



## GENESEE COUNTY PLANNING BOARD REFERRALS NOTICE OF FINAL ACTION

GCDP Referral ID **T-01-DAR-1-19**  
Review Date **1/10/2019**

Municipality **DARIEN, T.**  
Board Name **PLANNING BOARD**  
Applicant's Name **Six Flags Darien LLC**  
Referral Type **Site Plan Review**  
Variance(s)  
Description: **Site Plan Review to construct a new ride at an existing amusement park (Six Flags Darien Lake).**  
  
  
  
  
  
  
  
  
  
Location **9993 Alleghany Rd. (NYS Rt. 77), Darien**  
Zoning District **Recreational (REC) District**

### PLANNING BOARD DECISION

**APPROVAL**

### EXPLANATION:

Given that it is replacing an existing ride in the interior of the theme park, the proposed new ride should pose no significant county-wide or inter-community impact.

Director

January 10, 2019

Date

If the County Planning Board disapproved the proposal, or recommends modifications, the referring agency shall NOT act contrary to the recommendations except by a vote of a majority plus one of all the members and after the adoption of a resolution setting forth the reasons for such contrary action. Within 30 days after the final action the referring agency shall file a report of final action with the County Planning Board. An action taken form is provided for this purpose and may be obtained from the Genesee County Planning Department.

SEND OR DELIVER TO:  
GENESEE COUNTY DEPARTMENT OF PLANNING  
3837 West Main Street Road  
Batavia, NY 14020-9404  
Phone: (585) 815-7901

DEPARTMENT USE ONLY:  
GCDP Referral # T-01-DAR-1-19



**\* GENESEE COUNTY \***  
**PLANNING BOARD REFERRAL**

RECEIVED  
Genesee County  
Dept. of Planning  
12/21/2018

Required According to:  
GENERAL MUNICIPAL LAW ARTICLE 12B, SECTION 239 L, M, N  
(Please answer ALL questions as fully as possible)

**1. REFERRING BOARD(S) INFORMATION**

Board(s) Town of Darien Planning Board  
Address 10569 Alleghany Road  
City, State, Zip Darien, NY 14040  
Phone (585) 547-2274 Ext. 1026

**2. APPLICANT INFORMATION**

Name Six Flags Darien, LLC  
Address 9993 Alleghany Rd., P.O. Box 91  
City, State, Zip Darien, NY 14040  
Phone (716) 536-3936 Ext.  Email emccarthy@sftp.com

MUNICIPALITY: ☐ City ☒ Town ☐ Village of Darien

**3. TYPE OF REFERRAL: (Check all applicable items)**

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Area Variance               | <input type="checkbox"/> Zoning Map Change         | <input type="checkbox"/> Subdivision Proposal |
| <input type="checkbox"/> Use Variance                | <input type="checkbox"/> Zoning Text Amendments    | <input type="checkbox"/> Preliminary          |
| <input type="checkbox"/> Special Use Permit          | <input type="checkbox"/> Comprehensive Plan/Update | <input type="checkbox"/> Final                |
| <input checked="" type="checkbox"/> Site Plan Review | <input type="checkbox"/> Other: <u></u>            |   |

**4. LOCATION OF THE REAL PROPERTY PERTAINING TO THIS REFERRAL:**

A. Full Address 9993 Alleghany Rd., Darien, NY 14040  
B. Nearest intersecting road Route 77 and Summer Rd  
C. Tax Map Parcel Number 7-1-5.2 and 7-1-1  
D. Total area of the property 130 acres Area of property to be disturbed 0.62 acres  
E. Present zoning district(s) Recreational

**5. REFERRAL CASE INFORMATION:**

A. Has this referral been previously reviewed by the Genesee County Planning Board?

☒ NO ☐ YES If yes, give date and action taken

B. Special Use Permit and/or Variances refer to the following section(s) of the present zoning ordinance and/or law

Article VII 703B

C. Please describe the nature of this request Site plan review

**6. ENCLOSURES** – Please enclose copy(s) of all appropriate items in regard to this referral

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Local application      | <input type="checkbox"/> Zoning text/map amendments  | <input type="checkbox"/> New or updated comprehensive plan             |
| <input checked="" type="checkbox"/> Site plan   | <input type="checkbox"/> Location map or tax maps    | <input type="checkbox"/> Photos  |
| <input type="checkbox"/> Subdivision plot plans | <input type="checkbox"/> Elevation drawings          | <input checked="" type="checkbox"/> Other: <u>Structural documents</u> |
| <input type="checkbox"/> SEQR forms             | <input type="checkbox"/> Agricultural data statement |  |

**7. CONTACT INFORMATION** of the person representing the community in filling out this form (required information)

Name Gwen Yoder Title PBZBA Clerk Phone (585) 547-2274 Ext. 1026  
Address, City, State, Zip 10569 Alleghany Road, Darien, NY 14040 Email pbzba@townofdarien.ny.com

TOWN OF DARIEN  
GENESEE COUNTY, NEW YORK 14040

PLANNING BOARD  
SITE PLAN REVIEW  
SPECIAL USE PERMIT APPLICATION

Application #: PB-09-18  
(For office use only)

Today's Date: 11/27/18

Provision of Zoning Law Involved:

Article: VII, Section: 703, Subsection: B, Paragraph: -

Purpose of Request:

\*This request would be in harmony with the orderly development of the district in which it is located because: it is similar to the area already existing; they are just replacing one ride for another

\*This request would not be detrimental to the property or persons in the neighborhood because: not a change in rides, demo Top Spin & install Star Flyer by fun time

\*This request would not increase the traffic flow in the area to the extent that traffic safety would be endangered because: the request is to replace an old ride with a new ride

The applicant should submit one (1) copy of the application, nine (9) copies of the site plan and one (1) copy of the zoning application

CERTIFICATION:

I hereby certify that I have read the instructions and examined this application and supporting attachments and know the same to be true and correct. All provisions of laws and ordinances covering this type of work or use will be complied with whether specified herein or not. The granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local ordinance regulating construction or performance of construction.

