Honeywell
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August 17, 2010

To: Gregg Townsend, NYSDEC, Region 7 (1 bound)
Diane Carlton, NYSDEC, Region 7 (1 PDF)
Holly Sammon, Onondaga County Public Library (1 bound)
Samuel Sage, Atlantic States Legal Foundation (1 bound)
Gina Fredericks, Liverpool Public Library (1 bound)
Mary Ann Coogan, Camillus Town Hall (1 bound)
Stephen Weiter, Moon Library (1 bound)
Joseph J. Heath, Esq. (1 bound)
Cara Burton, Solvay Public Library (1 bound)

Re: Letter of Transmittal - Onondaga Lake Document Repository Addition
Consent Order #89-CV-815

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

- Onondaga Lake - Stormwater Pollution Prevention Plan – Water Treatment Plant and Sediment Consolidation Area dated August 2010

The NYSDEC approval letter dated August 2, 2010 for the Stormwater Pollution Prevention Plan is also enclosed.

Sincerely,

John P McAuliffe by CCC

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

Enc.

cc: Tim Larson – NYSDEC
Rick Mustico - NYSDEC

New York State Department of Environmental Conservation
Division of Water, Region 7
615 Erie Boulevard West, Syracuse, New York 13204-2400
Phone: (315) 426-7500 • **Fax:** (315) 426-7459
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

August 2, 2010

John McAuliffe
Honeywell International
301 Plainfield Road, Suite 330
North Syracuse, New York 13212

Re: Water Treatment Plant and Sediment Consolidation Area – Phase 1A, Camillus (T), Onondaga County

Dear Mr. McAuliffe,

The Department has received a Stormwater Pollution Prevention Plan (SWPPP) and revisions dated July 30, 2010, for the above project. Our review of this material has determined that the SWPPP meets the minimum requirements of the *SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001)* with the following contingency:

- This acceptance only authorizes construction of the WTP preload area, process preload area and trailer staging area as depicted in the SWPPP. When written verification from the Metropolitan Syracuse Wastewater Treatment Plant (Metro) is received by this Department, stating that the Plant will accept stormwater discharges for treatment from the Phase 1A SCA and staging area on Wastebed 13, the remainder of Phase 1A construction will be authorized.

Authorization to disturb greater than five (5) acres of soil at any given time is also hereby granted. This acceptance does not relieve you of any other requirements listed in the General Permit (GP-0-10-001), or protect you from enforcement action initiated by this Department if permit violations are observed during inspections of the site by DEC staff.

All contractor companies involved in soil disturbing activity on the site must have a "trained contractor," who has attended a DEC-endorsed 4-hour Erosion and Sediment Control training, on site at each well site on a daily basis. Trained contractors are issued a wallet card with a trainee ID number and should be able to show their wallet card when requested by the DEC.

You must conduct inspections of the erosion and sediment controls and stormwater management structures twice weekly as required by General Permit GP-0-10-001 and you must modify those controls if they prove to be ineffective in preventing the mobilization and transport of soils from your property. The Department may also perform periodic inspections of the site to ensure compliance with this requirement.

If you have any questions or need any assistance, please contact me at (315) 426-7504.

Sincerely,

Ellen Hahn

Ellen Hahn, CPESC, CPSWQ
Stormwater Control Specialist

ecc: Al Labuz, Honeywell
Brian White, O'Brien & Gere Engineers
Paul Blue, Parsons
Tim Larson, NYSDEC
Mary Jane Peachey, NYSDEC
Richard Mustico, NYSDEC

Honeywell
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July 28, 2010

Ms. Ellen Hahn
Stormwater Control Specialist
New York State Department of Environmental Conservation
Region 7
615 Erie Blvd. West, Suite 204
Syracuse, NY 13204-2400

RE: Honeywell SCA Wastewater Treatment Plant
Consent Order #89-CV-815

Dear Ms. Hahn:

Enclosed for your review is a copy of the Stormwater Pollution Prevention Plan (SWPPP) that was prepared on behalf of Honeywell International, Inc., in support of the Remedial Design Work Plan (RDWP) for the Onondaga Lake Bottom Subsite.

This SWPPP has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-10-001 to address stormwater runoff associated with 2010 construction activities. Conceptual construction phasing for the years 2011 through 2016 are also provided. SWPPP updates for construction activities scheduled for 2011 through 2016 will be prepared as required.

We are also seeking the NYSDEC's approval to disturb more than five acres during construction activities associated with the Project.

Your cooperation in finalizing this document is appreciated. Please do not hesitate to contact the project team if you have any questions or comments or if additional information is required.

Sincerely,

John P. McAuliffe by CCC

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

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cc:	Mr. Bob Edwards	NYSDEC, Albany
	Mr. Tim Larson	NYSDEC, Albany
	Ms. Sandy Lizlovs	NYSDEC, Syracuse
	Mr. Richard Mustico	NYSDEC, Albany
	Ms. Mary Jane Peachey	NYSDEC, Region 7
	Mr. Al Labuz	Honeywell
	Mr. Paul Blue	Parsons
	Mr. Dave Steele	Parsons
	Mr. Kyle Buelow	O'Brien & Gere
	Mr. Paul Schultz	O'Brien & Gere
	Mr. Brian White	O'Brien & Gere

STORMWATER POLLUTION PREVENTION PLAN

Water Treatment Plant and Sediment Consolidation Area

Honeywell
Town of Camillus
Onondaga County, New York

August 2010

O'BRIEN & GERE

Job No. 1163\45613

STORMWATER POLLUTION PREVENTION PLAN

Water Treatment Plant and Sediment Consolidation Area

Honeywell
Town of Camillus
Onondaga County, New York

Brian E. White, P.E.
Vice President

O'Brien & Gere Engineers, Inc.
August 2010

O'BRIEN & GERE

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1. Regulatory Information

This *Stormwater Pollution Prevention Plan* (SWPPP) discusses and describes actions to be taken as part of the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-10-001. This SWPPP supports the activities that will be conducted on Wastebed (WB) 12 and 13 in 2010 as part of Honeywell's remediation program for Onondaga Lake.

The Notice of Intent (NOI) for the General Permit for the project is included as Appendix A. Other forms referenced in this SWPPP are also included within their respective appendices. This SWPPP and the NOI have been prepared to meet the substantive requirements of Permit No. GP-0-10-001.

1.1. SWPPP Development

This SWPPP was developed in accordance with Permit No. GP-0-10-001 and accepted engineering practices. It describes the erosion and sediment control practices that will be used to minimize sediment in stormwater discharges during construction activities, offers protective measures to minimize sediment transport, and identifies potential sources of sediment that may affect the quality of stormwater discharges.

1.2. SWPPP Review

The completed NOI has been included in Appendix A. Five business days from the date NYSDEC approves the NOI, stormwater will be authorized to discharge from the construction site. Subsequently, the NYSDEC will issue a NOI Acknowledgement form that will be inserted in Appendix B.

Throughout the project, the SWPPP will be kept current and made available at the site for review by regulatory agencies and Honeywell team. Applicable federal, state and local regulatory agencies that have jurisdiction may choose to review this SWPPP and if necessary may notify Honeywell that the SWPPP requires modification or if certain site conditions do not meet the requirements of the regulations.

1.3. SWPPP Update

Honeywell will amend this SWPPP if there is a change in any of the following project components that has an effect on the potential for discharge of sediment from stormwater runoff associated with construction activities:

- Design
- Construction
- Operation
- Maintenance

Honeywell will update or amend the SWPPP if any of the following conditions occur:

- Field conditions require additional erosion and sediment control measures
- Identification of new contractors that will implement or construct any of the stormwater management and/or erosion and sediment control facilities
- Changed site conditions observed by Honeywell

If the SWPPP needs to be revised based on changed site conditions, Honeywell will be responsible for making revisions to the SWPPP within 14 days of notification. If the changed site conditions are a result of work by Honeywell, it is their responsibility for making revisions to the SWPPP within seven days of notification to Honeywell. All modifications will be reviewed, approved and accepted by Honeywell and NYSDEC prior to implementation.

2. Project Description

Overview

The lake remediation plan, which was selected by the NYSDEC and the United States Environmental Protection Agency (USEPA) and noted in the January 2007 Consent Decree for Onondaga Lake, calls for a combination of dredging and capping – standard environmental cleanup methods that will address the contamination in lake sediments. The sediment dredged from Onondaga Lake will be hydraulically pumped via pipeline to the Sediment Consolidation Area (SCA), which will be located on Wastebed 13 (WB-13). The sediments will be dewatered and the effluent will receive initial treatment at an onsite Water Treatment Plant (WTP) prior to being sent to Metro for final treatment. Existing conditions are provided on Figure 1. The following text describes the overall project that will be performed in stages, commencing in 2010.

SCA

Water and sediments collected during dredging operations will be piped to the SCA. This dredged slurry will be dewatered in the SCA via geotextile tubes. The SCA portion of the project consists of the following components, all of which will be constructed on Honeywell property:

- Slurry processing area, consisting primarily of dredge screens and SCA support facilitiesSCA with geotextile tubes
- Temporary SCA stormwater management basins
- Office trailer and parking area,
- Material staging areas

Locations of SCA project elements are illustrated in the figures section of this plan.

SCA WTP

The SCA WTP will receive the geotube effluent for initial treatment. The SCA WTP will remove suspended solids. The SCA WTP will use multiple parallel treatment trains to accommodate fluctuations in flow rates and provide operational flexibility. The treatment system will consist of the following major unit processes:

- pH adjustment system
- Metals precipitation
- Total suspended solids (TSS) removal
- Polishing filtration system (multimedia or equivalent)
- VOC and SVOC removal system
- Treated water discharge system
- Chemical storage/feed systems

The SCA WTP consists of the following project elements:

- An approximately 55,000 square foot (sf), 30-foot high, pre-fabricated building to house the treatment train. Reduced water flows captured during winter shutdowns (*e.g.*, precipitation and

passive flows from the SCA) will be treated using a portion of the treatment train which will be enclosed in a heated section of the building.

- Temporary office trailers located adjacent to the pre-fabricated building. These trailers will provide work and meeting spaces for additional on-site staff during the dredging program. A laboratory area is planned within one of the trailers, to facilitate sampling and optimization of treatment plant operations.
- Three chemical bulk storage tanks (with secondary containment) and a tanker truck unloading area. The bulk storage and unloading facilities will likely remain after the dredging program, to serve the indoor treatment process.
- Installation of a 30-inch pipe to convey effluent from the SCA WTP to the proposed equalization basin, which then discharges to Metro for treatment.

Locations of SCA WTP project elements are illustrated on the Contract Drawings in the figures section of this plan. Additional project components, including the lake intake and slurry pipeline to deliver the sediment slurry to the SCA are in the design phase.

In order to meet the schedule specified in the Consent Decree, initial construction activities for the WTP and the SCA will begin in August 2010. This SWPPP was developed in accordance with Permit No. GP-0-10-001 to address stormwater runoff associated with the pre-loading and construction activities for the WTP and SCA that are scheduled for 2010; conceptual construction phasing for the years 2011 through 2016 are also provided:

Temporary Facilities

2010 (see Figure 2)

- 2.3 acre gravel WTP Preload Area on WB-13
- 1 acre gravel WTP/SCA Staging Area on WB-13
- 1 acre gravel SCA Process Preload Area on WB-13
- 0.33 acre gravel Trailer Area on WB-12

2011 (see Figure 3)

- 1.7 acre gravel WTP Process Area on WB-13
- 0.3 acre lined WTP Proecess Area on WB-13
- 7.7 acre lined Separation Material Management Area on WB-13
- 4.0 acre and 2.3 acre lined temporary SCA Stormwater Basins on WB-13

2012 (see Figure 4)

- 1 acre gravel SCA Staging Area on WB-13

2013 (see Figure 5)

No new temporary facilities constructed; SCA filling operations continue

2014-2016 (see Figure 6)

No new temporary facilities constructed; SCA filling operations continue

Permanent Facilities

2010 (see Figure 2)

- 12.5 acre lined Phase 1A SCA on WB-13

2011 (see Figure 3)

- 12.5 acre lined Phase 1B SCA on WB-13
- 2.3 acre SCA WTP building and parking area

2012 (see Figure 4)

- 24 acre lined Phase 2 SCA on WB-13

2013 (see Figure 5)

No new permanent facilities constructed; SCA filling operations continue

2014-2016 (see Figure 6)

- 21 acre lined Phase 3 SCA on WB-13

2.1. Site Description

The project area has historically been used primarily for the disposal of Solvay waste, a by-product of sodium carbonate (soda ash) production via the Solvay process. Solvay waste is a combination of process residuals, unreacted material, and mineral salts that were deposited as a slurry, dried, and is now approximately 55 feet deep. Wastebed 13 (WB-13) consists of approximately 163 acres that were used from 1973 to 1985. Wastebed 12 (WB-12) consists of approximately 129 acres that were used from approximately 1951 to 1972.

The site is covered with a mix of old field and shrubland vegetation, and willow trees have been planted in portions of WB-13 to promote evapotranspiration and for biofuel production[1]. Figure 1 shows the existing on-site vegetative cover types.

2.2. Site Location

The proposed project facilities will be located on WB-12 and WB-13 in the Town of Camillus, Onondaga County, New York (see Sheet SP-1). The project area is bordered to the north by Ninemile

[1] The Shrub Willow Sustainable Remedy project was authorized by the NYSDEC under GP-0-08-001 (permit identification number NYR10S027).

Creek and CSX Railroad tracks; to the west by an Onondaga County municipal garage and a former gravel excavation area owned by Honeywell; and to the south and east by Wastebeds 12 and 14.

2.3. Site Owner

Contact information for Honeywell is below.

Owner	Contact
Honeywell International, Inc. 301 Plainfield Road Suite 330 Syracuse, NY 13212	Al J. Labuz Remediation Manager phone: 315-552-9781 fax: 315-552-9780 email: al.labuz@honeywell.com

2.4. Contract Documents

The applicable Contract Documents included in the figures section of this plan include:

- Overall Site Plan
- Grading with existing and proposed contours that indicate drainage patterns and slopes prior to and after grading activities
- Areas of disturbance
- Proposed locations of erosion and sediment control facilities

2.5. Receiving Water

Stormwater at the site infiltrates into the substrate and co-mingles with groundwater or is collected and treated in Honeywell's site-wide leachate collection and conveyance system (LCCS). The LCCS then discharges to Metro and ultimately to Onondaga Lake that is part of the Seneca Watershed, United States Geological Survey (USGS) Hydrologic Unit 04140201 (http://cfpub.epa.gov/surf/). This includes the Nine Mile Creek and Onondaga Lake sub-watersheds.

During construction and operation of the SCA and WTP, stormwater from lined areas that have not received dredged sediments within the project footprint will be managed and discharged to existing SPDES outfall #18. The outfall discharges to Nine Mile Creek which is also part of the Seneca Watershed. A request to modify existing NYSDEC SPDES Permit No. NY 0002275 is included herein as Appendix C.

2.6. Soils

The Soil Survey of Onondaga County (see Appendix D) identifies the wastebed-portion of the site as a mix of gravel pit and made land. The substrate that exists generally consists of a mix of weathered Solvay waste and organic soil (*i.e.*, decomposing vegetative matter), which can be characterized as hydrologic soil group D.

The drainage area associated with existing SPDES outfall #18 consists of the following soil types:

- Wayland silt loam - hydrologic soil group C/D
- Collamer silt loam - hydrologic soil group C

2.7. Resource Protection Areas

No wetlands, streams, lakes, or ponds under the jurisdiction of the NYSDEC or U.S. Army Corps of Engineers have been identified on WB-12 or WB-13. Nine Mile Creek is a NYSDEC Class C stream at the point where existing SPDES outfall #18 enters. There also are no identified drinking water well or septic system setbacks onsite.

3. Project Implementation

3.1. Pre-Construction Requirements

Honeywell will follow the requirements described in Appendix E to minimize erosion and sedimentation during construction activities.

3.2. Project Requirements During Construction

Honeywell will follow the requirements described in Appendix E and the following general construction sequence. Figures 2 through 6 indicate the timing of construction of proposed facilities. These figures also indicate which facilities will be permanent or removed upon completion of construction.

1. Install stabilized construction entrances as shown or as directed.
2. Perform the following site activities:

   Proposed Sequencing: SCA- Phase 1A (2010)

   - Clear and grub site
   - Mow site
   - Preload stone for WTP and Process Area (approximately 70,000 cy, approximately 10 ft depth for WTP and approximately 7 ft depth for Process Area)
   - Install temporary stormwater management facilities for Staging Area
   - Install stone Trailer Area and WTP/SCA Staging Area (approximately 2,500 cy, approximately 12-inch depth)
   - Install temporary stormwater management facilities for SCA
   - SCA berm construction with structural fill (approximately 26,000 cy). Berm to be constructed in 8-inch lifts with structural fill dropped at point of use. Material stockpiles will not be required.
   - Prepare subgrade for liner installation. This will include grading of wastebed material and construction of sump prior to initiation of liner installation.
   - Install temporary stormwater management facilities to convey clean runoff to SPDES Outfall #018
   - Clay liner installation (approximately 64,000 cy, approximately 12-inch depth)
   - Installation of geomembrane and geotextile (approximately 12.5 acres)
   - Commence Removal of stone from Preload Areas and place drainage stone in SCA (approximately 45,000 cy, approximately 2 ft depth)
   - Construction operation on SCA temporarily suspended

Conceptual Sequencing: SCA- Phase 1B (2011)[2]

- Mobilize, clear, and mow additional area
- SCA stormwater equalization basin installation
- Pipeline to effluent equalization basin installation
- SCA berm construction with structural fill (approximately 23,000 cy)
- Clay liner installation (approximately 75,000 cy)
- Installation of geomembrane and geotextile (approximately 18.75 acres)
- Gravel placement on SCA (approximately 56,000 cy)

Conceptual Sequencing: SCA- Phase 2 (2012)

- Mobilize, clear and mow additional area
- SCA berm construction with structural fill (approximately 23,000 cy)
- Clay liner installation (approximately 100,000 cy)
- Installation of geomembrane and geotextile (approximately 25 acres)
- Gravel placement on SCA (approximately 56,000 cy)

Conceptual Sequencing: SCA WTP- (2011-2012)

- Rough grade site, cut in access roads, mobilize site/civil subcontractor, drive piles
- Install electrical grounding systems
- Install incoming primary electrical feed, conduit and wiring
- Install underground process piping and underground electric feed
- Install underground storm and water piping systems
- Install foundations and WTP building
- Install WTP building process equipment and piping
- Perform individual system checks, and combined system checks (i.e., commissioning)
- Operate system using water

Conceptual Sequencing: SCA - Phase 3 (2013 through and 2014 if needed)

- Similar activities to SCA Phase 2

4. As areas are completed through these milestones, they will be restored as required in the Contract Documents.
5. After site activities are complete and the site is stabilized, remove temporary erosion and sediment control facilities.

2 Note that the sequencing provided for years 2011 through 2016 are projections and may be altered as the project progresses. Changes will be addressed in future SWPPP updates as needed.

Since the SCA project requires land disturbance in an area larger than five acres during construction, a letter request has been included in Appendix K. This request includes the amount of area intended to be disturbed and reasons why more than five acres need to be disturbed. Once Honeywell receives approval from the NYSDEC, Honeywell will be required to perform the following tasks:

- Conduct at least two site inspections every seven calendar days by a qualified inspector[3] (separated by a minimum of two calendar days).
- Provide for temporary or permanent soil stabilization measures in areas where soil disturbance activity has been temporarily or permanently ceased within seven days from the date the soil disturbance activity ceased. Exposed berm surfaces shall be seeded with conservation mix and rye grass seeds.

3.3. Inspection During Construction

General

Honeywell will be responsible for providing a qualified inspector to inspect the proposed erosion and sediment control measures and disturbed areas of the construction site for compliance with the SWPPP. The qualified inspector will evaluate whether site-generated sediment is entering natural surface water bodies located within, or immediately adjacent to, the site boundaries. Digital photographs, with date stamp, will be taken that show the conditions of erosion and sediment control facilities and stormwater management practices that have been identified as needing corrective actions. Additional photographs will be taken after implementation of corrective actions showing the condition of the facilities and practices. These photographs will be attached to the inspection form within seven calendar days of the respective inspection.

These inspections will be completed at least once every seven calendar days. For sites where Honeywell has received authorization from the NYSDEC to disturb greater than five acres of soil at one time, the qualified inspector will conduct at least two site inspections every seven calendar days, with a minimum of two full calendar days between inspections. A typical Inspection Report Form is included in Appendix F.

Prior to construction, Honeywell will identify at least one trained contractor[4] from their respective companies who will be responsible for implementation of the SWPPP and inspection of the erosion and sediment controls in accordance with the New York State *Standards and Specifications for Erosion and Sediment Control* (NYSDEC 2005). Honeywell will provide for at least one trained contractor on site daily while soil disturbance activities are being performed.

If corrective action is required based on the results of inspection, the contractor will implement the corrective action within one business day and complete it within seven calendar days following the date of the inspection. Additional mitigation measures will be implemented by the contractor if

3 Qualified inspector includes persons knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed professional engineer, certified professional in erosion and sediment control (CPESC), licensed landscape architect or other NYSDEC endorsed professional. It also means someone working under the direct supervision of the licensed professional engineer or licensed landscape architect, provided that person has training in the principles and practices of erosion and sediment control.

4 Trained contractor means an employee from a contracting (construction) firm that has received four hours of training that has been endorsed by the NYSDEC (*i.e.*, Soil and Water Conservation District, CPESC, Inc., or other NYSDEC endorsed entity), in proper erosion and sediment control principles no more than two years before the date the general permit was issued. After receiving the initial training, the trained contractor will receive four hours of training every three years. This individual will be responsible for implementation of the SWPPP.

warranted to minimize sediment transport or discharge of sediment laden runoff off-site. Each inspection report will remain on file at the site as part of the SWPPP.

Temporary Construction Shutdown (Winter Conditions)
When soil-disturbing activities have been temporarily suspended (*e.g.*, winter shutdown) and temporary stabilization measures have been applied to disturbed areas, Honeywell may cease the periodic inspections by the trained contractor. However, the qualified inspector must perform a site inspection at least once every 30 calendar days. Honeywell will notify the NYSDEC in writing prior to reducing the inspection frequency. Honeywell will resume inspections by the trained contractor and qualified inspector in accordance with this section as soon as soil disturbance activities resume.

Final Site Inspection
The qualified inspector will perform a final inspection of the site to certify the following:

- Construction is complete and disturbed areas have been stabilized.
- Temporary erosion and sediment control facilities have been removed.
- Permanent stormwater management practices in accordance with the design have been installed and are operational and on-line.

Upon satisfactory completion of the final site inspection, the qualified inspector will sign the appropriate sections of the Notice of Termination (NOT) form included herein as Appendix G.

3.4. Stormwater Controls

Sheet SP-1 of the Contract Drawings illustrate the anticipated locations for erosion and sediment control facilities. Details of these facilities are illustrated on Sheet MD-4. These facilities will be installed and maintained in accordance with the New York State *Standards and Specifications for Erosion and Sediment Control* (NYSDEC 2005).

Honeywell will provide a construction stabilization schedule when construction activities are anticipated to start and be stabilized. This record will become part of this SWPPP within Appendix E.

3.4.1. Erosion and Sediment Controls – Structural Practices

Proposed erosion and sediment control measures were designed in accordance with the latest versions of the following documents:

- NYSDEC *Standards and Specifications for Erosion and Sediment Control* (2005).
- NYSDEC *State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-10-001)* (effective date January 29, 2010).

The control measures and best management practices (BMP) noted below will be implemented as required to abate and control potential sediment transport in stormwater discharges from the construction site. Details of the erosion and sediment control facilities are provided on Sheet MD-4.

1. A stabilized construction entrance will be located at each construction entrance and exit location(s). If deemed necessary by the qualified inspector, construction vehicles will be washed down in stabilized areas prior to leaving the site.
2. Staging/laydown areas for vehicles and construction equipment will be located on stabilized portions of the site as indicated on Sheet SP-1 and detailed on Sheet MD-4. If deemed necessary by a trained contractor or qualified inspector, vehicles and equipment will be washed down in stabilized areas prior to exiting site.
3. Temporary stone check dams to be placed in swales to prevent erosion, reduce flow velocities, and promote sedimentation as required. The check dams will be installed, as required, at intervals such that the crest of the downstream dam is at the elevation of the toe of the upstream dam. Maintenance will include inspection, cleaning, and/or replacement of stone, as required.

3.4.2. Stabilization Practices

Honeywell will initiate stabilization measures in accordance with the New York State *Standards and Specifications for Erosion and Sediment Control* (NYSDEC 2005) as soon as practicable. For portions of the site where soil disturbance activities have temporarily or permanently ceased, stabilization measures must be implemented within 14 days of the conclusion of activities or within 7 days if authorized to exceed 5 acres of disturbance at one time. This requirement does not apply if the installation of stabilization measures is precluded by snow cover or frozen ground conditions; however, measures will be implemented as soon as practicable.

3.4.3. Additional Stormwater Controls

Listed below is a description of additional controls and measures that will be implemented at the site to minimize sediment transport.

1. Proper precautions will be taken so materials do not spill onto public thoroughfares (*i.e.,* leaking hydraulic lines, fuel leaks). If materials are dropped onto these areas they will be swept clear or removed as soon as practicable so that they do not enter surface and subsurface drainage systems.
2. Honeywell will provide dust control measures before dust migrates off-site. Measures may include water application or mulching but will not include the use of chemical additives.
3. Solid waste disposal dumpsters and containers will be covered and emptied regularly. Waste will be disposed of properly in accordance with local, State, and/or federal regulations.
4. Portable toilets will be installed and cleaned regularly with their contents properly disposed of. They will be secured in place so they will not be knocked over by construction activities.
5. Building materials will be properly stored and contained on-site.
6. Oil and fuel containers will have appropriate secondary containment.

3.5. Historic and Archaeological Resources

Based on the results of the Phase 1A Cultural Resource Assessment performed by the Public Archaeological Facility of Binghamton University in October 2004, the proposed project will not impact cultural resources. The NYSDEC indicated in its September 12, 2007 letter that "due to disturbances from mining activities, no archaeological testing is recommended for Wastebed 13." In

addition, the NYSDEC approved the *Cultural Resource Management Report Phase 1B Archaeological Work Plan Addendum for Onondaga Lake Project, Upland and Shoreline Area* on June 15, 2010, thereby agreeing with the recommendation that no additional archaeological testing of WB-12 is required. A copy of the September 12, 2007 letter is included in Appendix H.

3.6. Operations and Maintenance

The following sub-sections describe the minimum requirements for operations and maintenance during and after construction activities.

3.6.1. Construction Period Operations and Maintenance

The procedures that will be used to maintain the effectiveness of the erosion and sediment control measures during construction are described as follows:

1. Inspection of the facilities in accordance with Section 3.3, Inspection during Construction. An inspection form is included within Appendix F, a copy of which will be completed and inserted in Appendix F after each inspection.
2. Cleaning, repairing, and/or replacing silt fences, construction entrances, swales, stormwater basins, and rip-rap aprons as necessary.
3. Removal of accumulated sediment from stormwater management facilities as necessary to maintain proper function.
4. Inspection and/or cleaning of roadways daily, or more frequently if otherwise required by Honeywell or a qualified inspector.
5. Removing debris and litter monthly or more frequently if necessary.
6. Observation of equipment/vehicles within the work area, particularly for identification of vehicles leaking petroleum products that could enter stormwater drainage facilities.

3.6.2. Operation and Maintenance

Honeywell is responsible for operation and maintenance of stormwater and site facilities. These operation and maintenance activities will include the following:

1. Clean or sweep public roadways to remove accumulated soil, if necessary.
2. Inspect the swales and rip-rap aprons annually. Remove and dispose of trees, brush, obstructions, and other foreign objects to prevent interference with proper facility function.
3. Maintain seeded areas and reseed or stabilize as necessary to protect against erosion.
4. Repair sloughing or erosion of embankments.
5. Inspect and clean stormwater facilities as necessary to maintain flow capacity to existing SPDES Outfall #18 at the prescribed peak discharge rates.

3.7. Non-stormwater Discharges

Possible sources of non-stormwater discharges associated with the construction activity that may be combined with stormwater are identified below. Preventive measures identified in this SWPPP will minimize potential impacts to stormwater from these sources.

1. Cleaning water for construction vehicles and equipment and groundwater encountered within excavations will be directed into the SCA WTP or temporary stormwater conveyance piping. Chemicals and detergents are not to be used.
2. Honeywell is responsible for identifying areas on-site for construction vehicle transit (*i.e.,* haul roads, trailers and parking areas, etc.) or equipment staging, which will be visually inspected.
3. Water used for dust control measures will be applied using proper quantities and equipment. No chemical additives will be used.
4. Water main flushings, hydrostatic test water, fire test water, and chlorination test water will not be discharged directly to storm drains. Turbid water will be detained to allow sufficient sedimentation time.
5. Concrete trucks will only be washed out in approved areas. Surplus concrete or drum wash water will not be discharged directly to storm drains.

3.8. Inventory for Pollution Prevention Plan

The materials or substances listed below are expected to be present on-site during construction:

- Concrete and concrete products
- Paints
- Bituminous concrete products
- Wood
- Roofing materials
- Asphalt
- Plastics
- Diesel and gasoline fuels
- Sheet metal
- Insulation
- Water treatment chemicals
- Glass
- Silicone (sealants)
- Steel
- HDPE liner

3.9. Spill Prevention

Honeywell will contact the NYSDEC Spills Hotline (1-800-457-7362) if a spill (*e.g.*, hydraulic fluid, gas or oil) occurs on-site during construction. The following are material management practices that will be used by Honeywell to minimize the risk of spills or other accidental exposure of materials and substances to stormwater runoff during construction.

1. Materials with potential for spillage, stored on-site, will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
2. Products will be kept in their original containers with the original manufacturer's label.
3. Substances are not to be mixed with one another unless recommended by the manufacturer.
4. Whenever possible, product will be used up or packages resealed before proper disposal of contents and containers off-site.
5. Manufacturers' recommendations for proper use and disposal will be followed.
6. Inspection will be made for proper use and disposal of materials during periodic inspections and recorded on the Inspection Report Form (Appendix F).
7. On-site vehicles will be monitored for leaks and receive regular preventative maintenance to minimize the chance of leakage of petroleum products. Petroleum products will be stored in closed containers that are clearly labeled. Used oils will be disposed of properly.
8. Materials will be brought on-site in quantities that limit or minimize the amount of on-site storage.
9. Paint containers will be tightly sealed and properly stored when not required for use. Excess paint, solvents, etc. will not be discharged to the storm sewer facilities but will be properly disposed of according to manufacturers' instructions, or State and local regulations.

3.9.1. Spill Control Practices

In addition to the material management practices discussed in the previous section of this SWPPP, the following practices will be followed by Honeywell for spill prevention and cleanup.

1. Spills of petroleum or other regulated material will be reported to the appropriate state or local government agencies immediately, regardless of size.
2. Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
3. Materials and equipment necessary for spill cleanup will be kept in designated material storage areas on-site. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, spill control materials, sand, sawdust, and trash containers specifically for this purpose.
4. Spills will be cleaned up immediately after discovery.
5. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
6. A spill report will be completed and filed in this SWPPP and will include a description of the spill, what caused it, and the corrective actions taken.

3.10. Notice of Termination

Following final stabilization of the project site as defined in Permit No. GP-0-10-001 (*i.e.*, completion of SCA filling and capping, completion of SCA WTP, decommissioning of temporary facilities),

Honeywell will file a SPDES General Permit Notice of Termination (NOT) with the NYSDEC. Individual NOTs will not be submitted after completion of each project stage. A blank copy of the NOT form is included as Appendix G.

3.11. Retention of Records

The following records will be retained by Honeywell at the site and for a period of five years from the date the site is finally stabilized:

- Stormwater Pollution Prevention Plan (including Notice of Intent, and Notice of Intent Acknowledgement letter)
- Contract Documents including Contract Drawings and Technical Specifications
- Inspection Reports
- Contractor Certification(s)
- Correspondence regarding stormwater practices
- The Notice of Termination

4. Stormwater Analyses

Stormwater runoff was calculated using Hydraflow Hydrograph Extension for AutoCAD Civil 3D 2008 software which utilizes U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) TR-55 and TR-20 methodologies to perform the hydraulic analysis for each area and the associated discharges. TR-55 methodology was utilized to estimate the peak runoff volumes based on associated cover and soil conditions. Peak discharge rates and volumes were calculated for existing conditions and for each stage of construction through 2016. These calculations were submitted to the NYSDEC under separate cover.

This Section focuses on stormwater runoff from construction activities proposed for 2010. Reference to future construction activities is made, however, stormwater management strategies for post-2010 construction stages will be addressed in future SWPPP updates as necessary.

Project related construction stormwater runoff will be managed in accordance with the following concepts:

Undisturbed Areas
The majority of the precipitation that falls on the wastebeds infiltrates through the surface and either comingles with groundwater or is collected in the site-wide LCCS. The LCCS discharges to the existing retention ponds, which then discharges to Metro for treatment. Stormwater does not flow off-site via overland flow. Stormwater that falls on the Wastebeds outside the proposed project facilities will continue to infiltrate.

Stormwater that falls on the proposed project facilities will be addressed as described below.

Preload Areas Stormwater and Trailer Area Stormwater
As presented in this SWPPP, two areas will be preloaded as part of 2010 construction activities. The preload will consist of 2-inch to 3-inch drainage stone (material specification included as Appendix J). Site grading and placement of a gravel work platform will occur prior to placement of the preload material. Upon completion of the preload placement, the preload material is expected to remain in place for approximately 3-months prior to removal in 2011. Stormwater falling on the preload areas will continue to infiltrate into Wastebed 13.

A 0.33-acre trailer staging area will be constructed on Wastebed 12. The stormwater from this area will continue to infiltrate into Wastebed 12.

SCA Phase 1A Stormwater
During construction of Phase 1A of the SCA, storm flows will be conveyed to temporary tankage and then discharged to the wet well of the pump station located adjacent to the existing retention ponds. Temporary, above-grade piping will be utilized to convey the stormwater from the work area to the temporary tankage and to the wet well of the pump station. The pump station and existing force main will be used to convey the storm flows to Metro for treatment.

In the event that stormwater runoff exceeds the capacity of the temporary tankage and Metro has requested that flows from the pump station be temporarily suspended the stormwater will be contained within the Phase 1A SCA berms until such time as the stormwater can be discharged to the

pump station wet well and then to Metro for treatment. The berms have sufficient capacity to contain stormwater runoff from a 100-year, 24-hour storm event.

Subsequent to the placement of the LLDPE liner and prior to the commencement of dredge activities, storm flows collected in the lined SCA Phase 1A will be discharged to Ninemile Creek via SPDES Outfall #018. The stormwater will be conveyed to Outfall #018 via temporary above-grade piping and the discharge will be directed into the existing culvert to minimize the potential for erosion of existing swales and grassed areas. A copy of the request to modify existing NYSDEC SPDES Permit No. NY 0002275 is included herein as Appendix C. The discharge rates to Outfall #018 shall not exceed those established in Section 4.1 of this SWPPP.

Staging Area Stormwater
A 1-acre SCA/WTP Staging area will be constructed to facilitate the temporary storage of material and equipment. The staging area will be constructed of approximately 6-inches to 12-inches of stone. The staging area will be constructed with berms of sufficient height to contain a 100-year, 24-hour storm event (to be verified by field survey).

Temporary tankage will be provided to manage stormwater runoff. Temporary above-grade piping will be utilized to convey the stormwater from the staging area to the temporary tankage and to the wet well of the pump station. The pump station and existing force main will be used to convey the storm flows to Metro for treatement.

In the event that stormwater runoff exceeds the capacity of the temporary tankage and Metro has requested that flows from the pump station be temporarily suspended the stormwater will be contained within the staging area berm until such time as the stormwater can be discharged to the pump station wet well and then to Metro for treatment.

