meter FE/FQIT-3106 (located within the SCA WTP building).

3. CONSTRUCTION

3.1. SCA AREA CONSTRUCTION

The construction effort at the SCA WTP will consist of three main tasks:

- Rental GAC Installations
- Mechanical Installations
- Electrical and Controls Installations

3.1.1. Rental GAC Installations

Rental GAC installations will begin with surface preparations of the area. The planned location is a compacted stone area currently utilized for storage. The area will be inspected, re-graded and compacted as required to minimize collection of storm water around the equipment. Temporary crane mats will be placed on the stone area to provide a stable, level surface to place the equipment. The rental GAC units will be received and rigged into the final location and will be connected with temporary piping / hose or other fittings and valves. The piping will include influent and effluent, as well as backwash supply and return lines.

3.1.2. Mechanical Installations

There will be four major mechanical tie-in points for this project (two at the SCA WTP and two at the lake shore). Tie-in #1 will be the connection to the current effluent line at the 90 degree elbow just prior to the line going below ground and exiting the building. The elbow will be replaced with a tee. A valve (HV-3180) below the tee will be closed and valve HV-3181 opened when directing effluent water to the new GACs. Temporary pipe / hose will be placed directly on grade.

Tie-in #2 will include a new valve (HV-3182) and tee, to be installed outdoors at the existing underground 24" HDPE effluent line. The discharge from the rental GACs will be connected to the new tee and valve HV-3182.

The backwash supply water for the GACs will be connected to the existing backwash supply header and routed on grade to the GACs. Spent/dirty backwash water from the GACs will be routed to the existing backwash pump station.

3.1.3. Electrical and Controls Installations

Electrical power and control requirements for the upgrade are minimal. Power is required for a new composite sampler and instrumentation being located with the new GACs. Power will originate from an existing panel inside of the WTP building. Conduits and conductors will be routed to the new equipment. The valves on the new GACs are manual valves and will not require any power or controls. No other utility modifications are planned.

3.2. LAKE SHORE AREA CONSTRUCTION

The construction effort at the lake shore will consist of two main tasks:

- Piping and Connections
- Grading and Restoration

3.2.1. Piping and Connections

Single walled HDPE pipe will be delivered to the site in 50 foot lengths, off loaded and fusion butt welded to the required length as shown on drawing G-4. The HDPE pipe will be placed directly on grade between Tie-ins #3 and #4. Tie-in #3 will be performed at an existing blind flange on the 24'' effluent line from the SCA WTP. Refer to drawing G-14. Tie-in #4 will occur at a 36'' connection point on the 60" storm water pipe to Outfall 15. Isolation valves will be installed on the new 24" HDPE pipe to enable isolation of the connection points. The HDPE pipe will cross one road near the lakeshore. The HDPE pipe will have an appropriate road crossing to

ensure continued safe use of the road by site vehicles. Anchors and guides will be installed as required to secure the pipe.

3.2.2. Grading and Restoration

Prior to the installation of the piping, the routing will be inspected and any rough or uneven areas will be regraded. Bedding material will be supplied as required to provide proper support for the pipe. At the planned crossing, the road will be stabilized and the crossing protected as required to allow continued traffic. Signage and high visibility markings will be utilized to identify the crossing and pipe. At the completion of construction activities, debris will be removed and equipment will be demobilized.

4. COMMISSIONING

At the completion of construction activities, the modified system will be commissioned. The installation commissioning (IC) phase will include an exterior visual examination of the new work. During this test, the new GAC vessels and the new 24" pipeline will remain empty and isolated with no flow occurring. Newly constructed and/or modified systems will be walked and compared to the design drawings. Each affected vessel, equipment, and ancillary item will be examined. The complete installation of each component (e.g., valve, instrument, etc.) depicted on the P&IDs will be confirmed and documented. Any identified deviations must be corrected or confirmed to be acceptable prior to proceeding to the next phase of commissioning.

The operational commissioning (OC) phase is a dynamic system check. Each pipeline and affected vessel will be leak tested (pressurized or static level checks with water). The leak test of the new header (i.e., between tie-ins #3 and #4) will consist of a two hour test to 70 psig consistent with previous testing for the WTP 24" effluent line. The individual operation of each equipment item (e.g., GAC vessels) and instrument (e.g., pH and ammonia devices, etc.) will be confirmed and documented. Instrument alarm conditions will be tested (via simulation or actual conditions).

Performance commissioning (PC) focuses on the simultaneous operation of all components for an extended duration to achieve a treatment objective. PC activities will include operation of the WTP with the new GAC vessels (while discharging to Metro). Sample collection and analyses will be performed to demonstrate compliance with the Outfall 15B limits.

5. SUPPLEMENTAL TREATMENT AND LAKE DISCHARGE SUMMARY OF OPERATIONS

The new LGACs will be manually operated (manual valves, local gauges, etc.). The operators will periodically observe the inlet and outlet pressure gauge readings at each vessel. After an elevated differential pressure is calculated, the affected vessel will be backwashed. Backwashing will be manual and will be performed using temporary hoses. These LGACs will be normally off-line/idled. As such, they may need to be periodically flushed to avoid biological growth or other issues. The vessels will be located outdoors and will be removed from the site in the winter or disconnected and placed indoors.

At the onset of a wet weather event, communications will be initiated by Metro personnel. Advance notice of approximately one hour is typically given to the SCA WTP personnel prior to the required Metro shutdown.

The SCA WTP operator(s) will position valves as required to direct flow through the eight new GAC polishing vessels. The refrigerated composite samplers will be configured to initiate sampling of the polished treated water and halt sampling at the normal discharge point to Metro. The SCA WTP operator(s) will leave the SCA site and arrive at the location of a pair of manual valves near tie-in #3 (refer to drawing G-4). A new valve (HV-G-1402 on drawing G-14) directing flow above grade to the lake discharge tie-in will be opened. An existing buried valve (HV-G-1401 on drawing G-14) that normally allows flow to Metro will be subsequently closed. These valves will be lockable, to prevent accidental discharge to the lake.

More rigorous process sampling and monitoring of the polished treated water will be undertaken during supplemental treatment and lake discharge. This will include usage of the on-site VOC analyzer.

When the wet weather event has passed and normal discharge can be resumed, a communication will be received from the Metro facility. The SCA WTP operator(s) will leave the site and reopen manual valve HV-G-1401 to Metro and subsequently close new isolation valve HV-G-1402 to the lake discharge tie-in. The effluent composite samplers will be returned to normal operations. Valves will also be repositioned to bypass the eight polishing GAC vessels.

Detailed standard operating procedures (SOPs) will be developed. These SOPs will prescribe actions for switching to supplemental treatment and lake discharge and the subsequent return to Metro discharge. Additional requirements for observations, samples collection, analyses (on-site and/or laboratory), and record keeping will be included. A modification to the existing Wet Weather Operation Plan (WWOP) will be completed as necessary.

In addition to an overall operational review, a procedural summary is provided below to address:

- Ammonia management
- Contingency plan
- Mercury exceedances
- Non-mercury exceedances

5.1. AMMONIA MANAGEMENT

A daily maximum effluent ammonia (total, as NH_3) concentration of 27 mg/L will be allowed for discharge from the SCA WTP to Outfall 15B. In addition, the aggregate ammonia discharges from the SCA WTP (Outfall 15B) and the Willis/Semet Groundwater Treatment Plant (GWTP Outfall 15A) must not exceed 4,890 lb/month, to be tracked within each calendar month. Refer to footnote #8 of the permit provided as Attachment 1.

Both facilities are in possession of wastewater monitoring equipment (Hach spectrophotometers and other device(s)). These devices allow for on-site analyses for numerous constituents, including ammonia. Prior to supplemental treatment and lake discharge, the SCA WTP operators will perform an initial screening to verify that the ammonia concentration is less than 27 mg/L. Thereafter, the operators will periodically collect samples for on-site ammonia analyses. Confirmatory samples will be sent to an off-site laboratory. Each site will record the total volumetric flow to the respective outfalls. Each site will calculate and record the mass of ammonia discharged. A single record of the cumulative monthly ammonia discharge from the two sites will be maintained.

5.2. CONTINGENCY PLAN

The following scenarios would result in the activation of a remedial program contingency plan (RPCP):

- Two consecutive exceedances of the daily maximum discharge limit for mercury;
- Six or more exceedances of a specific pollutant discharge limit; or,
- Four consecutive exceedances of a specific discharge limit (other than mercury).

If Honeywell is in compliance with the RPCP, an exceedance of a discharge limit shall not constitute a violation of the Consent Decree, provided however, that there is an exceedance of a discharge limit after Honeywell has implemented all applicable aspects of the RPCP (i.e., all elements of the RPCP that are designed to achieve compliance with the discharge limits), the exceedance would constitute a violation.

It should be noted that routine corrective actions as described in the Operations and Maintenance (O&M) Manual will be initiated upon exceedance of a discharge limit regardless of the need to activate this RPCP. In

addition, system evaluations, WTP team assessments, and preventative maintenance will also be performed on the WTP with the goal of preventing an exceedance of the discharge limits.