11/27/18  
Date of Signature

[Signature]  
Signature of Applicant

\_\_\_\_\_  
Date of Signature

\_\_\_\_\_  
Signature of Owner (If different from Applicant)

Office Use Only:

Zoning Permit Application #: PB-09-18 Date Received: 11/27/18 Fee Paid: \$60.00

Date of First Hearing: \_\_\_\_\_ Location: \_\_\_\_\_

Date of Second Hearing: \_\_\_\_\_ Location: \_\_\_\_\_

Date of Subsequent Hearings: \_\_\_\_\_ Location: \_\_\_\_\_

Action: ☐ APPROVED ☐ REJECTED Date: \_\_\_\_\_

Planning Board Chairman Signature: \_\_\_\_\_

Zoning Officer Signature: \_\_\_\_\_ Date Permit Issued: \_\_\_\_\_

Additional Conditions Imposed: \_\_\_\_\_

# ◆ **TOWN OF DARIEN** ◆

## **Agricultural Data Statement**

Application # PB-09-18

Date 11/27/18

**INSTRUCTIONS:** This form must be completed for any application for a special use permit, site plan approval, use variance or a subdivision approval, requiring municipal review, that would occur on property within 500 feet of a farm operation located in a NYS Dept. of Ag. & Markets certified Agricultural District.

Applicant

Name Six Flags Darien, LLC  
Address \_\_\_\_\_

Owner if different than Applicant

Name \_\_\_\_\_  
Address \_\_\_\_\_

1. Type of application: Special use permit ☒; Site plan approval ☒; Use variance ☐; Subdivision approval ☐
2. Description of proposed project: Demo Top Spin & Install Star Flyer by Fun Time
3. Location of project: Address 9993 Allegheny  
Tax Map Number (TMP) 7.-1-5.2 & 7.-1-11
4. Is this property within an Agricultural District? NO ☒ YES ☐ } Check with your local Assessor if you do not know
5. If yes, Agricultural District Number \_\_\_\_\_
6. Is this property actively farmed? NO ☒ YES ☐
7. List all farm operations within 500 feet of your property, (Attach additional sheets if necessary).

1.  
Name Corfu Darien  
Address 111 Allegheny  
Is this property actively farmed? NO ☐ YES ☒

2.  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Is this property actively farmed? NO ☐ YES ☐

3.  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Is this property actively farmed? NO ☐ YES ☐

4.  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
Is this property actively farmed? NO ☐ YES ☐

Signature of Applicant

Signature of Owner (if other than Applicant)

REVIEWED BY

Signature of Municipal Official

12/4/2018  
Date

NOTE TO REFERRAL AGENCY

County review is required. A copy of the Agricultural Data Statement must be submitted along with the referral to the County Planning Department.



# TOWN OF DARIEN APPLICATION FOR ZONING PERMIT

Today's Date: 11/27/18 Application Number: PB-09-18  
 Applicant's Name: Six Flags Darien, LLC  
 Address: 9993 Alleghany Rd, PO Box 91, Darien, NY 14040  
 Phone Number: 716-536-3936 Tax Map #: 7.-1-5.2 & 7.-1-1  
 Address of Project: 9993 Alleghany Rd

## INSTRUCTIONS:

Please read the instructions carefully before completing the application form. Fill out the application form completely, using ball point pen or a typewriter. Submit your application form & required attachments (list of such on this form) to the Zoning Enforcement Officer (ZEO) prior to commencing this project or use.


**\*THIS APPLICATION IS NONTRANSFERABLE AND IS VALID FOR ONE YEAR PERIOD ONLY**

1. Zoning District property located in: RESIDENTIAL (\_\_\_ Low or \_\_\_ Medium Density)  
 \_\_\_ Industrial \_\_\_ Commercial ☒ Recreational
2. Permit Application for: \_\_\_ New Construction \_\_\_ Addition \_\_\_ Alteration \_\_\_ Relocation  
☒ Accessory Structure \_\_\_ Home Occupation **SPECIAL USE PERMIT**  
 \_\_\_ VARIANCE ☒ SITE PLAN REVIEW \_\_\_ TEMPORARY USE
3. Is this parcel: \_\_\_ Corner Lot \_\_\_ Water District \_\_\_ Sewer District
4. Dimensions of this lot: \_\_\_ length X \_\_\_ width and/or area 130 acres
5. What is the front set back (in feet) from the project to the street right-of-way (Check Survey for ROW);  
 \_\_\_ ft and what is the set back (in feet) from project property line Side A \_\_\_ Side B \_\_\_  
 Back \_\_\_ (Also depict on plot diagram).
6. Total percentage (%) of coverage of all buildings on lot (including proposed): \_\_\_\_\_%
7. Total Dwelling Units: \_\_\_\_\_
8. Project Cost: \_\_\_\_\_ Actual \_\_\_\_\_ Estimated \_\_\_\_\_

| PROPOSED PROJECT    | HEIGHT | LENGTH | WIDTH | SQUARE FEET |                    |
|---------------------|--------|--------|-------|-------------|--------------------|
| House               |        |        |       |             | # Bathrooms: _____ |
| Garage/Pole Barn    |        |        |       |             | # Bedrooms: _____  |
| Accessory Structure |        |        |       |             | Rec Room: _____    |
| Commercial          |        |        |       |             | Family Room: _____ |
| Industrial          |        |        |       |             | Fireplace: _____   |
| Signs               |        |        |       |             |                    |

Describe proposed project and/or use: Demo of Top Spin and installation of this potential new ride (Star Flyer by Fun Times)

**CERTIFICATION:** I hereby certify that I have read the instructions, examined this application and supporting attachments and know them to be true & correct. All provisions of Laws and Ordinances covering this type of work or use will be complied with, whether specified herein or not. The granting of a permit does not give authority to violate or cancel the provisions of any other State or Local Law/Ordinance regulating construction, performance or use.

  
 APPLICANT SIGNATURE (must sign in presence of ZEO)

\_\_\_\_\_  
 PROPERTY OWNER SIGNATURE (If other than applicant)

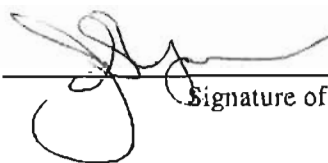
Attachments required & verified by ZEO: \_\_\_\_\_

Action taken by ZEO: **APPROVED:** ☒ **DENIED:** ☐ Reason: \_\_\_\_\_

Referral To: ☒ Town Planning ☐ Town Appeals ☐ County Planning ☐ Building Inspector

12/7/2018

Date of Signature



Signature of ZEO

Date of Signature

# of Inspects

Signature of Building Inspector

Date Fee Received

Fee

Indicate Fees Paid/Town Clerk Use Only

Date of Signature

Renewal Approval / ZEO Signature

This application will not be considered complete until all appropriate attachments have been supplied and accepted; photo-copies are acceptable. The applicant is responsible to present all applicable attachments to the ZEO. The project in question can not be started until an approved Zoning Permit has been issued, the Building Inspector contacted and if required, the Town Clerk has issued the Building Permit. The applicant is responsible to make all calls to the Building Inspector for review of plans and inspection assignments and to pay any necessary fees as set forth in the appropriate schedule of fees to the Town Clerk.