4.1. Downstream Analysis

O'Brien & Gere performed an analysis of the potential downstream impact of the project on Nine Mile Creek in accordance with Section 4.8 of the Manual. Section 4.8 provides an alternate means to manage the flood protection volumes (overbank and extreme flood requirements or 10-year and 100-year 24-hour storms) in accordance with Permit No. GP-0-10-001.

The SCA project area tributary to Nine Mile Creek is approximately 114-acres. The Nine Mile Creek Watershed upstream of the project area is approximately 100-sq miles or 64,000-acres. This equates to about 0.2% of the watershed at that location, significantly less than the 10% referenced in Section 4.8 of the Manual as the area of study.

Based on the May 1999 FEMA Flood Insurance Study for the Town of Camillus the following data is available from the U.S. Geological Survey (USGS) stations in the vicinity of the project area:

- Upstream of Unnamed Tributary (approximately 1.35 miles upstream of the project area) – Watershed area = 95 sq miles , 10-year peak discharge rate = 3,079cfs, 100-year peak discharge rate = 4,179cfs.

- Upstream of Geddes Brook (approximately 1.26 miles downstream of the project area) – Watershed area = 103 sq miles, 10-year peak discharge rate = 3,662cfs, 100-year peak discharge rate = 4,969cfs.

Based on this information and the stormwater modeling results, the basis of design for this project will be to mitigate peak flow rates to existing SPDES outfall #18 at the following prescribed rates to mitigate potential downstream impacts to Nine Mile Creek:

- 4.8 cfs for the 1-year 24-hour storm
- 15.3 cfs for the 10-year 24-hour storm
- 25.9 cfs for the 100-year 24-hour storm

4.2. Existing Conditions

As stated above, existing conditions at the wastebeds preclude off-site stormwater runoff. Therefore, Table 4.1 presents the peak stormwater volumes for WB-12 and 13 as well as the peak discharge rates and volumes for existing SPDES outfall #18.

Table 4.1. *Peak discharge rates and volumes for existing conditions*

	Storm event					
	1 –year		10 –year		100 -year	
Drainage area	Rate (cfs)	Peak volume (cf)	Rate (cfs)	Peak volume (cf)	Rate (cfs)	Peak volume (cf)
WB-13 (HYD 22)	NA	410,612	NA	1,120,427	NA	1,830,825
WB-12 (HYD 23)	NA	279,611	NA	743,617	NA	1,203,315
SPDES Outfall #18 (HYD 1)	4.8	26,159	15.3	75,312	25.9	125,553

4.3. Construction Stages

As presented in Section 2, construction of the SCA and WTP will occur in stages defined by calendar year between 2010 and 2016. The 2010 facilities have been designed and construction is scheduled to begin in August 2010; conceptual construction phasing for the years 2011 through 2016 are also provided though design has not been finalized. Final design for the years 2011 through 2016 will be presented in future SWPPP updates as needed.

The following surface cover types are proposed on the wastebeds during construction:

- Undeveloped Areas (with existing vegetation)
- Staging Areas
- Building/Parking Areas
- Geomembrane Lined Areas
- Operational Areas.

The "Rate" columns represent the rate at which stormwater will run off of the Staging Areas and Building/Parking Areas and the rate at which stormwater will accumulate in the Lined Areas. This column does not represent a discharge rate from the Lined Areas because the stormwater will be

retained and pumped to SPDES outfall #18 at or below the prescribed peak discharge rate to Nine Mile Creek to mitigate potential downstream impacts.

Results of model runs for the proposed construction stages through 2016 were provided to the NYSDEC under separate cover. The 2010 information is presented in this Section along with management strategies. The 2011-2016 information and future management strategies will be provided as necessary in SWPPP updates.

4.3.1. 2010 Construction (Figure 2)

The conditions modeled for the 2010 Construction Stage are as follows:

WB-13 model components

- 150.2-acre undeveloped area
- 2.3-acre WTP Preload Area on WB-13
- 1-acre Process Preload Area on WB-13
- 1-acre WTP/SCA Staging Area on WB-13
- 12.5-acre Phase 1A SCA

WB-13 DRAINAGE AREA TOTAL = 167 ACRES

WB-12 model components

- 103.7-acre undeveloped area
- 0.33-acre Trailer Area on WB-12

WB-12 DRAINAGE AREA TOTAL = 104.3 ACRES

Results of model runs for proposed conditions associated with the 2010 Construction are summarized in Table 4.2.

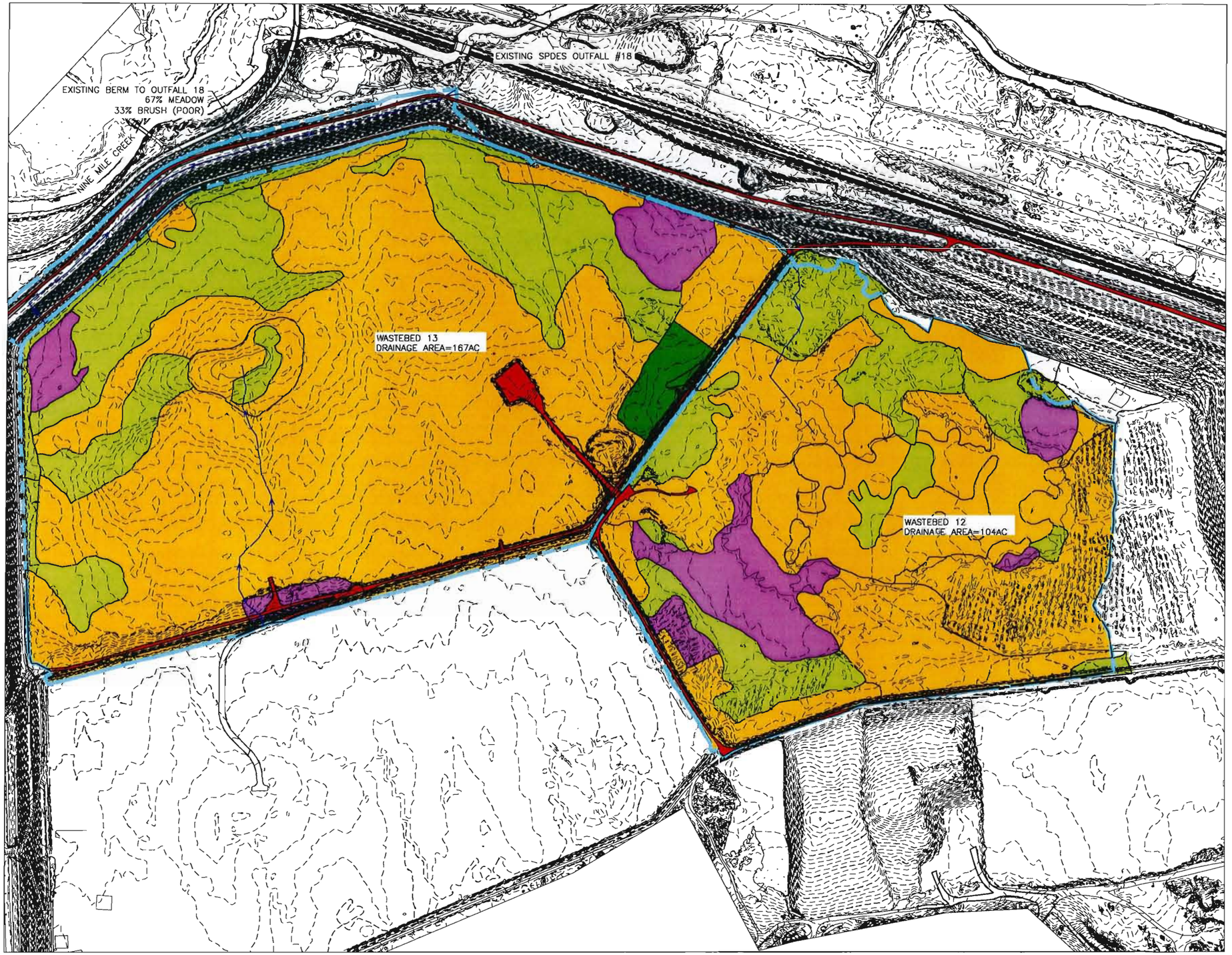
Table 4.2. *Peak discharge rates and volumes in 2010*

	Storm event					
	1 -year		10 -year		100 -year	
Drainage area	Rate (cfs)	Peak volume (cf)	Rate (cfs)	Peak volume (cf)	Rate (cfs)	Peak volume (cf)
WTP and Process Preload Areas (HYD 2)	3.1	6,284	9.3	18,609	15.5	31,346
Staging Area (HYD 29)	2.9	6,713	5.1	12,134	7.1	16,889
Phase 1A SCA (HYD 4)	32.2	92,310	56.6	166,846	77.8	232,227
Undeveloped portion of WB-13 (HYD 24)	NA	394,431	NA	1,048,979	NA	1,697,450
WB-12 trailer area (HYD 21)	1.0	2,215	1.7	4,004	2.3	5,573
Undeveloped portion of WB-12 (HYD 25)	NA	278,724	NA	741,258	NA	1,199,497

Stormwater will be managed according to the concepts described herein.

Applicable Figures and Contract Drawings

FIGURE 1



LEGEND

- IMPERVIOUS (GRAVEL)
- BRUSH (POOR)
- MEADOW (POOR)
- WOODS–GRASS COMBINATION (POOR)
- WOODS (GOOD)
- DRAINAGE AREA BOUNDARY
- Tc ROUTE

HONEYWELL INTERNATIONAL INC.
TOWN OF CAMILLUS
ONONDAGA COUNTY
NEW YORK

EXISTING CONDITIONS

1"=500' 500 0 500

FILE NO. 1163.45613-FIG-A
JULY 2010

O'BRIEN & GERE

I:\Honeywell.1163\45613.Sca-Wtp-Detaile\Docs\DWG\DP-2\Sheets\45613-FIG-1.dwg Jul 26, 2010 - 4:30pm

Legend

Runoff from Temporary Facilities

Runoff from Lined Areas to SPDES Outfall No. 18

0 200 400 800

Feet

Figure 2

2010 Construction

Water Treatment Plant & Sediment Consolidation Area SWPPP

PARSONS
301 Plainfield Road, Suite 350, Syracuse, NY 13212

Legend

- Runoff from Temporary Facilities
- Runoff from Lined Areas to SPDES Outfall No. 18
- Runoff from Permanent Facilities

0 200 400 800

Feet

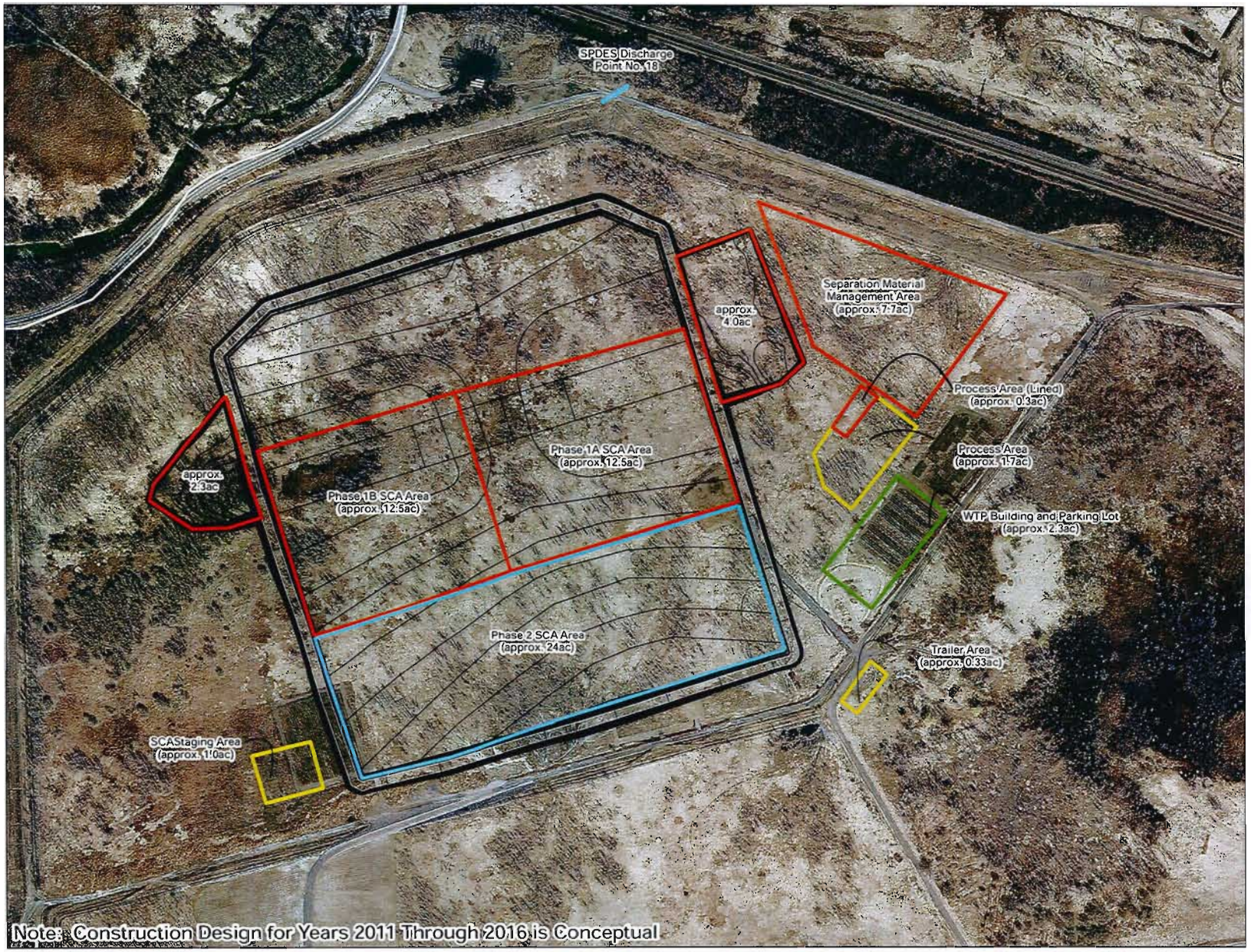
Figure 3

2011 Construction

Water Treatment Plant & Sediment Consolidation Area SWPPP

PARSONS

301 Plainfield Road, Suite 350, Syracuse, NY 13212



Legend

- Runoff from Temporary Facilities
- Runoff from Lined Areas to SPDES Outfall No. 18
- Effluent to WTP
- Runoff from Permanent Facilities

0 200 400 800

Feet

Figure 4

2012 Construction

Water Treatment Plant & Sediment Consolidation Area SWPPP

PARSONS

301 Plainfield Road, Suite 350, Syracuse, NY 13212

Legend

- Runoff from Temporary Facilities
- Effluent to WTP
- Runoff from Permanent Facilities

0 200 400 800

Feet

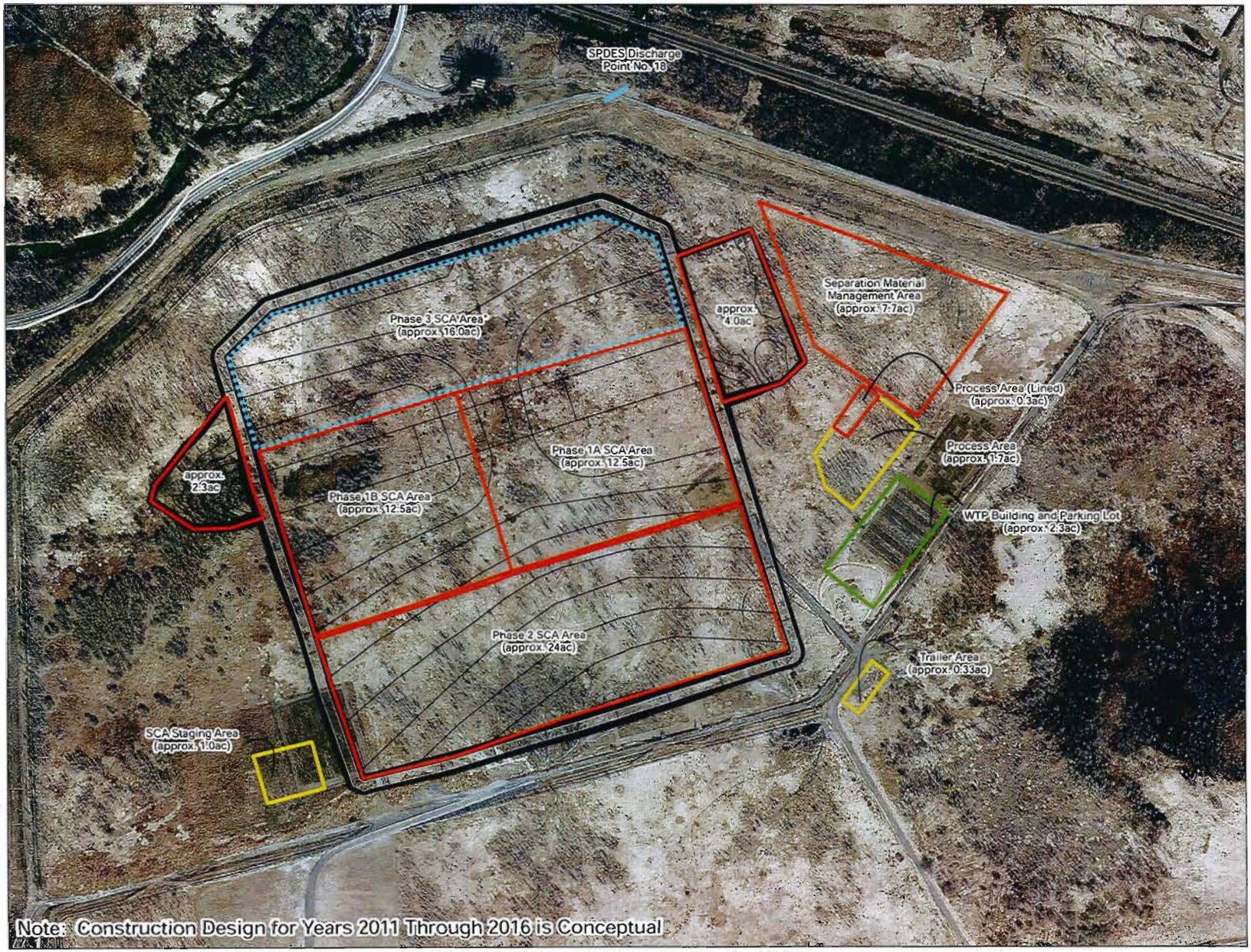
Figure 5

2013 Construction

Water Treatment Plant & Sediment Consolidation Area SWPPP

PARSONS

301 Plainfield Road, Suite 350, Syracuse, NY 13212



Legend

- Runoff from Temporary Facilities
- After Liner Installed and Before Operation, Runoff to SPDES Outfall No. 18. After Operation, Effluent to WTP
- Effluent to WTP
- Runoff from Permanent Facilities

Note: Phase 3 to be built if needed.

0 200 400 800

Feet

Figure 6

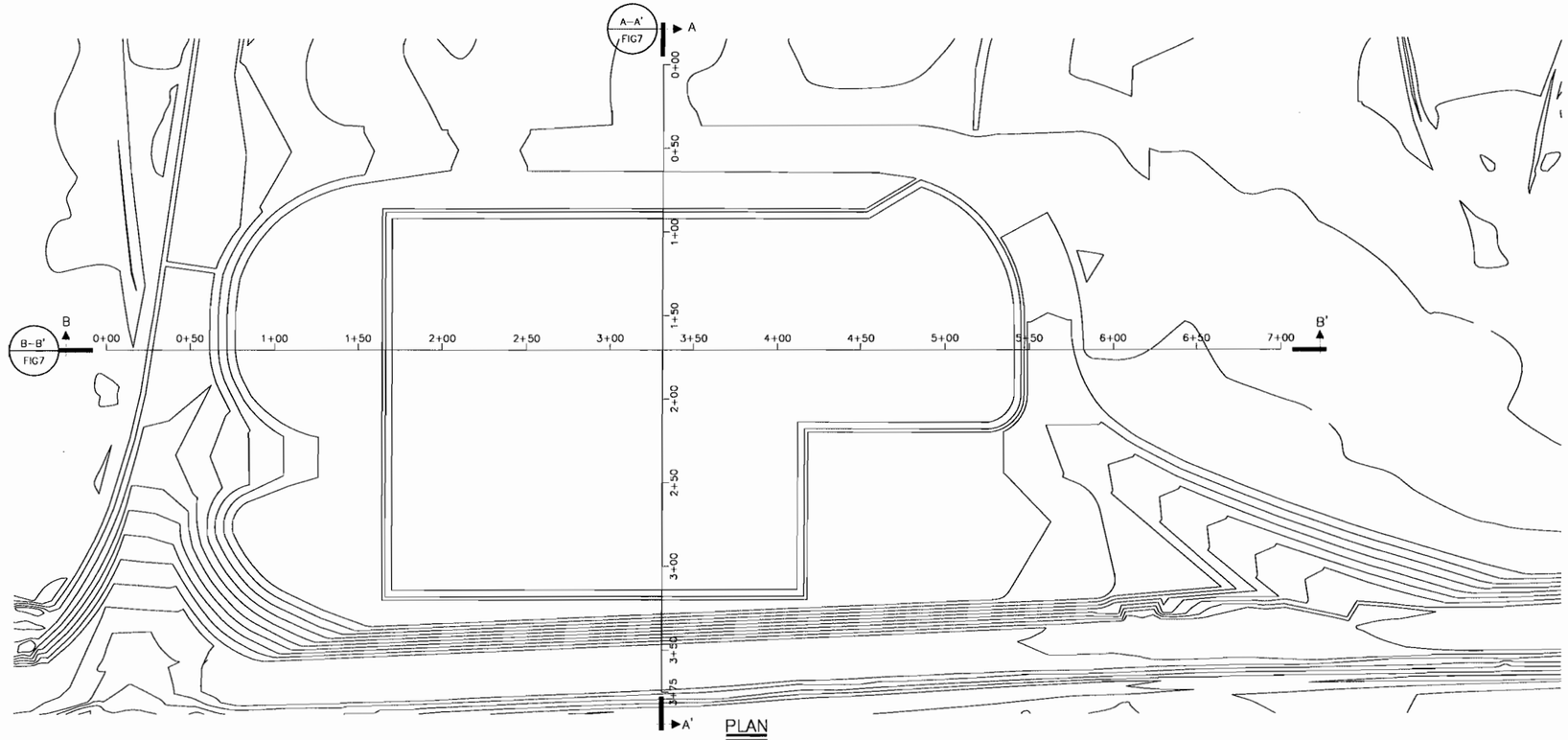
2014 - 2016 Construction

Water Treatment Plant & Sediment Consolidation Area SWPPP

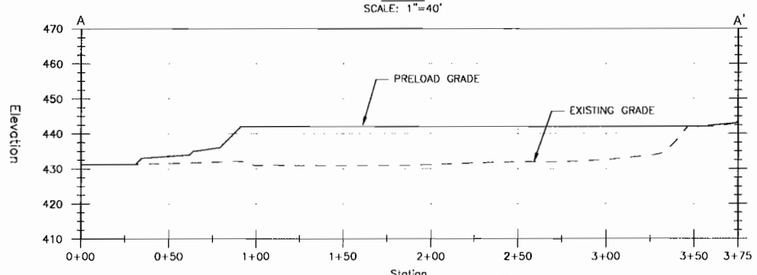
PARSONS

301 Plainfield Road, Suite 350, Syracuse, NY 13212

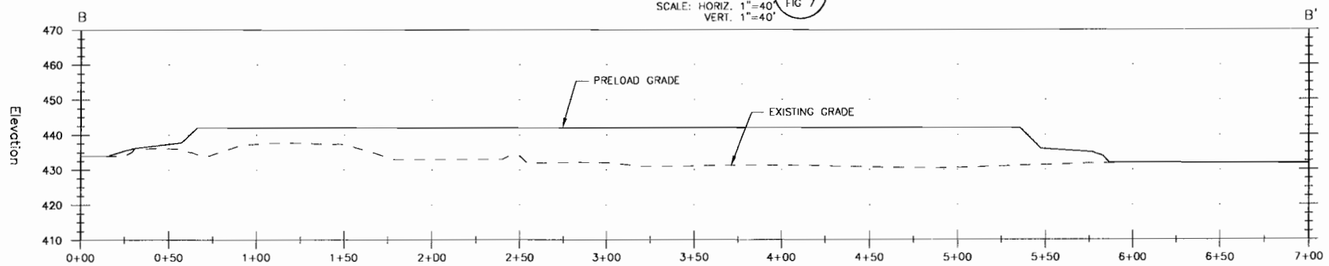
FIGURE 7



PLAN
SCALE: 1"=40'



SECTION (A–A' FIG 7)
SCALE: HORIZ. 1"=40'
VERT. 1"=40'



SECTION (B–B' FIG 7)
SCALE: HORIZ. 1"=40'
VERT. 1"=40'

HONEYWELL
INTERNATIONAL INC.
TOWN OF GREDDES
ONONDAGA COUNTY,
NEW YORK

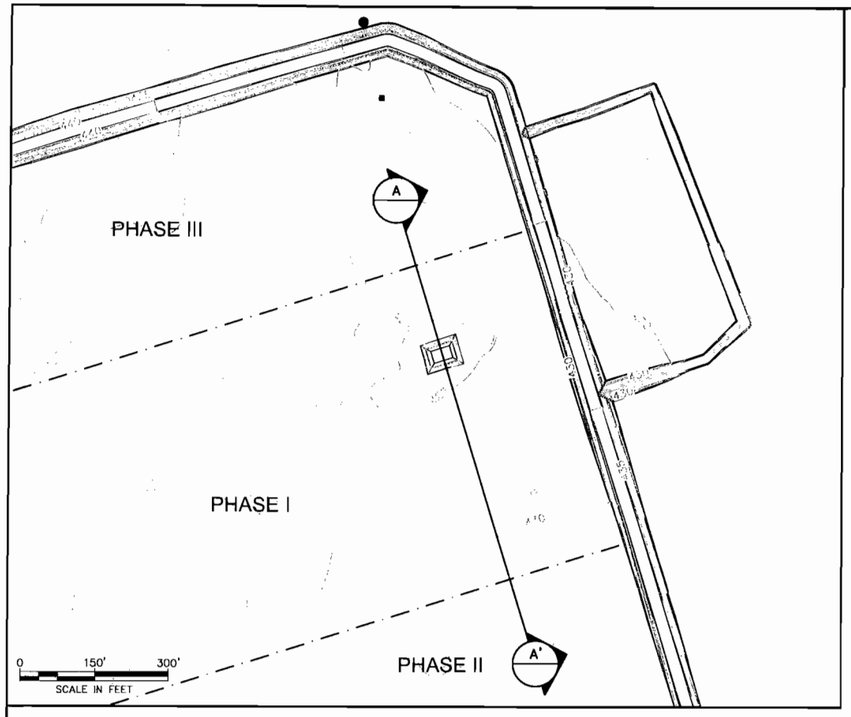
TYPICAL SECTIONS OF PRELOAD

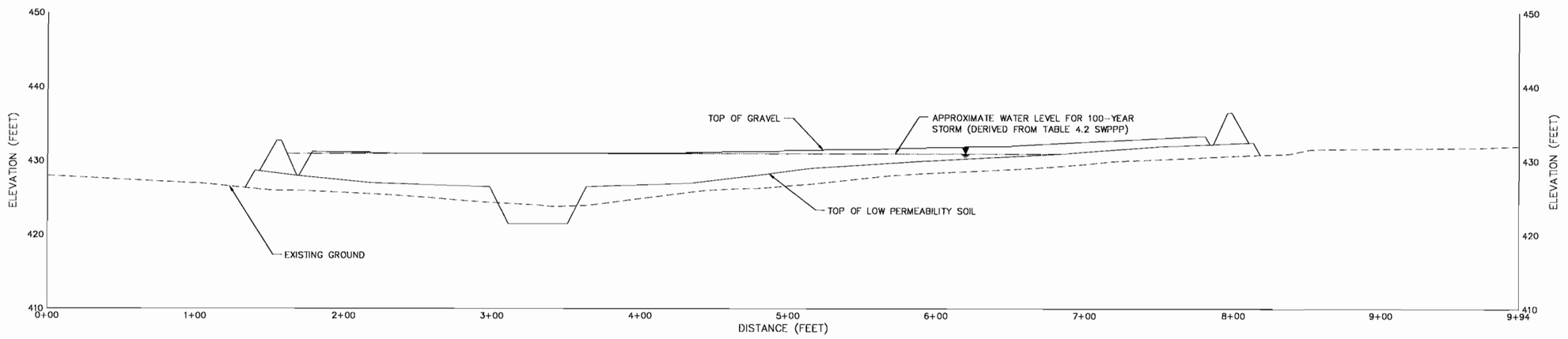
HORIZONTAL SCALE
1"=40' 40 0 40

VERTICAL SCALE
1"=20' 20 0 20

FILE NO. 1163–45613–FIG7
JULY 2010

O'BRIEN & GERE





SECTION A–A'
HORIZONTAL: 1" =40'
VERTICAL: 1" =8'

SEDIMENT CONSOLIDATION AREA
ONONDAGA LAKE

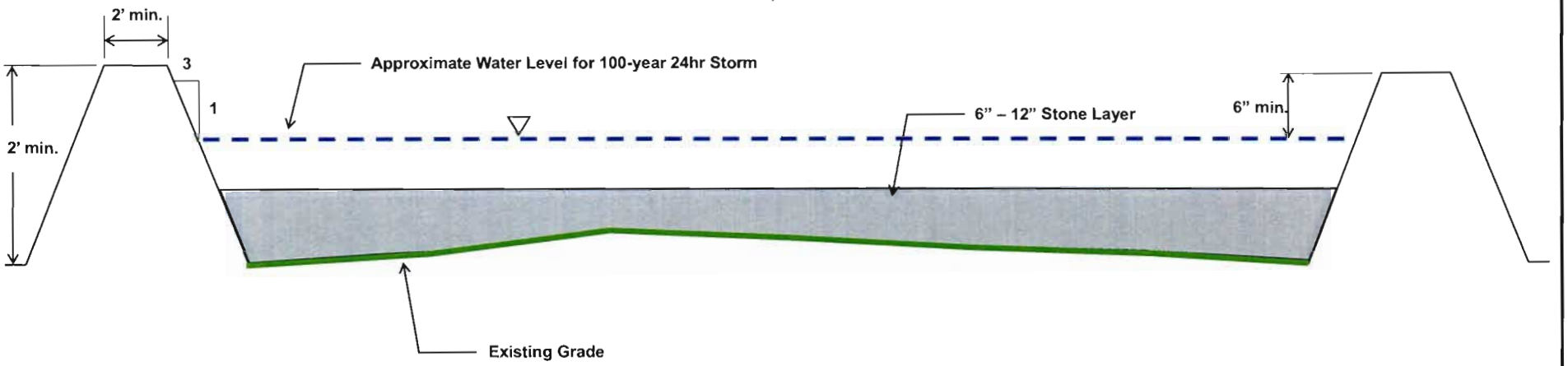
0 40' 80'
SCALE IN FEET
(HORIZONTAL)

0 8' 16'
SCALE IN FEET
(VERTICAL)

Geosyntec consultants
KENNESAW, GA

DATE:	July 10	SCALE:	AS SHOWN
PROJECT NO.	GJ4299.04.24	FILE NO.	4299X035
DOCUMENT NO.	–	FIGURE NO.	SCA–1

L:\GJOBS\GJ\ONONDAGA LAKE\PERMIT\SCA SECTIONS\FINAL DESIGN GJ4299.03.17\DRAWINGS\4299X035_CROSS SECTION



1" = 20' Horizontal
1" = 1' Vertical

Note: Ramps will be constructed to access to interior of Staging Area

Preliminary Draft – Settlement Confidential

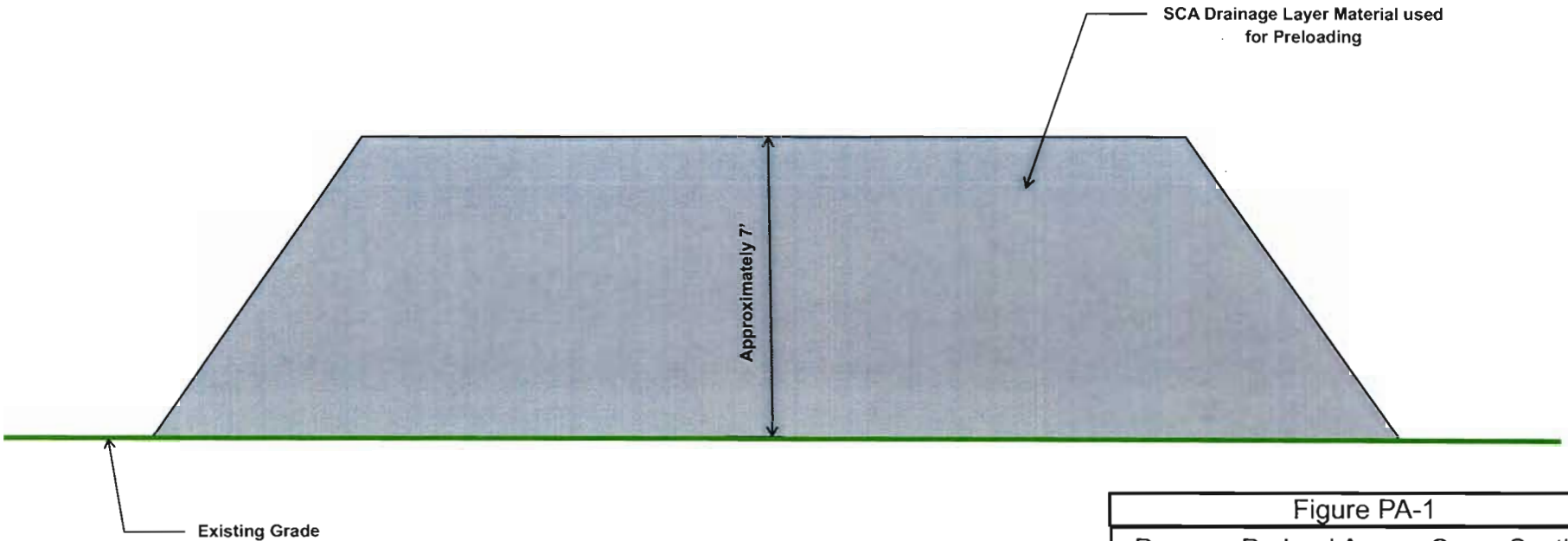
Figure SA-1

Staging Area 1 – Cross Section

2010 Construction

Water Treatment Plant & Sediment Consolidation Area SWPP

PARSONS
301 Plainfield Road * Suite 350 * Syracuse, NY 13212 * Phone: (315) 451-9560



1" = 20' Horizontal
1" = 2.5' Vertical

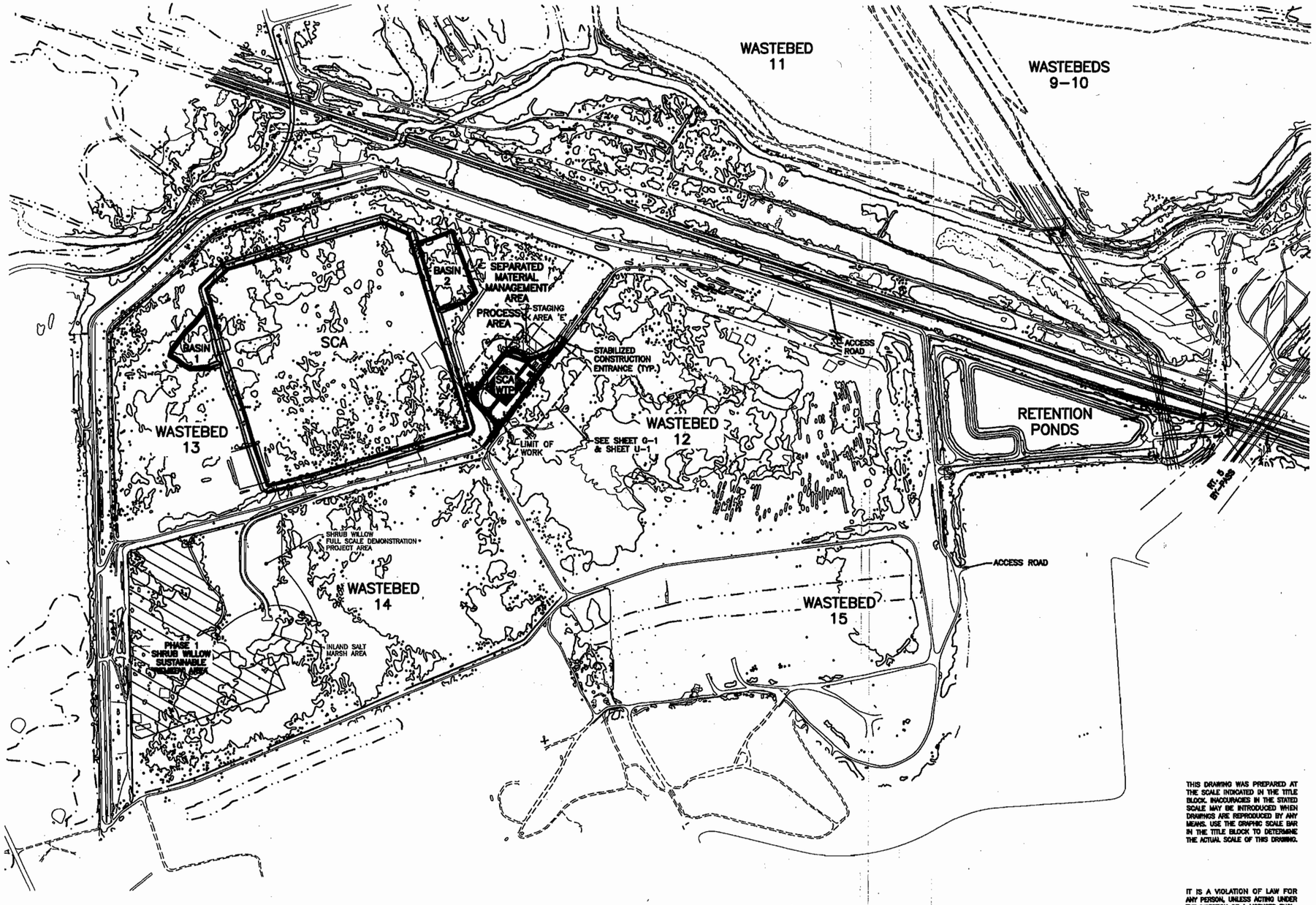
Figure PA-1

Process Preload Area – Cross Section

2010 Construction

Water Treatment Plant & Sediment Consolidation Area SWPP

PARSONS
301 Plainfield Road * Suite 350 * Syracuse, NY 13212 * Phone: (315) 451-9560



PLAN
SCALE: 1"=400'

NOTE:

1. YEAR 2010 CONSTRUCTION INCLUDES PRELOAD GRADING AND INITIATION PRELOAD REMOVAL AS SHOWN ON SHEETS G-3 & G-4.
2. THE CONTRACTOR SHALL CUT AND REMOVE VEGETATION FROM STAGING AREA E, INSTALL ONE LAYER OF TENSAR BX1200 AND 12-INCHES OF TYPE F SELECT FILL IN TWO 6-INCH LAYERS COMPACTED TO 95% MODIFIED PROCTOR.