Contingency planning scenarios to meet the above requirements include:

- Typical response actions associated with a mercury related discharge variance.
- Typical response actions associated with a discharge variance for a parameter other than mercury.

5.3. MERCURY EXCEEDANCES

Condition: Two consecutive exceedances of the daily maximum discharge limit for mercury.

Potential Contingency Actions:

- Begin upstream constituent track down (i.e., identify source of potentially elevated influent mercury concentration)
- Increase process control (inter process) sampling frequency.
- Operational adjustments to key unit operations.
- Process modifications to incorporate alternative treatment technologies, if appropriate.

Concentrations of mercury in the SCA WTP effluent will be monitored for compliance with the limit specified in the draft Outfall 15B discharge permit. Possible reasons for a potential discharge of mercury above the limits are identified below, along with typical corresponding response action(s).

Possible Reason: WTP influent mercury concentration exceeds design basis.

Response Actions: Evaluate the performance of upstream unit operations (e.g., the thickener) and identify possible anomalous conditions.

Possible Reason: Chemistry at clarification system is out-of-spec.

Response Actions: Collect water sample(s) from the WTP Flocculation Tank(s). Check the pH of the sample(s) to confirm that the permanent pH instruments do not require recalibration. Measure the pH of the effluent from the clarifier(s). Check the sulfuric acid and sodium hydroxide feed pumps and delivery lines to ensure ability to deliver chemicals. Observe the sample(s) for the presence of flocculent particles. If no flocculent particles are apparent, check the alum and polymer feed systems and delivery lines to ensure ability to deliver the chemicals.

Possible Reason: Inclined plate clarifier(s) effluent water is turbid, with suspended solids remaining.

Response Actions: Collect clarifier influent and effluent samples. Check the sludge level in the affected clarifier(s). Check sludge pump(s) and associated piping for blockage. Increase the frequency and/or duration of sludge pump(s) operation, as required to remove solids from the clarifier(s). Confirm that the clarifier(s) are not being operated in excess of the design overflow rates. Clean the clarifier plates, as necessary.

Possible Reason: Multimedia filter(s) effluent water is turbid, with suspended solids remaining.

Response Actions: Collect multimedia filter(s) influent and effluent samples. Perform backwashing of filter(s). Remove filter(s) from service, drain, and open the vessel(s), in accordance with established protocols. Observe the top of the filtration surface to confirm that the media has not been lost (i.e., during backwashing) and is uniformly distributed.

Possible Reason: Each component of the system is operating in accordance with the design, but mercury is not being removed to below the discharge limits.

Response Actions: Collect appropriate inter process samples to determine removal efficiencies across individual unit operations. Consider reducing treatment flow rate during times of elevated mercury loadings to increase residence time within the unit operations. Consider revisiting jar testing to optimize mercury removal in the

metals precipitation process. Make modifications to chemical (alum, polymer, and/or pH control) dosages, as appropriate. Consider whether the addition of supplemental filtration (e.g., bag or cartridge filters) downstream would improve performance.

5.4. NON-MERCURY EXCEEDANCES

Condition:

- Six or more exceedances of a specific pollutant discharge limit.
- Four consecutive exceedances of a specific discharge limit (other than mercury).

Potential Contingency Actions:

- Begin upstream constituent track down (i.e., identify source of the potentially elevated influent concentration(s))
- Increase process control (inter process) sampling frequency.
- Operational adjustments to key unit operations.
- Process modifications to incorporate alternative treatment technologies, if appropriate.

Concentrations of constituents in the SCA WTP effluent will be monitored for compliance with the limits specified in the draft Outfall 15B discharge permit. Possible reasons for a discharge of a constituent above the limits are identified below, along with typical corresponding response action(s).

Possible Reason: Unusually high WTP influent and/or effluent ammonia concentration.

Response Actions: Supplemental treatment and lake discharge will be halted in the event that the ammonia concentration exceeds 27 mg/L. The ammonia detection instrumentation will be recalibrated and the analyses will be repeated. If the elevated detection is determined to be attributable to an instrument failure, supplemental treatment and lake discharge flows may be restarted.

Possible Reason: WTP influent constituent concentration(s) (other than mercury or ammonia) exceeds design basis.

Response Actions: Evaluate the performance of upstream unit operations (e.g., the thickener) and identify possible anomalous conditions.

Possible Reason: Chemistry at clarification system is out-of-spec, potentially leading to metals (other than mercury) or TSS exceedance.

Response Actions: Same procedures as described above for mercury exceedance.

Possible Reason: Inclined plate clarifier(s) and/or Multimedia Filters effluent water is turbid, with suspended solids remaining, potentially leading to metals (other than mercury) or TSS exceedance.

Response Actions: Same procedures as described above for mercury exceedance.

Possible Reason: Breakthrough of organic compounds to the GAC effluent.

Response Actions: Consider backwashing vessel(s), if short-circuiting or channeling is thought to be occurring. Collect a GAC influent sample and grab samples at the outlets from each lead and lag GAC vessel. Identify which vessel(s) are experiencing break through. Consider removing these vessel(s) from service and performing carbon change-out(s).

Attachment 1

Honeywell Outfall 15B – Effluent Limits, Levels, and Monitoring

EFFLUENT LIMITS, LEVELS AND MONITORING: CONVENTIONALS AND METALS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
15B	Wastewater from Dredged Sediment Dewatering Operations	Onondaga Lake	EDPE	December 31, 2015

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max						
Flow	Monitor	6.5			MGD	Continuous	Meter	
Solids, Total Suspended	Monitor	50			mg/L	Weekly	Grab	
Solids, Total Dissolved	Monitor	Monitor			mg/L	Weekly	Grab	
Chloride	Monitor	Monitor			mg/L	Weekly	Grab	
Nitrate, as N	Monitor	Monitor			mg/L	Weekly	Grab	
Ammonia, Total; as NH_3	Monitor	27			mg/L	Weekly	Grab	8
Ammonia, Total; as NH_3	Monitor	4890			lb/month	Monthly	Calculated	8
Phosphorus, Total; as P	Monitor	0.2			mg/L	Weekly	Grab	
COD	Monitor	Monitor			mg/L	Weekly	Grab	
Chlorine, Total Residual	Monitor	2.0			mg/L	Weekly	Grab	
Aluminum, Total	Monitor	4.0			mg/L	Weekly	Grab	
Arsenic, Total	Monitor	0.1			mg/L	Weekly	Grab	
Cadmium, Total	Monitor	0.1			mg/L	Weekly	Grab	
Chromium, Total	Monitor	0.5			mg/L	Weekly	Grab	
Copper, Total	Monitor	0.4			mg/L	Weekly	Grab	
Iron, Total	Monitor	4.0			mg/L	Weekly	Grab	
Lead, Total	Monitor	0.4			mg/L	Weekly	Grab	
Mercury, Total	Monitor	50			ng/L	Weekly	Grab	4
Nickel, Total	Monitor	2.0			mg/L	Weekly	Grab	
Thallium, Total	Monitor	0.1			mg/L	Weekly	Grab	
Vanadium, Total	Monitor	0.1			mg/L	Weekly	Grab	
Zinc, Total	Monitor	0.4			mg/L	Weekly	Grab	
Cyanide, Free	Monitor	0.1			mg/L	Weekly	Grab	

FOOTNOTES: See pages 3 and 4 of this Permit.

EFFLUENT LIMITS, LEVELS AND MONITORING: VOLATILES AND SEMIVOLATILES

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
15B	Wastewater from Dredged Sediment Dewatering Operations	Onondaga Lake	EDPE	December 31, 2015

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max						
Benzene	Monitor	5.0			µg/L	Weekly	Grab	
Chlorobenzene	Monitor	10			µg/L	Weekly	Grab	
Dichlorobenzene; 1,2-	Monitor	10			µg/L	Weekly	Grab	
Dichlorobenzene; 1,3-	Monitor	10			µg/L	Weekly	Grab	
Dichlorobenzene; 1,4-	Monitor	10			µg/L	Weekly	Grab	
Trichlorobenzene; 1,2,3-	Monitor	10			µg/L	Weekly	Grab	
Trichlorobenzene; 1,2,4-	Monitor	10			µg/L	Weekly	Grab	
Trimethylbenzene; 1,3,5-	Monitor	10			µg/L	Weekly	Grab	
Toluene	Monitor	5.0			µg/L	Weekly	Grab	
Xylenes, Total	Monitor	15			µg/L	Weekly	Grab	
Naphthalene	Monitor	10			µg/L	Weekly	Grab	
Phenol	Monitor	25			µg/L	Weekly	Grab	
Phenols, Total Unchlorinated	Monitor	Monitor			µg/L	Weekly	Grab	
Phenols, Total Chlorinated	Monitor	Monitor			µg/L	Weekly	Grab	
PCB, Aroclor 1016	Monitor	0.2			µg/L	Weekly	Grab	9
PCB, Aroclor 1221	Monitor	0.2			µg/L	Weekly	Grab	9
PCB, Aroclor 1232	Monitor	0.2			µg/L	Weekly	Grab	9
PCB, Aroclor 1242	Monitor	0.2			µg/L	Weekly	Grab	9
PCB, Aroclor 1248	Monitor	0.2			µg/L	Weekly	Grab	9
PCB, Aroclor 1254	Monitor	0.2			µg/L	Weekly	Grab	9
PCB, Aroclor 1260	Monitor	0.2			µg/L	Weekly	Grab	9

FOOTNOTES: See page 3 and 4 of this Permit.