If a Site Plan is necessary, a total of nine (9) copies are needed.

Please be advised that you may contact the following if you have any questions or concerns with regard to procedures:

\*ZEO – Filling out or filing Zoning Permits, Zoning Regulations, appointments for Zoning Permit approval, Variance & Special Use Procedures.

\*Building Inspector – Construction, Plan review, Code requirements and inspections

\*Town Clerk – Forms, Fees (payable to Town Clerk), Building Permit, General Information & who to contact.

#### ATTACHMENTS:

The following attachments are mandated for all projects or uses in question.

\*Layout sketch (Plot Diagram) shall consist of an accurate map (survey or plot diagram on graph paper) showing all structures and/or buildings on the parcel. All dimensions of project, property lines and right-of-ways shall also be indicated. Identify adjoining parcels and indicate the owners of such.

Please contact the ZEO regarding which of the following attachments will be required for the project or use in question:

1. Graphic material showing traffic circulation, parking spaces, pedestrian walks, topography and landscape plans, open space & buffer zone.
2. Preliminary engineering plans showing street improvements, storm drainage, water supply and sanitary sewer facilities.
3. Copy of current Genesee County Health Department approval for an individual sewer disposal system and plans for such.
4. A drawing of any signs which the applicant wishes to post. This drawing shall include dimensions, characters, shape, and illumination (if any, show source of power & location of illumination).
5. Elevation drawings with applicable height dimensions.
6. Description of the nature of existing use.
7. Freshwater wetland determination and/or permit, from NYS Dept of Environmental Conservation.
8. Certification indicating specific elevations in relation to the Federal Flood Hazard Area.
9. Letter of review from the Department of Soil and Water Conservation when applying for a pond.

Other: \_\_\_\_\_

617.20  
Appendix B  
Short Environmental Assessment Form

### Instructions for Completing

**Part 1 - Project Information.** The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

|  |  |  |                           |
|--|--|--|---------------------------|
| <b>Part 1 - Project and Sponsor Information</b>  |  |  |                           |
| Name of Action or Project: <u>Six Flags Darien, LLC</u>  |  |  |                           |
| Project Location (describe, and attach a location map):<br><u>Star Flyer ride made by Fun Time</u>   |  |  |                           |
| <u>9993 Alleghany Rd, Darien</u>   |  | <u>7, -1-5.2</u><br><u>&amp; 7, -1-1</u> |                           |
| Brief Description of Proposed Action:<br><u>Demo of Huss Top Spin ride &amp; Installation of this potential new ride</u>   |  |  |                           |
| Name of Applicant or Sponsor:<br><u>Six Flags Darien, LLC</u>  |  | Telephone: <u>716-536-3936</u>           |                           |
| Address:<br><u>9993 Alleghany Rd / PO Box 91</u>   |  | E-Mail: <u>emccarthy@sftps.com</u>       |                           |
| City/PO:<br><u>Darien</u>  |  | State:<br><u>NY</u>                      | Zip Code:<br><u>14040</u> |
| 1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation?   |  | <b>NO</b>                                | <b>YES</b>                |
| If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.   |  | <input checked="" type="checkbox"/>      | <input type="checkbox"/>  |
| 2. Does the proposed action require a permit, approval or funding from any other governmental Agency?  |  | <b>NO</b>                                | <b>YES</b>                |
| If Yes, list agency(s) name and permit or approval:  |  | <input checked="" type="checkbox"/>      | <input type="checkbox"/>  |
| 3.a. Total acreage of the site of the proposed action?   |  | <u>130</u> acres                         |                           |
| b. Total acreage to be physically disturbed?   |  | <u>0.62</u> acres                        |                           |
| c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?   |  | <u>974</u> acres                         |                           |
| 4. Check all land uses that occur on, adjoining and near the proposed action.  |  |  |                           |
| <input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban)<br><input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>Recreational</u><br><input type="checkbox"/> Parkland |  |  |                           |

|   |   |  |                                 |
|---|---|--|---------------------------------|
| 5. Is the proposed action,<br>a. A permitted use under the zoning regulations?  | NO<br><input type="checkbox"/>            | YES<br><input checked="" type="checkbox"/> | N/A<br><input type="checkbox"/> |
| b. Consistent with the adopted comprehensive plan?  | <input type="checkbox"/>                  | <input checked="" type="checkbox"/>        | <input type="checkbox"/>        |
| 6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?   | NO<br><input type="checkbox"/>            | YES<br><input checked="" type="checkbox"/> |                                 |
| 7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?<br>If Yes, identify: _____   | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| 8. a. Will the proposed action result in a substantial increase in traffic above present levels?  | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| b. Are public transportation service(s) available at or near the site of the proposed action?   | <input checked="" type="checkbox"/>       | <input type="checkbox"/>                   |                                 |
| c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?  | <input checked="" type="checkbox"/>       | <input type="checkbox"/>                   |                                 |
| 9. Does the proposed action meet or exceed the state energy code requirements?<br>If the proposed action will exceed requirements, describe design features and technologies:<br>_____  | NO<br><input type="checkbox"/>            | YES<br><input checked="" type="checkbox"/> |                                 |
| 10. Will the proposed action connect to an existing public/private water supply?<br>If No, describe method for providing potable water: _____   | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| 11. Will the proposed action connect to existing wastewater utilities?<br>If No, describe method for providing wastewater treatment: _____  | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| 12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?  | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| b. Is the proposed action located in an archeological sensitive area?   | <input checked="" type="checkbox"/>       | <input type="checkbox"/>                   |                                 |
| 13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?  | NO<br><input type="checkbox"/>            | YES<br><input checked="" type="checkbox"/> |                                 |
| b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?<br>If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____   | <input checked="" type="checkbox"/>       | <input type="checkbox"/>                   |                                 |
| 14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:<br><input type="checkbox"/> Shoreline <input type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional<br><input type="checkbox"/> Wetland <input type="checkbox"/> Urban <input type="checkbox"/> Suburban  |   |  |                                 |
| 15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?  | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| 16. Is the project site located in the 100 year flood plain?  | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/>            |                                 |
| 17. Will the proposed action create storm water discharge, either from point or non-point sources?<br>If Yes,<br>a. Will storm water discharges flow to adjacent properties? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES<br>b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?<br>If Yes, briefly describe: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES<br>_____ | NO<br><input type="checkbox"/>            | YES<br><input type="checkbox"/>            |                                 |

|   |   |                                 |
|---|---|---------------------------------|
| 18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)?<br>If Yes, explain purpose and size: _____ | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/> |
| 19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?<br>If Yes, describe: _____   | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/> |
| 20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?<br>If Yes, describe: _____   | NO<br><input checked="" type="checkbox"/> | YES<br><input type="checkbox"/> |

**I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE**

Applicant/sponsor name: EDWARD McCarthy Date: 11/27/18  
 Signature: [Signature]

APPLICANT STOP HERE. PLEASE PRINT ENTIRE FORM.

