

December 10, 2014

MINUTES OF MEETING  
**GRAND TRAVERSE TOWN CENTER SITE**  
**ACME TOWNSHIP, GRAND TRAVERSE COUNTY, MICHIGAN**

Date/Time: November 25, 2014, 1:30 PM EST

Location: Horizon Environmental, Grand Rapids, Michigan

Attendees: Dr. Chris Grobbel, Grobbel Environmental & Planning Associates  
John Iacoangeli, Beckett & Raeder, Inc.  
Matt MacGregor, King & MacGregor Environmental (“KME”)  
Dennis Donohue, Warner, Norcross & Judd  
Allen Reilly, Horizon Environmental  
Chris Miron, Horizon Environmental  
Steve Smith, Village at Grand Traverse (“VGT”) (via telecom)  
Ken Petterson, Smith & Johnson (via telecom)

The meeting was called to discuss technical issues related to storm water management and surface water monitoring at the Grand Traverse Town Center (“GTTC”) site in Acme Township, Grand Traverse County, Michigan. The following represents my understanding of significant issues discussed and decisions reached:

1. Nature of Storm Water Regulation: A general discussion was conducted regarding the site regulatory framework and the distinction between storm water runoff from construction, which is regulated under the site’s soil erosion and sedimentation control (“SESC”) permit, as well as a NPDES permit by rule for construction activities, and storm water runoff from the developed property. Discussion included a review of the narrative standard for storm water quality contained in the Part 4 Rules established pursuant to Part 31 of Michigan’s NREPA. Construction of storm water treatment features for the developed property is regulated by the Acme Township Special Use Permit (the “SUP”). Grobbel noted that the SUP contained a qualitative standard regarding storm water discharge from the property – a “no impact” requirement, which was intended to be more restrictive than other applicable regulatory frameworks.
2. Review of Storm Water Basin Design/Vegetation: Discussion ensued regarding the nature of the constructed storm water detention basins on the property, including review of the Gourdie-Frasier Associates (“GFA”) design plans for the basins. Discussion also included review of basin design intent, as established in the site plan approval and SUP development process. MacGregor indicated that the basins, as constructed, were equivalent or superior in design to the conceptual design presented in KME’s December 15, 2011 conceptual storm water plan. Reilly noted that the conceptual design presented in the KME conceptual storm water plan had to be developed into a detailed design for construction purposes and that this design process had resulted in a basin design which appears different but contains the same functional elements (storage/detention capacity, wetland vegetated swales to filter storm water, riprap aprons and check dams to slow velocity of water, etc.).

Grobbel indicated that a variety of information had been requested from VGT regarding the basin design, and that some of this information had not been provided. Specific information that was requested includes final engineered drawings, detailed wetland maintenance/monitoring plans, revised storm water calculations, hydrograph/retention times for each phase and respective wetland basins. Grobbel further indicated that Acme Township had passed a specific resolution (January 1, 2012) noting other requirements applicable to the design and construction of the storm water basins that must be fulfilled by VGT. A copy of this resolution was provided by Grobbel for use in development of a technical submittal to the Township regarding basin design. It was agreed that VGT would provide a technical submittal regarding basin design for review and consideration by Acme Township and that review of this submittal would be used to determine whether any significant change had occurred as a result of the detailed engineering design process.

Miron indicated that a Vegetation Augmentation Plan ("VAP") was outlined as a deliverable in VGT's Corrective Action Plan for the site, which was provided to the Michigan Department of Environmental Quality ("MDEQ") and to Acme Township. MacGregor indicated that the VAP would include additional detail regarding proposed wetland species to be planted in the basins and swales and requested information from Grobbel summarizing the Township's expectations regarding wetland species in these areas. Reilly noted that the VAP was to be submitted to MDEQ in January of 2015 and that VGT would seek input from the Township regarding the VAP prior to its submittal to MDEQ.