Special Conditions and Footnotes

1. Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective or design treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to:

   Project Manager, Division of Environmental Remediation
   NYSDEC
   625 Broadway
   Albany, NY 12233-7010

   With copies sent to:

   Region 7 Regional Water Engineer
   NYSDEC
   615 Erie Boulevard West
   Syracuse, NY 13204

2. Only site-generated wastewater is authorized for treatment and discharge.

3. Authorization to discharge is valid only for the period noted, but may be renewed if appropriate. A request for renewal must be received six (6) months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.

4a. Mercury Limit: The water quality-based effluent limit for Total Mercury is 0.7 ng/L. However, the enforceable compliance limit for Total Mercury at Outfall 15B is 50 ng/L (ppt), which conforms to the Multiple Discharge Variance for Total Mercury found in NYSDEC policy DOW 1.3.10.

4b. Analytical Method: The permittee shall use USEPA Method 1631E to analyze Total Mercury and report the results for compliance purposes.

4c. Additional Monitoring and Pollutant Minimization: Periodic monitoring must be designed to quantify and, over time, track the reduction of discharges of Mercury. Minimum required monitoring is as follows: monthly monitoring of wastewater treatment system influent and sludge. This monitoring shall be performed using USEPA Method 1631E and shall be coordinated with routine compliance monitoring, if applicable, so that the results can be compared. For sludge sampling, USEPA Method SW-846 7471A or other sampling method as approved by DER may used in lieu of USEPA Method 1631E. Additional Mercury monitoring must be completed as may be required elsewhere in this document.

4d. Treatment System Operation: The periodic monitoring required in Item 4c. and elsewhere in this permit equivalent shall also be used, and supplemented if appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure the greatest removal of Mercury while maintaining compliance with other permit equivalent requirements.

5. Both concentration (mg/L or µg/L) and mass loadings (lbs/day) must be reported to the Department for all parameters except flow and pH.

6. Any use of corrosion/scale inhibitors or biocidal-type compounds in the treatment process must be approved by the Department prior to use.

7. This discharge and the administration of this discharge must comply with the substantive requirements of 6NYCRR Part 750.

8. The total maximum allowable loading of Total Ammonia as NH_3 from Honeywell Outfalls 15A and 15B (i.e., Willis Avenue GWTP and SCA Treatment System) is 4,890 lb/month. The loading is derived from the January 2013 Amendment to the Total Maximum Daily Load for Ammonia in Onondaga Lake. For each Total Ammonia sample taken, Honeywell shall calculate the individual loading for that sample. The individual Total Ammonia as NH_3 loadings from Honeywell Outfalls 15A and 15B shall be summed to determine the Total Ammonia as NH_3 loading to Onondaga Lake. This calculated value is to be reported on the monthly Discharge Monitoring Reports for Honeywell Outfalls 15A and 15B.

Special Conditions and Footnotes (continued)

9a. Polychlorinated Biphenyl (PCB) Limits: The water quality-based effluent limit for Total PCBs is 0.001 ng/L. However, the enforceable compliance limit for each PCB Aroclor at Outfall 15B is 200 ng/L (ppt). The effluent limitation is the analytical Minimum Level for USEPA Method 608.

9b. Analytical Method: The permittee shall use USEPA Method 608 to analyze Total PCBs and report the results for compliance purposes.

9c. Additional Monitoring and Pollutant Minimization: Periodic monitoring must be designed to quantify and, over time, track the reduction of discharges of Total PCBs. Minimum required monitoring is as follows: quarterly monitoring of wastewater treatment system influent and sludge. This monitoring shall be performed using USEPA Method 608 and shall be coordinated with routine compliance monitoring, if applicable, so that the results can be compared. For sludge sampling, another sampling method as approved by DER may used in lieu of USEPA Method 608. Additional PCB monitoring must be completed as may be required elsewhere in this document.

9d. Treatment System Operation: The periodic monitoring required in Item 4c. and elsewhere in this permit equivalent shall also be used, and supplemented if appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure the greatest removal of Total PCBs while maintaining compliance with other permit equivalent requirements.

Attachment 2

Supplemental Treatment and Lake Discharge Concept Sketches U-1, I-31, I-46, G-4, and G-14

