

April 27, 2016

**Northfield Township**  
**Building & Zoning Department**  
8350 Main Street, Suite A  
Whitmore Lake, Michigan 48189

**Regarding: Arvin Sango North American Technical Center**  
**Site Plan Review #1**  
**OHM Job #0151-16-1011**

We have reviewed the plans, received by this office on April 19, 2016, for the proposed site plan for the Arvin Sango North American Technical Center located at North Territorial Road and Jomar Drive in accordance with Township Guidelines and General Engineering Standards. A brief description of the project has been provided below followed by our comments.

The applicant is proposing to construct a 35,561 square foot industrial building on 6.1 acres at 955 North Territorial Road. Associated parking areas and storm water management with three infiltration trenches flowing to a detention basin in the northeast corner of the site are also proposed. Additional site elements include designated motorcycle parking and landscaping. Site access is proposed with two new paved driveways to Jomar Drive. Water supply is proposed by a private on-site well. Public sanitary sewer service is available to the site and is proposed to connect to the existing Northfield Township sewer system.

#### **General**

1. The south parking lot entrance (nearest to North Territorial) is located across from the boulevard section of Jomar Drive. This entrance should be moved further North past the boulevard section, or it must be designated as a right-in/right-out entrance.

#### **Paving and Grading**

2. Designated fire lanes shall be indicated on the plans. Adequate turning space for a standard fire apparatus must be provided and will be subject to review and approval by the Northfield Township Fire Department.
3. It is recommended that the applicant consider grading the north parking lot to a single low area with a single spillway into the detention pond instead of the four (4) separate spillways. This will help with the requirement of providing storm water pre-treatment before the drainage area flows into the detention pond.

#### **Drainage**

4. Storm water pre-treatment (sediment forebay, infiltration trench, etc.) must be included for all drainage areas. Currently the north parking lot and building roof surface flow directly into the detention basin with no pre-treatment.
5. The infiltration trench on the south side of the property along North Territorial Road appears to be partially located within the Washtenaw County Road Commission Right-of-Way. This must be revised so that the storm water management system is completely within the applicant's property limits.



6. The storm water detention pond appears to have a proposed discharge point onto adjacent property where an existing wetland is located. An agreement and/or easement for the discharge of storm water onto adjacent property must be provided.

### **Utilities**

7. The property is proposed to be served by public sanitary sewer and an existing sanitary sewer service lead is identified for connection on the plans. An REU factor will need to be assigned for this facility based on the proposed use and building size in accordance with the Northfield Township Utility Ordinance. Once the proposed building use classification has been determined, the REU factor will be calculated during the detailed engineering review of the construction plans.

### **Permits and Other Agency Approvals**

It should be noted that copies of all permits and permit applications shall be forwarded to this office. Before final engineering approval can be issued, the applicant must submit all necessary permits/approvals, including, but not limited to, the following agencies:

- Northfield Township Fire Department approval for fire code compliance.
- Northfield Township Building Department.
- Washtenaw County Water Resources Commission for soil erosion and sedimentation control.
- Washtenaw County Department of Public Health for well construction

### **Conclusion and Recommendations**

As submitted, the site plan appears to be in substantial compliance with the Northfield Township Site Plan requirements. We take no exception to the proposed site plan and recommend the Planning Commission consider approval of the site plan conditional upon the above-mentioned comments being addressed administratively.

Additionally, in an effort to assist the applicant with preparation of construction plans, we are providing the following comments that should be considered prior to submittal of construction plans for detailed engineering review: Please note that these comments are not all inclusive and additional comments may be generated based on the construction plan information provided for review.

1. The north arrow is shown on the grading plan sheet location map but not on the actual grading plan.
2. A minimum of two (2) N.A.V.D. 88 benchmarks are required on, or within 200 feet of, the site. There is currently only one (1) benchmark shown on the plans.
3. Locations of light duty and heavy duty pavement sections shall be indicated on the plans.
4. Locations and a typical detail of the proposed curb and gutter shall be provided on the plans.
5. All existing contour lines shall be labeled with the corresponding elevation.
6. The angle of the proposed parking spaces shall be provided.
7. Proposed sidewalk and handicap parking spaces shall be ADA compliant. Additional spot grades and slopes are needed to verify compliance with ADA requirements.
8. Sidewalk widths shall be dimensioned on the plans.
9. All curve radii should be labeled on the plans.
8. Drainage flow arrows shall be shown on the plans. It is currently unclear which direction the culvert near the entrance of the property and the pipes connected to the proposed manhole are flowing.
9. Invert elevations shall be provided on the plans.
10. The following comments apply to the provided Detention Calculations on Sheet 6:
  - a. Areas for all impervious surfaces shall be provided in Worksheet 1 (W-1). This change shall apply to all of the worksheets. For example, the pond surface was not included in the calculations. As a result, the calculated volumes were greater.



- b. The same areas and curve numbers in W-4 and W-5 shall be used in W-6 and W-7, respectively.
  - c. The slope percentage for sheet flow should be 1.33% instead of 2% in W-8.
  - d. The  $S^{0.5}$  column calculation in W-8 should be the square root of the slope not the square root of the slope percentage.
  - e. The summary values in W-9 shall match the values in the previous worksheets.
  - f. Infiltration trench storage volume calculations shall be completed and shall correctly correspond to the values in W-11.
11. The fire protection pond calculation tables should match on the utility plans sheet and the detention calculations sheet.
  12. Individual drainage areas for each infiltration trench or for the detention basin shall be identified on the plans.
  13. Soil erosion and sedimentation control measures shall be indicated on the plans

Please feel free to contact Jacob Rushlow at (734) 466-4517 or [jacob.rushlow@ohm-advisors.com](mailto:jacob.rushlow@ohm-advisors.com) if you have any questions or concerns regarding this review.

Sincerely,

**OHM ADVISORS**

Jacob Rushlow, P.E.  
Township Engineer

cc:      Howard Fink, Township Manager (via e-mail)  
          William Wagner, Public Safety Director (via e-mail)  
          Marlene Chockley, Planning Commission Chair (via e-mail)  
          Sally Hodges, AICP, McKenna Associates (via e-mail)  
          Kurt Weiland, Building Official (via e-mail)  
          Tim Hardesty, Northfield Township (via e-mail)  
          Matt Nyse, ACS (via e-mail)  
          Tim Currie, PE, PS, Civil Engineering Solutions, Inc. (via e-mail)  
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