SURVEY NOTE:

THE BASE PLAN SURVEY CONTROL IS BASED ON THE FOLLOWING:

HORIZONTAL – NORTH AMERICAN DATUM 1983 (NAD83) PROJECTED ON NEW YORK STATE PLANE COORDINATE SYSTEM (CENTRAL ZONE)
VERTICAL – NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

LEGEND

— · · — 100 YEAR FEMA FLOOD ZONE
— · — NYS FRESHWATER WETLAND

THIS DRAWING IS PROVIDED FOR INFORMATION ONLY. SEE SHEETS G-3 & G-4 FOR YEAR 2010 ACTIVITIES

NO.	DATE	REVISION	INIT.
F	7/28/10	FOR SWPPP SUBMITTAL	
E	7/20/10	FINAL DESIGN	
D	5/27/10	EFFLUENT PIPING RFP PACKAGE	
C	5/19/10	REVISED TO INCLUDE CONSTRUCTION STAGING AREAS	
B	5/12/10	DP #2 FOR NYSDEC AND COUNTY REVIEW	
A	4/09/10	DP #2 DRAFT FOR HONEYWELL REVIEW	

1"=400' 400 0 400 800

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR 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.

STATE OF NEW YORK BRUCE R. WADE 072720 LICENSED PROFESSIONAL ENGINEER

O'BRIEN & GERE ENGINEERS INC.

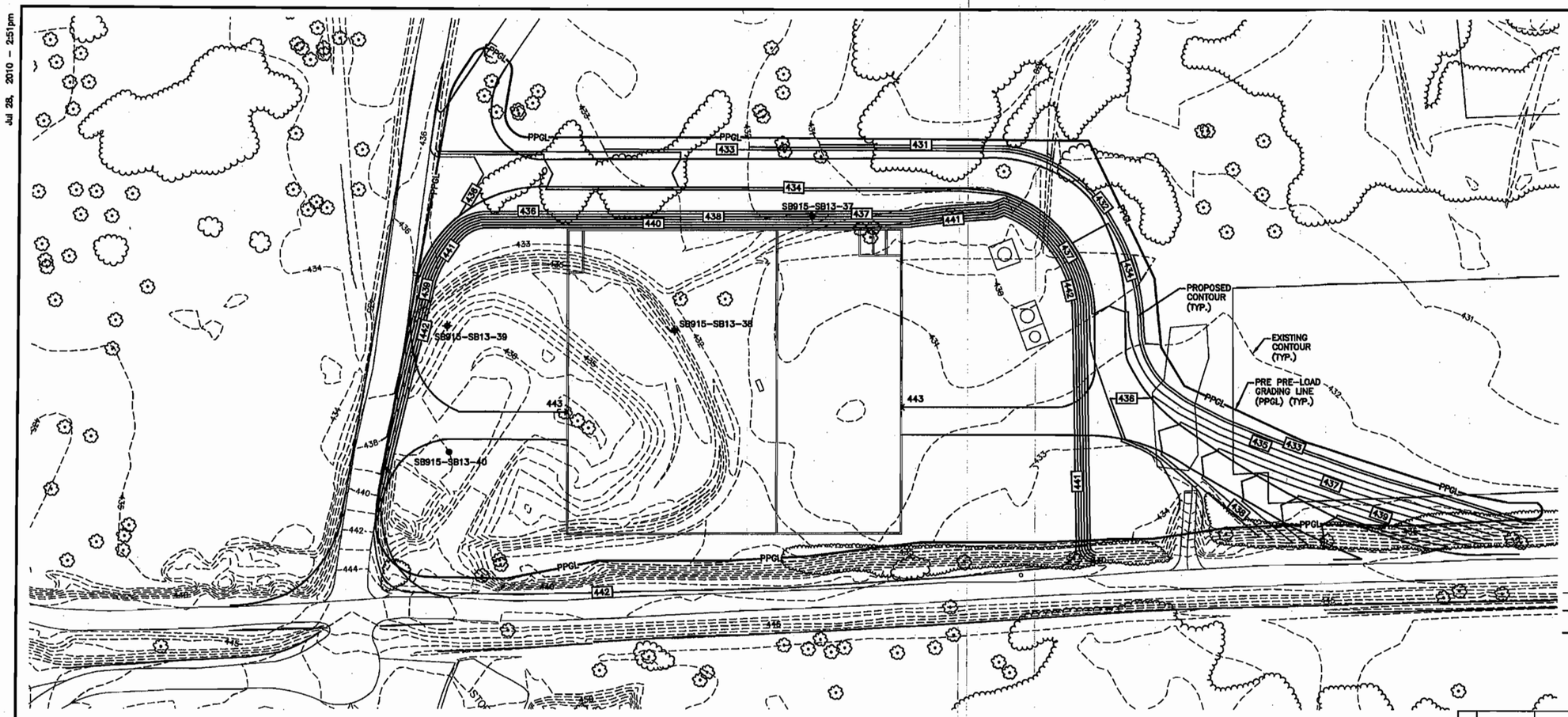
HONEYWELL INTERNATIONAL, INC.
DP #2
WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

OVERALL SITE & KEY PLAN

IN CHARGE OF M.E. REWKOWSKI
DESIGNED BY MER CHECKED BY RGD
DRAWN BY SLJ/DOK

FILE NO. 1163.45613-SP1
DATE MAY 2010

SP-1



PLAN
SCALE: 1"=40'

NOTES:

1. THE SITE SHALL BE GRADED BY REMOVAL OF MATERIAL FROM WITHIN THE LIMITS OF PRE PRE-LOAD GRADING LINE (PPGL) LINE TO AN APPROXIMATE ELEVATION OF 431'.
2. REQUIRED PIEZOMETERS AND SETTLEMENT PLATES SHALL BE INSTALLED AT THE LOCATIONS AS DIRECTED BY PARSONS AND GEOSYNTEC.
3. PRELOAD MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES TO THE GRADES AND ELEVATIONS SHOWN. EACH LIFT SHOULD BE COMPACTED TO A MINIMUM OF 95% PROCTOR AND ATTAIN A MINIMUM DENSITY OF 120 POUNDS PER CUBIC FOOT. EACH LIFT SHALL BE TESTED USING A NUCLEAR DENSITY TESTING METER IN ACCORDANCE WITH ASTM D2922. A MINIMUM OF 4 TESTS PER LIFT SHALL BE PERFORMED.
4. THE SETTLEMENT PLATES AND PIEZOMETERS SHALL BE MONITORED AT THE FREQUENCY PROVIDED BY PARSONS AND GEOSYNTEC.
5. PRELOAD SOILS SHALL BE REMOVED FOLLOWING THE COMPLETION OF THE PRELOAD CYCLE. THE PRE-LOAD MATERIAL SHALL BE REMOVED TO THE GRADES SHOWN ON G-4 PRE-LOAD REMOVAL GRADING PLAN.

STATE OF NEW YORK · BROOKE WHITE · 072139 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	INIT.
C	7/28/10	REVISED FOR SWPPP SUBMITTAL	
B	7/20/10	FINAL DESIGN	
A	6/29/10	ISSUED FOR REVIEW	

1"=40' 40 0 40 80

O'BRIEN & GERE ENGINEERS INC.

HONEYWELL INTERNATIONAL, INC.
WATER TREATMENT PLANT
TOWN OF CAMILLUS, NY

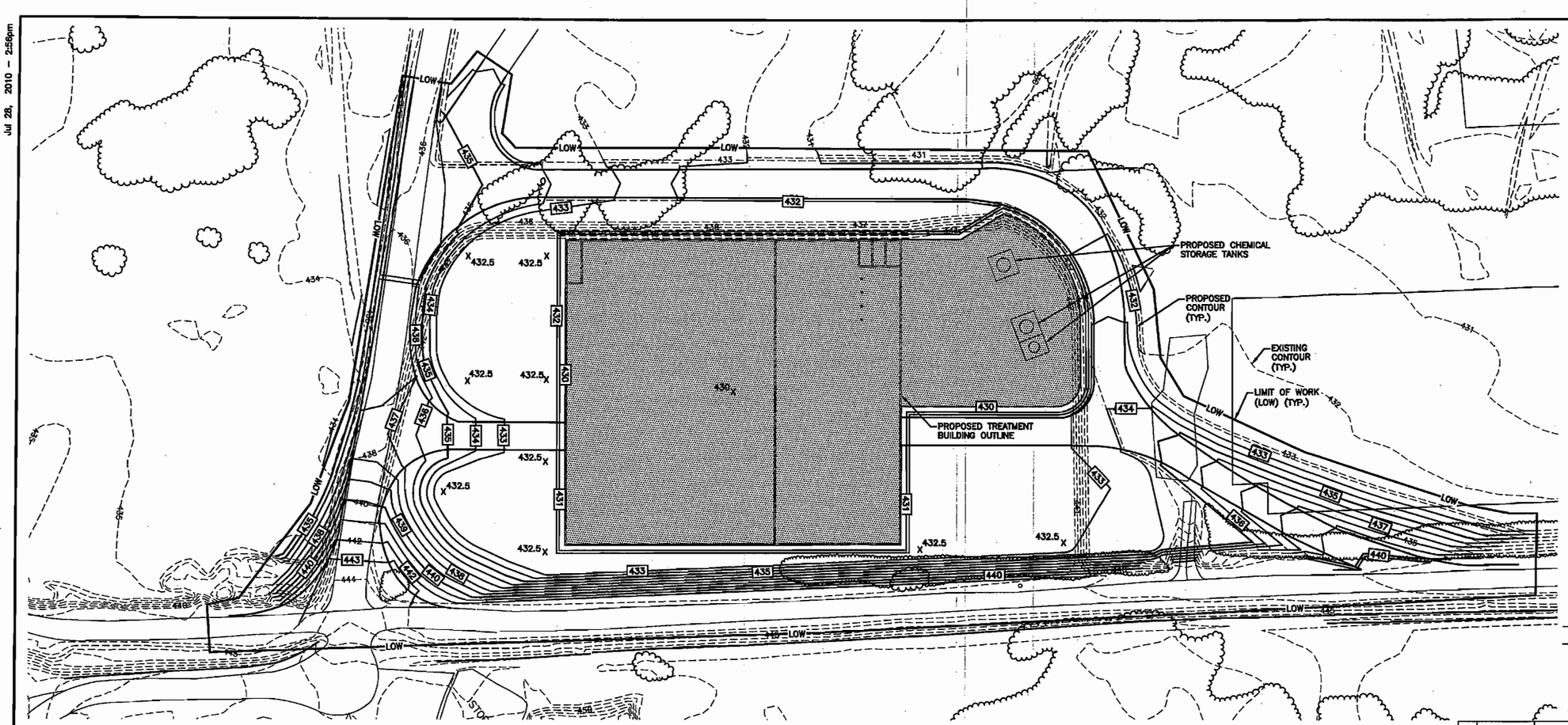
PRE-LOAD GRADING PLAN

IN CHARGE OF P. D. SCHULTZ
DESIGNED BY DTF CHECKED BY MER
DRAWN BY SLJ

FILE NO. 1163.45613-G3
DATE MAY 2010

G-3

Jul 28, 2010 - 2:56pm

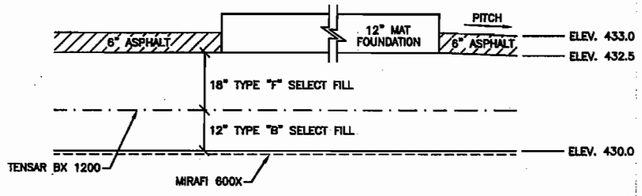


LEGEND

- 446 — EXISTING CONTOUR
- 437 — PROPOSED CONTOUR
- PROPOSED TENSAR BX1200

PLAN

SCALE: 1"=40'



SITE AFTER PRE-LOAD IS REMOVED
TYPICAL MAT FOUNDATION/ASPHALT DETAIL

NOT TO SCALE

NO.	DATE	REVISION	INIT.
C	7/28/10	REVISED FOR SWPPP SUBMITTAL	
B	7/20/10	FINAL DESIGN	
A	6/28/10	ISSUED FOR REVIEW	

1"=40' 40 0 40 80

STATE OF NEW YORK BRIAN E. WHITE 072135 LICENSED PROFESSIONAL ENGINEER

O'BRIEN & GERE ENGINEERS INC.

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

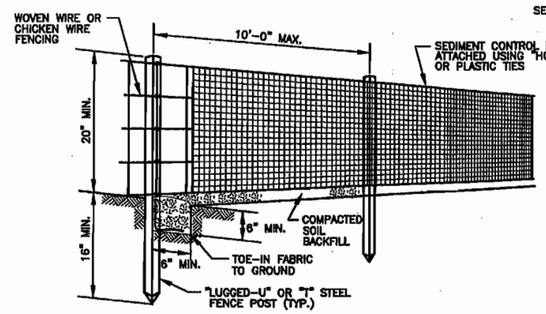
PRE-LOAD REMOVAL GRADING PLAN

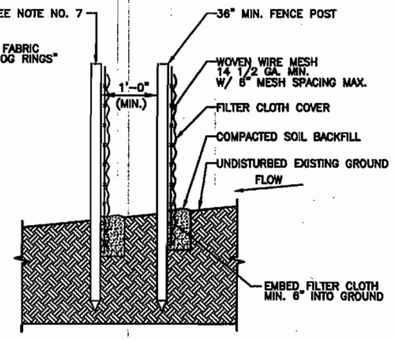
IN CHARGE OF P. D. SCHULTZ
DESIGNED BY DTF CHECKED BY MER
DRAWN BY SLJ

FILE NO. 1163.45613-G4
DATE MAY 2010

G-4

I:\Honeywell.1163\45613.Sca-Wtp-Details\Docs\DWG\DP-2\Sheets\SWPPP\44523-G4.dwg





SECTION DETAIL

1. SILT FENCE SHALL BE PLACED AS INDICATED ON THE ESC PLANS.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
4. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-- LAPPED BY SIX INCHES AND FOLDED.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
6. FENCE TO BE ALIGNED ALONG CONTOUR AS CLOSELY AS POSSIBLE.
7. FENCE SHALL BE DOUBLED AT THE TOE OF ALL SLOPES GREATER THAN 15 PERCENT, AND ADJACENT TO WATER BODIES.

POSTS : STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE : WOVEN WIRE 14.5 GAUGE 6" MAX. MESH OPENING

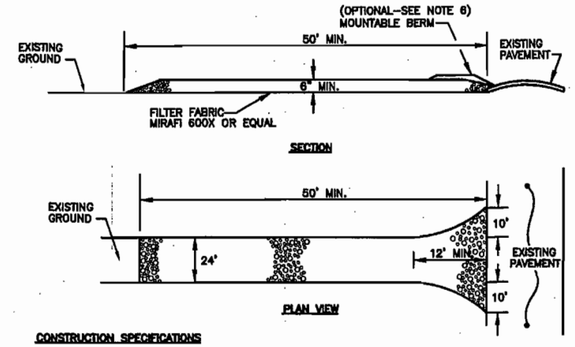
FILTER CLOTH : MINIMUM TENSILE STRENGTH OF 120 LBS. (ASTM D-16826)

PREFABRICATED UNIT : MIRAFI ENVIROFENCE, OR APPROVED EQUAL

STANDARD SYMBOL ——SF——SF

SILT FENCE DETAIL

NOT TO SCALE

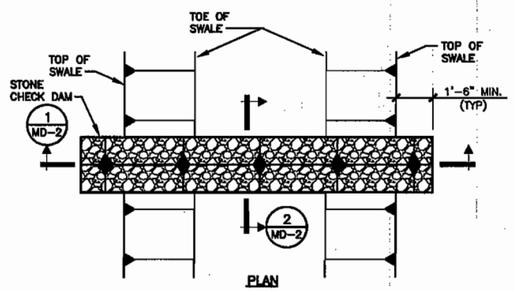


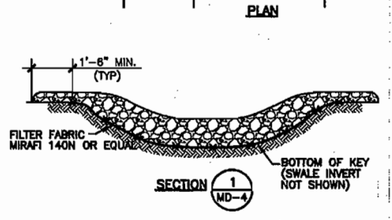
CONSTRUCTION SPECIFICATIONS

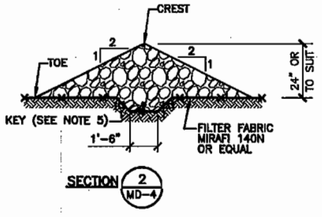
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET
3. THICKNESS - NOT LESS THAN SIX (6) INCHES
4. WIDTH TWENTY-FOUR (24) FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE EGRESS OCCURS.
5. FILTER FABRIC (MIRAFI 600X OR EQUAL) - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS NOT POSSIBLE, A MOUNTABLE BERM 3' WIDE (MIN.) WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO ADJACENT SEDIMENT BASINS.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT STORM WATER POLLUTION PREVENTION PLAN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE







CONSTRUCTION SPECIFICATIONS

1. NYSDOT ITEM 623.12 STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SUCH THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM. MAXIMUM SPACING 300 FEET.
3. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. KEY SHALL BE 0'-6" DEEP AND LINED WITH FILTER FABRIC FOR FULL LENGTH OF CHECK DAM.

CHECK DAM DETAIL

NOT TO SCALE

STATE OF NEW YORK BRIAN E. WHITE 072739 LICENSED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	INIT.
D	7/28/10	REVISED FOR SWPPP SUBMITTAL	
C	5/27/10	EFFLUENT PIPING RFP PACKAGE	
B	5/12/10	DP #2 FOR NYSDEC AND COUNTY REVIEW	
A	4/09/10	DP #2 DRAFT FOR HONEYWELL REVIEW	

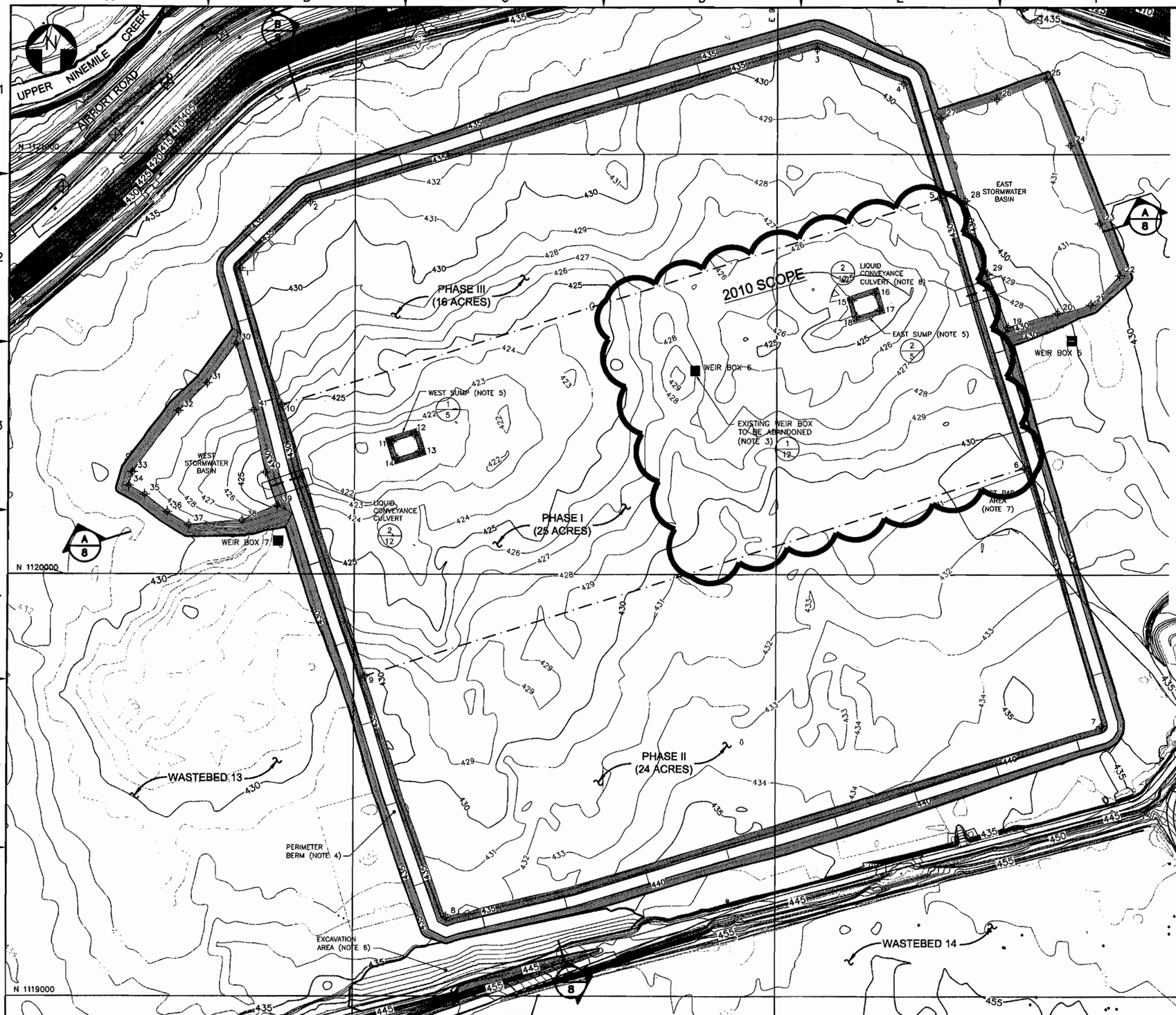
HONEYWELL INTERNATIONAL, INC.
DP #2
WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

MISCELLANEOUS DETAILS

IN CHARGE OF M.E. REWKOWSKI
DESIGNED BY MER CHECKED BY RGD
DRAWN BY SLJ/DOK

FILE NO. 1163.45613-MD4
DATE MAY 2010

MD-4



BERM AND SUMP CONTROL POINTS

POINT NUMBER	NORTHING	EASTING
1	1120726	905728
2	1120886	905894
3	1121250	907092
4	1121159	907298
5	1120896	907383
6	1120253	907584
7	1119642	907770
8	1119188	906220
9	1119759	906026
10	1120402	905828
11	1120314	906089
12	1120330	906142
13	1120291	906154
14	1120275	905101
15	1120652	907176
16	1120668	907229
17	1120629	907241
18	1120613	907188
19	1120588	907544
20	1120621	907662
21	1120641	907741
22	1120711	907811
23	1120835	907763
24	1121022	907692
25	1121180	907633
26	1121131	907517
27	1121085	907386
28	1120890	907443
29	1120715	907496
30	1120548	905718
31	1120454	905650
32	1120387	905582
33	1120242	905473
34	1120210	905464
35	1120189	905502
36	1120147	905556
37	1120117	905607
38	1120127	905734
39	1120163	905818
40	1120241	905789
41	1120389	905761

NOTES:

1. THE TOPOGRAPHIC CONTOURS SHOWN ON THIS DRAWING WERE OBTAINED FROM A TOPOGRAPHIC MAP COMPILED BY TVGA CONSULTANTS USING PHOTOGRAMMETRIC METHODS BASED ON AERIAL PHOTOGRAPHY PERFORMED ON 6 APRIL 2008. THE MAP WAS COMPILED IN ACCORDANCE WITH NATIONAL MAP ACCURACY STANDARDS FOR 1 INCH EQUAL TO 50 FEET SCALE. THE TOPOGRAPHIC MAP WAS PROVIDED TO GEOSYNTEC BY PARSONS.
2. THE SCA DESIGN SHOWN ON THIS DRAWING IS FOR A CAPACITY OF UP TO 2.65 MILLION CUBIC YARDS.
3. WEIR BOX NO. 6 SHALL BE ABANDONED BEFORE BEGINNING CONSTRUCTION PER THE DETAIL SHOWN ON DRAWING 12.
4. THE PERIMETER BERM SHALL HAVE A MINIMUM HEIGHT OF 5 FEET WITH 2.5H:1V SIDE SLOPES AND AN OVERALL MINIMUM LONGITUDINAL SLOPE OF 0.5%
5. EXCAVATIONS SHALL BE PERFORMED AT PROPOSED SUMP LOCATIONS PER THE GRADES PRESENTED ON DRAWING NO. 5.
6. THE EXISTING FILL SOIL SHALL BE EXCAVATED PER THE GRADES SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTING THE PERIMETER BERM DURING PHASE II.
7. THE FILL SOIL IN THE TEST PAD AREA SHALL BE EXCAVATED PER THE GRADES SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. THE EXCAVATED FILL MATERIAL SHALL BE REUSED AS DIRECTED BY THE ENGINEER. ANY EXISTING INSTRUMENTATION WITHIN THE TEST PAD AREA SHOULD ALSO BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER.
8. THE TEMPORARY LIQUID CONVEYANCE CULVERT SHALL CONSIST OF (4) 24 INCH DIAMETER PIPES AT A SLOPE OF 1%. THESE PIPES SHALL BE PLUGGED WITH BENTONITE BEFORE CLOSURE PER THE DETAILS SHOWN ON DRAWING 12.

LEGEND

- 430 — EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- 440 — PROPOSED PERIMETER BERM (NOTE 4)
- EXISTING ROAD
- WEIR BOX 5 — EXISTING WEIR BOX
- PHASE BOUNDARY

Geosyntec consultants
1255 ROBERTS BOULEVARD, N.W., SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500

NO.	DESCRIPTION	DATE	DRAWN	CHK'D	APP'D
0	ISSUED FOR CONSTUCTION	JULY 2010	JHS	RK	JFB

DRAWN BY	JHS	DATE	JULY 2010
CHECKED BY	RK	DATE	JULY 2010
APPROVED BY	JFB	DATE	JULY 2010
PROJECT MGR.	JFB	DATE	JULY 2010

SEAL: STATE OF NEW YORK — JOHN F. BEECH — No. 066337 — LICENSED PROFESSIONAL ENGINEER

PARSONS
COMMERCIAL TECHNOLOGY GROUP
OFFICE: 301 PLAINFIELD ROAD, SYRACUSE, NY 13212, (315) 451-9560

JOB: 444853
WBS:

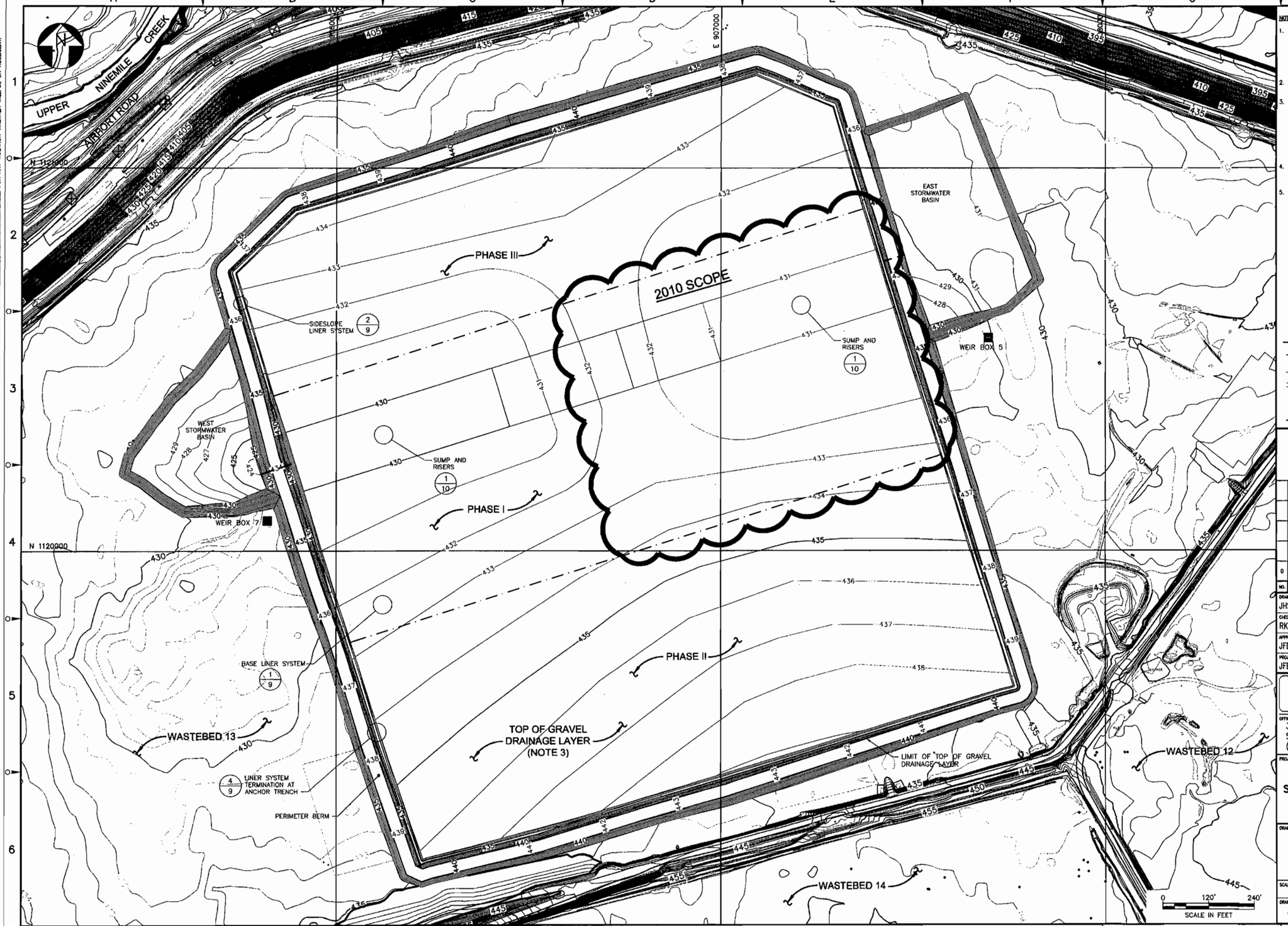
PROJECT TITLE
Honeywell
SEDIMENT CONSOLIDATION AREA
ONONDAGA LAKE BOTTOM
SUBSITE REMEDIAL DESIGN

DRAWING TITLE
BERM AND SUBGRADE GRADING PLAN

SCALE: SCALE: 1" = 120'
(IF PRINTED ON 22x34 SHEET)

DRAWING NO. 444853-101-C-003
REV. 0

FILE NAME: L:\GAO\O\ONONDAGA LAKE\PERMIT\SCA DEDTUBES\ISSUED FOR CONSTRUCTION REV-0\REDUCED SET (NO FINAL COVER)\DRAWINGS\A2597002.DWG
PLOT DATE: 4/18/2007 12:45 PM PLOTTED BY: JONATHAN SPEED



NOTES:

1. THE TOPOGRAPHIC CONTOURS SHOWN ON THIS DRAWING WERE OBTAINED FROM A TOPOGRAPHIC MAP COMPILED BY TVGA CONSULTANTS USING PHOTOGRAMMETRIC METHODS BASED ON AERIAL PHOTOGRAPHY PERFORMED ON 6 APRIL 2008. THE MAP WAS COMPILED IN ACCORDANCE WITH NATIONAL MAP ACCURACY STANDARDS FOR 1 INCH EQUAL TO 50 FEET SCALE. THE TOPOGRAPHIC MAP WAS PROVIDED TO GEOSYNTEC BY PARSONS.
2. THE SCA DESIGN SHOWN ON THIS DRAWING IS FOR A CAPACITY OF UP TO 2.65 MILLION CUBIC YARDS.
3. GRAVEL DRAINAGE LAYER THICKNESS WILL BE USED TO VERIFY THAT THE MINIMUM THICKNESS REQUIREMENTS ARE MET AS PRESENTED IN THE TECHNICAL SPECIFICATIONS. THE ELEVATION MEASUREMENTS OF THE TOP OF THE GRAVEL DRAINAGE LAYER TAKEN AFTER THE CONSTRUCTION SHALL BE USED TO VERIFY GENERAL CONFORMANCE WITH DESIGN SLOPES AS PRESENTED IN THE TECHNICAL SPECIFICATIONS. DUE TO THE COMPRESSIBLE NATURE OF THE FOUNDATION, A STRICT CONFORMANCE WITH THE DESIGN ELEVATIONS IS NOT REQUIRED.
4. GRAVEL DRAINAGE LAYER MATERIAL CAN BE USED TO LOCALLY ADJUST THE SLOPES DURING FILLING OF GEOTEXTILE TUBES AS NEEDED.
5. A MINIMUM OF 2 FT OF GRAVEL MATERIAL SHALL BE PLACED IN AREAS TRAFFICKED BY RUBBER-TIRED VEHICLES. THE GRAVEL CAN BE GRADED OUT WITH A BULLDOZER WHEN NO LONGER NEEDED.