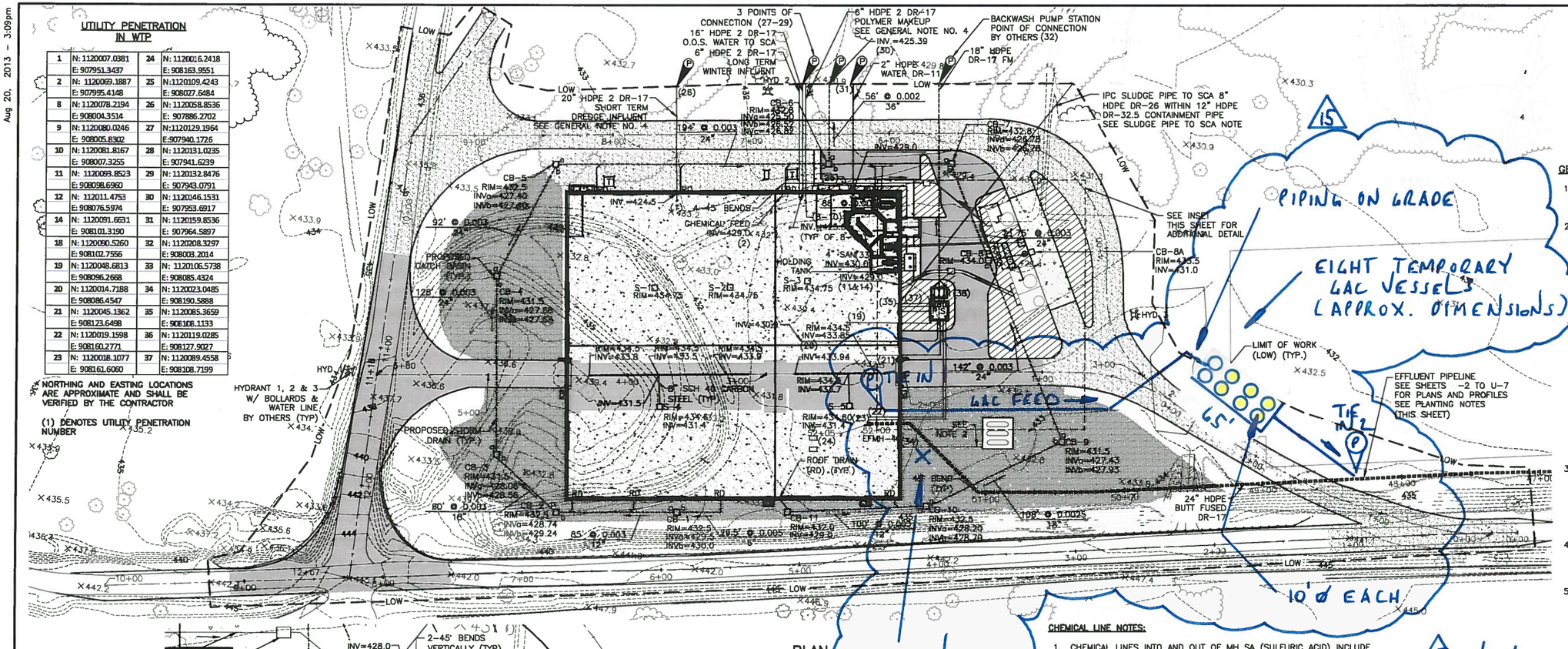
Aug 20, 2013 - 3:09pm

UTILITY PENETRATION IN WTP

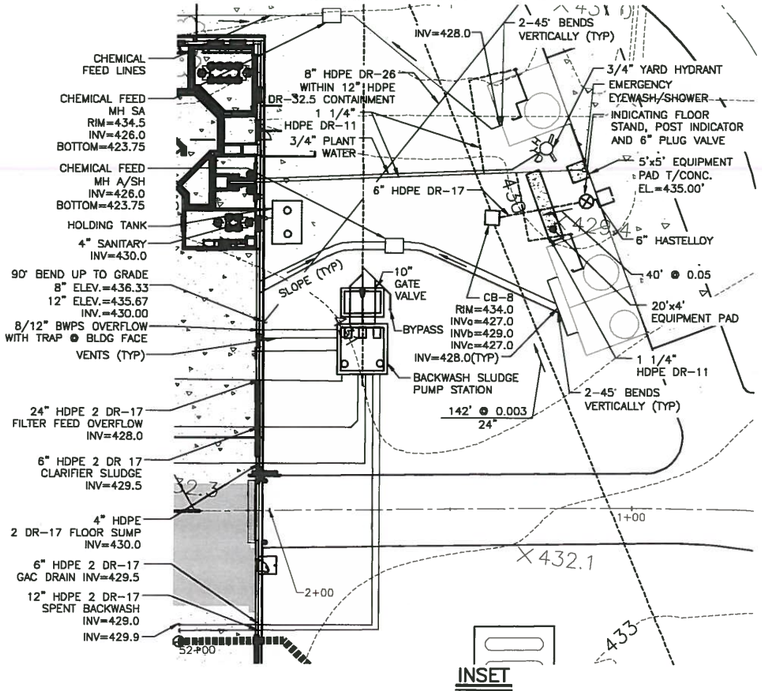
1	N: 1120007.0381 E: 907951.3437	24	N: 1120016.2418 E: 908163.9551
2	N: 1120069.1887 E: 907995.4148	25	N:1120109.4243 E: 908027.6484
8	N: 1120078.2194 E: 908004.3514	26	N: 1120058.8536 E: 907886.2702
9	N: 1120080.0246 E: 908005.8302	27	N:1120129.1964 E:907940.1726
10	N: 1120081.8167 E: 908007.3255	28	N: 1120131.0235 E: 907941.6239
11	N: 1120093.8523 E: 908098.6960	29	N: 1120132.8476 E: 907943.0791
12	N: 112011.4753 E: 908076.5974	30	N: 1120046.1531 E: 907953.6917
14	N: 1120091.6631 E: 908101.3190	31	N: 1120159.8536 E: 907964.5897
18	N: 1120090.5260 E: 908102.7556	32	N: 1120208.3297 E: 908003.2014
19	N: 1120048.6813 E: 908096.2668	33	N: 1120106.5738 E: 908085.4324
20	N: 1120014.7188 E: 908086.4547	34	N: 1120023.0485 E: 908190.5888
21	N: 1120045.1362 E: 908123.6498	35	N: 1120085.3659 E: 908108.1133
22	N: 1120019.1598 E: 908160.2771	36	N: 1120119.0285 E: 908127.9027
23	N: 1120018.1077 E: 908161.6060	37	N: 1120089.4558 E: 908108.7199

NORTHING AND EASTING LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR

(1) DENOTES UTILITY PENETRATION NUMBER



PLAN
SCALE: 1"=40'



INSET
SCALE: 1"=20'

PLANTING NOTES

SPECIAL PLANTINGS ALONG EFFLUENT PIPELINE ROUTE:

1. IN AREAS WHERE SALT MARSH GRASS, LEPTOCHLOA FUSCA SUBSP. FASCICULARIS, OR ANNUAL SALT MARSH ASTER, SYMPHYOTRICHUM SUBULATUM, IS PRESENT AND EXCAVATION OR DISTURBANCE IS TO OCCUR, TOPSOIL TO APPROXIMATELY 4" DEPTH SHALL BE EXCAVATED, STOCKPILED AND SUBSEQUENTLY REPLACED.
2. FOLLOWING SOIL REPLACEMENT, THESE AREAS SHALL BE SEEDED WITH 0.5 POUNDS PER ACRE OF SEEDS FROM THE IMPACTED SPECIES ALONG WITH THE ACCOMPANYING SPECIES IN TABLE 1 AND APPROXIMATELY ONE TON PER ACRE OF STRAW MULCH.
3. SEEDS OF IMPACTED SPECIES SHALL BE COLLECTED AS NEEDED FROM OTHER POPULATIONS ON HONEYWELL PROPERTY. AN O'BRIEN & GERE REPRESENTATIVE SHALL ASSIST IN SEED COLLECTION EFFORTS, SHOULD THEY BE NECESSARY.
4. SEEDS SHALL BE COLLECTED WHEN RIPE, I.E., WHEN THE SEED FALLS READILY FROM THE STEM. SEED MAY COLLECTED, AIR-DRIED AT ROOM TEMPERATURE FOR TWO WEEKS AND STORED AT FORTY DEGREES FAHRENHEIT FOR UP TO EIGHT MONTHS PRIOR TO BROADCASTING.
5. SEED SHALL BE APPLIED ANY TIME EXCEPT DURING THE MONTHS OF SEPTEMBER AND OCTOBER

FOR WETLAND AREAS WITHOUT RTE SPECIES:

1. AREAS SHALL BE SEEDED WITH "FLOODPLAIN WILDLIFE MIX: ERNMX-154" FROM ERNST CONSERVATION SEEDS, OR EQUIVALENT AT A RATE OF 35 LBS. PER ACRE. AREAS SHALL THEN BE MULCHED WITH HAY AT A RATE OF 1 TON PER ACRE

TABLE 1: SEED MIX TO BE BROADCAST ALONG WITH SEEDS OF IMPACTED SPECIES.

COMMON NAME (LATIN NAME)	POUNDS PER ACRE
ALKALIGRASS (PUCCINELLIA DISTANS)	10
CREEPING BENTGRASS (ARGOSTIS STOLONIFERA)	10
ANNUAL RYE (LOLIUM MULTIFORUM)	10
TOTAL	30

CHEMICAL LINE NOTES:

1. CHEMICAL LINES INTO AND OUT OF MH SA (SULFURIC ACID) INCLUDE 6-1" LINES (5 WORKING & 1 SPARE) CONTAINED IN 8" PVC CONTAINMENT PIPE.
2. CHEMICAL LINES INTO AND OUT OF MH A/SH (ALUM/SODIUM HYDROXIDE) INCLUDE 5-1" LINES (4 WORKING & 1 SPARE) INSIDE 8" HDPE FOR SODIUM HYDROXIDE AND 3-1" LINES (2 WORKING & 1 SPARE) INSIDE 6" HDPE FOR ALUM. SEE DETAIL SHEET MD-4

2" WATER LINE NOTE:

1. HEAT TRACE AND INSULATE THE 2" WATER LINE IN THE VERTICAL LEG DOWN TO 5' BELOW GRADE.

SLUDGE PIPE TO SCA NOTE:

1. TERMINATE 12" CONTAINMENT PIPE 6" BELOW 8" PIPE. INSTALL FLANGED ENDS ON 8" HDPE.

LEGEND

----------	PROPOSED EFFLUENT PIPELINE (EF)
EFMH ○	PROPOSED EFFLUENT LINE MANHOLE
▮	PROPOSED ANCHOR BLOCK
□	PROPOSED CATCH BASIN
18" / 145' @ 0.0035	PROPOSED STORM PIPE, SIZE, LENGTH & SLOPE
P	PROPOSED POINT OF CONNECTION BY OTHERS
	PROPOSED BITUMINOUS CONCRETE PAVEMENT
	~~PROPOSED CONCRETE PAD~~
	PROPOSED HEAVY DUTY GRAVEL PAVEMENT
LOW	LIMIT OF WORK
(9)	NORTHING & EASTING FOR INTERIOR UTILITY PENETRATION WTP

THIS DRAWING WAS PREPARED THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WH DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BARS IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

PRELIMINARY NOT FOR CONSTRUCTION

GENERAL NOTE:

1. ALL PIPELINES SHALL BE INSTALLED A MINIMUM OF 5' BELOW FINISHED GRADE UNLESS OTHERWISE INDICATED.
2. PROPANE VENDOR SHALL PROVIDE TWO 1000 GALLON CONTAINERS WITH ASSOCIATED SUPPORTS, HIGH PRESSURE REGULATORS, AND PIPING FOR A COMPLETE AND OPERATIONAL SYSTEM. INSTALLATION SHALL INCLUDE PROVISIONS FOR A FUTURE 1000 GALLON CONTAINER. VENDOR SHALL ALSO PROVIDE UNDERGROUND PIPING FROM STORAGE TANKS TO EXTERIOR WALL OF THE WATER TREATMENT PLANT BUILDING ALONG WITH SHUT-OFF VALVE AND LOW PRESSURE REGULATOR (REGULATE THE OUTLET PRESSURE TO 11" W.C. TO 14" W.C.). CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCHING AND BACKFILLING OF THE TRENCH FOR THE UNDERGROUND PROPANE PIPING. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR INSTALLATION OF ALL PROPANE PIPING DOWNSTREAM OF THE LOW PRESSURE REGULATOR.

   COORDINATE PROPANE TANK INSTALLATION AND BOTTOM TANK ELEVATION WITH OWNER. STORM WATER IN THE AREA CAN POND TO ELEV. 434.0 STORM DRAIN PIPE SHALL BE HDPE, BUTT FUSED DR-17.
3. TRENCH DRAIN SHALL BE POLYDRAIN BY ABT OR EQUAL WITH EPOXY COATED DUCTILE IRON GRATES RATED FOR H20 LOADING & LOCKING DEVICE. DRAIN SHALL BE INSTALLED IN 4000 PSI CONCRETE TO BOTTOM ASPHALT BINDER COURSE PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL SHEET MD-2
4. 20" SHORT TERM INFLUENT & 6" POLYMER MAKE UP SHALL INCLUDE 2-45° BENDS VERTICALLY. THESE LINES SHALL TERMINATE AT PROPOSED GRADE.
5. ALL PIPE LINES TERMINATING AT THE LIMIT OF WORK (LOW) SHALL BE CAPPED AND A 2"x4" MARKER INSTALLED ON EACH, INDICATING THE LINE SIZE & FUNCTION. NORTHING/EASTING COORDINATES SHALL ALSO BE RECORDED BY THE CONTRACTOR & FORWARDED TO THE ENGINEER.