3. Review of Basin Construction: Grobbel expressed concern regarding the "shelves" of the storm water basins based on his field observation that the shelves were consistently dry. Because the shelves were not sufficiently wet, he is concerned that wetland species will not grow on the shelves. A review of the slow release outlet configuration relative to the shelf elevation ensued. MacGregor noted that the elevation of the shelves was designed to be very near the slow release outlet from the basins and, as a result, the shelf soils should be saturated under most circumstances. In response to Grobbel's observations, Miron suggested that the elevations of the shelves and the slow release outlets should be surveyed to verify that they were constructed in accordance with the design. It was agreed that VGT's project team would complete this survey check of the basin features.
4. Input to Basin #1 from Northeast: Grobbel noted that a new storm water inlet had been constructed into Basin #1 from the northeast, draining an area of the site immediately east of Basin #1, and questioned whether this was a permanent feature. Reilly acknowledged that this inlet has been presented on the most recent SESC plans for the site.
5. Construction SESC Review: A discussion followed regarding the nature and adequacy of SESC measures on the property based on Grobbel's recent inspections. Grobbel raised concerns regarding the following issues:
  - a. A gap in silt fence at the outlet of the swale from Basin #1. Miron indicated that this gap was present by design to allow water to release from the basin.
  - b. Erosion at the base of the hill below the discharge location of treated water from the ProAct system. Relocation of the water treatment system discharge location was proposed to resolve this issue.

- c. Gravelling of construction roads has not yet been completed, resulting in increased exposed clay on the site and additional erosion.
  - d. Foaming in Acme Creek that started at a time coincident with initiation of discharge of treated water from the ProAct system. Reilly noted that a Rule 97 certification had been obtained by VGT authorizing discharge of additives used in the treatment operation to Acme Creek.
  - e. Periodic discharge of turbid water from the site to the adjacent dinner theatre property. Grobbel also suggested that site grading completed by VGT has resulted in an increased volume of storm water discharge from the VGT property onto the dinner theatre property.
6. Surface Water Monitoring: A brief review of the surface water monitoring plan contained in the KME December 2011 report followed. Reilly noted that the plan was not specific with regard to monitoring during construction, and outlined a proposal for surface water monitoring of Acme Creek that VGT was prepared to implement during construction. The proposed construction phase monitoring would include sampling during qualifying rainfall events and would assess parameters consistent with potential runoff from construction (rather than parameters consistent with the end use of the property), including turbidity, TSS and temperature. Based on conceptual agreement from Grobbel, Reilly indicated that an interim storm water monitoring plan would be submitted to Acme Township for consideration in the near future.
7. Miscellaneous Follow-Up Items: Grobbel indicated his understanding that commitments had been made by VGT to: (a) develop a response plan to address potential spills on the property and reduce the potential for any such release to reach surface water; and (b) construct walking paths in the wetland areas associated with the site storm management features (i.e., near the planted basins and swales), including placement of interpretive signage. Reilly indicated that VGT would reach out to Meijer to determine what spill response plans it typically implements for its retail stores and that any such information obtained from Meijer would be presented to the Township for review and consideration.

The parties agreed that this meeting was mutually beneficial and it was agreed that additional technical meetings would be conducted on an as needed basis throughout the remainder of the development project. The meeting was adjourned at approximately 3:30 PM EST.

### Summary of Action Items:

#### VGT

- Develop Technical Evaluation/Comparative Analysis of Basin Design (December 2014)
- Develop Draft Vegetation Augmentation Plan (early January 2015)
- Survey Verification of As-Constructed Elevations of Basin "Shelves" and Slow Release Outlet Structures (December 2014)
- Develop and Implement Interim Surface Water Monitoring Plan (December 2014)
- Contact Meijer Regarding Spill Response Plans for Retail Facilities (Spring 2015)

Acme Township

- Provide Information Regarding Wetland Species Expectations for Basins and Swales (December 2014)
- Review of VGT Technical Submittals (Timely After Receipt)

The preceding represents my understanding of discussions and decisions reached. If there is any discrepancy, please notify the undersigned.

Respectfully Submitted,

HORIZON ENVIRONMENTAL

A handwritten signature in blue ink, appearing to read "Christopher A. Miron".

Christopher A. Miron, P.E.  
Director, Engineering