**Part 2 - Impact Assessment.** The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

|  | No, or small impact may occur | Moderate to large impact may occur |
|--|-------------------------------|------------------------------------|
| 1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?  | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 2. Will the proposed action result in a change in the use or intensity of use of land?   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 3. Will the proposed action impair the character or quality of the existing community?   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?                      | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?            | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities? | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 7. Will the proposed action impact existing:<br>a. public / private water supplies?  | <input type="checkbox"/>      | <input type="checkbox"/>           |
| b. public / private wastewater treatment utilities?  | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?                                   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?                     | <input type="checkbox"/>      | <input type="checkbox"/>           |



↑ N

PB-09-18

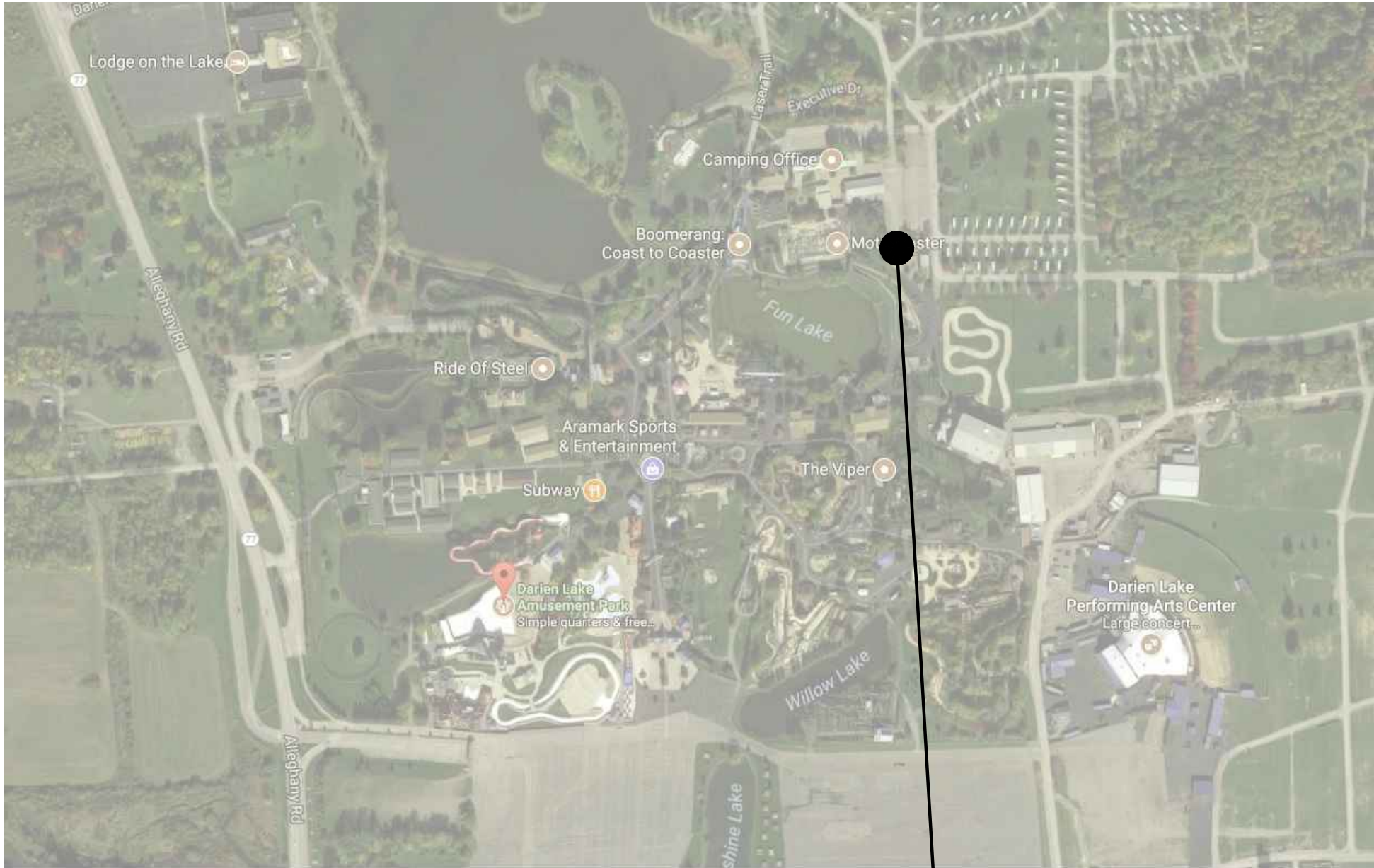
PEACOCK TRL

DARIEN LN



# DARIEN LAKE STARFLYER FOUNDATION AND SITE DEVELOPMENT

at: DARIEN LAKE THEME PARK & RESORT  
DARIEN CENTER, NEW YORK  
DECEMBER 10, 2018  
ISSUED FOR PERMIT & CONSTRUCTION



VICINITY MAP  
NOT TO SCALE:

DARIEN LAKE THEME PARK & RESORT  
DARIEN CENTER, NEW YORK

PROJECT LOCATION

### OWNER



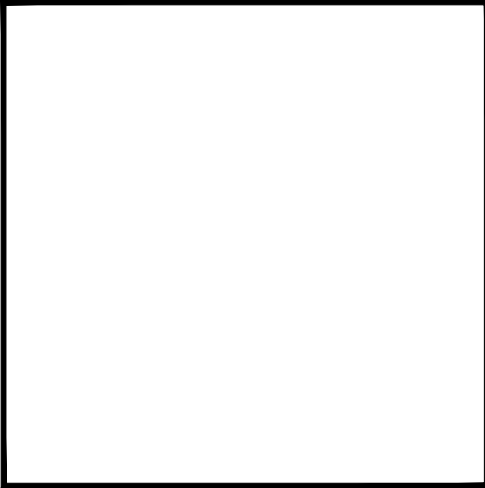
DARIEN LAKE THEME PARK & RESORT  
9993 ALLEGHENY ROAD,  
DARIEN CENTER, NY 14040