15 1/24/14 FIELD MOD. # 15

NO.	DATE	REVISION	INIT.
7	08/23/13	FINAL DRAWING WITH STAMP	
6	05/24/13	FINAL DRAWING	
5	02/24/12	FIELD DIRECTIVE NO.6	
4	09/23/11	FIELD DIRECTIVE NO.4	
3	06/17/11	FIELD MODIFICATION NO.3	
2	05/03/11	FIELD MODIFICATION NO.2	
1	04/11/11	ISSUED FOR CONSTRUCTION	
0	10/26/10	DP #3 FINAL DESIGN – NYSDEC SUBMITTAL	

1"=40' 40 0 40 80
1"=20' 20 0 20 40

O'BRIEN & GERE ENGINEERS INC.

HONEYWELL INTERNATIONAL, INC.
DP #3
WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

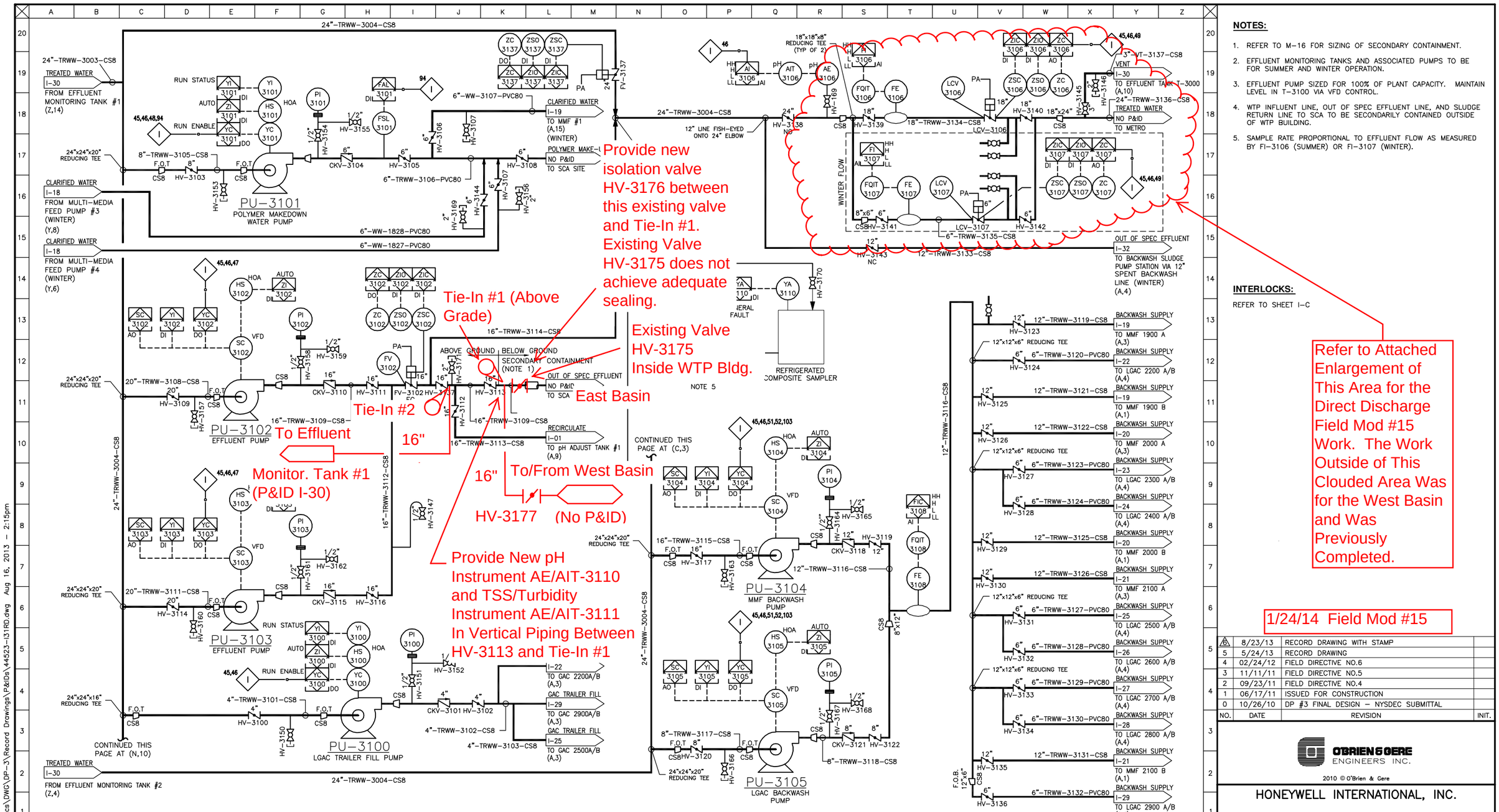
UTILITY PLAN

IN CHARGE OF: ~~M.E. REWKOWSKI~~
DESIGNED BY: ~~MER~~ CHECKED BY: ~~RDD~~
DRAWN BY: ~~SLS/DDK~~

FILE NO. 1163.45613-U1
DATE OCT. 26, 2010

U-1

I:\Honeywell\1163\45613.Sca-Wtp-Details\Docs\DWG\DP-3\Sheets\44523-U1.dwg



NOTES:

1. REFER TO M-16 FOR SIZING OF SECONDARY CONTAINMENT.
2. EFFLUENT MONITORING TANKS AND ASSOCIATED PUMPS TO BE FOR SUMMER AND WINTER OPERATION.
3. EFFLUENT PUMP SIZED FOR 100% OF PLANT CAPACITY. MAINTAIN LEVEL IN T-3100 VIA VFD CONTROL.
4. WTP INFLUENT LINE, OUT OF SPEC EFFLUENT LINE, AND SLUDGE RETURN LINE TO SCA TO BE SECONDARILY CONTAINED OUTSIDE OF WTP BUILDING.
5. SAMPLE RATE PROPORTIONAL TO EFFLUENT FLOW AS MEASURED BY FI-3106 (SUMMER) OR FI-3107 (WINTER).

INTERLOCKS:

REFER TO SHEET I-C

Refer to Attached Enlargement of This Area for the Direct Discharge Field Mod #15 Work. The Work Outside of This Clouded Area Was for the West Basin and Was Previously Completed.

1/24/14 Field Mod #15

NO.	DATE	REVISION	INIT.
6	8/23/13	RECORD DRAWING WITH STAMP	
5	5/24/13	RECORD DRAWING	
4	02/24/12	FIELD DIRECTIVE NO.6	
3	11/11/11	FIELD DIRECTIVE NO.5	
2	09/23/11	FIELD DIRECTIVE NO.4	
1	06/17/11	ISSUED FOR CONSTRUCTION	
0	10/26/10	DP #3 FINAL DESIGN – NYSDEC SUBMITTAL	

O'BRIEN & GERE ENGINEERS INC.

HONEYWELL INTERNATIONAL, INC.

WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

PROCESS AND INSTRUMENTATION
TREATED WATER PUMPS
P&ID

IN CHARGE OF BEW
DESIGNED BY GBE CHECKED BY PDS
DRAWN BY JAS

FILE NO. 1163.45613-I10
DATE JUNE 3, 2011

I-31

PU-3100
LGAC TRAILER FILL PUMP
MANUFACTURER: TBD
TYPE: HORIZ. CENTRIFUGAL
CAPACITY: 200 GPM
HP: 10
MOC: 316SS
MOTOR:

PU-3101
POLYMER MAKEDOWN WATER PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 600 GPM
HP: 10
MOC: 316SS
MOTOR:

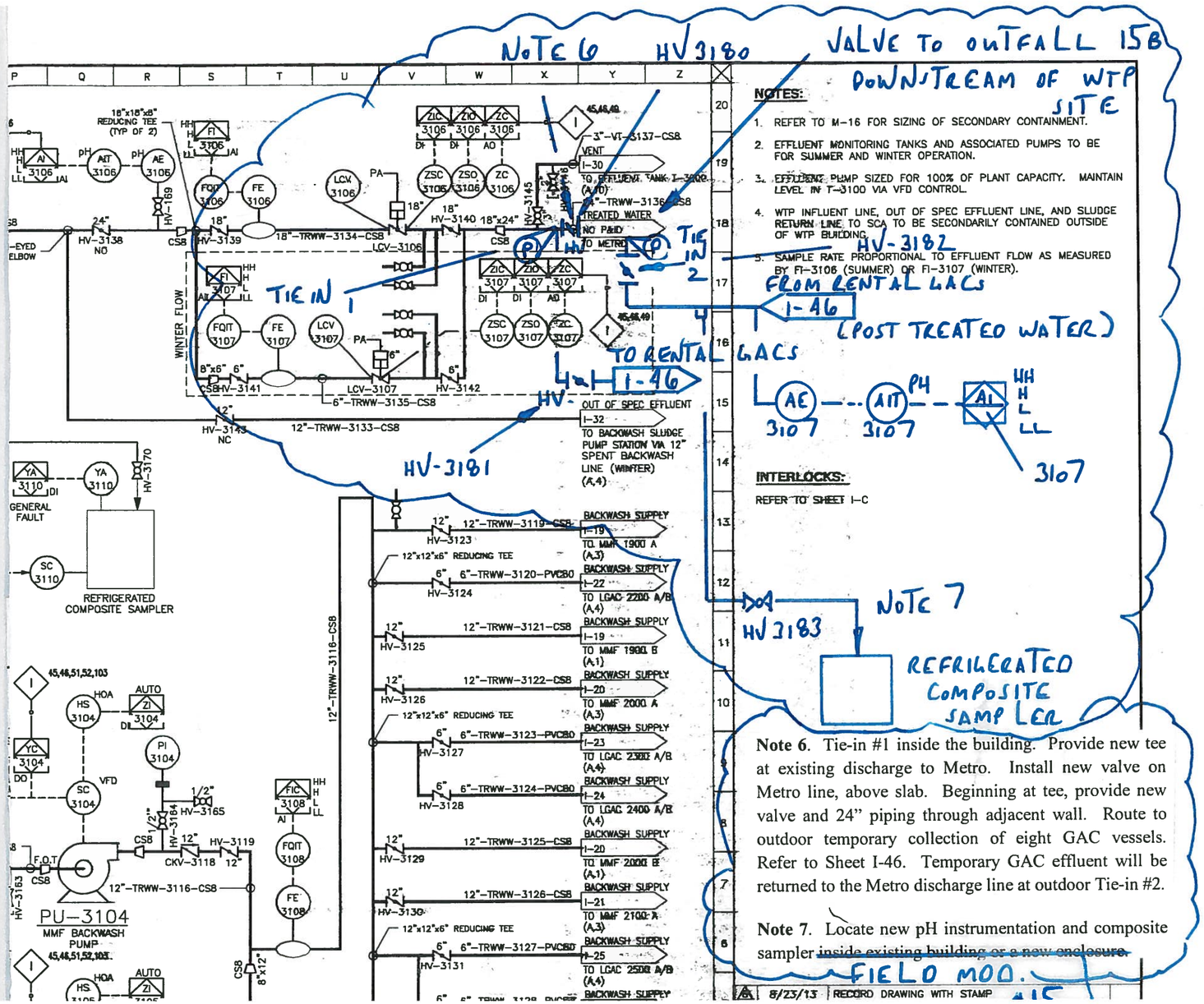
PU-3102
EFFLUENT PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 5700 GPM
HP: 150
MOC: 316SS
MOTOR: VAR. SPEED

PU-3103
EFFLUENT PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 5700 GPM
HP: 150
MOC: 316SS
MOTOR: VAR. SPEED

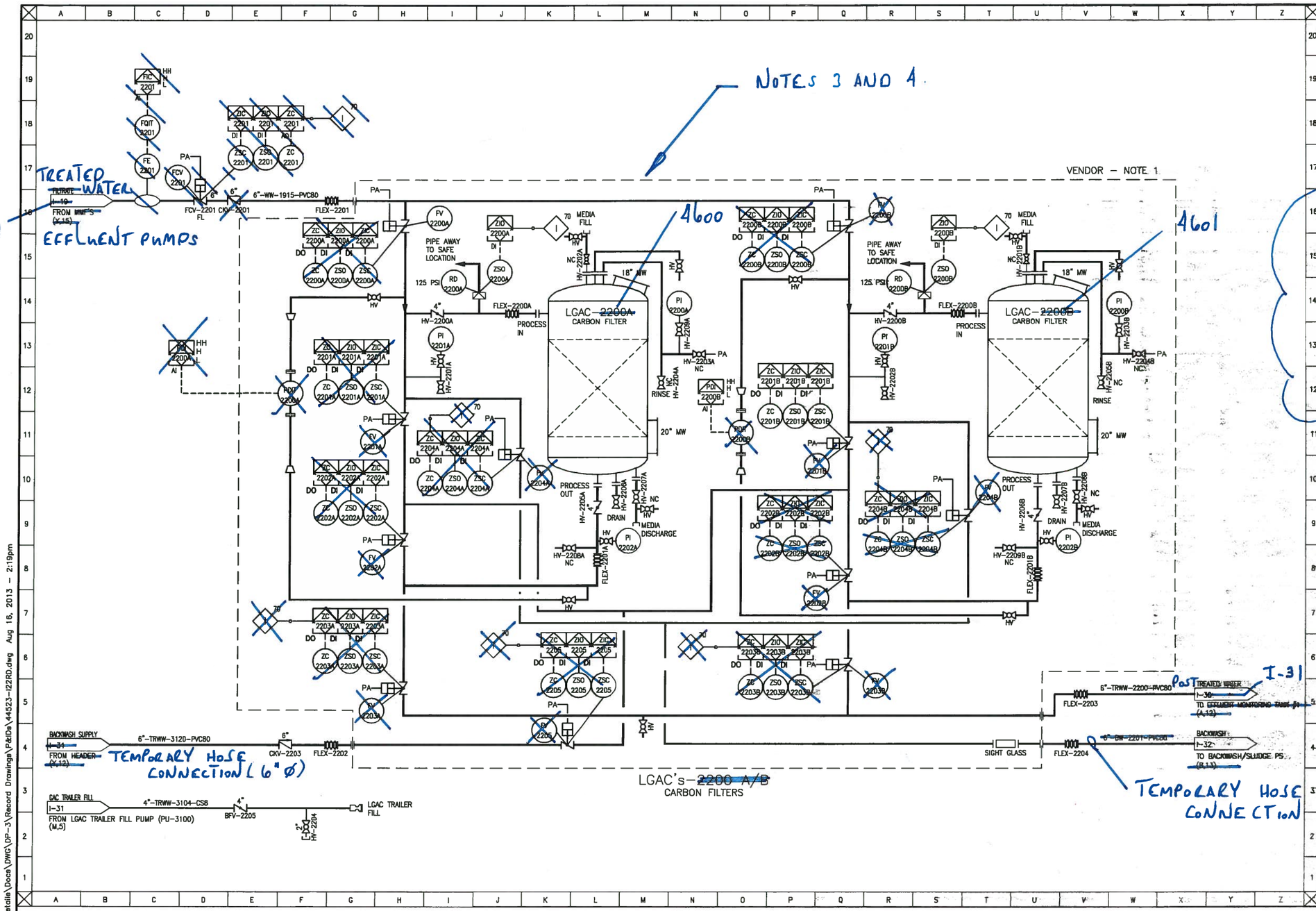
PU-3104
MMF BACKWASH PUMP
MANUFACTURER: GOULDS
TYPE: CENTRIFUGAL PUMP
CAPACITY: 2450 GPM
HP: 40
MOC: 316SS
MOTOR: VAR. SPEED

PU-3105
LGAC BACKWASH PUMP
MANUFACTURER: GOULDS
TYPE: CENTRIFUGAL PUMP
CAPACITY: 707 GPM
HP: 25
MOC: 316SS
MOTOR: VAR. SPEED

Preliminary, Not for Construction



ENLARGEMENT FROM SHEET I-31



NOTES:

1. VENDOR SUPPLIED GAC SYSTEM TO BE INSTALLED PER VENDOR'S APPROVED SHOP DRAWINGS AND INSTRUCTIONS.
2. FLEXIBLE CONNECTORS TO BE PROVIDED AT CONNECTIONS TO EQUIPMENT AND AT MANIFOLD PIPING.

Note 3. This P&ID depicts a pair of highly automated GAC vessels. The actual temporary eight GAC vessels will be manually operated (e.g., manual valves and local pressure gauges only). If backwashing is required, temporary provisions will be made with hoses.

Note 4. This P&ID depicts one pair of lead/lag GAC vessels. The actual temporary configuration will split the flow through eight vessels operated in-parallel. A header will supply the eight vessels. A second header will convey the effluent (i.e., "Post Treated Water") from the eight vessels to Tie-in #2.

PRELIMINARY
NOT FOR CONSTRUCTION

1/24/14 FIELD MOD. # 15

NO.	DATE	REVISION	INIT.
5	8/23/13	RECORD DRAWING WITH STAMP	
4	5/24/13	RECORD DRAWING	
3	02/24/12	FIELD DIRECTIVE NO.6	
2	09/23/11	FIELD DIRECTIVE NO.4	
1	06/17/11	ISSUED FOR CONSTRUCTION	
0	10/26/10	DP #3 FINAL DESIGN – NYSDEC SUBMITTAL	

O'BRIEN & GERE ENGINEERS INC.

HONEYWELL INTERNATIONAL, INC.