LEGEND

- 430 — EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- 440 — PROPOSED PERIMETER BERM
- EXISTING ROAD
- WEIR BOX 5 — EXISTING WEIR BOX
- PHASE BOUNDARY

Geosyntec consultants
1255 ROBERTS BOULEVARD, N.W., SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500

NO.	DESCRIPTION	DATE	DRAWN	CHK'D	APPV'D
0	ISSUED FOR CONSTUCTION	JULY 2010	JHS	RK	JFB

DRAWN BY	JHS	DATE	JULY 2010
CHECKED BY	RK	DATE	JULY 2010
APPROVED BY	JFB	DATE	JULY 2010
PROJECT MGR.	JFB	DATE	JULY 2010

SEAL: STATE OF NEW YORK — JOHN F. BRADY — No. 065837 — LICENSED PROFESSIONAL ENGINEER

PARSONS
COMMERCIAL TECHNOLOGY GROUP
OFFICE: 301 PLAINFIELD ROAD, SYRACUSE, NY 13212, (315) 451-9560

JOB: 444853
WBS:

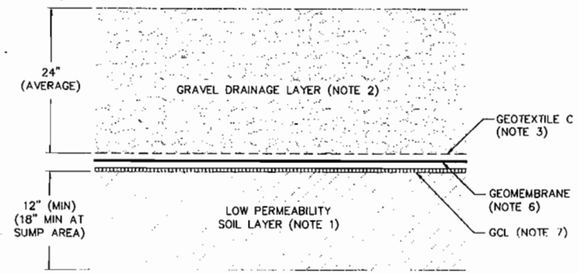
PROJECT TITLE
Honeywell
SEDIMENT CONSOLIDATION AREA
ONONDAGA LAKE BOTTOM
SUBSITE REMEDIAL DESIGN

DRAWING TITLE
TOP OF GRAVEL DRAINAGE LAYER

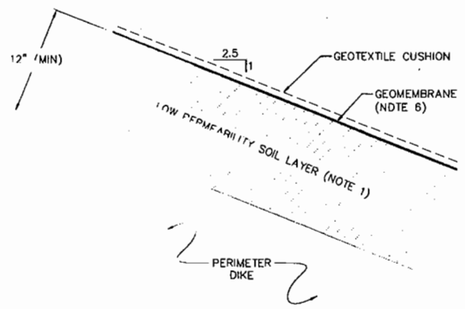
SCALE: SCALE: 1" = 120' (IF PRINTED ON 22x34 SHEET)

DRAWING NO. 444853-101-C-006 REV. 0

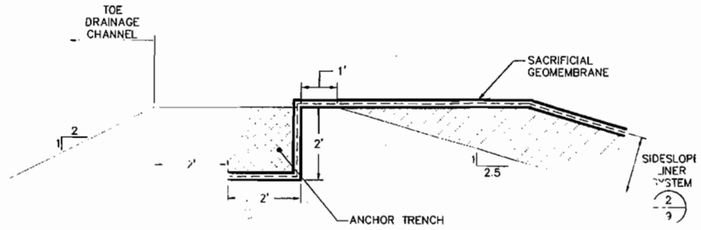
FILE NAME: L:\CAD\D\ONONDAGA LAKE\PERMIT\SCA GEOTUBES\ISSUED FOR CONSTRUCTION REV-0\REDUCED SLT (NO FINAL COVER)\DRAWINGS\444853002.DWG
PLOT DATE: 4/18/2007 12:45 PM PLOTTED BY: JONATHAN SPEED



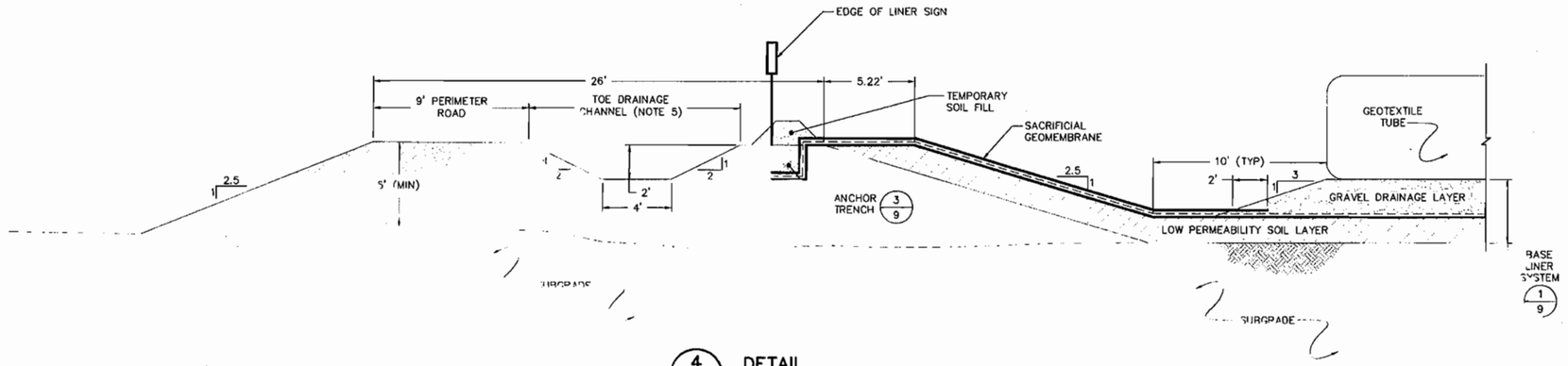
1/6 DETAIL
BASE LINER SYSTEM
SCALE: 1" = 1'



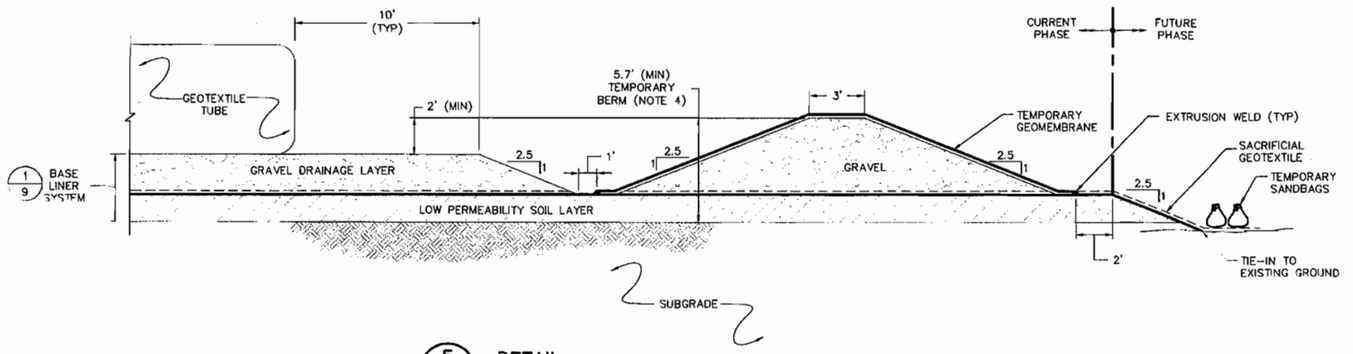
2/6 DETAIL
SIDESLOPE LINER SYSTEM
SCALE: 1" = 1'



3/9 DETAIL
ANCHOR TRENCH
SCALE: 1" = 2'



4/6 DETAIL
LINER SYSTEM TERMINATION AT ANCHOR TRENCH
SCALE: 1" = 4'



5/4 DETAIL
LINER SYSTEM TERMINATION AT TEMPORARY BERM
SCALE: 1" = 4'

NOTES:

1. THE TOP SIX (6) INCHES OF THE LOW PERMEABILITY SOIL LAYER SHALL HAVE A HYDRAULIC CONDUCTIVITY NOT MORE THAN 1 X 10^{-6} CENTIMETER PER SECOND (CM/S) AND MEET ALL REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
2. THE GRAVEL DRAINAGE LAYER SHALL HAVE A HYDRAULIC CONDUCTIVITY NOT LESS THAN 10 CENTIMETER PER SECOND (CM/S) AND MEET ALL REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS. THE GRAVEL DRAINAGE LAYER SHALL HAVE A MINIMUM THICKNESS OF ONE FOOT. ONLY LOW GROUND PRESSURE EQUIPMENT SHALL BE ALLOWED IN AREAS WITH LESS THAN TWO FEET GRAVEL THICKNESS.
3. THE REQUIRED MINIMUM DENSITY FOR THE GEOTEXTILE CUSHION WILL BE DETERMINED BASED ON PUNCTURE TESTING USING THE SELECTED GRAVEL AND GEOMEMBRANE AND SHALL NOT BE LESS THAN 12 oz PER yd^2.
4. TEMPORARY BERM SHALL BE REMOVED TO TIE-IN LINER SYSTEM EXPANSION.
5. TOE DRAINAGE CHANNEL CAN BE INSTALLED AT THE TIME OF CLOSURE.
6. THE GEOMEMBRANE LINER SHALL BE 60 mil LLDPE TEXTURED ON BOTH SIDES.
7. A LAYER OF GCL SHALL BE PLACED DIRECTLY UNDER THE GEOMEMBRANE IN THE SUMP AND ADJACENT AREAS EXTENDING UP TO ELEVATION 424 FOR THE WESTERN SUMP AND ELEVATION 427 FOR THE EASTERN SUMP ON THE TOP OF LOW PERMEABILITY SOIL LINER CONTOURS SHOWN ON DRAWING 4.

Geosyntec consultants
1255 ROBERTS BOULEVARD, N.W., SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500

NO.	DESCRIPTION	DATE	DRAWN	CHK'D	APPV'D
0	ISSUED FOR CONSTUCTION	JULY 2010	JHS	RK	JFB

DRAWN BY	JHS	DATE	JULY 2010
CHECKED BY	RK	DATE	JULY 2010
APPROVED BY	JFB	DATE	JULY 2010
PROJECT MGR.	JFB	DATE	JULY 2010

SEAL: STATE OF NEW YORK — JOSEPH F. BOGARDUS — NO. 086557 — LICENSED PROFESSIONAL ENGINEER

PARSONS
COMMERCIAL TECHNOLOGY GROUP

OFFICE
301 PLAINFIELD ROAD
SYRACUSE, NY 13212
(315) 451-9560

JOB 444853
WBS

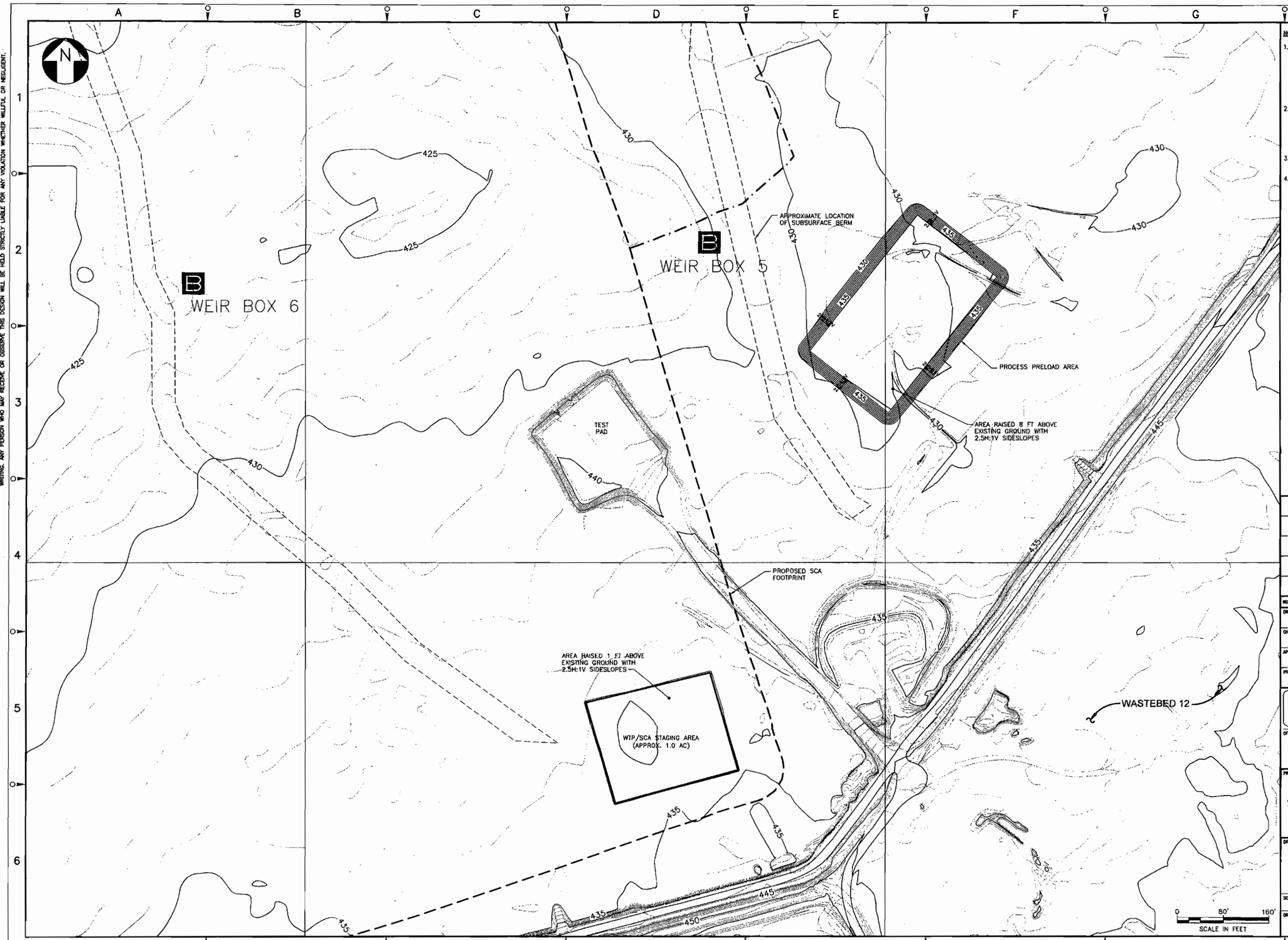
PROJECT TITLE
Honeywell
SEDIMENT CONSOLIDATION AREA
ONONDAGA LAKE BOTTOM
SUBSITE REMEDIAL DESIGN

DRAWING TITLE
LINER SYSTEM DETAILS

SCALE: SCALE: AS SHOWN (IF PRINTED ON 22x34 SHEET)

DRAWING NO. 444853-101-C-009
REV. 0

FILE NAME: L:\CADD\D\ONONDAGA LAKE\PERMIT\SCA DESIGNS\ISSUED FOR CONSTRUCTION REV-0\REDUCED SET (NO FINAL CONDO)\DRAWINGS\429910002.DWG
PLOT DATE: 4/16/2007 12:45 PM PLOTTED BY: JONATHAN SPEED



NOTES:

1. THE TOPOGRAPHIC CONTOURS SHOWN ON THIS DRAWING WERE OBTAINED FROM A TOPOGRAPHIC MAP COMPILED BY TVGA CONSULTANTS USING PHOTOGRAMMETRIC METHODS BASED ON AERIAL PHOTOGRAPHY PERFORMED ON 6 APRIL 2008. THE MAP WAS COMPILED IN ACCORDANCE WITH NATIONAL MAP ACCURACY STANDARDS FOR 1 INCH EQUAL TO 50 FEET SCALE. THE TOPOGRAPHIC MAP WAS PROVIDED TO GEOSYNTEC BY PARSONS.
2. COORDINATES SHOWN HEREIN ARE EXPRESSED IN U.S. SURVEY FEET AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983/1996 (NAD 83/96) – NEW YORK STATE PLANE GRID, ZONE CENTRAL. ELEVATIONS SHOWN HEREIN ARE EXPRESSED IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. A FIELD SURVEY SHOULD BE PERFORMED IF NEEDED BEFORE THE CONSTRUCTION OF DIFFERENT SCA PHASES.
4. THE EXISTING LEACHATE CONTROL SYSTEM AND SPDES DISCHARGE POINT LOCATIONS WERE OBTAINED FROM A DRAWING PREPARED BY O'BRIEN AND GERE AND PROVIDED TO GEOSYNTEC BY PARSONS.

LEGEND

- 430 — EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- EXISTING ROAD
- EXISTING WEIR BOX
  WEIR BOX 5

NO.	DESCRIPTION	DATE	APP'D
	ISSUED FOR SWPPP	7-29-10	RJS

DRAWN BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT MGR.	DATE

STATE OF NEW YORK
PAUL E. BLISS
087886
LICENSED PROFESSIONAL ENGINEER

PARSONS
COMMERCIAL TECHNOLOGY GROUP

OFFICE
301 PLAINFIELD ROAD
SYRACUSE, NY 13212
(315) 451-9560

JOB 444853
WBS

PROJECT TITLE
Honeywell
SEDIMENT CONSOLIDATION AREA
ONONDAGA LAKE BOTTOM
SUBSITE REMEDIAL DESIGN

DRAWING TITLE
GRADING PLAN FOR PROCESS PRELOAD AND STAGING AREAS

SCALE: SCALE: 1" = 80'
(IF PRINTED ON 22x34 SHEET)

DRAWING NO. 444853-101-C-999
REV. –

FILE NAME: L:\CADD\01\ONONDAGA LAKE\PERMIT\SCA GEOTUBES\ISSUED FOR CONSTRUCTION REV-0\REDUCED SET (NO FINAL COVER)\DRAWINGS\1299-0132.DWG
PLOT DATE: 4/18/2007 12:48 PM PLOTTED BY: JONATHAN SPEED

APPENDIX A

SPDES General Permit
Notice of Intent

0669273036

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR [ ] (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR **MUST SIGN FORM**

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
HONEYWELL INTERNATIONAL INC.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
MCAULIFFE

Owner/Operator Contact Person First Name
JOHN

Owner/Operator Mailing Address
301 PLAINFIELD ROAD SUITE 330

City
SYRACUSE

State: NY Zip: 13212-

Phone (Owner/Operator): 315-552-9781 Fax (Owner/Operator): 315-552-9780

Email (Owner/Operator)
JOHN.MCAULIFFE@HONEYWELL.COM

FED. TAX ID
22-2640650 (not required for individuals)

0457273031

Project Site Information

Project/Site Name
SEDIMENT CONSOLIDATION AREA (SCA)

Street Address (NOT P.O. BOX)
GERELOCK ROAD

Side of Street
○ North ○ South ○ East ○ West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
CAMILLUS

State | Zip | County | DEC Region
NY | 13031 | ONONDAGA | 7

Name of Nearest Cross Street
NYS ROUTE 695

Distance to Nearest Cross Street (Feet)
300

Project in Relation to Cross Street
● North ○ South ○ East ○ West

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting): 3 9 7 6 3 8

Y Coordinates (Northing): 4 7 6 9 8 7 0

2. What is the nature of this construction project?

○ New Construction

● Redevelopment with increase in imperviousness

○ Redevelopment with no increase in imperviousness

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ● OTHER

SETTLING BASIN

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ● OTHER

SCA AND WTP

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ○ Yes ● No

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ○ Yes ● No

6. Is this property owned by a state authority, state agency or local government? ○ Yes ● No

7. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
114.3	114.3	0.0	2.3

8. Do you plan to disturb more than 5 acres of soil at any one time? ● Yes ○ No

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	2 %	98 %

4094273032

10. Is this a phased project? ● Yes ○ No

11. Enter the planned start and end dates of the disturbance activities.

Start Date	End Date
08/02/2010	12/31/2016

12. Identify the nearest, natural, surface waterbody(ies) to which construction site runoff will discharge.

Name

NINEMILE CREEK

12a. Type of waterbody identified in Question 12?

- ○ Wetland / State Jurisdiction On Site (Answer 12b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 12b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ● Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

12b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment in Appendix E of GP-0-10-001? ○ Yes ● No

14. Is this project located in one of the watersheds identified in Appendix C of GP-0-10-001? ● Yes ○ No

15. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? **If no, skip question 16.** ○ Yes ● No

16. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ Yes ○ No
If Yes, what is the acreage to be disturbed?

17. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ Yes ● No

18. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ● Yes ○ No ○ Unknown
(If No, skip question 19)

19. What is the name of the municipality/entity that owns the separate storm sewer system?

HONEYWELL SITEWIDE LEACHATE COLLECTION AND CONVEYANCE SYSTEM

20. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices)? ● Yes ○ No
(If No, skip questions 23 and 27-35)

23. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ● Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● Professional Engineer (P.E.)
- ○ Soil and Water Conservation District (SWCD)
- ○ Registered Landscape Architect (R.L.A)
- ○ Certified Professional in Erosion and Sediment Control (CPESC)
- ○ Owner/Operator
- ○ Other

SWPPP Preparer

O'BRIEN & GERE

Contact Name (Last, Space, First)

WHITE, BRIAN

Mailing Address

5000 BRITTONFIELD PARKWAY

City

EAST SYRACUSE

State Zip

NY 13057-

Phone

315-437-6100

Fax

315-463-7554

Email

BRIAN.WHITE@OBG.COM

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-10-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

BRIAN

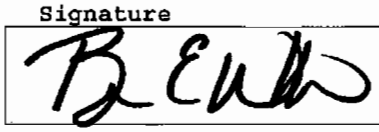
MI

E

Last Name

WHITE

Signature



Date

07 / 27 / 2010

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ● Check Dams
- ● Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ● Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ● Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ● Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ● Rock Outlet Protection
- ○ Streambank Protection

Other

LINER TO COLLECT STORMWATER & DISCHARGE VIA EXISTING SPDES OUTFALL

Water Quality and Quantity Control

Important: Completion of Questions 27-35 is not required if response to Question 22 is No.

Post-Construction Stormwater Management Practices

27. Indicate all Stormwater Management Practice(s) that will be installed/constructed on this site.

Ponds
- ○ Micropool Extended Detention (P-1)
- ○ Wet Pond (P-2)
- ○ Wet Extended Detention (P-3)
- ○ Multiple Pond System (P-4)
- ○ Pocket Pond (P-5)

Filtering
- ○ Surface Sand Filter (F-1)
- ○ Underground Sand Filter (F-2)
- ○ Perimeter Sand Filter (F-3)
- ○ Organic Filter (F-4)
- ○ Bioretention (F-5)
- ○ Other

Alternative Practice
- ○ Rain Garden
- ○ Cistern
- ○ Green Roof
- ○ Stormwater Planters
- ○ Permeable Paving (Modular Block)

Wetlands
- ○ Shallow Wetland (W-1)
- ○ Extended Detention Wetland (W-2)
- ○ Pond/Wetland System (W-3)
- ○ Pocket Wetland (W-4)

Infiltration
- ○ Infiltration Trench (I-1)
- ○ Infiltration Basin (I-2)
- ○ Dry Well (I-3)
- ○ Underground Infiltration System

Open Channels
- ○ Dry Swale (O-1)
- ○ Wet Swale (O-2)

Verified Proprietary Practice
- ○ Hydrodynamic
- ○ Wet Vault
- ○ Media Filter

28. Describe other stormwater management practices not listed above or explain any deviations from the technical standards.

Stormwater from the site will be collected and treated in the proposed WTP. It will then be sent to the OCDWEP Metropolitan Wastewater Treatment Plant for additional treatment.

29. Has a long-term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● Yes ○ No

If Yes, Identify the entity responsible for the long term Operation and Maintenance

HONEYWELL INTERNATIONAL INC.

30. Provide the total water quality volume required and the total provided for the site.

WQv Required ___.___ **acre-feet**

WQv Provided ___.___ **acre-feet**

31. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post developed 1 year, 24 hour storm event

CPv Required ___.___ **acre-feet**

CPv Provided ___.___ **acre-feet**

31a. The need to provide for channel protection has been waived because:

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ___.___ **CFS**

Post-development ___.___ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ___.___ **CFS**

Post-development ___.___ **CFS**

31b. The need to provide for flood control has been waived because:

○ **Site discharges directly to fourth order stream or larger**

● **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 31 and 32, impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s). (Total Drainage Area = Project Site + Offsite areas)

32. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. 0 %

33. Post Construction Impervious Area - As a percent of the Total Drainage Area, enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. 2 %

34. Indicate the total number of post-construction stormwater management practices to be installed/constructed. 0

35. Provide the total number of stormwater discharge points from the site. (include discharges to either surface waters or to separate storm sewer systems) 1

2514273037

36. Identify other DEC permits that are required for this project.

DEC Permits

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ● Other SPDES
- ○ Solid Waste
- ○ None
- ○ Other
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15

37. Does this project require a US Army Corps of Engineers Wetland Permit? ○ Yes ● No
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

38. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ Yes ● No
(If No, skip question 39)

39. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ Yes ● No

40. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. N Y R

Owner/Operator Certification

[illegible]

Print First Name: JOHN MI: P

Print Last Name: MCAULIFFE

Owner/Operator Signature: John P. McAuliffe

Date: 07/27/2010

APPENDIX B

SPDES NOI
Acknowledgement Form

New York State Department of Environmental Conservation
Division of Water, Region 7
615 Erie Boulevard West, Syracuse, New York 13204-2400
Phone: (315) 426-7500 • **Fax:** (315) 426-7459
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

August 2, 2010

John McAuliffe
Honeywell International
301 Plainfield Road, Suite 330
North Syracuse, New York 13212

Re: Water Treatment Plant and Sediment Consolidation Area – Phase 1A, Camillus (T), Onondaga County

Dear Mr. McAuliffe,

The Department has received a Stormwater Pollution Prevention Plan (SWPPP) and revisions dated July 30, 2010, for the above project. Our review of this material has determined that the SWPPP meets the minimum requirements of the *SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001)* with the following contingency:

- This acceptance only authorizes construction of the WTP preload area, process preload area and trailer staging area as depicted in the SWPPP. When written verification from the Metropolitan Syracuse Wastewater Treatment Plant (Metro) is received by this Department, stating that the Plant will accept stormwater discharges for treatment from the Phase 1A SCA and staging area on Wastebed 13, the remainder of Phase 1A construction will be authorized.

Authorization to disturb greater than five (5) acres of soil at any given time is also hereby granted. This acceptance does not relieve you of any other requirements listed in the General Permit (GP-0-10-001), or protect you from enforcement action initiated by this Department if permit violations are observed during inspections of the site by DEC staff.

All contractor companies involved in soil disturbing activity on the site must have a "trained contractor," who has attended a DEC-endorsed 4-hour Erosion and Sediment Control training, on site at each well site on a daily basis. Trained contractors are issued a wallet card with a trainee ID number and should be able to show their wallet card when requested by the DEC.

You must conduct inspections of the erosion and sediment controls and stormwater management structures twice weekly as required by General Permit GP-0-10-001 and you must modify those controls if they prove to be ineffective in preventing the mobilization and transport of soils from your property. The Department may also perform periodic inspections of the site to ensure compliance with this requirement.

If you have any questions or need any assistance, please contact me at (315) 426-7504.

Sincerely,

Ellen Hahn

Ellen Hahn, CPESC, CPSWQ
Stormwater Control Specialist

ecc: Al Labuz, Honeywell
Brian White, O'Brien & Gere Engineers
Paul Blue, Parsons
Tim Larson, NYSDEC
Mary Jane Peachey, NYSDEC
Richard Mustico, NYSDEC

SPDES Permit No. NY 0002275
Modification Request

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

July 21, 2010

Ms. Joanne L. March
Regional Permit Administrator
NYSDEC Region 7 Office
615 Erie Boulevard West
Syracuse, NY 13204-2400

RE: Modification to SPDES Permit #NY0002275
Outfall 018

Dear Ms. March:

I realized today that I should have addressed our request for a SPDES modification for the referenced permit and outfall to you rather than directly to Brian Baker in Albany, NY. Our request is specifically to allow clean storm water from the proposed Sediment Consolidation Area (SCA) to be built on our Wastebed #13 property.

During construction of the SCA, a 24 acre diked, geosynthetic lined impoundment will collect uncontaminated storm water until the placement of geotubes and sediment dredged from Onondaga Lake. TR-55 modeling calculations indicate that the potential storm water discharge would vary from 4.8 cubic feet per second (1-year 24-hour storm), 15.3 cubic feet per second (10-year 24-hour storm) or as much as 25.9 cubic feet per second (100-year 24-hour storm). Since Outfall 018 is located adjacent to Wastebed 13 and currently serves as a storm water discharge to Nine Mile Creek, the storm water that falls on the SCA liner can easily be discharged as well.

Please consider our request for modification of the SPDES permit and let me know if additional information is needed.

Sincerely,

A. J. Labuz

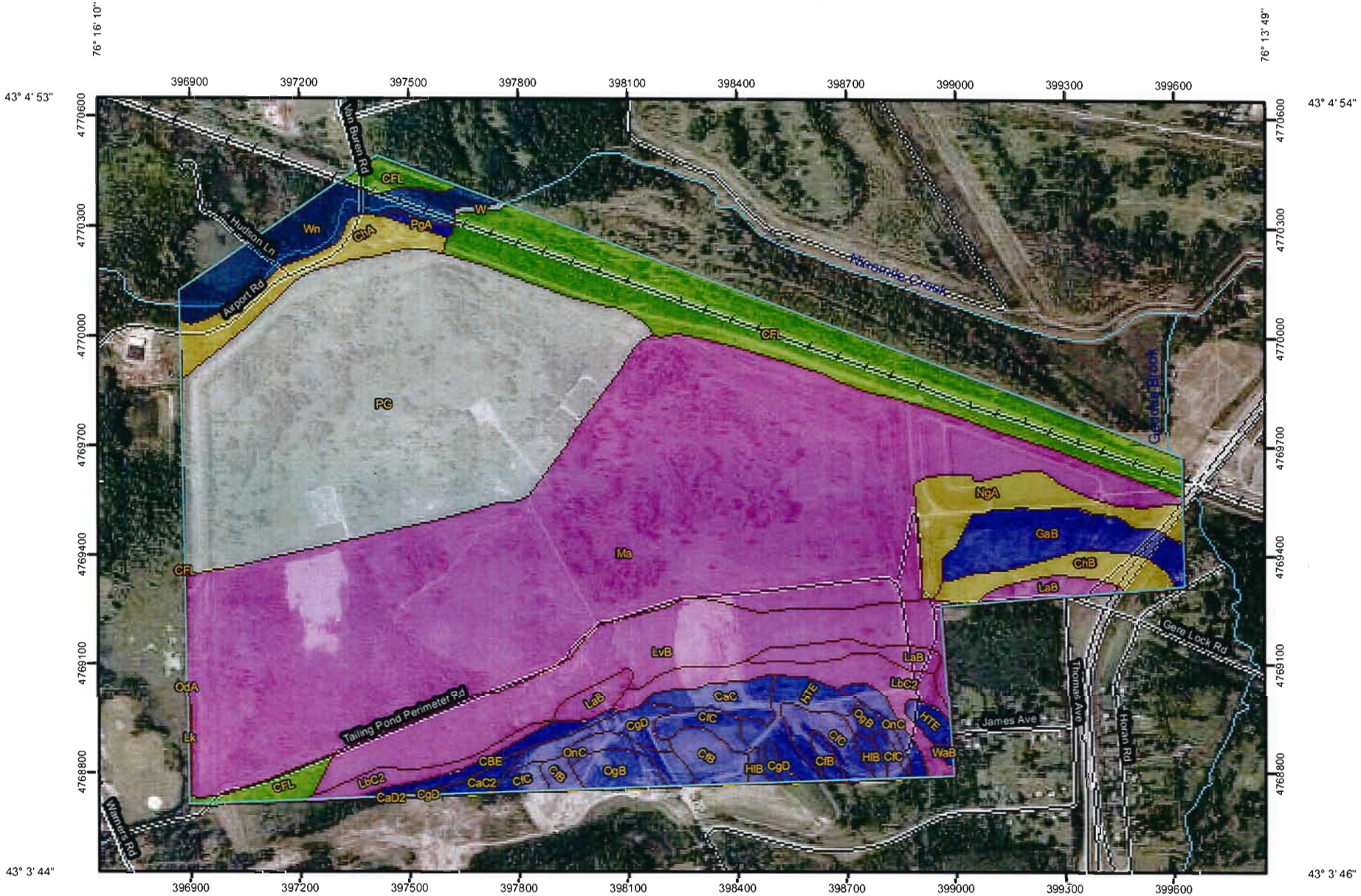
Alfred J. Labuz
Remediation Manager

cc: Brian Baker, P.E. NYSDEC Albany
Sandra Lizlovs, P.E. NYSDEC 7

APPENDIX D

Soils Information

Hydrologic Soil Group—Onondaga County, New York
(SEDIMENT CONSOLIDATION AREA)



Map Scale: 1:15,200 if printed on A size (8.5" x 11") sheet.