### RIDE MANUFACTURER



FUNTIME Handels. GesmbH  
BAHNHOFSTRASSE 208  
9991 DOLSACH AUSTRIA

### ENGINEER



CIVIL • GEOTECHNICAL  
STRUCTURAL • ARCHITECTURE  
MATERIALS TESTING • CONSULTING

GLYNN GROUP ENGINEERING  
& ARCHITECTURE, PLLC  
415 S. TRANSIT STREET LOCKPORT, NEW YORK 14094  
www.glynn-group.com  
VOICE (716) 625 - 6933 / FAX (716) 625 - 6983

### DRAWING LIST

- S0 - COVER SHEET, SOIL BORINGS, SPECIAL INSP
- S1 - SITE DEMOLITION PLAN
- S2 - SITE & GRADING PLAN
- S3 - DIMENSION PLAN
- S4 - SITE SECTIONS
- F1 - FOUNDATION PLAN
- A1 - ELECTRICAL BUILDING
- A2 - OPERATOR BUILDINGS
- R1 - EXISTING QUEUE BUILDING MODIFICATIONS
- SP1 - SPECIFICATION No. 1
- SP2 - SPECIFICATION No. 2
- SP3 - SPECIFICATION No. 3

### DESIGN DATA

THE DESIGN PRESENTED BY THESE PLANS ARE IN ACCORDANCE WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE w/ NYS AMENDMENTS, ASCE 7-10, AND ASTM F2291

WIND DESIGN DATA:  
BASIC WIND SPEED = 115 MPH  
EXPOSURE CATEGORY = C  
WIND IMPORTANCE FACTOR = 1.0

EARTHQUAKE DESIGN DATA:  
USE GROUP / IMPORTANCE : II/1.0  
MAPPED SPECTRAL RESPONSE ACCELERATIONS:  
S<sub>DS</sub> = 0.226  
S<sub>D1</sub> = 0.099

SITE CLASS = D  
SEISMIC DESIGN CATEGORY = B  
ANALYSIS PROCEDURE - EQUAL LAT. FORCE

SNOW DESIGN DATA:  
GROUND SNOW LOAD (pg) = 50# / SF  
SNOW EXPOSURE FACTOR (Ce) = 0.9  
SNOW IMPORTANCE FACTOR (Is) = 1.0  
THERMAL FACTOR (Ci) = 1.2

ICE DATA: 1" THICK PER ASCE 7-10 FIGURE 10-2

FOUNDATION LOADS:  
THE DESIGN OF THE FOUNDATIONS FOR THE COASTER HAVE BEEN PREPARED USING LOADS PROVIDED BY THE RIDE MANUFACTURER.

### NOTES:

PROJECT ELEVATION : 924.0' = RIDE FOUNDATION, T.O. OUTSIDE EDGE

COORDINATE GGEA DRAWINGS WITH COMPLETE DESIGN DRAWINGS PACKAGE BY FUNTIME Handels GesmbH. INFORM GGEA, IN WRITING, OF ANY DISCREPANCIES IMMEDIATELY.

COORDINATE PROPOSED SITE GRADING, DRAINAGE, AND UTILITIES WITH PARK MANAGEMENT.

CONTRACTOR TO PROVIDE "AS-BUILT" DRAWINGS, FOR ALL RIDE FOUNDATIONS WITH ANCHOR BOLT LOCATIONS.

SUBSURFACE INVESTIGATION AND BORING LOGS PREPARED BY NATURE'S WAY ENVIRONMENTAL ON 9/4/18.

ASIDE FROM THE RIDE SAFETY ENVELOPE DEPICTED IN THIS DRAWING SET, GGEA DOES NOT REQUIRE A SETBACK ZONE FOR THIS RIDE.

THESE DOCUMENTS ARE RELEASED FOR THE PURPOSE OF PERMIT & CONSTRUCTION UNDER THE AUTHORITY OF MARK W. GLYNN, P.E.  
NEW YORK LICENCE No. 057491-1


### STATEMENT OF SPECIAL INSPECTIONS

#### Soils and Foundations

| Item                          | Agency # (Qualif.)          | Scope  | Frequency of Inspection  |
|-------------------------------|-----------------------------|--|--|
| 1. Shallow Foundations        | -NICET<br>-ST<br>or<br>-GET | Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill<br><br>Inspect soils below footings for adequate bearing capacity:<br>-Verify 2,000 psf bearing capacity of compacted subgrade.<br>-Verify 2,000 psf bearing capacity of compacted stone base.        | Periodic, upon completion<br><br>Periodic, as construction is completed  |
| 2. Controlled Structural Fill | -NICET<br>-ST<br>or<br>-GET | Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material.<br><br>Inspect placement, lift thickness, and compaction of controlled fill.<br><br>Test density of each lift of fill by nuclear methods (ASTM D2922)<br><br>Verify extent of fill placement. | As described in the scope section<br><br>Per Section 02200, 3.03<br>Per Section 02200, 3.05C<br>Periodic, with density |
| 3. Deep Foundations           | -PE/GE<br>or<br>-EIT        | Inspect and log pile driving operations. Record pile driving resistance and verify compliance with driving criteria.<br><br>Inspect piles for damage from driving and plumbness.<br><br>Verify pile size, length and accessories.  | N/A<br><br>N/A<br><br>N/A  |
| 4. Geofram Backfill           | -NICET<br>-ST<br>or<br>-GET | Inspect installation of geofram "backfill." Confirm:<br>-proper materials<br>-placement / arrangement of blocks  | N/A  |

#### Cast-in-Place Concrete

| Item                                | Agency # (Qualif.)  | Scope  |  |
|-------------------------------------|---------------------|--|--|
| 1. Mix Design                       | ACI-CCI<br>ICC-RCSI | Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design.  | Periodic, as work is completed and for each new batch                        |
| 2. Material Certification           |                     | Per Item 1   |  |
| 3. Reinforcement Installation       | ACI-CCI<br>ICC-RCSI | Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters. | Periodic, as appropriate throughout construction prior to concrete placement |
| 4. Welding of Reinforcing           | AWS-CW              | Visually inspect all reinforcing steel welds. Verify weldability of reinforcing steel. Inspect preheating of steel when required.  | N/A  |
| 5. Anchor Rods                      |                     | Inspect size, positioning, and embedment of anchor rods. Inspect concrete placement and consolidation around anchors.  | Continuous   |
| 6. Concrete Placement               | ACI-CCI<br>ICC-RCSI | Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.  | Continuous   |
| 7. Sampling and Testing of Concrete | ACI-CFT<br>ACI-STT  | Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064).  | For each batch, truck load, but no less than once for each foundation        |
| 8. Curing and Protection            | ACI-CCI<br>ICC-RCSI | Inspect curing, cold weather protection and hot weather protection procedures.   | Periodic, as appropriate   |