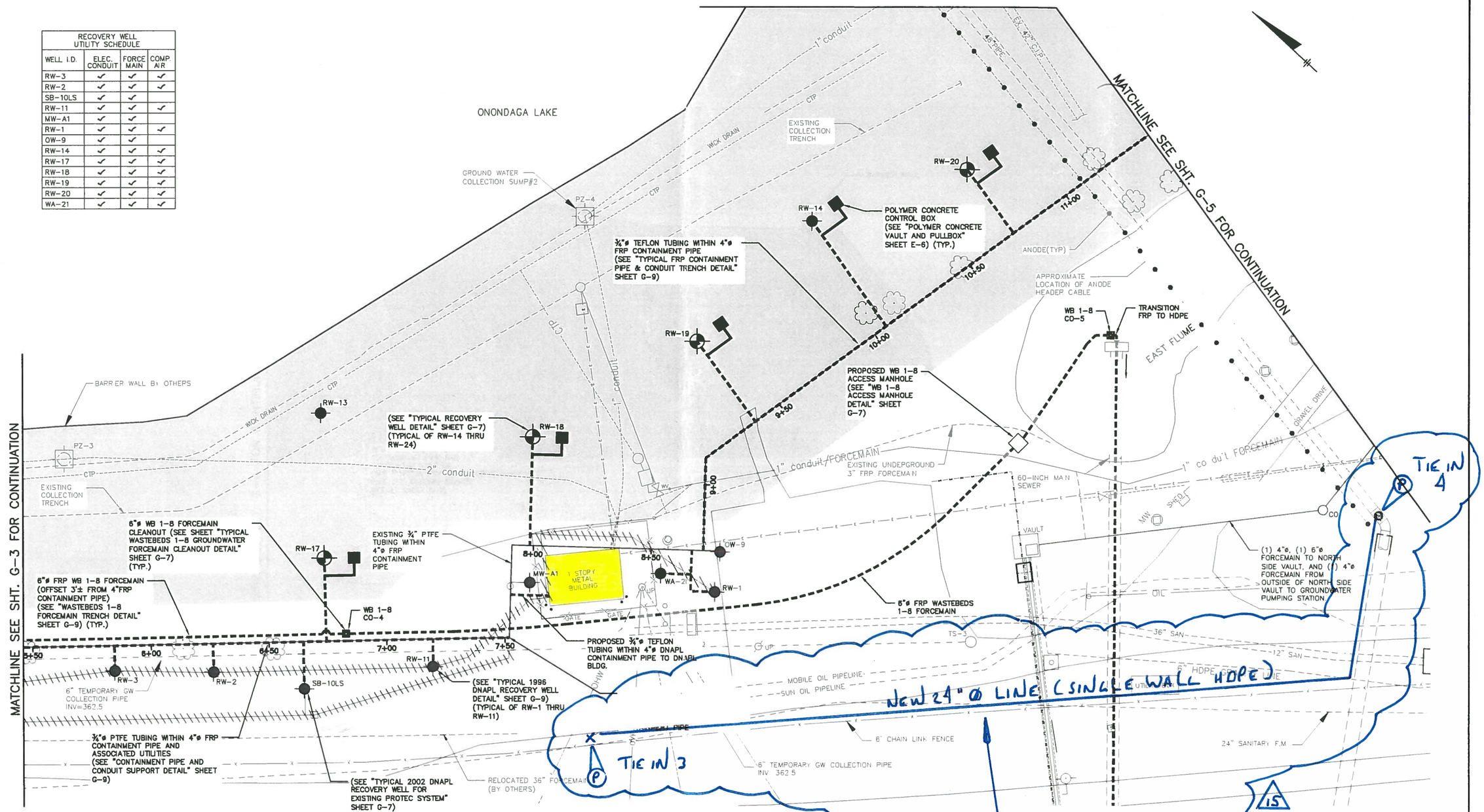
WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

PROCESS AND INSTRUMENTATION
CARBON FILTERS ~~2200 A/B~~
P&I D

IN CHARGE OF BEW		FILE NO. 1163.45613-I22	I-~~22~~ 46
DESIGNED BY SBE	CHECKED BY PDS	DATE JUNE 3, 2011	
DRAWN BY JAS			

Feb 21, 2011 - 12:43pm

RECOVERY WELL UTILITY SCHEDULE			
WELL I.D.	ELEC. CONDUIT	FORCE MAIN	COMP. AIR
RW-3	✓	✓	✓
RW-2	✓	✓	✓
SB-10LS	✓	✓	
RW-11	✓	✓	✓
MW-A1	✓	✓	
RW-1	✓	✓	✓
OW-9	✓	✓	
RW-14	✓	✓	✓
RW-17	✓	✓	✓
RW-18	✓	✓	✓
RW-19	✓	✓	✓
RW-20	✓	✓	✓
WA-21	✓	✓	✓



PLAN
SCALE: 1"=20'

PRELIMINARY NOT FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED W ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BA BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

15 1/24/14 SCA WTP FIELD MOD. #15

IN CHARGE OF _____
DESIGNED BY _____ CHECKED BY _____
DRAWN BY _____

1"=20' 20 0 20 40

NO.	DATE	REVISION	INIT.
0	02/09/2011	ISSUED FOR BID	
C	01/24/2011	ISSUED FOR NYSDEC REVIEW	
B	01/14/2011	ISSUED FOR CLIENT REVIEW	
A	12/02/2010	ISSUED FOR CLIENT REVIEW	

O'BRIEN & GERE

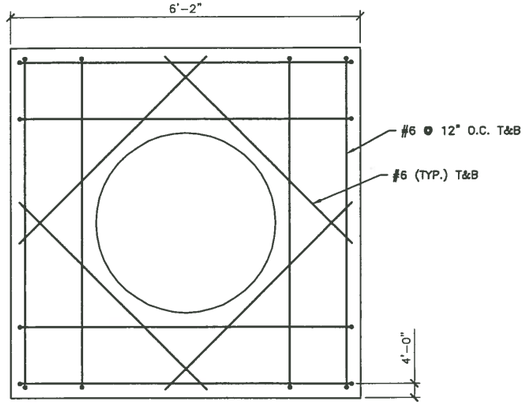
HONEYWELL INTERNATIONAL INC.
DNAPL PHASE 1 RECOVERY SYSTEM MODIFICATIONS
WILLIS/SEMET
LAKESHORE IRM

GENERAL
PARTIAL SITE PLAN

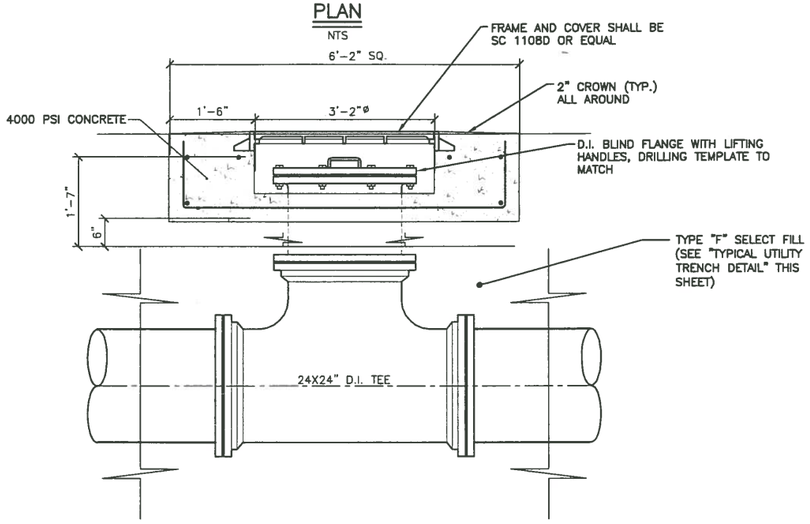
FILE NO. 1163.43783-005
DATE FEBRUARY 2011

G-4

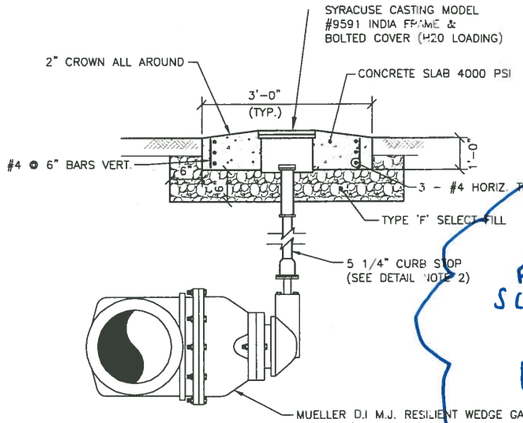
I:\Honeywell.1163\43783.Phase-1-Dnapl-M\Docs\DESIGN DWGS\43783.004-G3-6.dwg