N

Meters: 0 200 400 800 1,200

Feet: 0 500 1,000 2,000 3,000

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Political Features

- Cities

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:15,200 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 5, Feb 18, 2010

Date(s) aerial images were photographed: 7/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Onondaga County, New York				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
CaC	Camillus silt loam, 6 to 12 percent slopes	B	6.3	0.7%
CaC2	Camillus silt loam, 6 to 12 percent slopes, eroded	B	2.2	0.3%
CaD2	Camillus silt loam, 12 to 18 percent slopes eroded	B	0.0	0.0%
CBE	Camillus and Lairdsville channery soils, steep	B	5.3	0.6%
CfB	Cazenovia silt loam, 2 to 8 percent slopes	B	9.8	1.2%
CfC	Cazenovia silt loam, 8 to 15 percent slopes	B	14.2	1.7%
CFL	Cut and fill land	A/D	80.7	9.5%
CgD	Cazenovia soils, 15 to 25 percent slopes	B	7.5	0.9%
ChA	Collamer silt loam, 0 to 2 percent slopes	C	14.4	1.7%
ChB	Collamer silt loam, 2 to 6 percent slopes	C	10.7	1.3%
GaB	Galen very fine sandy loam, 2 to 6 percent slopes	B	20.2	2.4%
HlB	Hilton loam, 3 to 8 percent slopes	B	2.3	0.3%
HTE	Honeoye, Lansing, and Ontario soils, steep	B	11.6	1.4%
LaB	Lairdsville silt loam, 2 to 6 percent slopes	D	14.3	1.7%
LbC2	Lairdsville silty clay loam, 6 to 12 percent slopes, eroded	D	21.9	2.6%
Lk	Lakemont silty clay loam	D	0.4	0.0%
LvB	Lockport and Brockport silty clay loams, 0 to 6 percent slopes	D	57.9	6.8%
Ma	Made land, chemical waste	D	320.9	37.9%
NgA	Niagara silt loam, 0 to 4 percent slopes	C	19.3	2.3%
OdA	Odessa silty clay loam, 0 to 2 percent slopes	D	0.0	0.0%
OgB	Ontario loam, 2 to 8 percent slopes	B	8.2	1.0%
OnC	Ontario gravelly loam, 8 to 15 percent slopes	B	7.7	0.9%
PG	Gravel pits		187.4	22.1%
PgA	Palmyra gravelly loam, 0 to 3 percent slopes	B	1.1	0.1%
W	Water		0.5	0.1%
WaB	Wampsville gravelly silt loam, 3 to 8 percent slopes	B	0.6	0.1%

Hydrologic Soil Group— Summary by Map Unit — Onondaga County, New York				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Wn	Wayland silt loam	C/D	21.8	2.6%
Totals for Area of Interest			**847.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

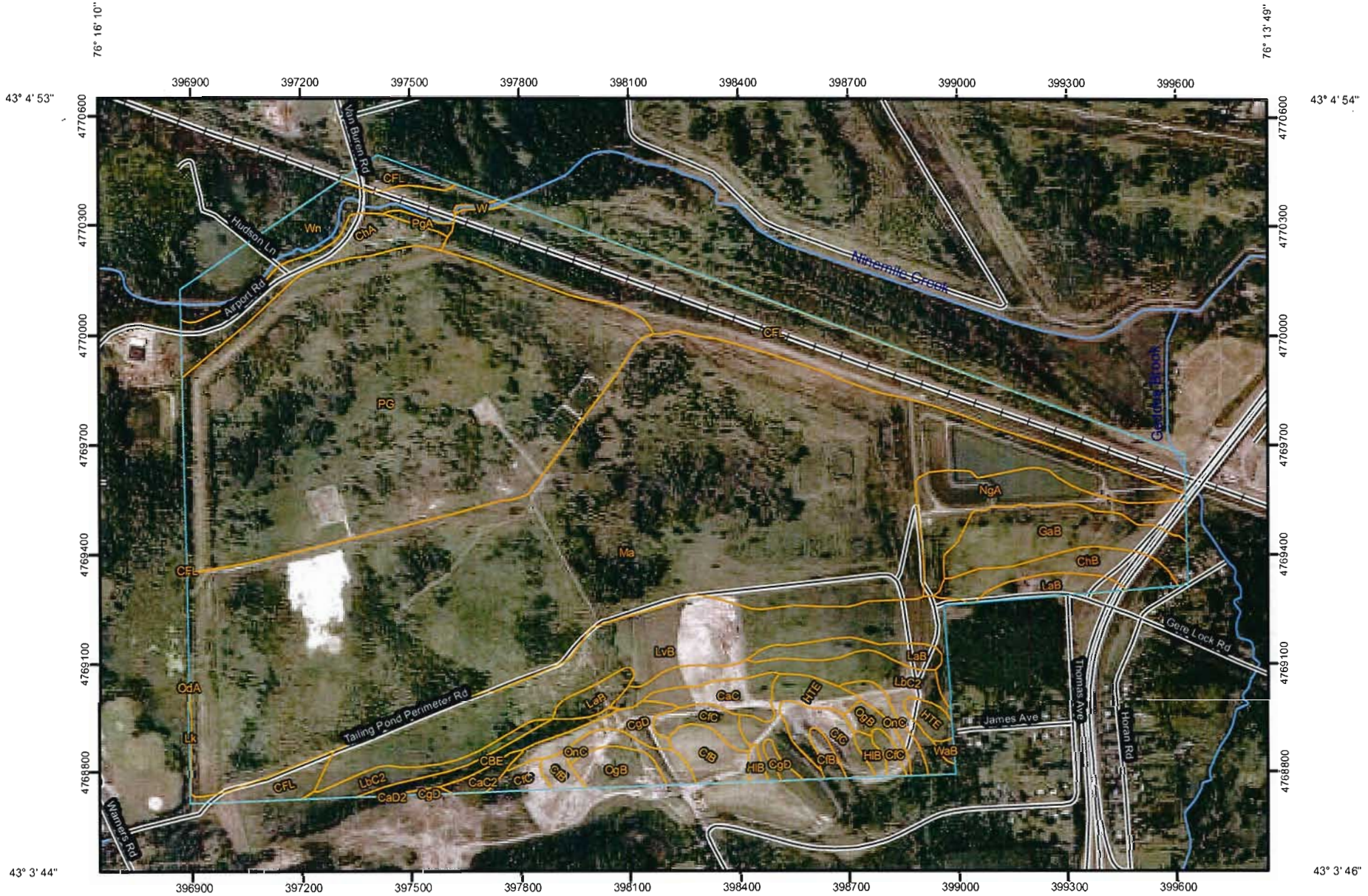
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Soil Map—Onondaga County, New York
(SEDIMENT CONSOLIDATION AREA)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

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Coordinate System: UTM Zone 18N NAD83

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Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 5, Feb 18, 2010

Date(s) aerial images were photographed: 7/16/2006

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Map Unit Legend

Onondaga County, New York (NY067)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CaC	Camillus silt loam, 6 to 12 percent slopes	6.3	0.7%
CaC2	Camillus silt loam, 6 to 12 percent slopes, eroded	2.2	0.3%
CaD2	Camillus silt loam, 12 to 18 percent slopes eroded	0.0	0.0%
CBE	Camillus and Lairdsville channery soils, steep	5.3	0.6%
CfB	Cazenovia silt loam, 2 to 8 percent slopes	9.8	1.2%
CfC	Cazenovia silt loam, 8 to 15 percent slopes	14.2	1.7%
CFL	Cut and fill land	80.7	9.5%
CgD	Cazenovia soils, 15 to 25 percent slopes	7.5	0.9%
ChA	Collamer silt loam, 0 to 2 percent slopes	14.4	1.7%
ChB	Collamer silt loam, 2 to 6 percent slopes	10.7	1.3%
GaB	Galen very fine sandy loam, 2 to 6 percent slopes	20.2	2.4%
HIB	Hilton loam, 3 to 8 percent slopes	2.3	0.3%
HTE	Honeoye, Lansing, and Ontario soils, steep	11.6	1.4%
LaB	Lairdsville silt loam, 2 to 6 percent slopes	14.3	1.7%
LbC2	Lairdsville silty clay loam, 6 to 12 percent slopes, eroded	21.9	2.6%
Lk	Lakemont silty clay loam	0.4	0.0%
LvB	Lockport and Brockport silty clay loams, 0 to 6 percent slopes	57.9	6.8%
Ma	Made land, chemical waste	320.9	37.9%
NgA	Niagara silt loam, 0 to 4 percent slopes	19.3	2.3%
OdA	Odessa silty clay loam, 0 to 2 percent slopes	0.0	0.0%
OgB	Ontario loam, 2 to 8 percent slopes	8.2	1.0%
OnC	Ontario gravelly loam, 8 to 15 percent slopes	7.7	0.9%
PG	Gravel pits	187.4	22.1%
PgA	Palmyra gravelly loam, 0 to 3 percent slopes	1.1	0.1%
W	Water	0.5	0.1%
WaB	Wampsville gravelly silt loam, 3 to 8 percent slopes	0.6	0.1%
Wn	Wayland silt loam	21.8	2.6%
Totals for Area of Interest		**847.2**	**100.0%**

APPENDIX E

Pre-Construction Requirements

Pre-Construction Requirements

Instructions to Owner/Operator/Contractor

1. The Owner, Operator and Contractor shall read this Stormwater Pollution Prevention Plan (SWPPP) document to become familiar with all aspects of Stormwater Pollution Prevention associated with this project. This document needs to be kept on file at the work site at all times (*i.e.,* in the work trailer).

2. The Owner, Operator, and Contractor shall read the New York State Department of Environmental Conservation SPDES General Permit for Storm Water Discharges from Construction Activities GP-0-10-001. This SWPPP has been prepared by the Owner to assist the Contractor with compliance with GP-0-10-001. The Contractor must follow the SWPPP and understand that this document constitutes the minimum standards for compliance with GP-0-10-001.

3. In the event of a transfer of ownership or responsibility for stormwater runoff, the original Owner or Operator must notify the new Owner or Operator in writing of the requirement to obtain permit coverage by submitting a new Notice of Intent (NOI). Once the new Owner or Operator obtains permit coverage, the original Owner or Operator shall submit a completed Notice of Termination (NOT) with the name and permit identification number of the new Owner or Operator. If the original Owner or Operator maintains ownership of a portion of the construction activity and will disturb soil, they must obtain their coverage under GP-0-10-001. Permit coverage for the new Owner or Operator will be effective as of the date a completed NOI is sent and an acknowledgement letter is received. Provided the original Owner or Operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new Owner or Operator.

4. Prior to commencing construction activities, the Owner/Operator/Contractor must complete the forms and certifications herein. This information shall be kept updated.

5. All enclosed certifications shall be completed and each one of the Contractors shall complete their portion of the certification. Each certification is to be completed and signed by a president, treasurer or vice president or any person who performs similar policy or decision making functions and by the on-site individual having responsibility for the firm and each one of the Contractors implementing erosion control measures.

Pre-Construction Requirements

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____
Permit No. _____ Date of NYSDEC Authorization _____
Name of Owner/Operator _____
Prime Contractor _____
Contractors _____

a. Preamble to Site Assessment and Inspections
The following information to be read by all person's involved in the construction of stormwater related activities:

The Owner/Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2]. The Owner/Operator shall certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed and implemented to ensure overall preparedness of the site for the commencement of construction.

When construction starts, the qualified inspector shall conduct at least two site inspections every seven calendar days. There should be a minimum of two full calendar days between inspections. The Owner/Operator shall maintain a record of all inspection reports on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Owner/Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

[1] "Qualified Inspector means a person knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual. It also means someone working under the direction and supervision of a licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control.

[2] "Commencement of construction" means the initial disturbance of soils associated with clearing, grading or excavation activities or other construction activities that disturb or expose soils such as demolition or stockpiling of fill material.

[3] "Final stabilization means that all soil-disturbance activities at the site have ceased and uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established or equivalent stabilization measures such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

Pre-Construction Requirements

Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes	No	NA	
[ ]	[ ]	[ ]	Has a Notice of Intent been filed with an acknowledgement letter received from the NYS Department of Conservation?
[ ]	[ ]	[ ]	Has MS4 Approval Letter (if needed) been received?
[ ]	[ ]	[ ]	Is the SWPPP on-site? Where? _____
[ ]	[ ]	[ ]	Is the Plan current? What is the latest revision date? _____
[ ]	[ ]	[ ]	Is a copy of the NOI (with brief description) on-site: Where? _____
[ ]	[ ]	[ ]	Have all Contractors involved with the stormwater related activities signed a Contractor's Certification?
[ ]	[ ]	[ ]	Has Contractors stabilization/construction sequence been received?

2. Resource Protection

Yes	No	NA	
[ ]	[ ]	[ ]	Are construction limits clearly flagged or fenced? _____
[ ]	[ ]	[ ]	Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ]	[ ]	[ ]	Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes	No	NA	
[ ]	[ ]	[ ]	Clean stormwater runoff has been diverted from areas to be disturbed.
[ ]	[ ]	[ ]	Bodies of water located either on-site or in the vicinity of the site have been identified and protected.
[ ]	[ ]	[ ]	Appropriate practices to protect on-site or downstream surface water are installed.
[ ]	[ ]	[ ]	Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes	No	NA	
[ ]	[ ]	[ ]	A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ]	[ ]	[ ]	Other access areas (entrances, construction routes, and equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ]	[ ]	[ ]	Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes	No	NA	
[ ]	[ ]	[ ]	Silt fence material and installation comply with the standard drawing and specifications.
[ ]	[ ]	[ ]	Silt fences are installed at appropriate spacing intervals.
[ ]	[ ]	[ ]	Sediment/detention basin was installed as first land disturbing activity.
[ ]	[ ]	[ ]	Sediment traps and barriers are installed.

Pre-Construction Requirements

6. Pollution Prevention for Waste and Hazardous Materials

Yes	No	NA	
[ ]	[ ]	[ ]	The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ]	[ ]	[ ]	The plan is contained in the SWPPP on page _____
[ ]	[ ]	[ ]	Appropriate materials to control spills are on-site. Where? _____

b. Qualified Inspector's Credentials and Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction"

Name (please print): _____

Title: _____ Date: _____

Address: _____

Phone: _____ Email: _____

Signature: _____

Pre-Construction Requirements

CONTRACTOR'S CERTIFICATION STATEMENT

(Each Contractor is required to sign the certification statement prior to working on-site).

I. SITE INFORMATION

Construction Site Name: _____

Site Location: _____

II. CONTRACTORS INFORMATION

Contracting Firm

Contracting Firm Address

Telephone Number(s)

Contact(s) 1)
2)
3)

Name(s) of Trained Contractor(s) that will be responsible from Contractor's company for implementing the SWPPP:

Name_____Title _____

Name_____Title _____

A trained contractor is an employee of the contracting company that has received four (4) hours of training, which has been endorsed by the Department from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity in proper erosion and sediment control principles no later than two (2) years from the date this general permit is issued. After receiving the initial training, the trained contractor shall receive four (4) hours of training every three (3) years.

III. STORMWATER MEASURES

Contractor is responsible for implementing and maintaining the following stormwater measures:

1.
2.
3.
4.

IV. CERTIFICATION

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. I also certify, that I have received a copy of the SWPPP and will retain a copy of such SWPPP on-site during construction"

V. SIGNATURE: _____ DATE

Name (print): _____ Title:

APPENDIX F

Inspection Reports

FIELD RECORD COPY

Honeywell Sediment Consolidation Area
SWPPP MAINTENANCE INSPECTION FORM

Inspection Location: _____ Inspection #: _____

Name of Inspector: _____ Date/Time of Inspection: _____

Soil Conditions: **WET /DRY /SATURATED** (Circle One) Weather Conditions:_____

Type of Inspection	Yes	No
1. Weekly/Biweekly Inspection		
2. Construction Shutdown Inspection		
3. Final Inspection:		
a. Has the Site undergone final stabilization?		
b. Have all temporary erosion controls been removed?		

(Edit Checklist below for Project Specifics)

Project Checklist (indicate Areas of concern on the attached map)	Yes	No	N/A
Erosion and Sediment Controls:			
1. Is there any evidence of runoff leaving the site?			
2. Are silt fences in good condition and free from visible signs of erosion (___% sediment buildup)?			
3. Are sumps and weir boxes in place and functioning as shown on the plan?			
4. Are construction access/egress points stabilized?			
5. Are vehicles and equipment being washed down in a stabilized area?			
6. Are riprap chutes free of debris?			
7. Are swales functioning properly and free of debris and scour/erosion?			
8. Are dust control measures being applied as needed?			
9. Are check dams functioning as designed and free of debris?			
Stabilization Practices:			
10. Have all disturbed portions of the site where earth disturbing activities have ceased and will not resume within 14 days been temporarily stabilized by covering with plastic, mulching, or by mulching and seeding?			
11. Have all disturbed portions of the site where earth disturbing activities have permanently ceased been stabilized with topsoil and permanent seed?			
Additional Stormwater Controls:			
12. Are material storage / handling/stockpile areas properly stabilized?			
13. Are concrete disposal areas being properly utilized?			
14. Is there any evidence of spills or leaks from vehicles/equipment?			

List Disturbed Areas	Stabilized Yes	No
1..		
2.		
3.		
4.		
5.		

FIELD RECORD COPY

FIELD RECORD COPY

Honeywell Sediment Consolidation Area
SWPPP MAINTENANCE INSPECTION FORM

Work Performed Since Last Inspection & Effectiveness of Corrective Actions: _____

Comments on General Site Conditions: _____

Remarks/Recommendations*: _____

* Please make a distinction between deficiencies to the SWPPP and normal maintenance items.

Condition of Runoff at Discharge Points (Photos Attached):_____

PLEASE SEE ATTACHED MAP FOR LOCATIONS

IF ALL QUESTIONS ARE ANSWERED "YES" OR "N/A", THEN SIGNATURE BELOW ACKNOWLEDGES COMPLIANCE WITH THE EXISTING STORM WATER POLLUTION PREVENTION PLAN AND NYS DEC SPDES PERMIT (GP-0-10-001).

Inspector: _____ **Date:** _____
Signature of Inspector

Reviewed: _____ **Date:** _____
Qualified Professional

FIELD RECORD COPY

APPENDIX G

SPDES General Permit
Notice of Termination

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name: Honeywell International, Inc.

2. Street Address: 301 Plainfield Road, Suite 330

3. City/State/Zip: Syracuse, NY 13212

4. Contact Person: Al Labuz | 4a.Telephone: 315-552-9781

5. Contact Person E-Mail: al.labuz@honeywell.com

II. Project Site Information

5. Project/Site Name: Water Treatment Plant and Sediment Consolidation Area

6. Street Address: Gerelock Road

7. City/Zip: Camillus 13031

8. County: Onondaga

III. Reason for Termination

9a. ☐ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP.
***Date final stabilization completed** (month/year): _____

9b. ☐ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. ☐ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? ☐ yes ☐ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? ☐ yes ☐ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? ☐ yes ☐ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- ☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- ☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- ☐ For post-construction stormwater management practices that are privately owned, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
- ☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes ☐ no
(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2010)

APPENDIX H

NYSOPRHP Documentation

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D
625 Broadway, Albany, New York 12233-7016
Phone: (518) 402-9818 • **FAX:** (518) 402-9020
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

September 12, 2007

Mr. John P. McAuliffe, P.E.
Program Director, Syracuse
Honeywell
5000 Brittonfield Parkway, Suite 700
East Syracuse, NY 13057

Re: Public Archaeology Facility Report, Cultural Resource Management Report, Phase 1A Cultural Resource Assessment, Onondaga Lake Project, Onondaga Lake, Wastebed B and Wastebed 13, by Binghamton University, State University of New York, Dated October 29, 2004 (734030)

Dear Mr. McAuliffe:

We have received and reviewed the October 29, 2004 version of the above-referenced document, which was transmitted by your September 10, 2007 letter to my attention. Based on our review of the report, we concur with the recommendations of the report, as stated below:

1. Due to disturbances from mining activities, no archaeological testing is recommended for Wastebed 13.

2. Wastebed B generally has a low potential for historic or prehistoric resources. Phase 1B testing is recommended only for the area of the former Geddes Pier.

3. Additional investigation is recommended for the area of Onondaga Lake itself. There are a number of known, and potentially unidentified shipwrecks located within the Lake. There is also a high probability that remains of 19th to early 20th century lakeside resorts are present beneath the water and fill along sections of the lake. Additional investigation may involve visual inspection through diving, additional sonar or other remote sensing surveys, coring, or other methods. A testing program should be developed and submitted to NYSDEC/EPA to insure that all concerns are addressed prior to conducting the survey. In addition, CR's Onondaga Lake Phase 1 Pre-Design Investigation Geophysical Survey Report should be reviewed by PAF, or some other qualified professional, during the development of a work plan for future investigatory work relating to cultural resources

(Phase 1B) in the lake and affected upland areas (e.g., Wastebed B). This review of the CR Report should be conducted in consultation with a professional underwater archeologist. FYI, EPA can be of assistance in providing contact information for qualified underwater archeologists.

Therefore, the October 29, 2004 version of the Public Archaeology Facility Report, Cultural Resource Management Report, Phase 1A Cultural Resource Assessment, Onondaga Lake Project, Onondaga Lake, Wastebed B and Wastebed 13, by Binghamton University, State University of New York, Dated October 29, 2004 , as transmitted by your September 10, 2007 cover letter, is approved. Please distribute copies of the report to the various document repositories, as discussed in the governing consent decree.

Sincerely,

Timothy J. Larson, P.E.
Project Manager

cc: T. Milch, Esq, - Arnold & Porter
R. Nunes - UPEPA
J. Davis - NYSDOL, Albany
H. Hamel - NYSDOH, Syracuse

APPENDIX I

Stormwater Analyses

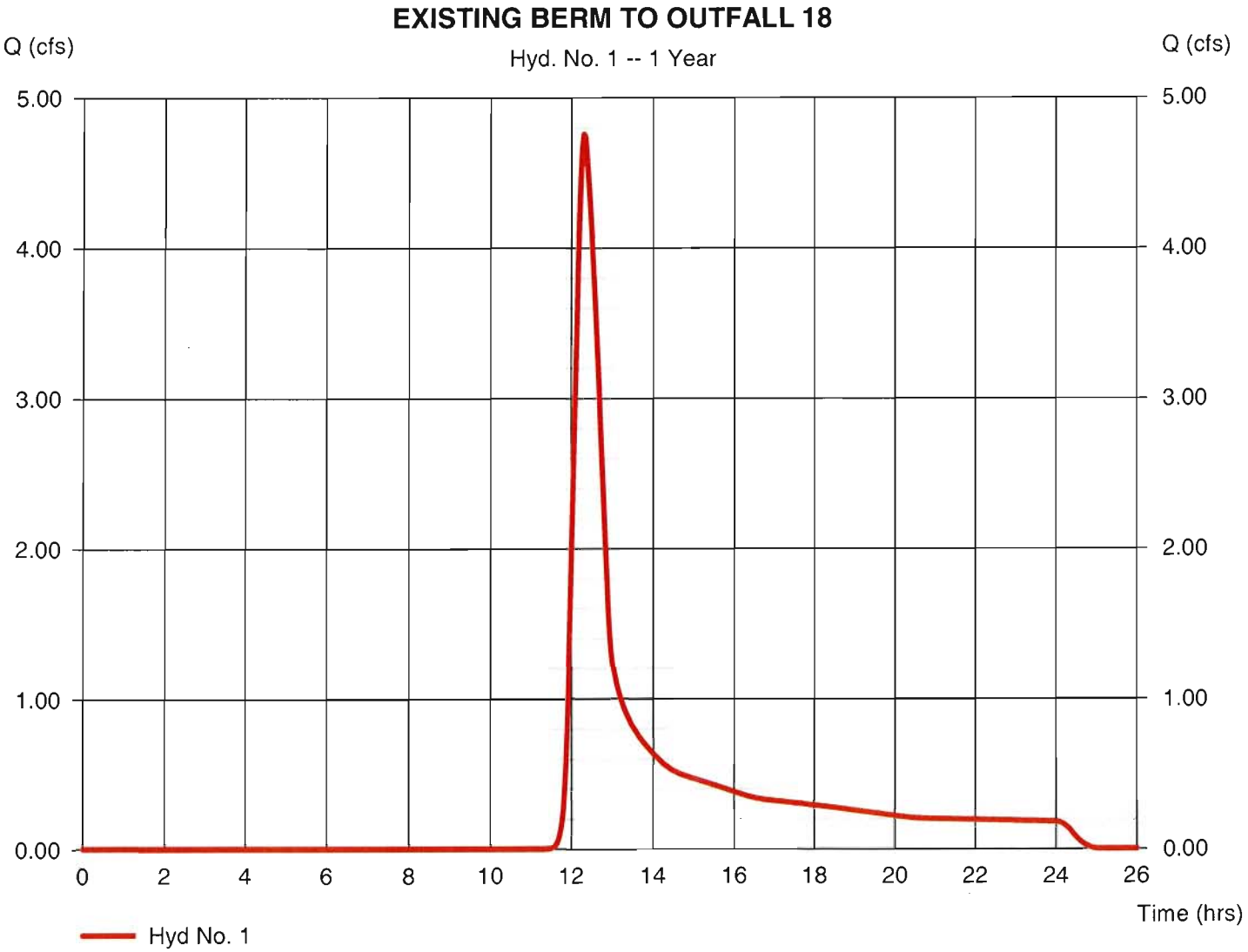
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 1

EXISTING BERM TO OUTFALL 18

Hydrograph type	= SCS Runoff	Peak discharge	= 4.763 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 26,159 cuft
Drainage area	= 12.000 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 38.20 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 1

EXISTING BERM TO OUTFALL 18

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.011	0.011	
Flow length (ft)	= 130.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 28.00	0.00	0.00	
Travel Time (min)	**= 7.07** +	**0.00** +	**0.00** =	**7.07**
Shallow Concentrated Flow				
Flow length (ft)	= 0.00	0.00	0.00	
Watercourse slope (%)	= 0.00	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 0.00	0.00	0.00	
Travel Time (min)	**= 0.00** +	**0.00** +	**0.00** =	**0.00**
Channel Flow				
X sectional flow area (sqft)	= 15.50	0.00	0.00	
Wetted perimeter (ft)	= 31.00	0.00	0.00	
Channel slope (%)	= 0.25	0.00	0.00	
Manning's n-value	= 0.035	0.015	0.015	
Velocity (ft/s)	= 1.34	0.00	0.00	
Flow length (ft)	= 2497.0	0.0	0.0	
Travel Time (min)	**= 31.11** +	**0.00** +	**0.00** =	**31.11**

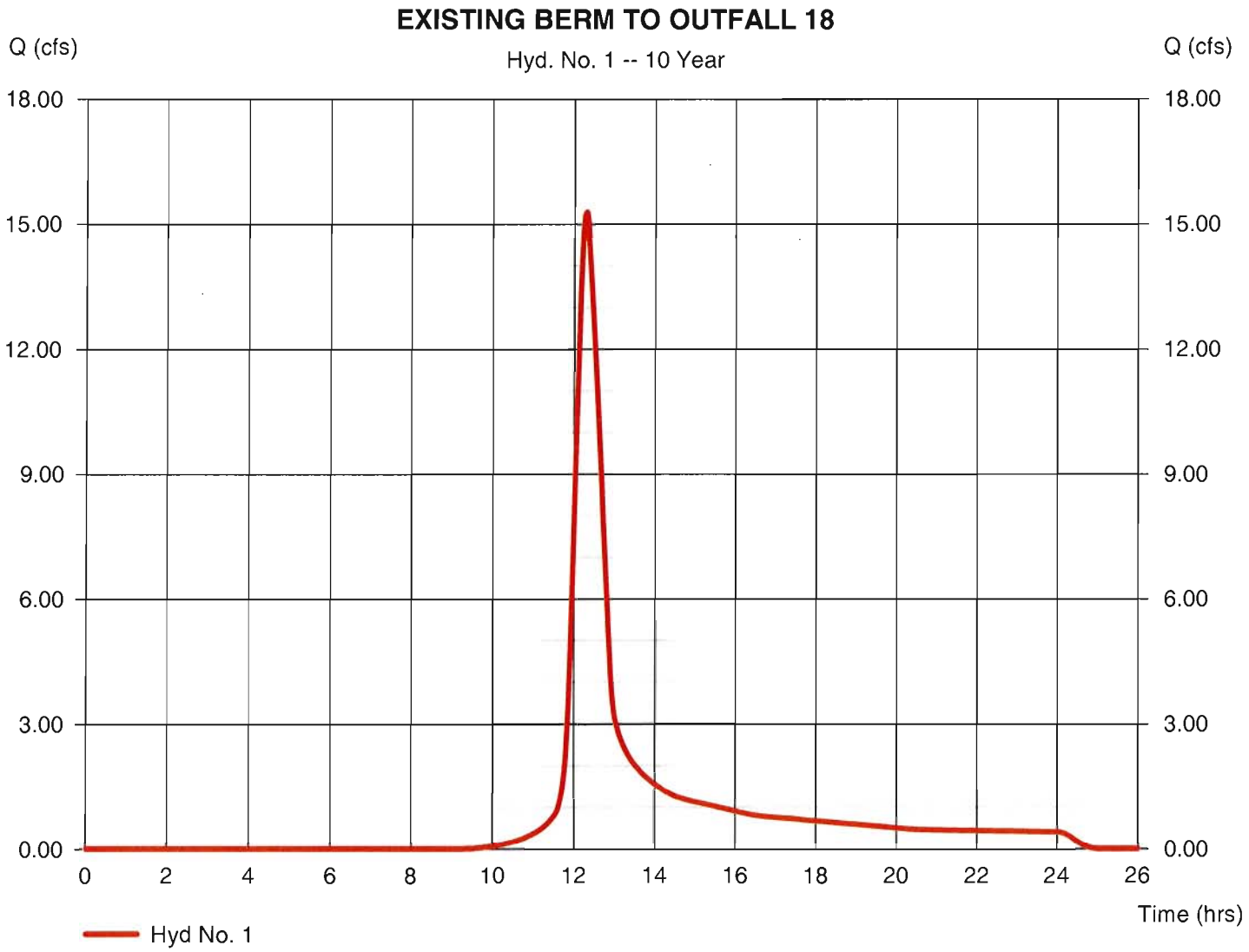
Total Travel Time, Tc ..... 38.20 min

Hydrograph Report

Hyd. No. 1

EXISTING BERM TO OUTFALL 18

Hydrograph type	= SCS Runoff	Peak discharge	= 15.30 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 75,312 cuft
Drainage area	= 12.000 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 38.20 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

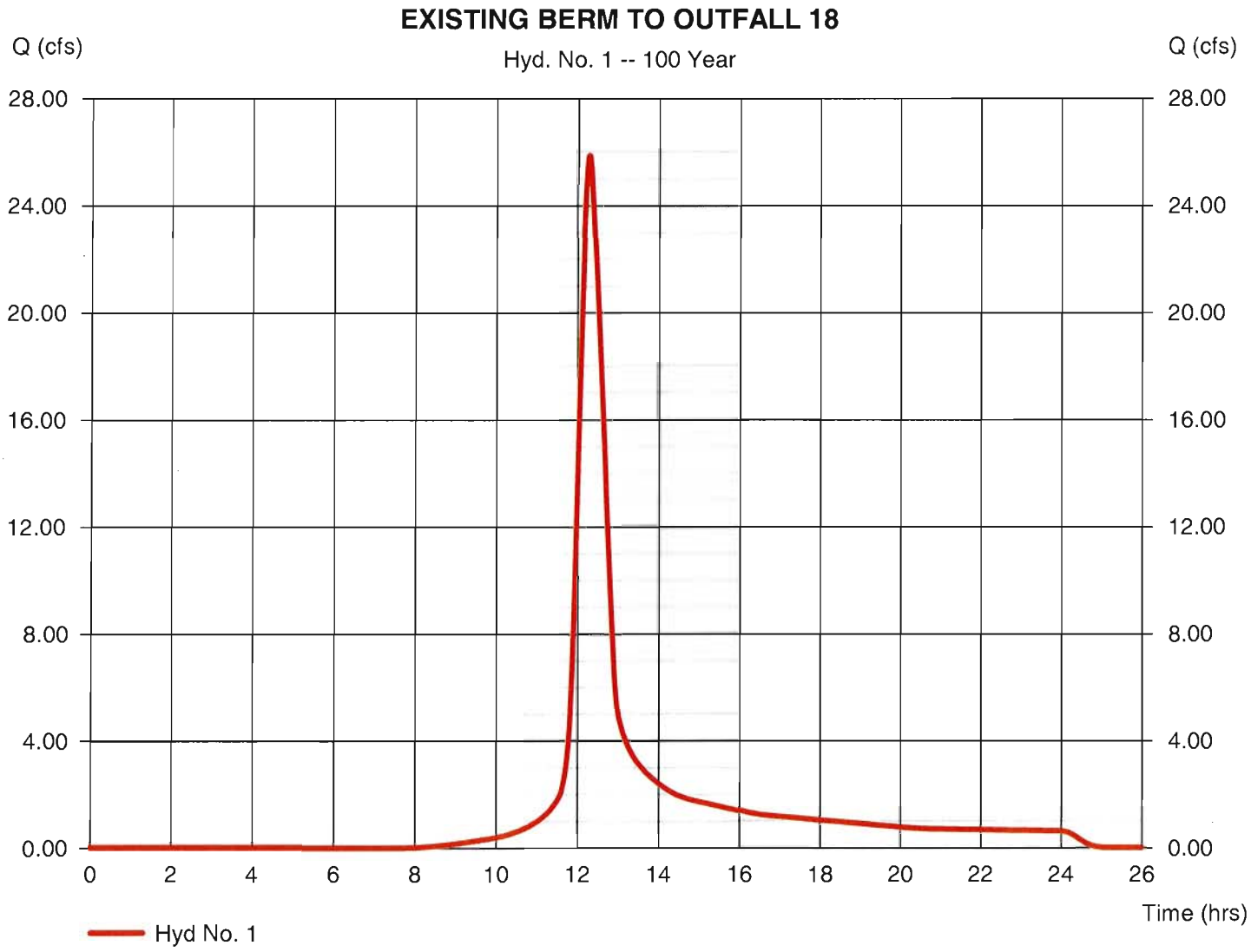


Hydrograph Report

Hyd. No. 1

EXISTING BERM TO OUTFALL 18

Hydrograph type	= SCS Runoff	Peak discharge	= 25.85 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 125,553 cuft
Drainage area	= 12.000 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 38.20 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



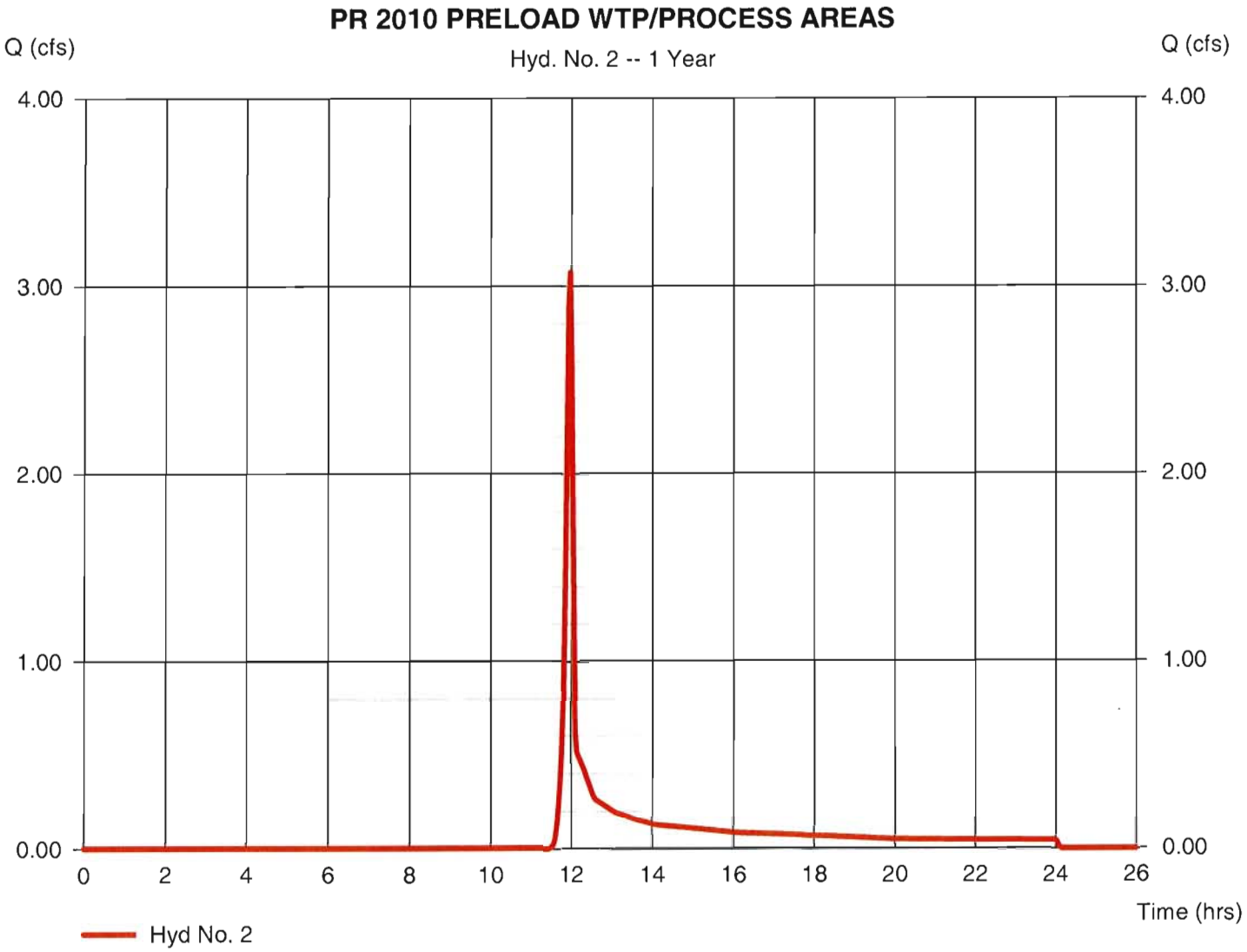
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 2

PR 2010 PRELOAD WTP/PROCESS AREAS

Hydrograph type	= SCS Runoff	Peak discharge	= 3.075 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 6,284 cuft
Drainage area	= 3.300 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.90 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 2

PR 2010 PRELOAD WTP/PROCESS AREAS

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.011		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.40		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 3.37**	**+**	**0.00**	**+**	**0.00**	**=**	**3.37**
Shallow Concentrated Flow							
Flow length (ft)	= 0.00		0.00		0.00		
Watercourse slope (%)	= 0.00		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	= 0.00		0.00		0.00		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Channel Flow							
X sectional flow area (sqft)	= 9.00		0.00		0.00		
Wetted perimeter (ft)	= 13.25		0.00		0.00		
Channel slope (%)	= 0.50		0.00		0.00		
Manning's n-value	= 0.025		0.015		0.015		
Velocity (ft/s)	= 3.25		0.00		0.00		
Flow length (ft)	= 500.0		0.0		0.0		
Travel Time (min)	**= 2.56**	**+**	**0.00**	**+**	**0.00**	**=**	**2.56**