|   |      |   |      |
|---|------|---|------|
|  |      | 3553 Crittenden Road<br>Albion, NY 14004<br>(716) 837-6527<br>www.natureswayenvironmental.com |      |
| DATE: 9/18/18   |      | Hole Number: B1   |      |
| PROJECT: Subsurface Investigation for the Proposed Star Flyer Roller Coaster        |      | ELEVATION:  |      |
| Darien Lake Theme Park, 9993 Allegheny Road, Darien Center, NY 14040                |      | Darien Lake Theme Park and Resort   |      |
| PREPARED FOR: Boring Location:  |      |   |      |
| 1   | 2    | 3   | 4    |
| 5   | 6    | 7   | 8    |
| 9   | 10   | 11  | 12   |
| 13  | 14   | 15  | 16   |
| 17  | 18   | 19  | 20   |
| 21  | 22   | 23  | 24   |
| 25  | 26   | 27  | 28   |
| 29  | 30   | 31  | 32   |
| 33  | 34   | 35  | 36   |
| 37  | 38   | 39  | 40   |
| 41  | 42   | 43  | 44   |
| 45  | 46   | 47  | 48   |
| 49  | 50   | 51  | 52   |
| 53  | 54   | 55  | 56   |
| 57  | 58   | 59  | 60   |
| 61  | 62   | 63  | 64   |
| 65  | 66   | 67  | 68   |
| 69  | 70   | 71  | 72   |
| 73  | 74   | 75  | 76   |
| 77  | 78   | 79  | 80   |
| 81  | 82   | 83  | 84   |
| 85  | 86   | 87  | 88   |
| 89  | 90   | 91  | 92   |
| 93  | 94   | 95  | 96   |
| 97  | 98   | 99  | 100  |
| 101   | 102  | 103   | 104  |
| 105   | 106  | 107   | 108  |
| 109   | 110  | 111   | 112  |
| 113   | 114  | 115   | 116  |
| 117   | 118  | 119   | 120  |
| 121   | 122  | 123   | 124  |
| 125   | 126  | 127   | 128  |
| 129   | 130  | 131   | 132  |
| 133   | 134  | 135   | 136  |
| 137   | 138  | 139   | 140  |
| 141   | 142  | 143   | 144  |
| 145   | 146  | 147   | 148  |
| 149   | 150  | 151   | 152  |
| 153   | 154  | 155   | 156  |
| 157   | 158  | 159   | 160  |
| 161   | 162  | 163   | 164  |
| 165   | 166  | 167   | 168  |
| 169   | 170  | 171   | 172  |
| 173   | 174  | 175   | 176  |
| 177   | 178  | 179   | 180  |
| 181   | 182  | 183   | 184  |
| 185   | 186  | 187   | 188  |
| 189   | 190  | 191   | 192  |
| 193   | 194  | 195   | 196  |
| 197   | 198  | 199   | 200  |
| 201   | 202  | 203   | 204  |
| 205   | 206  | 207   | 208  |
| 209   | 210  | 211   | 212  |
| 213   | 214  | 215   | 216  |
| 217   | 218  | 219   | 220  |
| 221   | 222  | 223   | 224  |
| 225   | 226  | 227   | 228  |
| 229   | 230  | 231   | 232  |
| 233   | 234  | 235   | 236  |
| 237   | 238  | 239   | 240  |
| 241   | 242  | 243   | 244  |
| 245   | 246  | 247   | 248  |
| 249   | 250  | 251   | 252  |
| 253   | 254  | 255   | 256  |
| 257   | 258  | 259   | 260  |
| 261   | 262  | 263   | 264  |
| 265   | 266  | 267   | 268  |
| 269   | 270  | 271   | 272  |
| 273   | 274  | 275   | 276  |
| 277   | 278  | 279   | 280  |
| 281   | 282  | 283   | 284  |
| 285   | 286  | 287   | 288  |
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| 293   | 294  | 295   | 296  |
| 297   | 298  | 299   | 300  |
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| 309   | 310  | 311   | 312  |
| 313   | 314  | 315   | 316  |
| 317   | 318  | 319   | 320  |
| 321   | 322  | 323   | 324  |
| 325   | 326  | 327   | 328  |
| 329   | 330  | 331   | 332  |
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| 337   | 338  | 339   | 340  |
| 341   | 342  | 343   | 344  |
| 345   | 346  | 347   | 348  |
| 349   | 350  | 351   | 352  |
| 353   | 354  | 355   | 356  |
| 357   | 358  | 359   | 360  |
| 361   | 362  | 363   | 364  |
| 365   | 366  | 367   | 368  |
| 369   | 370  | 371   | 372  |
| 373   | 374  | 375   | 376  |
| 377   | 378  | 379   | 380  |
| 381   | 382  | 383   | 384  |
| 385   | 386  | 387   | 388  |
| 389   | 390  | 391   | 392  |
| 393   | 394  | 395   | 396  |
| 397   | 398  | 399   | 400  |
| 401   | 402  | 403   | 404  |
| 405   | 406  | 407   | 408  |
| 409   | 410  | 411   | 412  |
| 413   | 414  | 415   | 416  |
| 417   | 418  | 419   | 420  |
| 421   | 422  | 423   | 424  |
| 425   | 426  | 427   | 428  |
| 429   | 430  | 431   | 432  |
| 433   | 434  | 435   | 436  |
| 437   | 438  | 439   | 440  |
| 441   | 442  | 443   | 444  |
| 445   | 446  | 447   | 448  |
| 449   | 450  | 451   | 452  |
| 453   | 454  | 455   | 456  |
| 457   | 458  | 459   | 460  |
| 461   | 462  | 463   | 464  |
| 465   | 466  | 467   | 468  |
| 469   | 470  | 471   | 472  |
| 473   | 474  | 475   | 476  |
| 477   | 478  | 479   | 480  |
| 481   | 482  | 483   | 484  |
| 485   | 486  | 487   | 488  |
| 489   | 490  | 491   | 492  |
| 493   | 494  | 495   | 496  |
| 497   | 498  | 499   | 500  |
| 501   | 502  | 503   | 504  |
| 505   | 506  | 507   | 508  |
| 509   | 510  | 511   | 512  |
| 513   | 514  | 515   | 516  |
| 517   | 518  | 519   | 520  |
| 521   | 522  | 523   | 524  |
| 525   | 526  | 527   | 528  |
| 529   | 530  | 531   | 532  |
| 533   | 534  | 535   | 536  |
| 537   | 538  | 539   | 540  |
| 541   | 542  | 543   | 544  |
| 545   | 546  | 547   | 548  |
| 549   | 550  | 551   | 552  |
| 553   | 554  | 555   | 556  |
| 557   | 558  | 559   | 560  |
| 561   | 562  | 563   | 564  |
| 565   | 566  | 567   | 568  |
| 569   | 570  | 571   | 572  |
| 573   | 574  | 575   | 576  |
| 577   | 578  | 579   | 580  |
| 581   | 582  | 583   | 584  |
| 585   | 586  | 587   | 588  |
| 589   | 590  | 591   | 592  |
| 593   | 594  | 595   | 596  |
| 597   | 598  | 599   | 600  |
| 601   | 602  | 603   | 604  |
| 605   | 606  | 607   | 608  |
| 609   | 610  | 611   | 612  |
| 613   | 614  | 615   | 616  |
| 617   | 618  | 619   | 620  |
| 621   | 622  | 623   | 624  |
| 625   | 626  | 627   | 628  |