PLAN
NTS



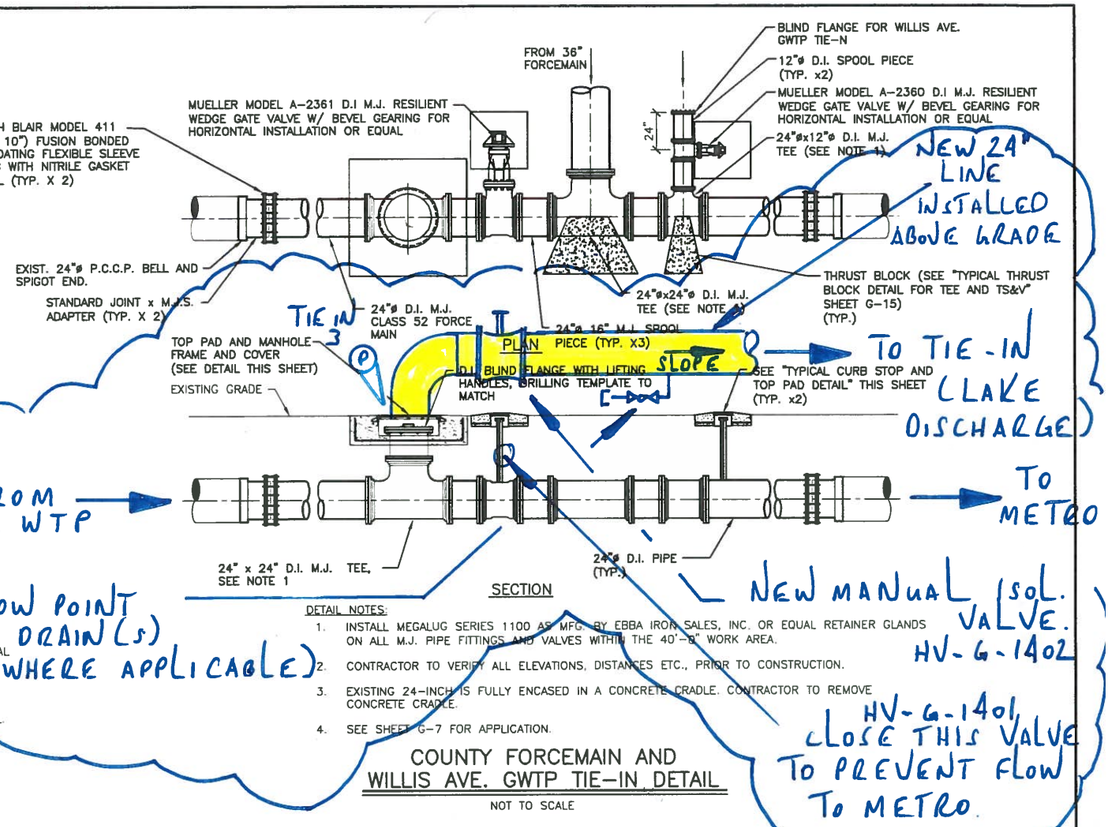
TOP PAD DETAIL
NTS



DETAIL NOTE:

1. PROVIDE PADLOCK, MASTER LOCK CO. MODEL 1KA (KEY 2537). ALL LOCKS TO BE KEYED THE SAME. PROVIDE 2 EXTRA LOCK SETS TOTAL.
2. A CURB STOP EXTENSION SHALL BE USED IF DEPTH OF BEVEL GEAR ON GATE VALVE IS GREATER THAN 8 FEET BELOW GRADE.

TYPICAL CURB STOP AND TOP PAD DETAIL
NOT TO SCALE



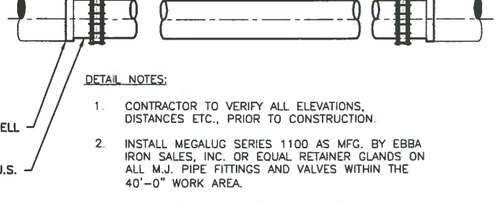
SECTION

DETAIL NOTES:

1. INSTALL MEGALUG SERIES 1100 AS MFG. BY EBBA IRON SALES, INC. OR EQUAL RETAINER GLANDS ON ALL M.J. PIPE FITTINGS AND VALVES WITHIN THE 40'-0" WORK AREA.
2. CONTRACTOR TO VERIFY ALL ELEVATIONS, DISTANCES ETC., PRIOR TO CONSTRUCTION.
3. EXISTING 24-INCH IS FULLY ENCASED IN A CONCRETE CRADLE. CONTRACTOR TO REMOVE CONCRETE CRADLE.
4. SEE SHEET G-7 FOR APPLICATION.

COUNTY FORCEMAIN AND WILLIS AVE. GWTP TIE-IN DETAIL
NOT TO SCALE

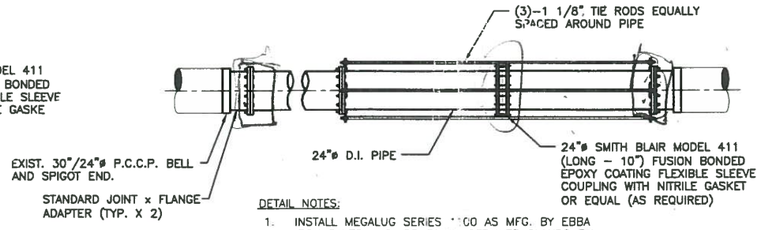
NEW 24" LINE INSTALLED ABOVE GRADE
TIE IN 3
TO TIE-IN (LAKE DISCHARGE)
FROM SCA WTP
TO METRO
LOW POINT DRAIN(S) (WHERE APPLICABLE)
NEW MANUAL (SOL.) VALVE. HV-G-1402
HV-G-1401 CLOSE THIS VALVE TO PREVENT FLOW TO METRO.
15



DETAIL NOTES:

1. CONTRACTOR TO VERIFY ALL ELEVATIONS, DISTANCES ETC., PRIOR TO CONSTRUCTION.
2. INSTALL MEGALUG SERIES 1100 AS MFG. BY EBBA IRON SALES, INC. OR EQUAL RETAINER GLANDS ON ALL M.J. PIPE FITTINGS AND VALVES WITHIN THE 40'-0" WORK AREA.
3. SEE SHEETS G-4, G-5, AND G-6 FOR APPLICATION.

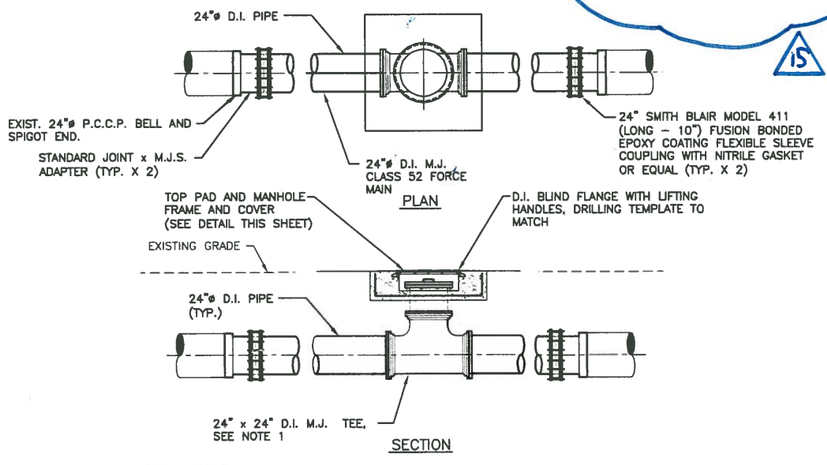
TYPICAL 30"/24" DUCTILE IRON PIPING REHABILITATION DETAIL
NOT TO SCALE



DETAIL NOTES:

1. INSTALL MEGALUG SERIES 1100 AS MFG. BY EBBA IRON SALES, INC. OR EQUAL RETAINER GLANDS ON ALL M.J. PIPE FITTINGS AND VALVES WITHIN THE 40'-0" WORK AREA.
2. CONTRACTOR TO VERIFY ALL ELEVATIONS, DISTANCES ETC., PRIOR TO CONSTRUCTION.
3. PIPE LENGTHS SHALL BE COORDINATED WITH THE STEEL BRIDGE FABRICATION SO THAT THE PIPE IS SUPPORTED ON BOTH SIDES OF THE PIPE JOINT.
4. SEE SHEET G-8 FOR APPLICATION.

24" DUCTILE IRON HARBOR BROOK PIPING REHABILITATION DETAIL
NOT TO SCALE



DETAIL NOTES:

1. INSTALL MEGALUG SERIES 1100 AS MFG. BY EBBA IRON SALES, INC. OR EQUAL RETAINER GLANDS ON ALL M.J. ENDS WITHIN THE 40'-0" WORK AREA.
2. CONTRACTOR TO VERIFY ALL ELEVATIONS, DISTANCES ETC., PRIOR TO CONSTRUCTION.
3. SEE SHEETS G-9 AND G-10 FOR APPLICATION.

TYPICAL DUCTILE IRON MANHOLE REPLACEMENT DETAIL
NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION
DATE: ~~09/02/2011~~ 1/24/2014

15 1/24/14 SCA WTP FIELD MOD. #15

IN CHARGE OF JRH
DESIGNED BY NMK CHECKED BY MJD
DRAWN BY SED

NOT TO SCALE

NO.	DATE	REVISION	INIT.
C	09/02/2011	REISSUED FOR NYSDEC REVIEW	
B	02/01/2011	ISSUED FOR NYSDEC REVIEW	
A	01/10/2011	ISSUED FOR CLIENT REVIEW	

O'BRIEN & GERE

HONEYWELL INTERNATIONAL INC.
ONONDAGA LAKE
30-INCH/24-INCH FORCEMAIN
REHABILITATION PHASE 1
SYRACUSE, NEW YORK

GENERAL
REHABILITATION DETAILS

FILE NO. 1163.46358-014
DATE SEPTEMBER 2011

G-14