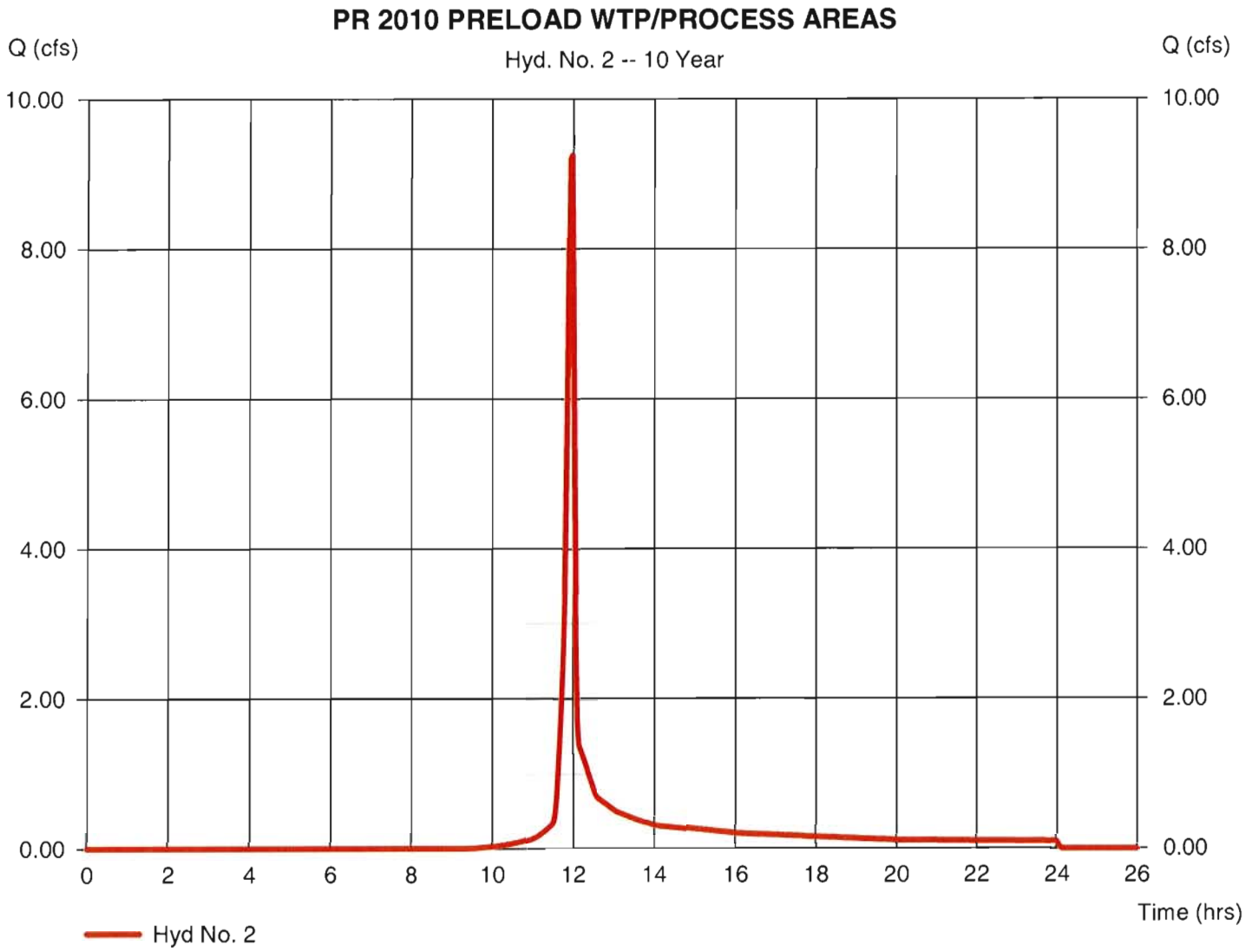
Total Travel Time, Tc ..... 5.90 min

Hydrograph Report

Hyd. No. 2

PR 2010 PRELOAD WTP/PROCESS AREAS

Hydrograph type	= SCS Runoff	Peak discharge	= 9.262 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 18,609 cuft
Drainage area	= 3.300 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.90 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

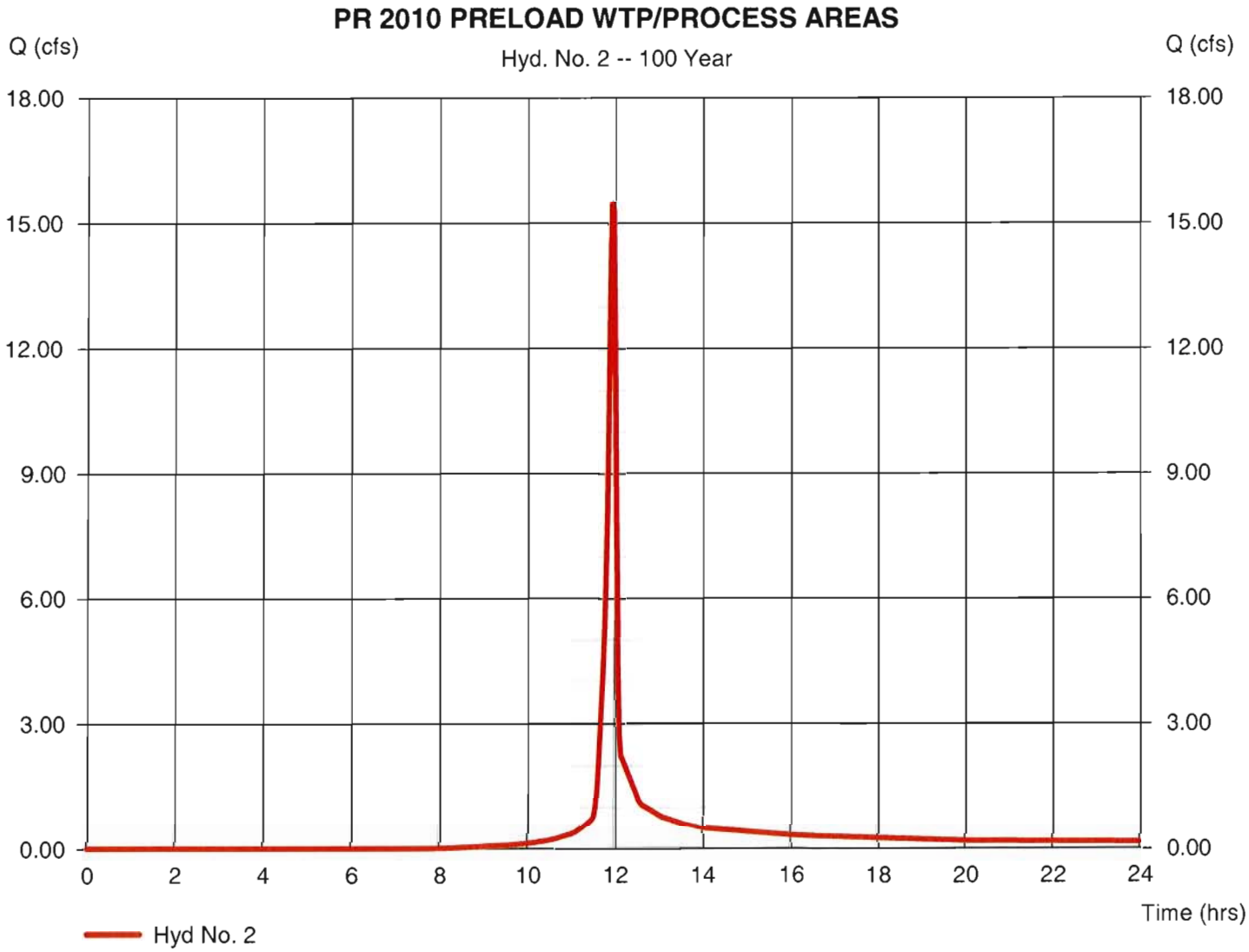


Hydrograph Report

Hyd. No. 2

PR 2010 PRELOAD WTP/PROCESS AREAS

Hydrograph type	= SCS Runoff	Peak discharge	= 15.48 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 31,346 cuft
Drainage area	= 3.300 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.90 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



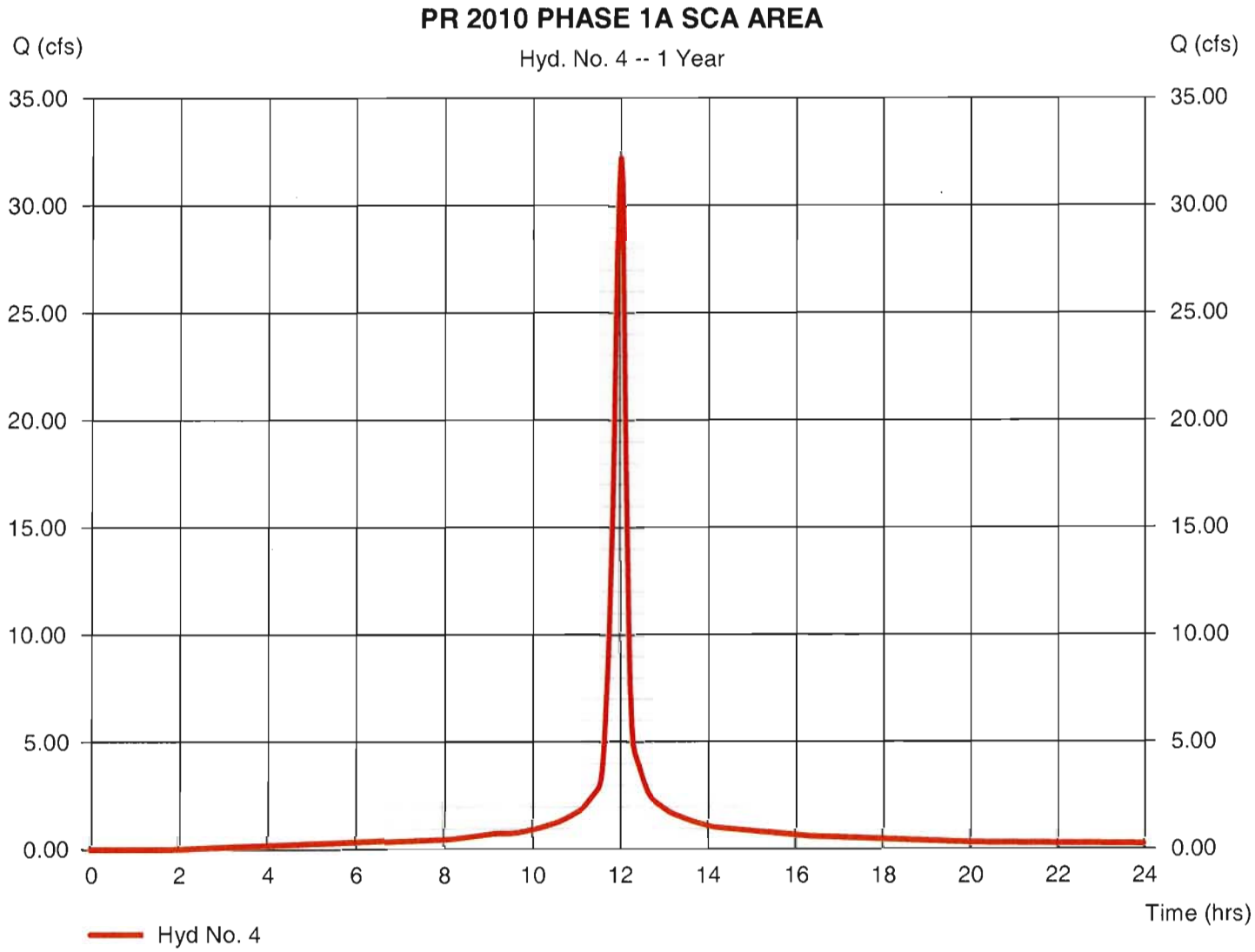
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 4

PR 2010 PHASE 1A SCA AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 32.23 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 92,310 cuft
Drainage area	= 12.500 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.70 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 4

PR 2010 PHASE 1A SCA AREA

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.011	0.011	0.011	
Flow length (ft)	= 300.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 0.50	0.00	0.00	
Travel Time (min)	**= 5.87**	**+ 0.00**	**+ 0.00**	**= 5.87**
Shallow Concentrated Flow				
Flow length (ft)	= 590.00	0.00	0.00	
Watercourse slope (%)	= 0.50	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 1.44	0.00	0.00	
Travel Time (min)	**= 6.84**	**+ 0.00**	**+ 0.00**	**= 6.84**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

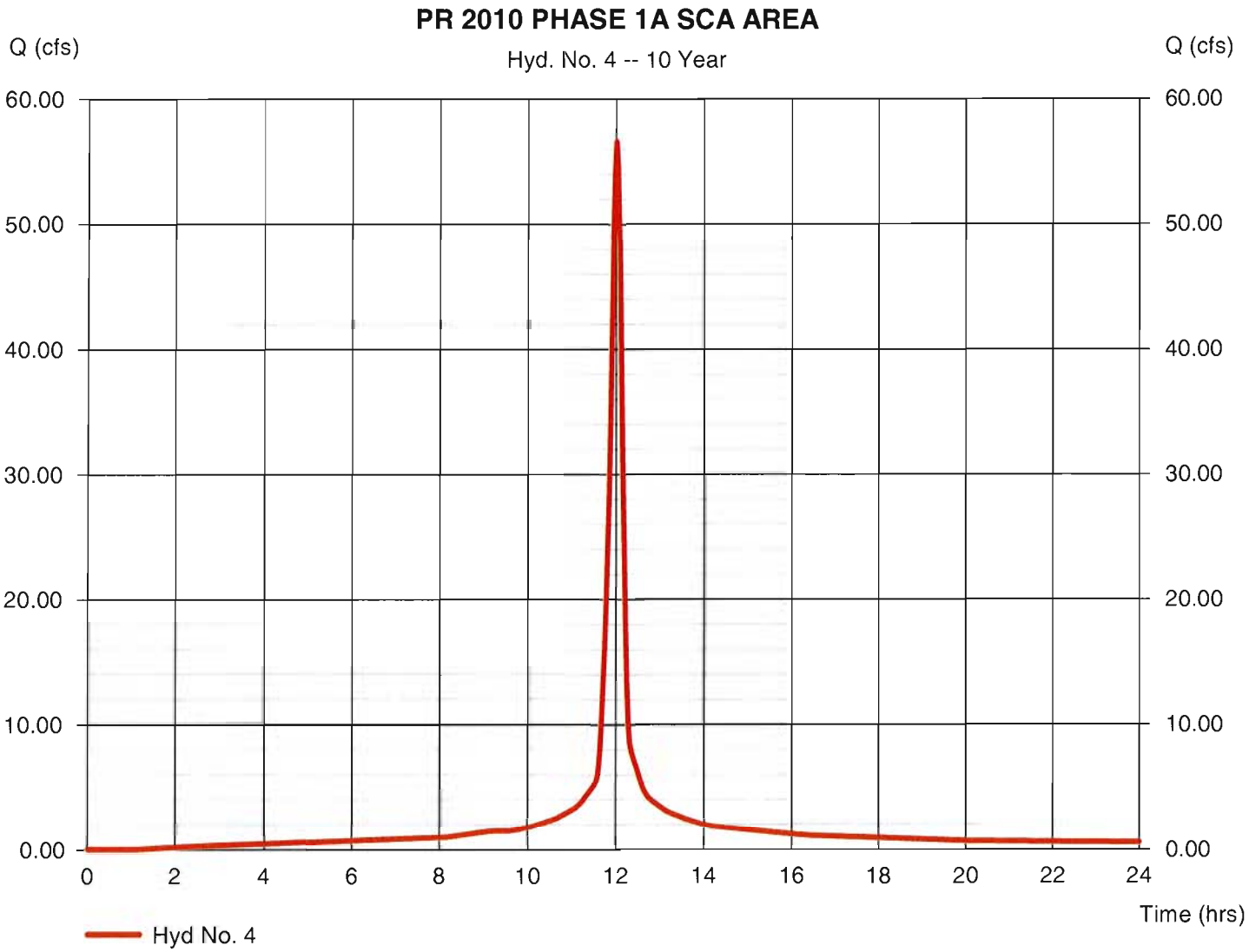
Total Travel Time, Tc ..... 12.70 min

Hydrograph Report

Hyd. No. 4

PR 2010 PHASE 1A SCA AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 56.61 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 166,846 cuft
Drainage area	= 12.500 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.70 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

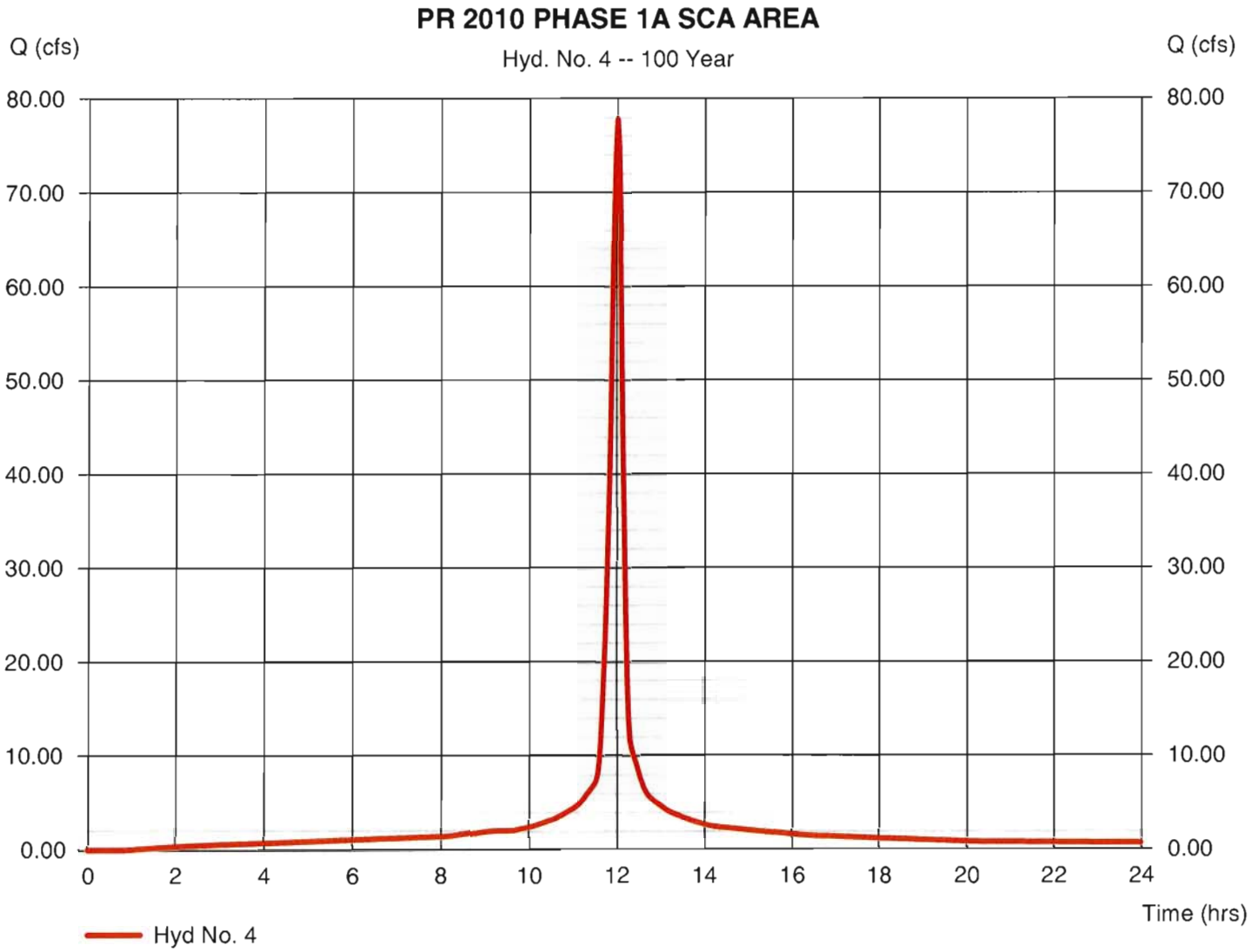


Hydrograph Report

Hyd. No. 4

PR 2010 PHASE 1A SCA AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 77.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 232,227 cuft
Drainage area	= 12.500 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.70 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



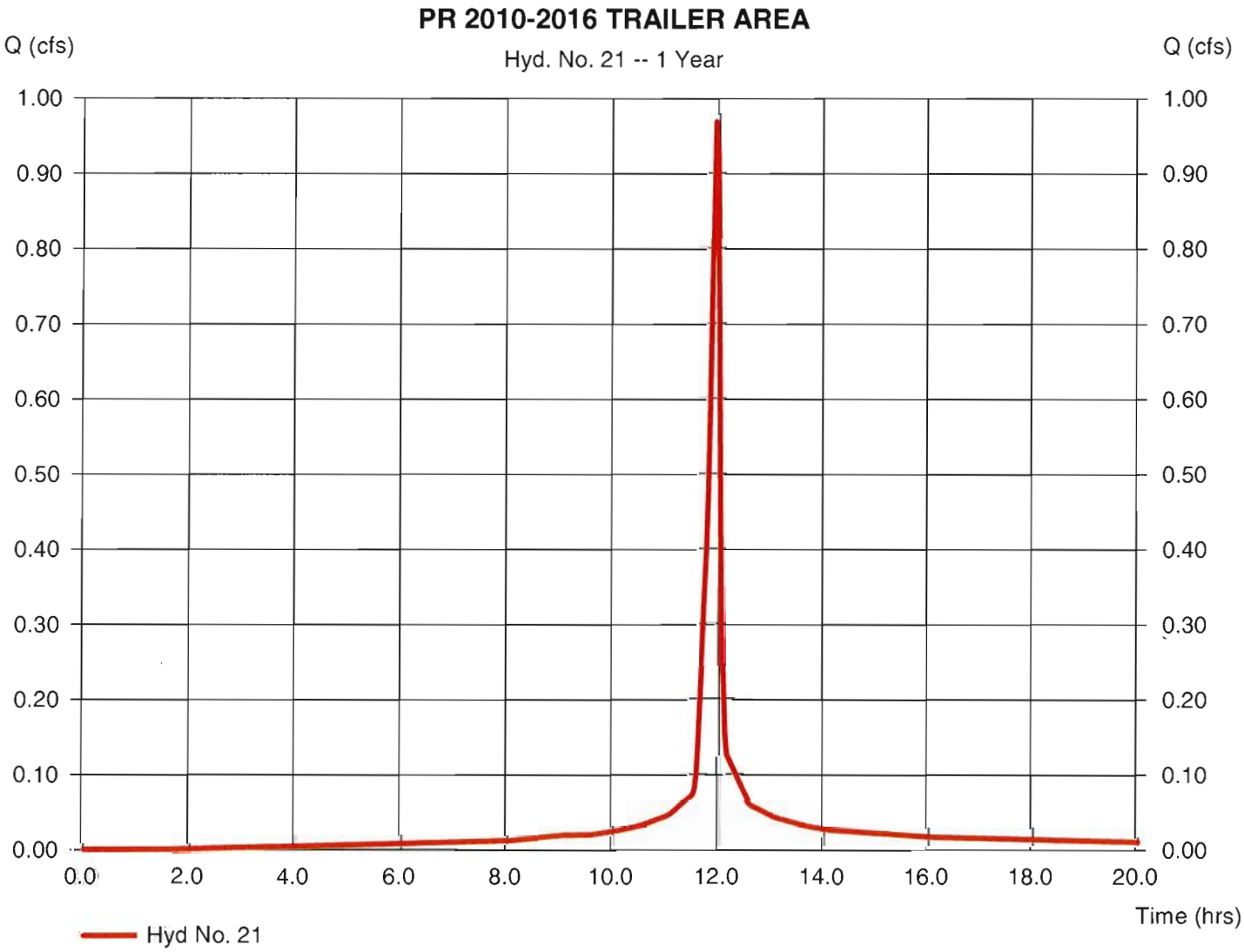
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 21

PR 2010-2016 TRAILER AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 0.968 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 2,215 cuft
Drainage area	= 0.330 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 4.50 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 21

PR 2010-2016 TRAILER AREA

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.011	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 0.50	0.00	0.00	
Travel Time (min)	**= 3.37**	**+ 0.00**	**+ 0.00**	**= 3.37**
Shallow Concentrated Flow				
Flow length (ft)	= 100.00	0.00	0.00	
Watercourse slope (%)	= 0.50	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 1.44	0.00	0.00	
Travel Time (min)	**= 1.16**	**+ 0.00**	**+ 0.00**	**= 1.16**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

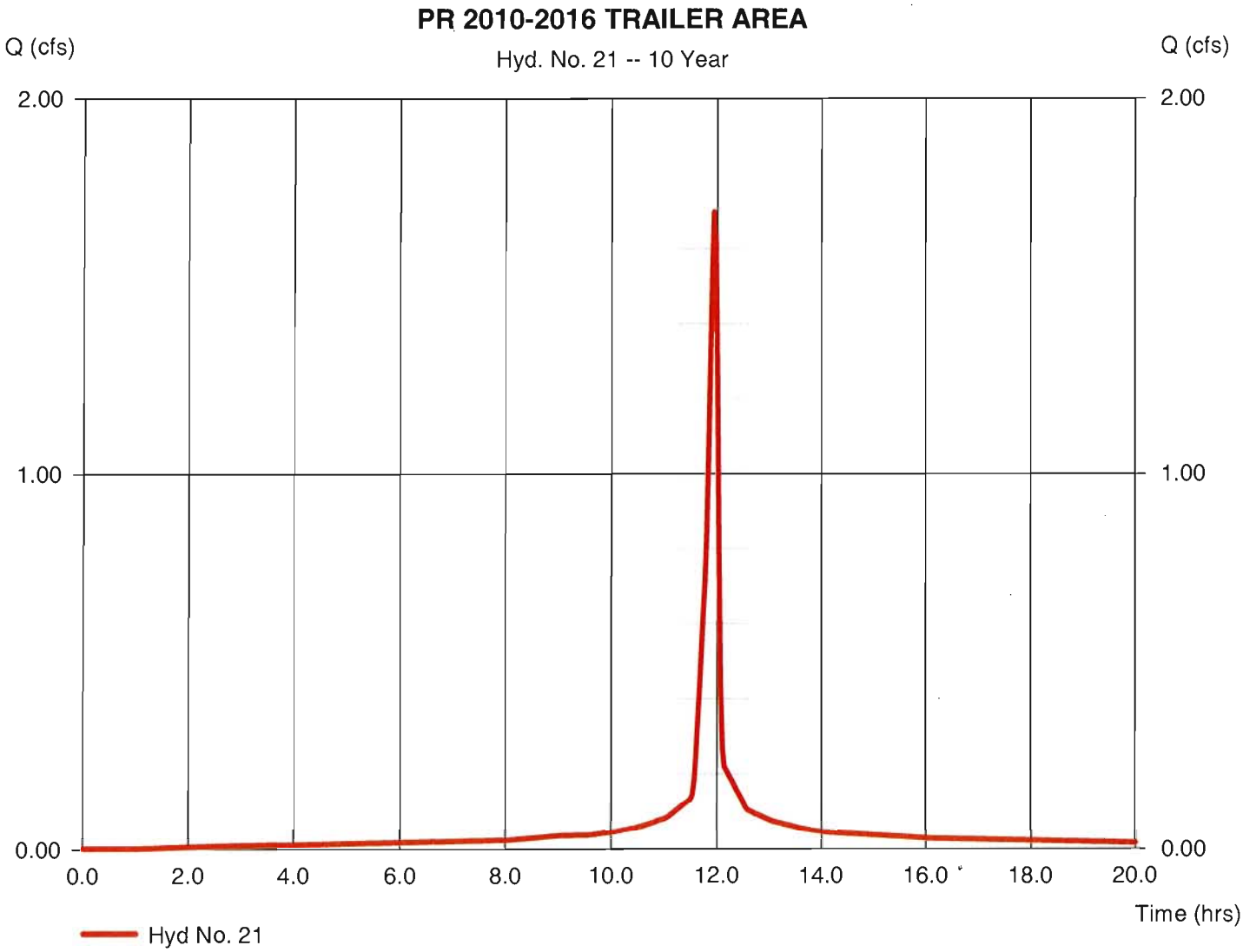
Total Travel Time, Tc ..... 4.50 min

Hydrograph Report

Hyd. No. 21

PR 2010-2016 TRAILER AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 1.698 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 4,004 cuft
Drainage area	= 0.330 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 4.50 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

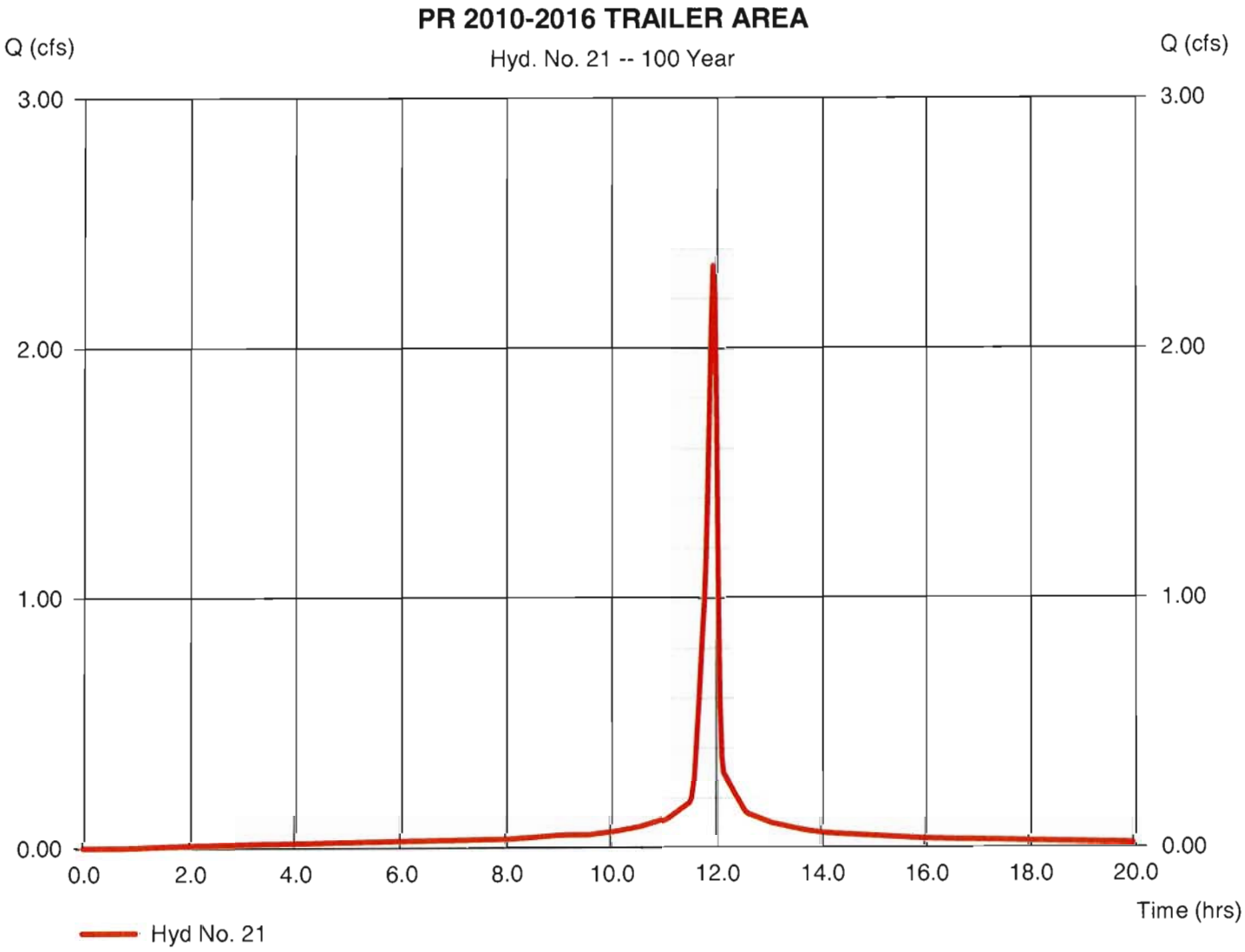


Hydrograph Report

Hyd. No. 21

PR 2010-2016 TRAILER AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 2.333 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 5,573 cuft
Drainage area	= 0.330 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 4.50 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

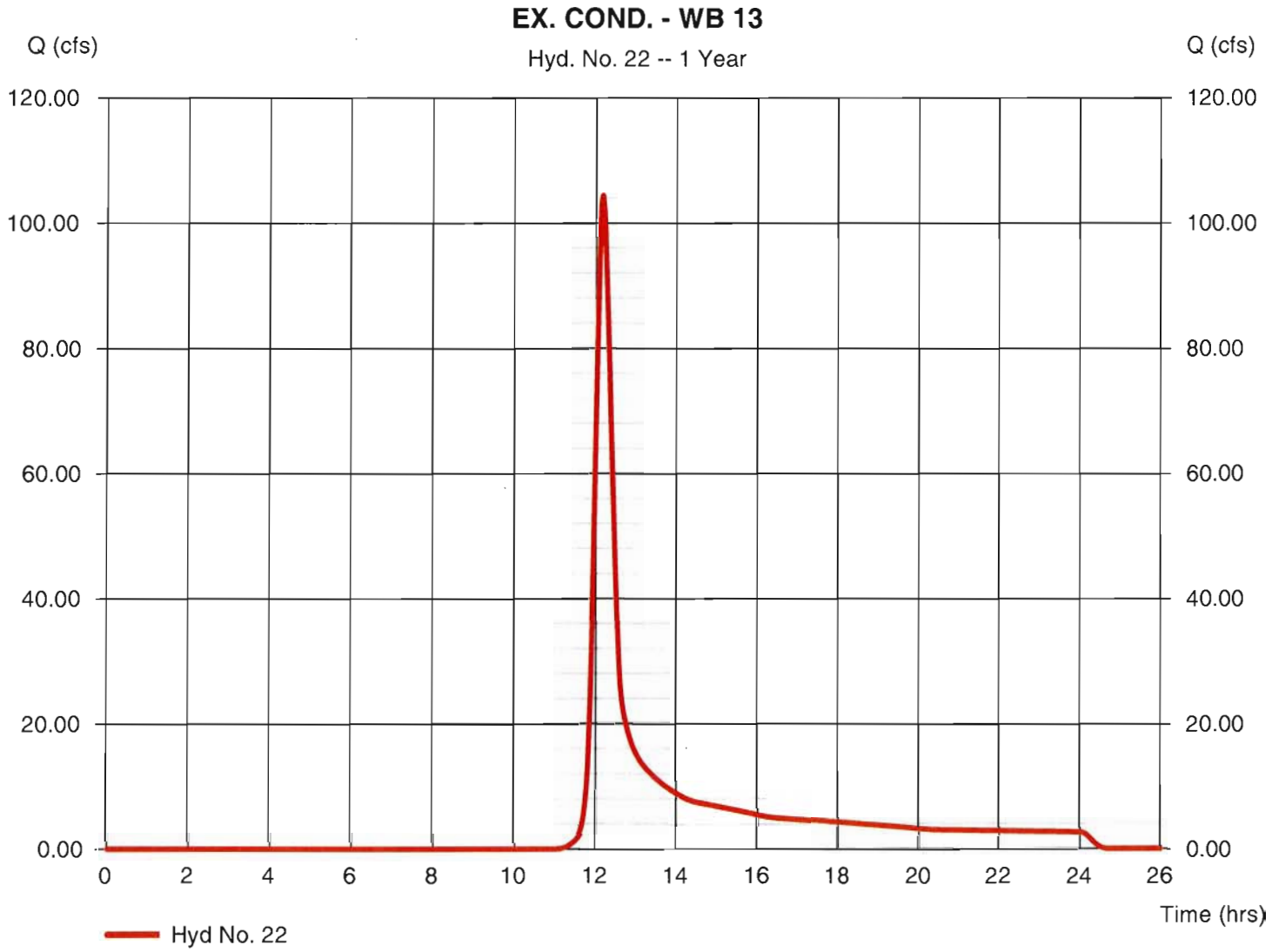
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 — Tuesday, Jul 27, 2010