| 629   | 630  | 631   | 632  |
| 633   | 634  | 635   | 636  |
| 637   | 638  | 639   | 640  |
| 641   | 642  | 643   | 644  |
| 645   | 646  | 647   | 648  |
| 649   | 650  | 651   | 652  |
| 653   | 654  | 655   | 656  |
| 657   | 658  | 659   | 660  |
| 661   | 662  | 663   | 664  |
| 665   | 666  | 667   | 668  |
| 669   | 670  | 671   | 672  |
| 673   | 674  | 675   | 676  |
| 677   | 678  | 679   | 680  |
| 681   | 682  | 683   | 684  |
| 685   | 686  | 687   | 688  |
| 689   | 690  | 691   | 692  |
| 693   | 694  | 695   | 696  |
| 697   | 698  | 699   | 700  |
| 701   | 702  | 703   | 704  |
| 705   | 706  | 707   | 708  |
| 709   | 710  | 711   | 712  |
| 713   | 714  | 715   | 716  |
| 717   | 718  | 719   | 720  |
| 721   | 722  | 723   | 724  |
| 725   | 726  | 727   | 728  |
| 729   | 730  | 731   | 732  |
| 733   | 734  | 735   | 736  |
| 737   | 738  | 739   | 740  |
| 741   | 742  | 743   | 744  |
| 745   | 746  | 747   | 748  |
| 749   | 750  | 751   | 752  |
| 753   | 754  | 755   | 756  |
| 757   | 758  | 759   | 760  |
| 761   | 762  | 763   | 764  |
| 765   | 766  | 767   | 768  |
| 769   | 770  | 771   | 772  |
| 773   | 774  | 775   | 776  |
| 777   | 778  | 779   | 780  |
| 781   | 782  | 783   | 784  |
| 785   | 786  | 787   | 788  |
| 789   | 790  | 791   | 792  |
| 793   | 794  | 795   | 796  |
| 797   | 798  | 799   | 800  |
| 801   | 802  | 803   | 804  |
| 805   | 806  | 807   | 808  |
| 809   | 810  | 811   | 812  |
| 813   | 814  | 815   | 816  |
| 817   | 818  | 819   | 820  |
| 821   | 822  | 823   | 824  |
| 825   | 826  | 827   | 828  |
| 829   | 830  | 831   | 832  |
| 833   | 834  | 835   | 836  |
| 837   | 838  | 839   | 840  |
| 841   | 842  | 843   | 844  |
| 845   | 846  | 847   | 848  |
| 849   | 850  | 851   | 852  |
| 853   | 854  | 855   | 856  |
| 857   | 858  | 859   | 860  |
| 861   | 862  | 863   | 864  |
| 865   | 866  | 867   | 868  |
| 869   | 870  | 871   | 872  |
| 873   | 874  | 875   | 876  |
| 877   | 878  | 879   | 880  |
| 881   | 882  | 883   | 884  |
| 885   | 886  | 887   | 888  |
| 889   | 890  | 891   | 892  |
| 893   | 894  | 895   | 896  |
| 897   | 898  | 899   | 900  |
| 901   | 902  | 903   | 904  |
| 905   | 906  | 907   | 908  |
| 909   | 910  | 911   | 912  |
| 913   | 914  | 915   | 916  |
| 917   | 918  | 919   | 920  |
| 921   | 922  | 923   | 924  |
| 925   | 926  | 927   | 928  |
| 929   | 930  | 931   | 932  |
| 933   | 934  | 935   | 936  |
| 937   | 938  | 939   | 940  |
| 941   | 942  | 943   | 944  |
| 945   | 946  | 947   | 948  |
| 949   | 950  | 951   | 952  |
| 953   | 954  | 955   | 956  |
| 957   | 958  | 959   | 960  |
| 961   | 962  | 963   | 964  |
| 965   | 966  | 967   | 968  |
| 969   | 970  | 971   | 972  |
| 973   | 974  | 975   | 976  |
| 977   | 978  | 979   | 980  |
| 981   | 982  | 983   | 984  |
| 985   | 986  | 987   | 988  |
| 989   | 990  | 991   | 992  |
| 993   | 994  | 995   | 996  |
| 997   | 998  | 999   | 1000 |
| 1001  | 1002 | 1003  | 1004 |
| 1005  | 1006 | 1007  | 1008 |
| 1009  | 1010 | 1011  | 1012 |
| 1013  | 1014 | 1015  | 1016 |
| 1017  | 1018 | 1019  | 1020 |
| 1021  | 1022 | 1023  | 1024 |
| 1025  | 1026 | 1027  | 1028 |
| 1029  | 1030 | 1031  | 1032 |
| 1033  | 1034 | 1035  | 1036 |
| 1037  | 1038 | 1039  | 1040 |
| 1041  | 1042 | 1043  | 1044 |
| 1045  | 1046 | 1047  | 1048 |
| 1049  | 1050 | 1051  | 1052 |
| 1053  | 1054 | 1055  | 1056 |
| 1057  | 1058 | 1059  | 1060 |
| 1061  | 1062 | 1063  | 1064 |
| 1065  | 1066 | 1067  | 1068 |
| 1069  | 1070 | 1071  | 1072 |
| 1073  | 1074 | 1075  | 1076 |
| 1077  | 1078 | 1079  | 1080 |
| 1081  | 1082 | 1083  | 1084 |
| 1085  | 1086 | 1087  | 1088 |
| 1089  | 1090 | 1091  | 1092 |
| 1093  | 1094 | 1095  | 1096 |
| 1097  | 1098 | 1099  | 1100 |
| 1101  | 1102 | 1103  | 1104 |
| 1105  | 1106 | 1107  | 1108 |
| 1109  | 1110 | 1111  | 1112 |
| 1113  | 1114 | 1115  | 1116 |
| 1117  | 1118 | 1119  | 1120 |
| 1121  | 1122 | 1123  | 1124 |
| 1125  | 1126 | 1127  | 1128 |
| 1129  | 1130 | 1131  | 1132 |
| 1133  | 1134 | 1135  | 1136 |
| 1137  | 1138 | 1139  | 1140 |
| 1141  | 1142 | 1143  | 1144 |
| 1145  | 1146 | 1147  | 1148 |
| 1149  | 1150 | 1151  | 1152 |
| 1153  | 1154 | 1155  | 1156 |
| 1157  | 1158 | 1159  | 1160 |
| 1161  | 1162 | 1163  | 1164 |
| 1165  | 1166 | 1167  | 1168 |
| 1169  | 1170 | 1171  | 1172 |
| 1173  | 1174 | 1175  | 1176 |
| 1177  | 1178 | 1179  | 1180 |
| 1181  | 1182 | 1183  | 1184 |
| 1185  | 1186 | 1187  | 1188 |
| 1189  | 1190 | 1191  | 1192 |
| 1193  | 1194 | 1195  | 1196 |
| 1197  | 1198 | 1199  | 1200 |
| 1201  | 1202 | 1203  | 1204 |
| 1205  | 1206 | 1207  | 1208 |
| 1209  | 1210 | 1211  | 1212 |
| 1213  | 1214 | 1215  | 1216 |
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| 1237  | 1238 | 1239  | 1240 |
| 1241  | 1242 | 1243  | 1244 |
| 1245  | 1246 | 1247  | 1248 |
| 1249  | 1250 | 1251  | 1252 |
| 1253  | 1254 | 1255  | 1256 |
| 1257  | 1258 | 1259  | 1260 |
| 1261  | 1262 | 1263  | 1264 |
| 1265  | 1266 | 1267  | 1268 |
| 1269  | 1270 | 1271  | 1272 |
| 1273  | 1274 | 1275  | 1276 |
| 1277  | 1278 | 1279  | 1280 |
| 1281  | 1282 | 1283  | 1284 |
| 1285  | 1286 | 1287  | 1288 |
| 1289  | 1290 | 1291  | 1292 |
| 1293  | 1294 | 1295  | 1296 |
| 1297  | 1298 | 1299  | 1300 |
| 1301  | 1302 | 1303  | 1304 |
| 1305  | 1306 | 1307  | 1308 |
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| 1313  | 1314 | 1315  | 1316 |
| 1317  | 1318 | 1319  | 1320 |
| 1321  | 1322 | 1323  | 1324 |
| 1325  |      |   |      |