Hyd. No. 22

EX. COND. - WB 13

Hydrograph type	= SCS Runoff	Peak discharge	= 104.43 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 410,612 cuft
Drainage area	= 167.000 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 26.40 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.700 x 98) + (7.500 x 83) + (114.300 x 78) + (40.200 x 86) + (3.300 x 77)] / 167.000



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 22

EX. COND. - WB 13

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.011	0.011	
Flow length (ft)	= 180.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 13.30	0.00	0.00	
Travel Time (min)	**= 12.36**	**+ 0.00**	**+ 0.00**	**= 12.36**
Shallow Concentrated Flow				
Flow length (ft)	= 1285.00	0.00	0.00	
Watercourse slope (%)	= 0.90	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 1.53	0.00	0.00	
Travel Time (min)	**= 13.99**	**+ 0.00**	**+ 0.00**	**= 13.99**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 26.40 min

Hydrograph Report

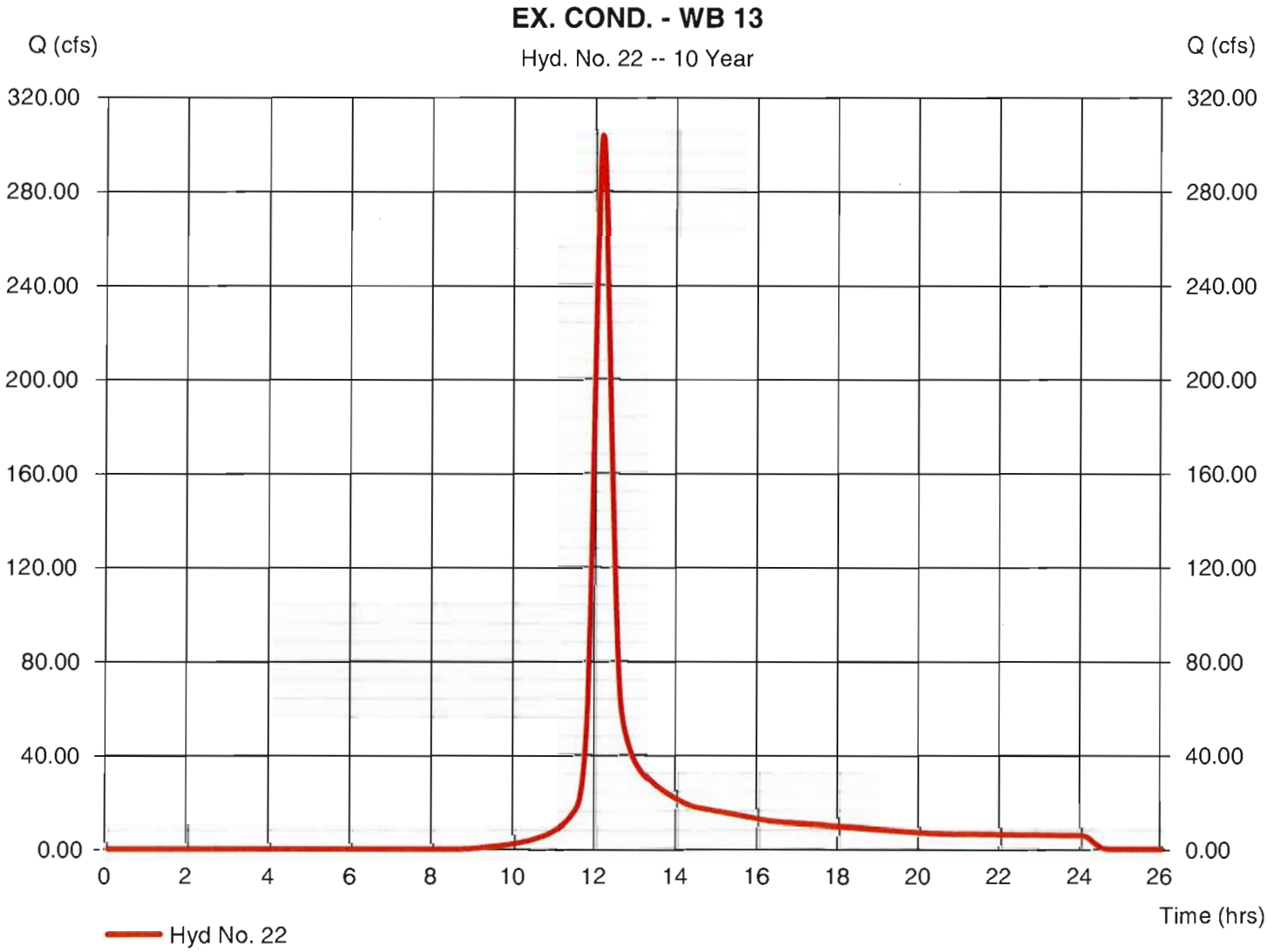
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 22

EX. COND. - WB 13

Hydrograph type	= SCS Runoff	Peak discharge	= 303.42 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 1,120,427 cuft
Drainage area	= 167.000 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 26.40 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.700 x 98) + (7.500 x 83) + (114.300 x 78) + (40.200 x 86) + (3.300 x 77)] / 167.000



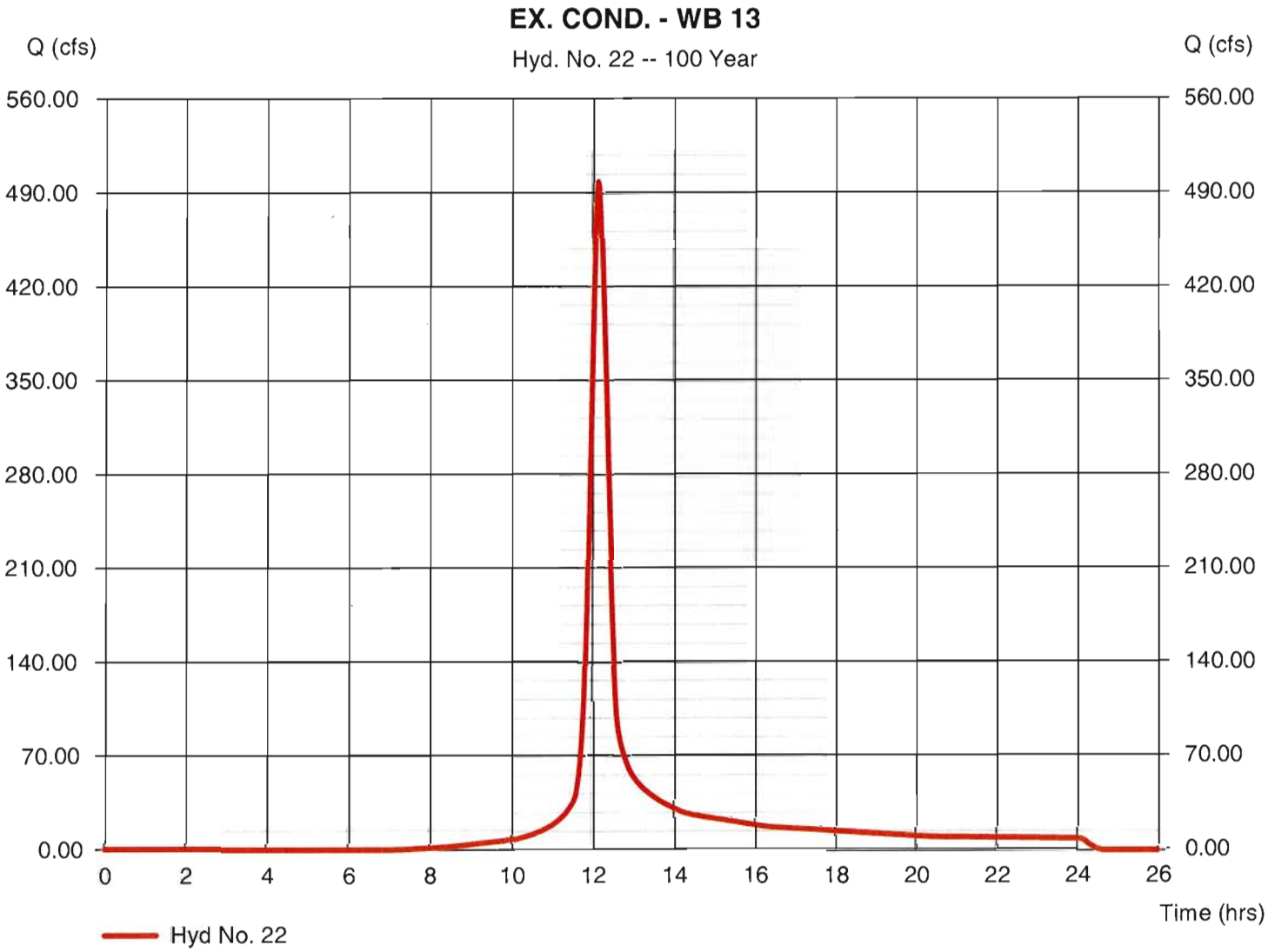
Hydrograph Report

Hyd. No. 22

EX. COND. - WB 13

Hydrograph type	= SCS Runoff	Peak discharge	= 499.00 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 1,830,825 cuft
Drainage area	= 167.000 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 26.40 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.700 x 98) + (7.500 x 83) + (114.300 x 78) + (40.200 x 86) + (3.300 x 77)] / 167.000



Hydrograph Report

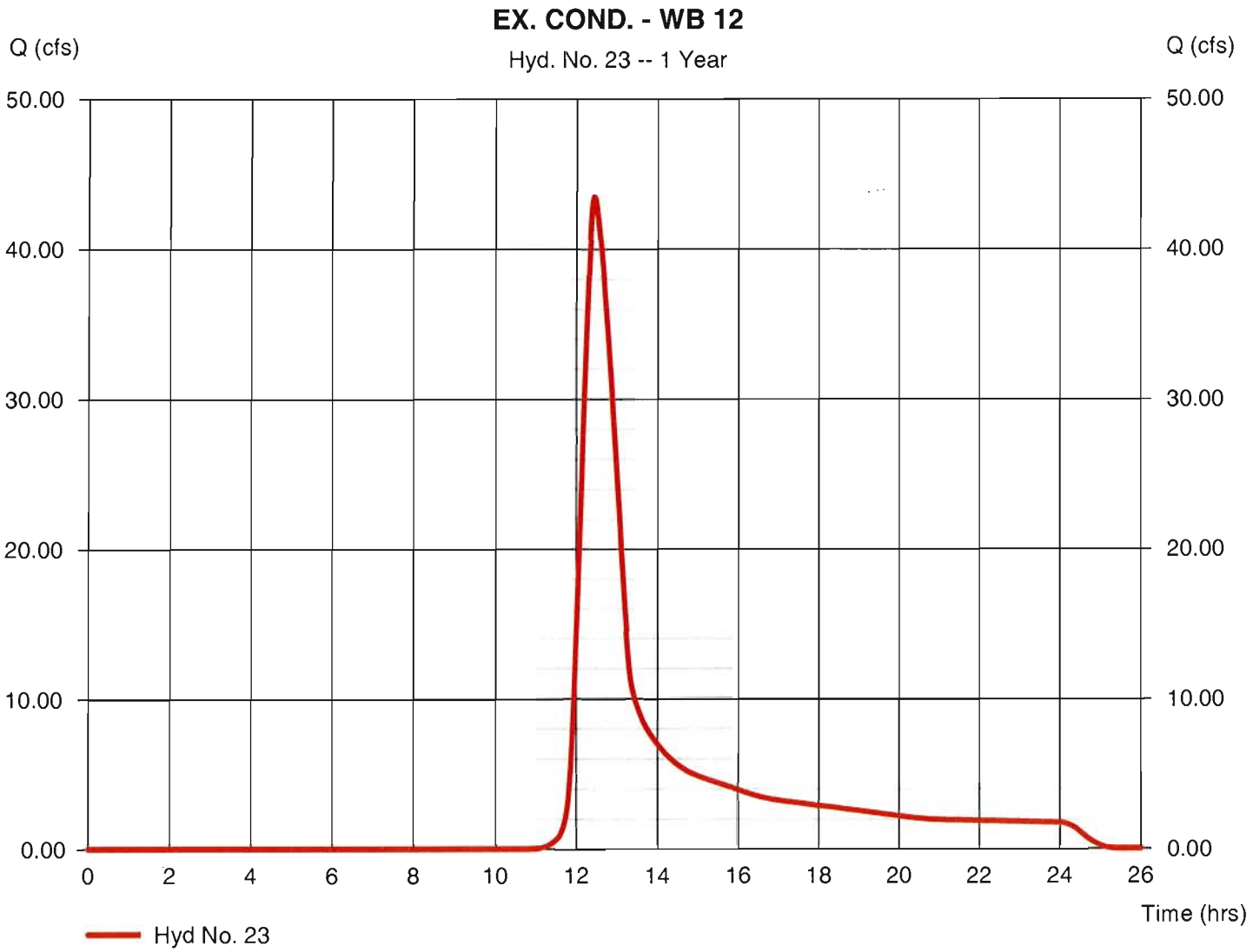
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 23

EX. COND. - WB 12

Hydrograph type	= SCS Runoff	Peak discharge	= 43.47 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 279,611 cuft
Drainage area	= 104.000 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.70 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (12.100 x 83) + (65.400 x 78) + (25.500 x 86)] / 104.000



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 23

EX. COND. - WB 12

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.400	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 1.20	0.00	0.00	
Travel Time (min)	**= 42.07**	**+ 0.00**	**+ 0.00**	**= 42.07**
Shallow Concentrated Flow				
Flow length (ft)	= 859.00	0.00	0.00	
Watercourse slope (%)	= 0.70	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 1.35	0.00	0.00	
Travel Time (min)	**= 10.61**	**+ 0.00**	**+ 0.00**	**= 10.61**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 52.70 min

Hydrograph Report

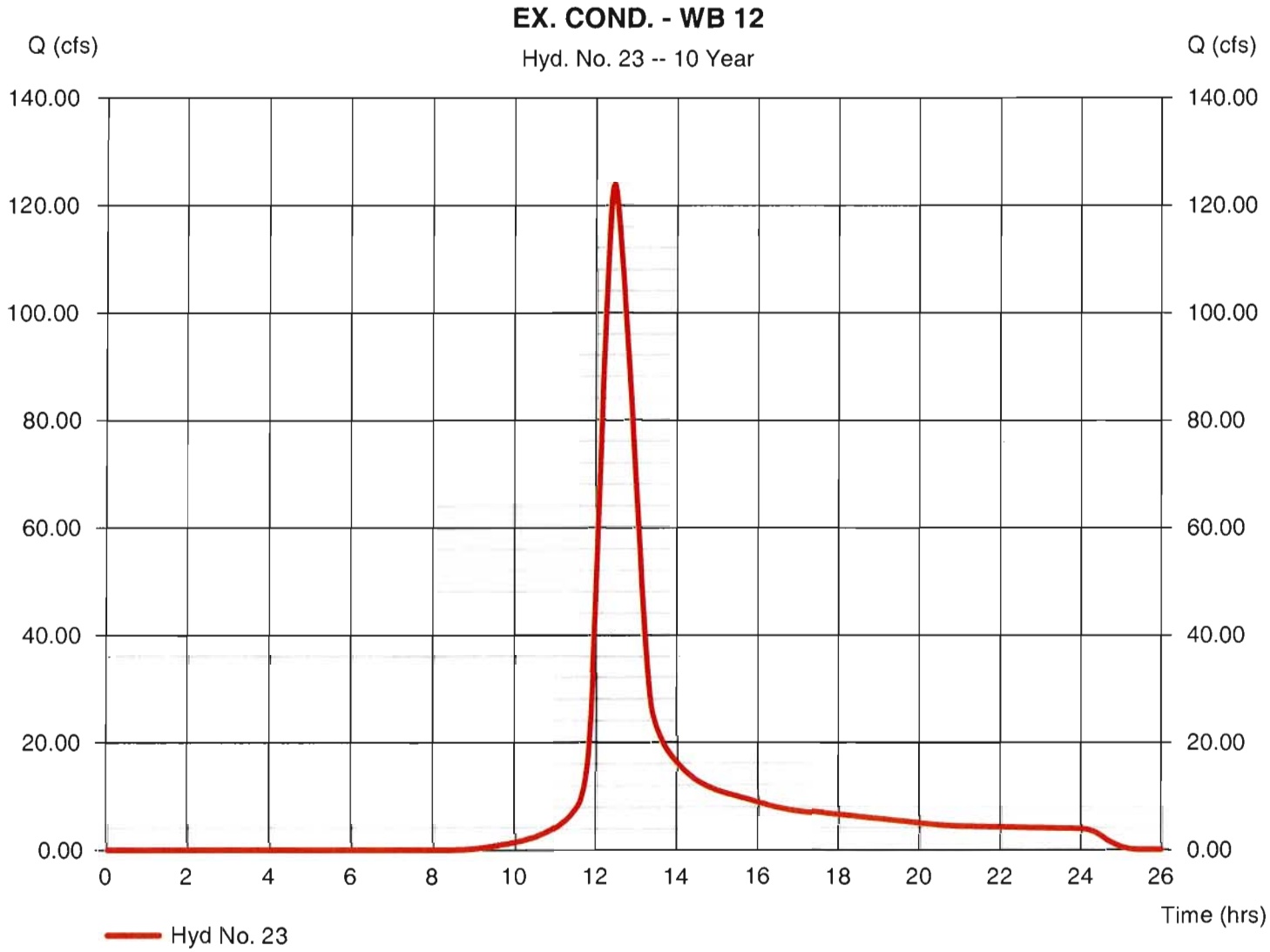
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 23

EX. COND. - WB 12

Hydrograph type	= SCS Runoff	Peak discharge	= 123.95 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 743,617 cuft
Drainage area	= 104.000 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.70 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (12.100 x 83) + (65.400 x 78) + (25.500 x 86)] / 104.000



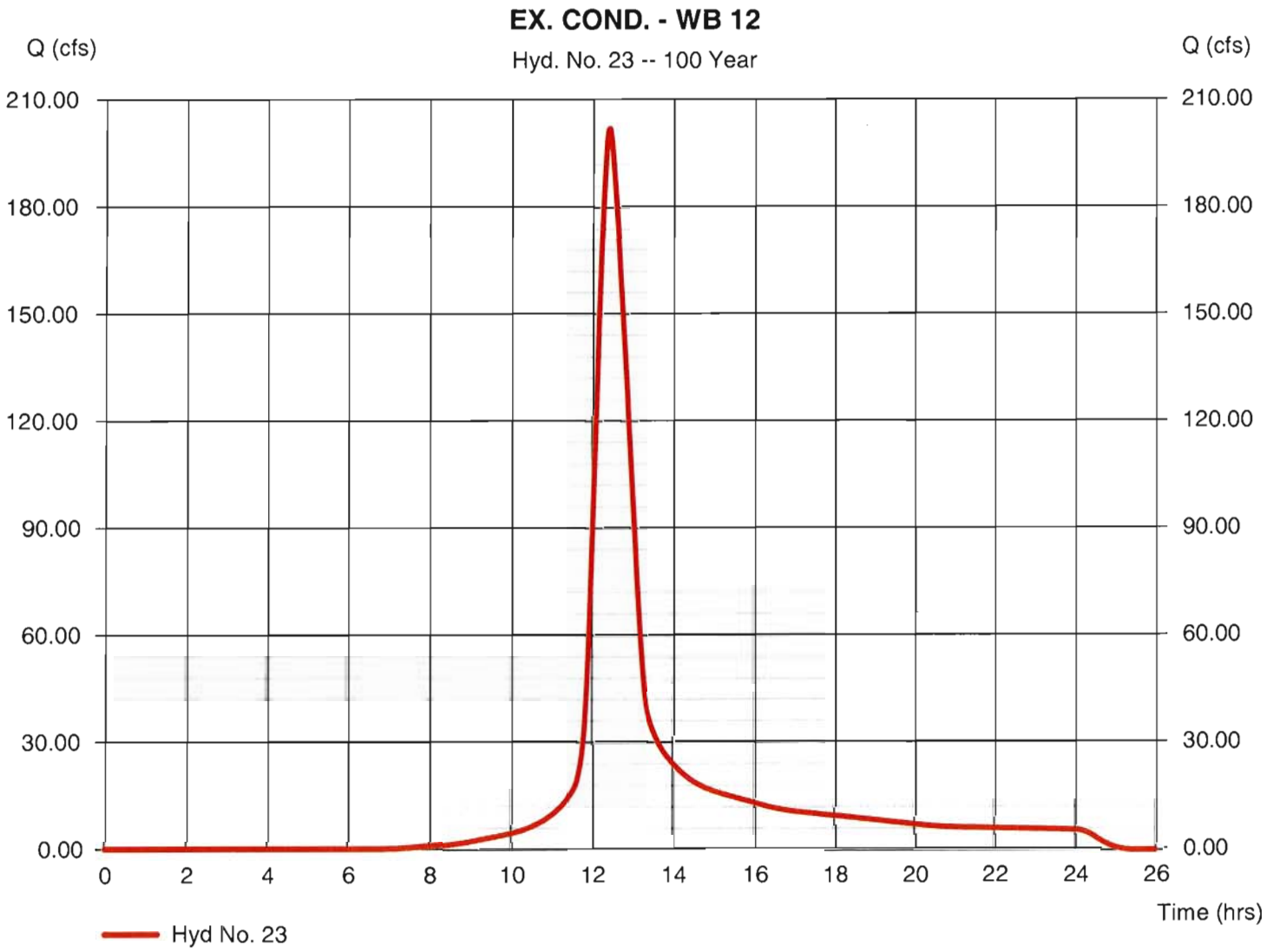
Hydrograph Report

Hyd. No. 23

EX. COND. - WB 12

Hydrograph type	= SCS Runoff	Peak discharge	= 201.93 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 1,203,315 cuft
Drainage area	= 104.000 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.70 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (12.100 x 83) + (65.400 x 78) + (25.500 x 86)] / 104.000



Hydrograph Report

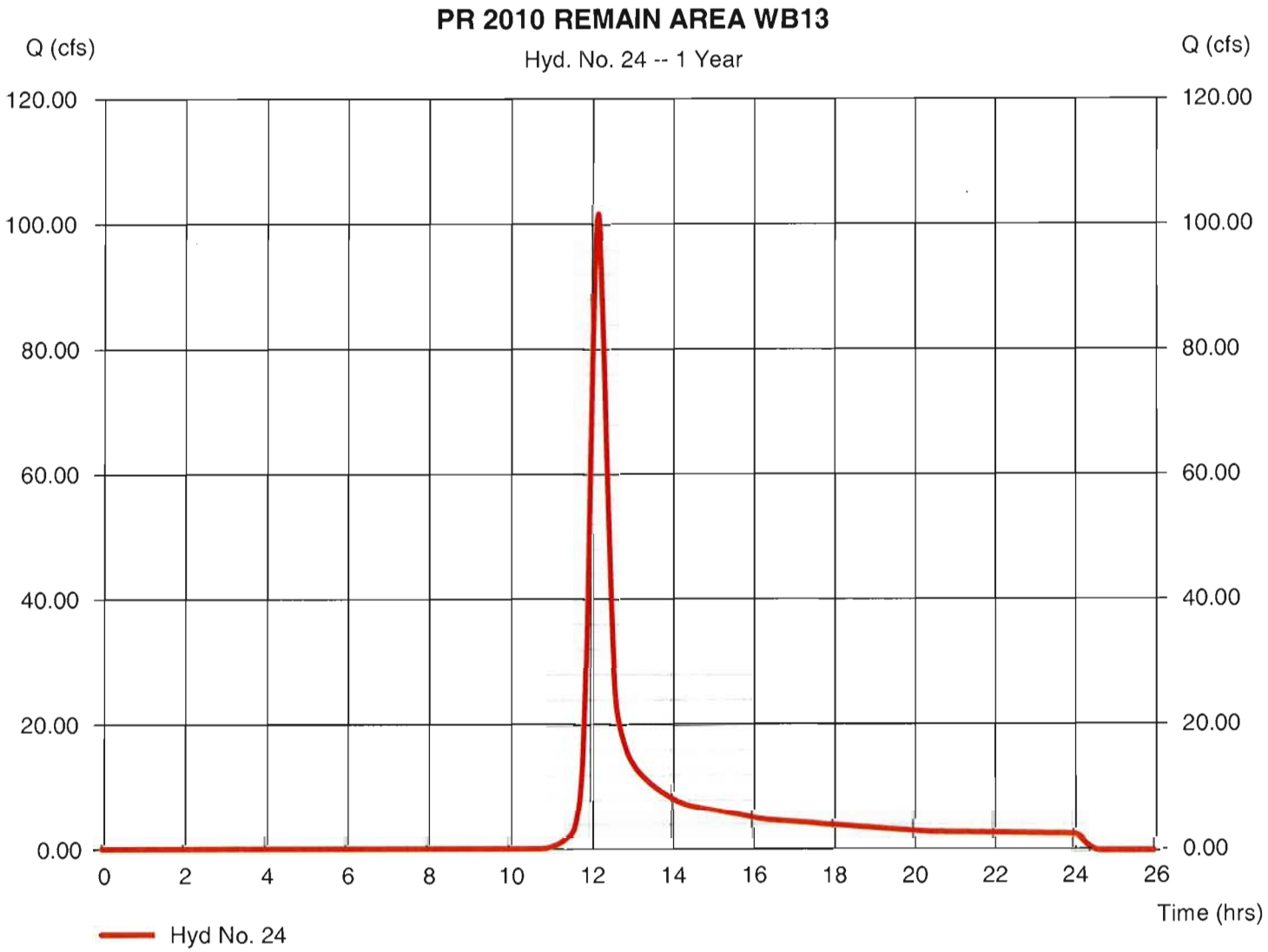
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 24

PR 2010 REMAIN AREA WB13

Hydrograph type	= SCS Runoff	Peak discharge	= 101.69 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 394,431 cuft
Drainage area	= 150.200 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 26.40 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (7.500 x 83) + (101.500 x 78) + (40.200 x 86)] / 150.200



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 24

PR 2010 REMAIN AREA WB13

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.240	0.011	0.011	
Flow length (ft)	= 180.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 13.30	0.00	0.00	
Travel Time (min)	**= 12.36**	**+ 0.00**	**+ 0.00**	**= 12.36**
Shallow Concentrated Flow				
Flow length (ft)	= 1285.00	0.00	0.00	
Watercourse slope (%)	= 0.90	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 1.53	0.00	0.00	
Travel Time (min)	**= 13.99**	**+ 0.00**	**+ 0.00**	**= 13.99**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 26.40 min

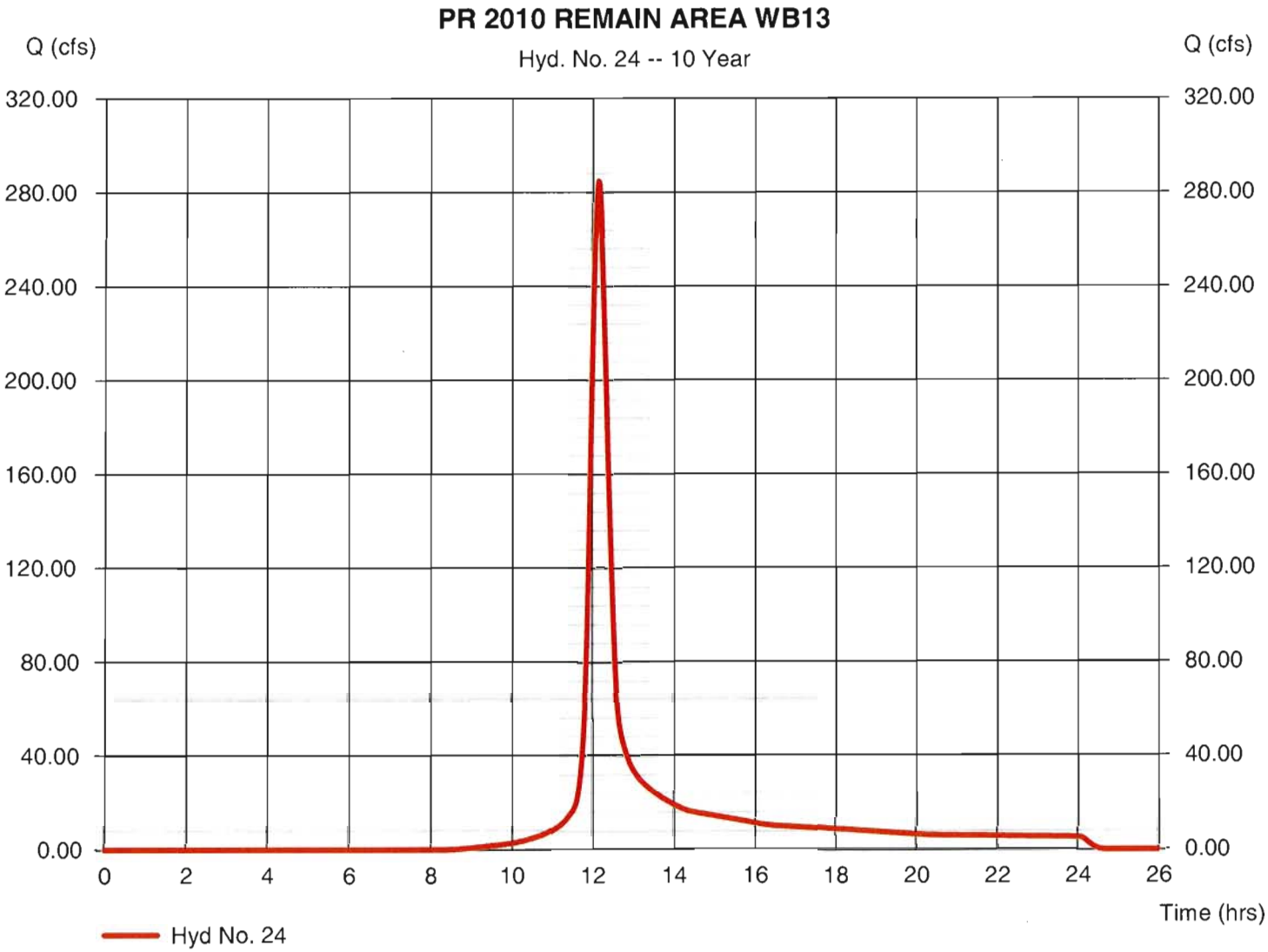
Hydrograph Report

Hyd. No. 24

PR 2010 REMAIN AREA WB13

Hydrograph type	= SCS Runoff	Peak discharge	= 284.82 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 1,048,979 cuft
Drainage area	= 150.200 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 26.40 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (7.500 x 83) + (101.500 x 78) + (40.200 x 86)] / 150.200



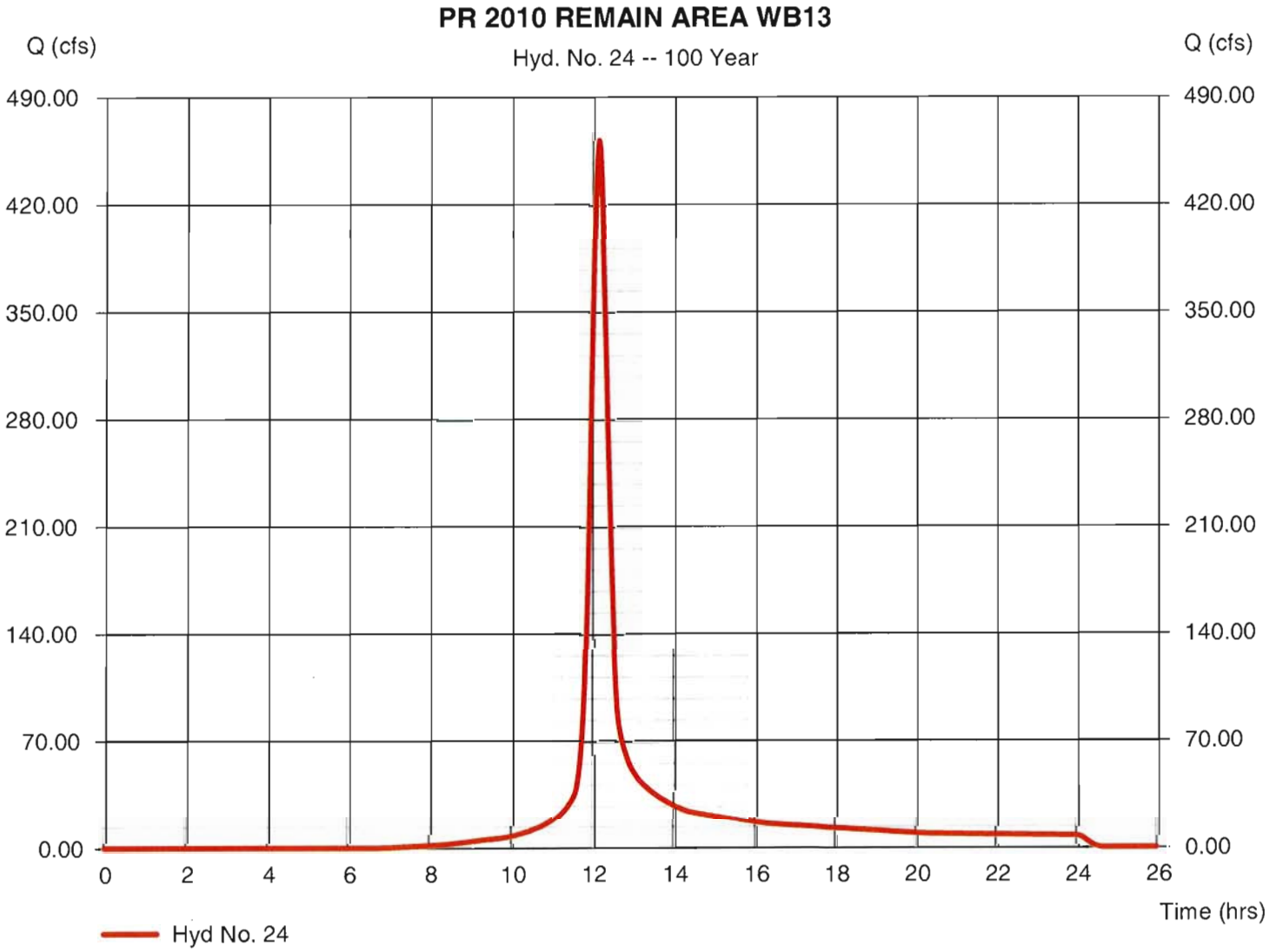
Hydrograph Report

Hyd. No. 24

PR 2010 REMAIN AREA WB13

Hydrograph type	= SCS Runoff	Peak discharge	= 462.47 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 1,697,450 cuft
Drainage area	= 150.200 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 26.40 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (7.500 x 83) + (101.500 x 78) + (40.200 x 86)] / 150.200



Hydrograph Report

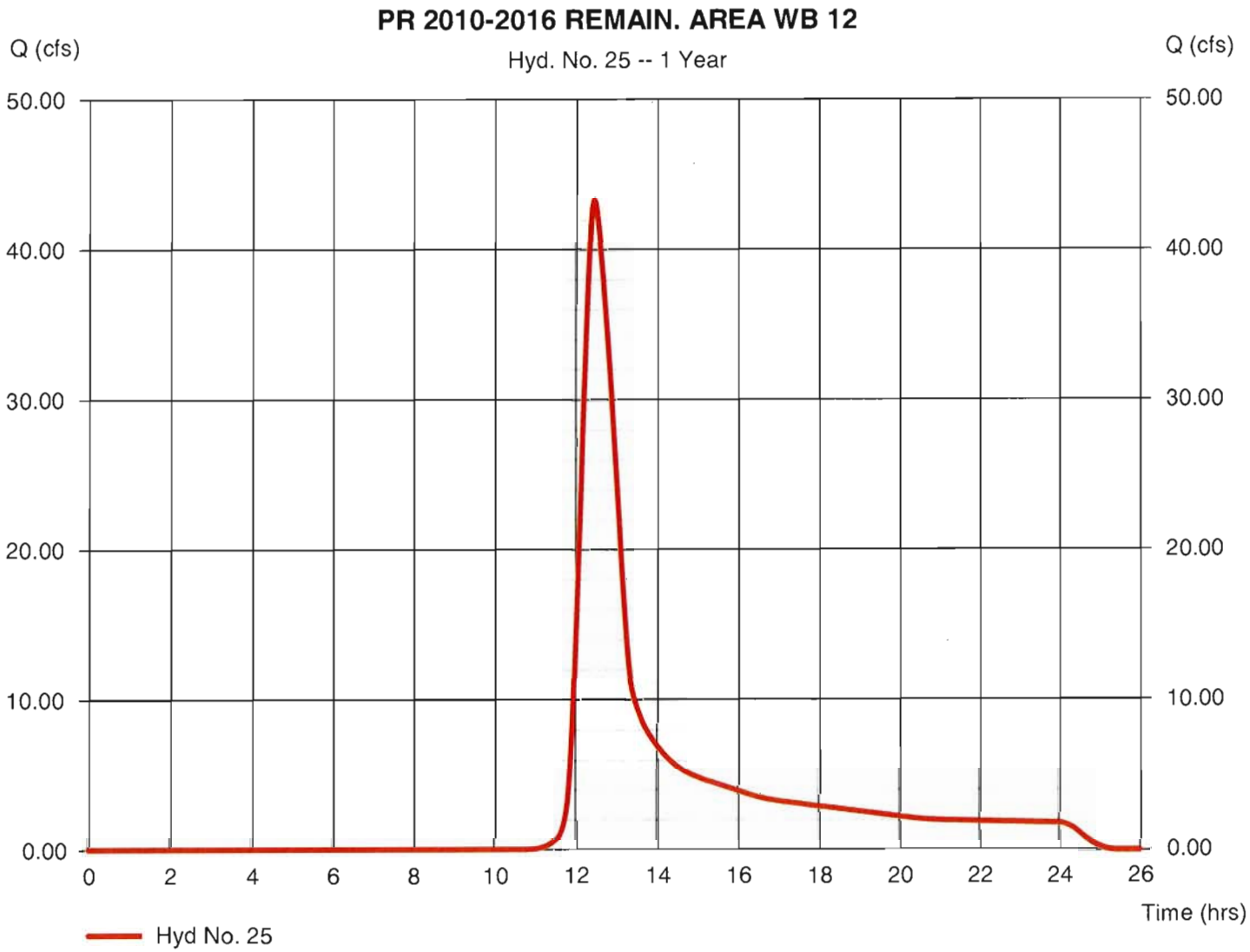
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 — Tuesday, Jul 27, 2010

Hyd. No. 25

PR 2010-2016 REMAIN. AREA WB 12

Hydrograph type	= SCS Runoff	Peak discharge	= 43.33 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 278,724 cuft
Drainage area	= 103.670 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.70 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (12.100 x 83) + (65.070 x 78) + (25.500 x 86)] / 103.670



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 25

PR 2010-2016 REMAIN. AREA WB 12

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.400	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.40	0.00	0.00	
Land slope (%)	= 1.20	0.00	0.00	
Travel Time (min)	**= 42.07**	**+ 0.00**	**+ 0.00**	**= 42.07**
Shallow Concentrated Flow				
Flow length (ft)	= 859.00	0.00	0.00	
Watercourse slope (%)	= 0.70	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 1.35	0.00	0.00	
Travel Time (min)	**= 10.61**	**+ 0.00**	**+ 0.00**	**= 10.61**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00**	**+ 0.00**	**+ 0.00**	**= 0.00**

Total Travel Time, Tc ..... 52.70 min

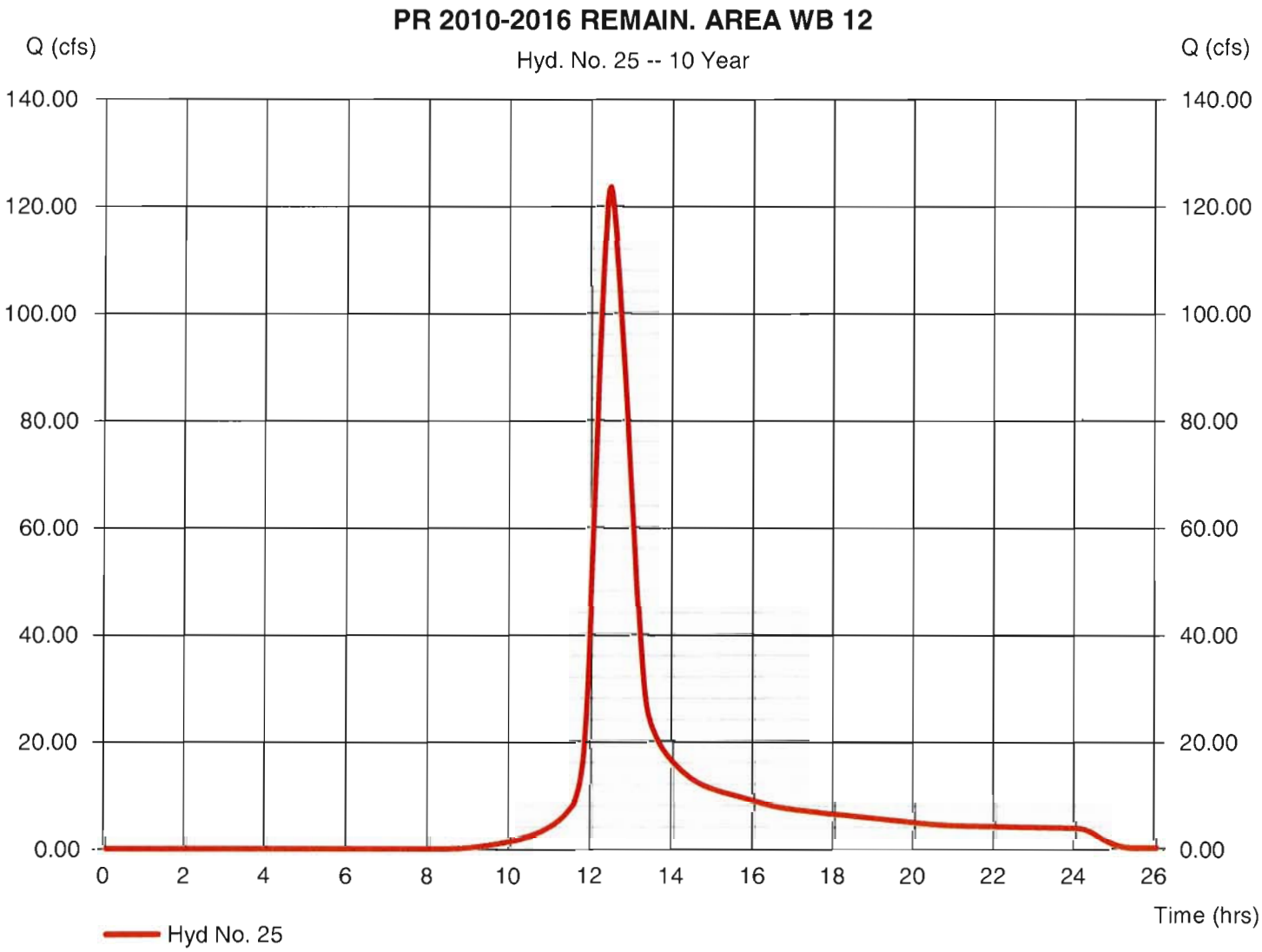
Hydrograph Report

Hyd. No. 25

PR 2010-2016 REMAIN. AREA WB 12

Hydrograph type	= SCS Runoff	Peak discharge	= 123.56 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 741,258 cuft
Drainage area	= 103.670 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.70 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (12.100 x 83) + (65.070 x 78) + (25.500 x 86)] / 103.670



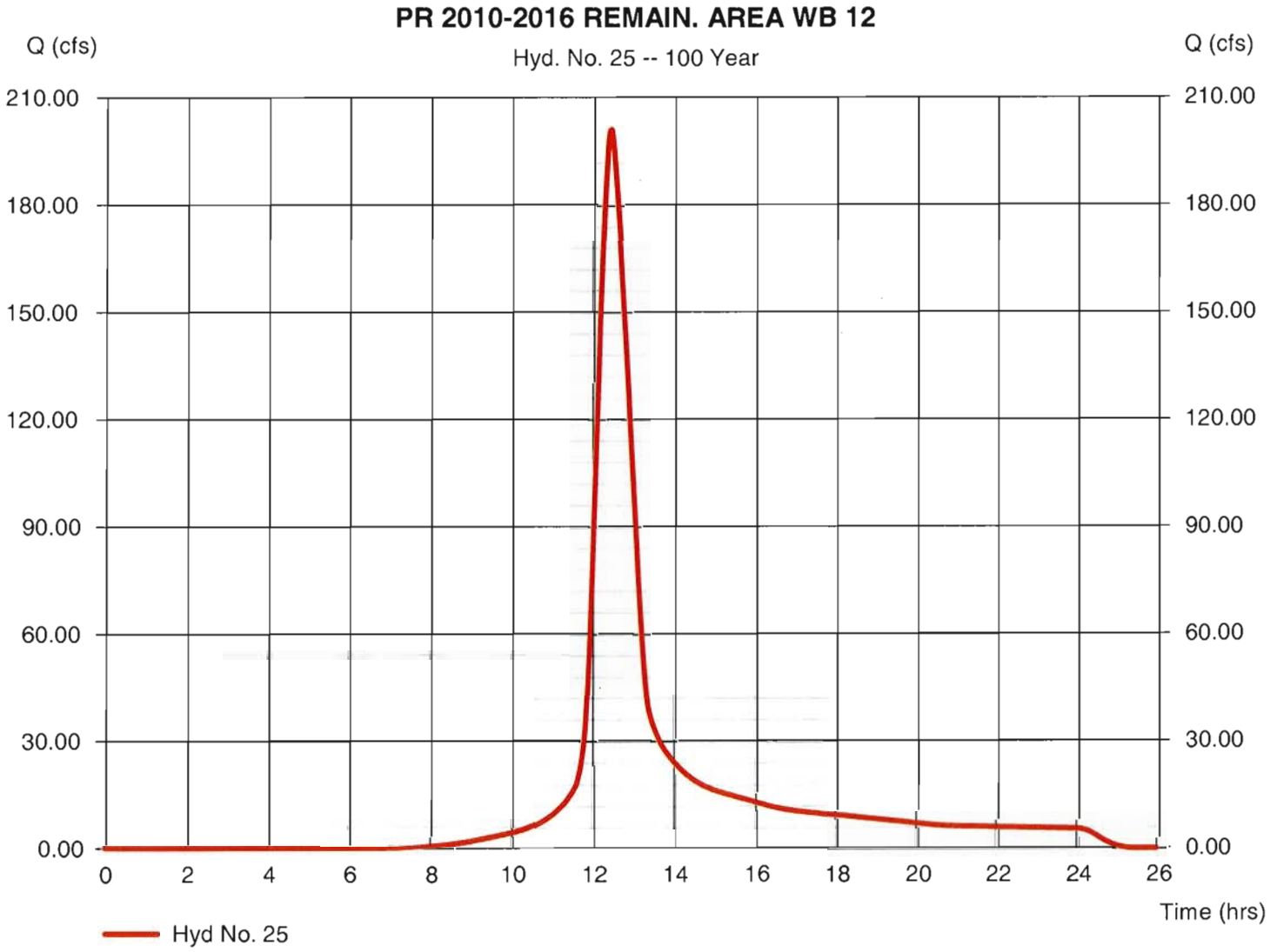
Hydrograph Report

Hyd. No. 25

PR 2010-2016 REMAIN. AREA WB 12

Hydrograph type	= SCS Runoff	Peak discharge	= 201.29 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 1,199,497 cuft
Drainage area	= 103.670 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.70 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.000 x 98) + (12.100 x 83) + (65.070 x 78) + (25.500 x 86)] / 103.670



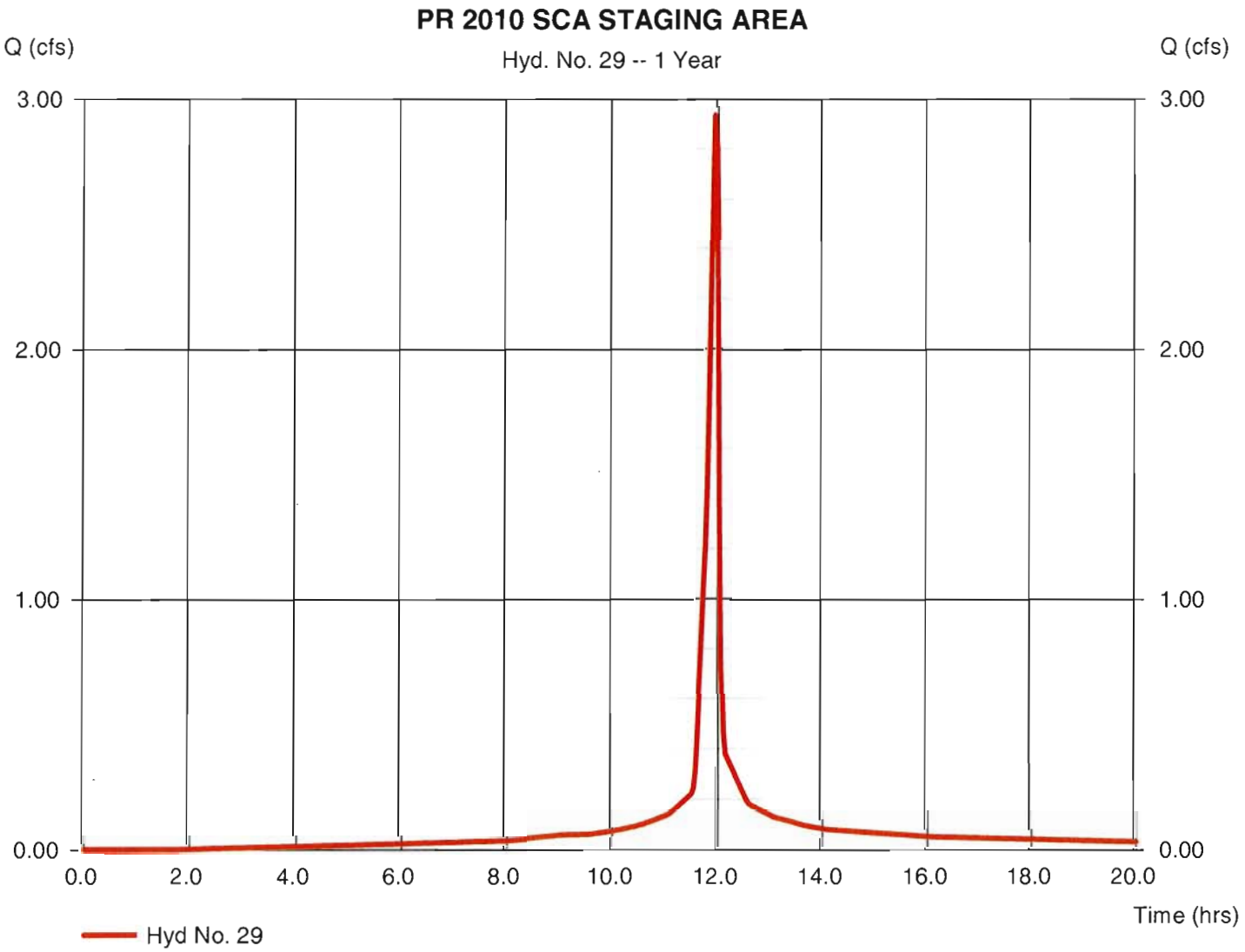
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052 Tuesday, Jul 27, 2010

Hyd. No. 29

PR 2010 SCA STAGING AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 2.933 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 6,713 cuft
Drainage area	= 1.000 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.50 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. v6.052

Hyd. No. 29

PR 2010 SCA STAGING AREA

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.011		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.40		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 3.37**	**+**	**0.00**	**+**	**0.00**	**=**	**3.37**
Shallow Concentrated Flow							
Flow length (ft)	= 100.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	= 1.44		0.00		0.00		
Travel Time (min)	**= 1.16**	**+**	**0.00**	**+**	**0.00**	**=**	**1.16**
Channel Flow							
X sectional flow area (sqft)	= 9.00		0.00		0.00		
Wetted perimeter (ft)	= 13.25		0.00		0.00		
Channel slope (%)	= 0.50		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	= 5.42		0.00		0.00		
Flow length (ft)	= 300.0		0.0		0.0		
Travel Time (min)	**= 0.92**	**+**	**0.00**	**+**	**0.00**	**=**	**0.92**

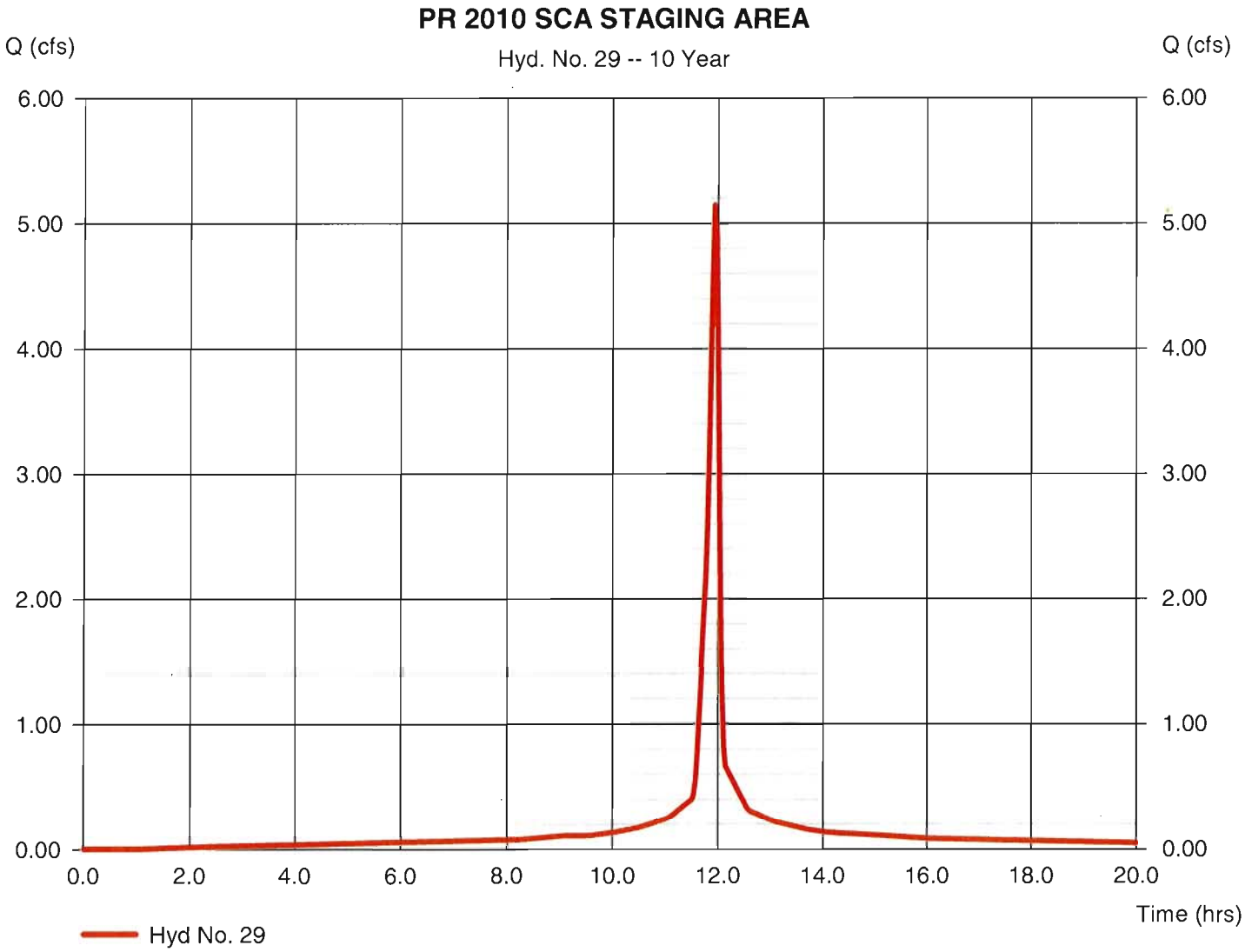
Total Travel Time, Tc ..... 5.50 min

Hydrograph Report

Hyd. No. 29

PR 2010 SCA STAGING AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 5.145 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 12,134 cuft
Drainage area	= 1.000 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.50 min
Total precip.	= 3.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

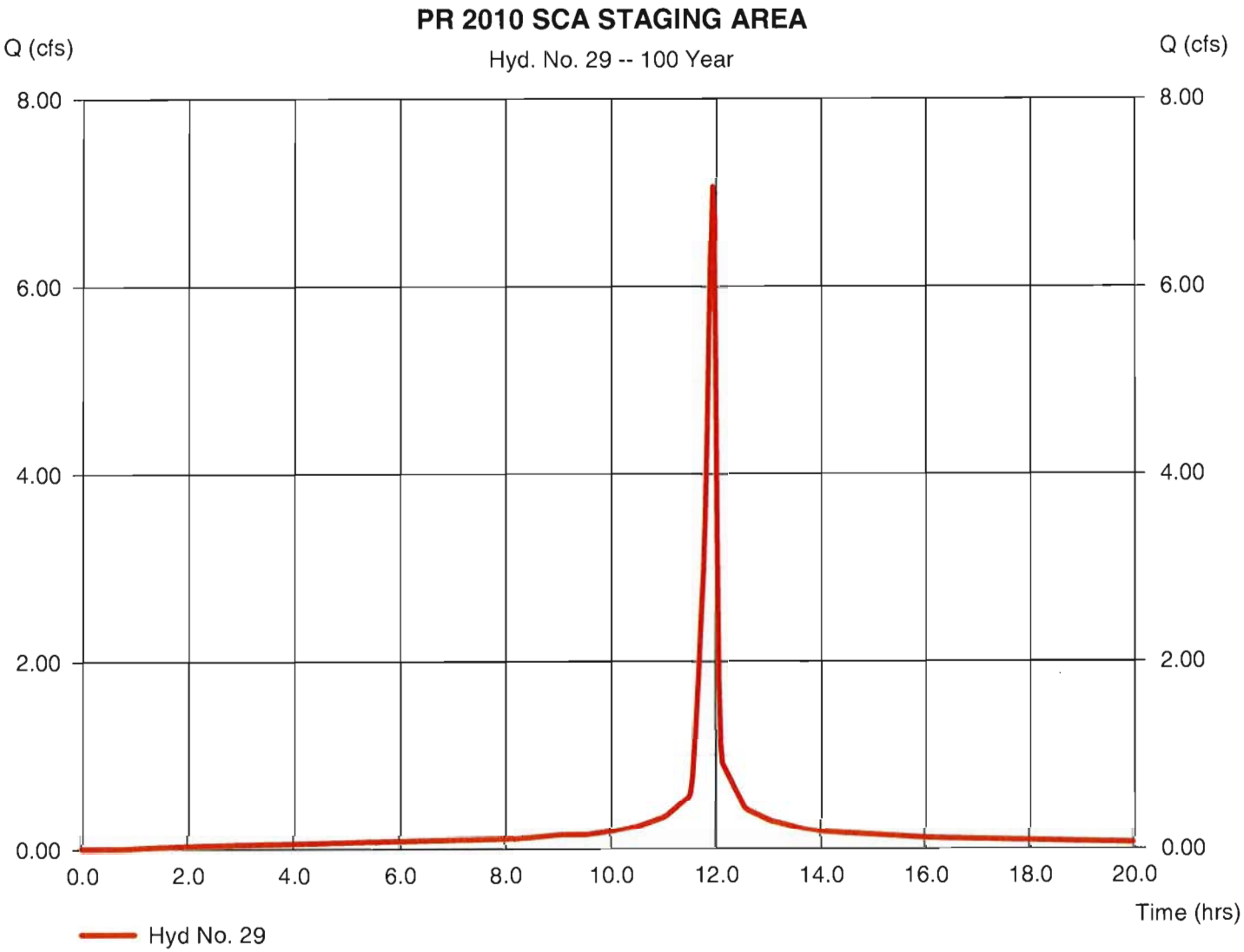


Hydrograph Report

Hyd. No. 29

PR 2010 SCA STAGING AREA

Hydrograph type	= SCS Runoff	Peak discharge	= 7.069 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 16,889 cuft
Drainage area	= 1.000 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 5.50 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



APPENDIX J

Material Specification

SECTION 02300

GRAVEL DRAINAGE LAYER

PART 1 – GENERAL

1.01 SCOPE OF WORK

A. The work covered in this Section consists of furnishing and placing the layer of granular material within the liner system, which is part of the Sediment Consolidation Area (SCA). The granular material is placed on top of the geotextile cushion in accordance with the Project Specifications and Drawings and in conformity with the lines, grades, thicknesses, and typical cross-sections shown on the plans or established by the Engineer.

1.02 RELATED WORK

A. Work in this section includes, but is not limited to:

1.	Section 01030	Environmental Protection
2.	Section 01300	Submittal Procedures
3.	Section 01620	Health and Safety Requirements
4.	Section 02100	Site Clearing
5.	Section 02200	Earthwork
6.	Section 02250	Low Permeability Soil Layer

1.03 REFERENCES

A. Latest version of American Society for Testing and Materials (ASTM) Standards:

1.	ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2.	ASTM D 75	Standard Practice for Sampling Aggregates
3.	ASTM D 2434	Standard Test Method for Permeability of Granular Soils (Constant Head).
4.	ASTM D 2487	Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
5.	ASTM D 3042	Standard Test Method for Insoluble Residue in Carbonate Aggregate.

1.04 SUBMITTALS

A. The Contractor shall submit the following information to Engineer for review and approval in accordance with Section 01300 – Submittal Procedures and as elsewhere specified in this Section 30 calendar days prior to initiating Gravel Drainage Layer activities.

1. Handling and stockpiling methods to minimize particle segregation;
2. Equipment and methods for management of various stockpiles. Management of stockpiles shall also include methods to measure and monitor material stockpiles;
3. Equipment and methods to load and haul material from the material stockpiles;
4. Equipment and methods to place the material;
5. Repair procedures;
6. Proposed offsite borrow source(s);
7. Coordination of survey requirements for the work;
8. Locations of on-site temporary soil stockpile areas;
9. Coordination of construction activities with surface-water management and erosion and sediment control measures;
10. Schedule for construction activities; and
11. Quality Control Work Plan.

B. The Contractor shall be responsible for the adequacy and safety of the methods.

C. Test results as specified herein shall be submitted to the Engineer for review within two (2) working days of receipt of results. The Contractor shall not deliver material to the site prior to submission and approval by the Engineer of the geotechnical and analytical chemistry test results.

1.05 CONSTRUCTION QUALITY CONTROL

A. The Contractor shall submit a Quality Control (QC) Workplan for review. Once instituted, the Contractor shall use the QC Workplan to ensure that the Work performed under the contract meets the requirements of the Contract Documents.

B. The Contractor shall submit the name of a qualified Independent Testing Laboratory (ITL) to the Engineer for review.

1. The Contractor shall submit to the Engineer for approval, the company name, address, and qualifications of the selected ITL proposed for use at the project. Included in this submittal will be the names and qualifications of the individuals who are proposed for assignment to the site. The Engineer reserves the right to request other information regarding the qualifications of the ITL for use in the evaluation process.

C. Sampling

1. The Contractor shall be responsible for collecting samples and conducting tests using a qualified ITL to document material property compliance with the specifications.
2. Representative samples of each specific material type from each specific material source will be obtained by compositing at least five randomly selected individual samples of approximately equal weight. The total

composite sample mass shall be at least the minimum size required to conduct all of the required material property tests for that material type. Each of the individual samples will be obtained from within the boundaries of the material mass that the composite sample represents.

3. Contractor quality control samples may be obtained from in situ samples for pre-approval of a dedicated borrow source area. The sampling methodology and means for assuring the material dedication to the project shall be submitted to the Engineer for approval prior to the commencement of sampling.
4. Contractor quality control samples may also be obtained from dedicated stockpiles or storage/transportation vessels. The sampling methodology and means for assuring the material dedication to the project shall be submitted to the Engineer for approval prior to the commencement of sampling.

D. Minimum Sample Frequency

1. QC testing per Part 360 will require a representative sample obtained and tested at the following frequencies (with a minimum of 1 sample from each borrow source area with consistent appearance):

   One soil particle size analysis and soil classification for every 1,000 cubic yards of gravel drainage material placed; and one laboratory constant head permeability test for every 2,500 cubic yards of gravel drainage material placed.

E. Material Property Testing

1. Each composite sample shall be tested for material properties as defined in the section 2.01.E.

F. General

1. No imported materials shall be delivered to the project site before the required material property testing for that batch has been provided to the Engineer and written approval received from the Engineer. Unapproved material shall be removed from the site at the Contractor's expense.
2. Contractor shall be responsible for repairing or reconstructing the deficiencies at his own expense to meet this specification and other Contract Documents.

1.06 CONSTRUCTION QUALITY ASSURANCE

A. The Engineer shall conduct quality assurance sampling on Gravel Drainage Layer materials.

1. The Contactor shall provide access and support for the sampling and testing.

B. Low ground pressure equipment shall be used to place, spread and compact drainage layer materials, as approved by the Engineer. Areas such as access roads that may have truck traffic shall have at least 24 inches of gravel thickness before such traffic can be allowed.

PART 3 – EXECUTION

3.01 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Drainage layer material delivered to the site may be stockpiled in areas designated on the Project Drawings or other areas approved by the Engineer.

B. Stockpiled drainage material shall be managed and controlled to prevent mixing with other materials in accordance with the Contractor's procedures.

3.02 MATERIAL PLACEMENT

A. The drainage layer materials shall not be placed until Engineer has reviewed and approved the initial source certifications, required test data for material stockpiled at the site, and required test data and submittals, including survey information, for the underlying soil layer.

B. Place the drainage layer material directly on top of the underlying geotextile layer, as shown on the Project Drawings and then carefully spread using equipment and procedures that will not cause damage or rutting to the underlying geotextile. The Gravel Drainage Layer thicknesses at each location shall be in accordance with the Project Drawings and shall not be less than 12 inches at any location. Areas such as access roads that may have truck traffic shall have at least 24 inches of gravel thickness before such traffic can be allowed.

C. The drainage layer material shall be delivered as a uniform mixture and shall be placed to limit segregation of materials and the formation of pockets of coarse and fine materials. Placement of the materials in windrows or layers shall be done to limit the distance that the drainage layer materials must be spread to achieve the required thickness.

D. Drainage layer materials shall not be hauled directly on the underlying layers.

E. Spread the drainage layer material over the underlying geotextile by pushing the material forward to cascade rather than be shoved across the underlying layer.

F. Drainage layer material shall be placed in loose lift thicknesses of one foot or greater to the lines, thicknesses and grades shown on the drawings and as approved by Engineer. The thickness of the Drainage Layer at any location shall be measured perpendicular to the plane of the slope at each location. Due to the compressible nature of the foundation, a strict conformance with the design elevations is not required. Gravel Drainage Layer material can be used

to locally adjust the slopes to improve stability during filling of geo-tubes as needed.

G. Drainage layer material should be placed in coordination with the Engineer. Gravel shall not be placed when snow cover is present on the geotextile cushion. Gravel placement shall continue after the snow cover has melted sufficiently to proceed with placement. All safety procedures regarding operating equipment under snow events shall be followed.

3.03 SURVEY CONTROL

A. Contractor shall provide as-built documentation for the top surface of the Gravel Drainage Layer. In addition, Contractor shall also provide thickness measurements or calculations for the Gravel Drainage Layer as it is being constructed. These thickness values measured or calculated during construction are less likely to be affected by the settlement of the soft foundation material than the elevation measurements of the top of the Gravel Drainage Layer taken after the construction. Therefore, the thickness measurements or calculations performed during construction shall be used to verify that the minimum thickness requirements are met. The elevation measurements of the top of the Gravel Drainage Layer taken after the construction shall be used to verify general conformance with base slopes. The elevation measurements shall be performed at a maximum spacing of 50 feet. The thickness measurements or calculations shall be performed at a maximum spacing of 100 feet.

B. Provide survey information for Engineer to confirm the thicknesses and grades of complete areas. A maximum of 3 working days shall be allowed for the Engineer to confirm and accept the survey results.

3.04 TOLERANCES

A. Construct the finished surface of the Gravel Drainage Layer slopes to a tolerance of +/-0.2% of the slopes indicated on the Project Drawings when measured at any point along a 50 feet straight-edge.

B. Tolerance requirement may be waived by the Engineer to achieve grades in a manner to facilitate placement of geotextile tubes.

[END OF SECTION]

APPENDIX K

Letter Requesting >5ac Land Disturbance

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

July 28, 2010

Ms. Ellen Hahn
Stormwater Control Specialist
New York State Department of Environmental Conservation
Region 7
615 Erie Blvd. West, Suite 204
Syracuse, NY 13204-2400

RE: Honeywell SCA Wastewater Treatment Plant
Consent Order #89-CV-815

Dear Ms. Hahn:

Enclosed for your review is a copy of the Stormwater Pollution Prevention Plan (SWPPP) that was prepared on behalf of Honeywell International, Inc., in support of the Remedial Design Work Plan (RDWP) for the Onondaga Lake Bottom Subsite.

This SWPPP has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-10-001 to address stormwater runoff associated with 2010 construction activities. Conceptual construction phasing for the years 2011 through 2016 are also provided. SWPPP updates for construction activities scheduled for 2011 through 2016 will be prepared as required.

We are also seeking the NYSDEC's approval to disturb more than five acres during construction activities associated with the Project.

Your cooperation in finalizing this document is appreciated. Please do not hesitate to contact the project team if you have any questions or comments or if additional information is required.

Sincerely,

John P. McAuliffe by CCC

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

cc:	Mr. Bob Edwards	NYSDEC, Albany
	Mr. Tim Larson	NYSDEC, Albany
	Ms. Sandy Lizlovs	NYSDEC, Syracuse
	Mr. Richard Mustico	NYSDEC, Albany
	Ms. Mary Jane Peachey	NYSDEC, Region 7
	Mr. Al Labuz	Honeywell
	Mr. Paul Blue	Parsons
	Mr. Dave Steele	Parsons
	Mr. Kyle Buelow	O'Brien & Gere
	Mr. Paul Schultz	O'Brien & Gere
	Mr. Brian White	O'Brien & Gere

Appendix L

Stormwater Containment Volume Summary Calculations

Stormwater Pollution Prevention Plan **Appendix L**
Stormwater Volume Calculation Summary **30-Jul-10**

Phase 1A - Sediment Containment Area

Maximum Water Containing Elevation	435 ft
Average SCA Base Grade Elevation	432.5 ft
Total SCA Phase 1a Area	544,500 sf
SCA Area to Top of Berm (Interior)	525,625 sf
Available Storage Volume	1,314,000 cf
Adjustments	
Decrease in Storage Volume Associated with Interior Portion of Berm	58,000 cf
Estimated Storage Volume Decrease Assoc with Drainage Gravel	762,300 cf
Net Available Storage Volume	493,700 cf
Required Volume to Contain 100 yr Storm (Table 4.2)	232,227 cf

Staging Area

Maximum Water Containing Elevation	436.5
Staging Area Base Elevation	435.5
Staging Area	43,560 sf
Staging Area to Top of Berm	40,000 sf
Available Storage Volume	40,000 cf
Adjustments	
Decrease in Storage Volume Associated with Interior Portion of Berm	1,200 cf
Net Available Storage Volume	38,800 cf
Required Volume to Contain 100 yr Storm (Table 4.2)	16,889 cf