937.0±

12" HDPE  
INV. 923.80

MANHOLE RIM 926.54  
(WATER METER PIT  
PER TVGA DRAWING)

CB RIM  
925.77

TRANSFORMERS

ELECTRIC  
HANDHOLE

ELECTRICAL  
PANEL

APPROXIMATE  
LOCATION OF EXIST.  
FIRE HYDRANT

TYP 3

PROJECT AREA:  
20,210 SQ FT

MANHOLE RIM 919.52  
STORM SEWER (&  
WATER?) PER TVGA  
DRAWING

CB RIM  
919.58

2" WATER  
RISER

CB RIM  
920.27

CB RIM  
922.98

CB RIM  
922.33

926

CB RIM  
924.06

925

CB RIM  
924.51

ASPHALT PARKING

926

OUTER LIMITS OF  
IN-AIR SAFETY  
ENVELOPE 99' Ø

RIDE FENCE  
LINE 78' Ø

SOIL  
BORING  
GROUND EL.  
925.0

REMOVE & STORE  
EXISTING TWISTER RIDE

STARFLYER  
FOUNDATION 45' Ø

RIDE CENTER

CONCRETE  
(8" RIP-RAP)  
FALLS & POOL

QUEUE AREA

LP

ARBORVITAE

1" WIDE RETAINING  
WALL

ASPHALT ROADWAY

926

## GENERAL SITE DEMOLITION NOTES

- EXTENTS OF REMOVAL AS INDICATED ON THE PLAN. CONTRACTOR TO VERIFY ALL SITE CONDITIONS PRIOR TO DEMOLITION. CONTACT NY 811 AS NECESSARY PRIOR TO DIGGING.
- CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND NOTIFY GLYNN GROUP ENGINEERING & ARCHITECTURE (GGEA) IN WRITING OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF DEMOLITION.
- CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR DEMOLITION AND ABIDE BY REGULATIONS FOR INSPECTION.
- CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, PROCEDURES AND SAFETY FOR ALL DEMOLITION EFFORTS.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.
- COORDINATE WITH PARK REPRESENTATIVES ITEMS TO BE SALVAGED AND STORED AS DIRECTED BY THE PARK.
- ALL WORK SHALL BE IN ACCORDANCE WITH NEC, OSHA STANDARDS AND OTHER LOCAL OR REGIONAL BUILDING CODES.
- PROTECT EXISTING DRAIN INLETS, CATCH BASINS, PLUMBING, ELECTRICAL COMPONENTS DURING DEMOLITION AND CONSTRUCTION. TAKE PRECAUTIONS TO KEEP SITE FEATURES TO REMAIN OR BEING SALVAGED FROM BEING DAMAGED.

NOTE:  
RIP RAP STONE TO BE SALVAGED, CLEANED, AND  
STORED ON-SITE.

## DEMOLITION KEY NOTES

- REMOVE FENCE / PRIVACY WALL
- REMOVE CONCRETE PAD
- REMOVE TREE, TYP.
- REMOVE BUSHES / ARBORVITAE
- RELOCATE WATER RISER PER PARK
- REMOVE CONCRETE FALLS AND POOL, SALVAGE STONE
- REMOVE LIGHT POST
- REMOVE STONE RETAINING WALL AS NEEDED FOR CONSTRUCTION, SALVAGE STONE
- REMOVE PAVERS
- REMOVE WOOD WALKWAY AND PLATFORMS
- REMOVE CONCRETE SIDEWALK / RAMP

A  
S1

## SITE DEMOLITION PLAN

SCALE : 3/32" = 1'-0"



SURVEY BY KLETTKE LAND SURVEYORS, P.C.  
JOB #: 4798-1018A DATED: OCTOBER 25, 2018

CLIENT:

DARIEN LAKE  
9993 ALLEGHANY RD.  
DARIEN CENTER, NY

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PROJECT:

STAR FLYER

TITLE:

SITE DEMOLITION PLAN

GGE PROJ #:  
18-2017

GGE FILE:  
starflyer site

DRAWN BY:  
VNF

CHECKED BY:  
MWG

DWG:

S1

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415 S. TRANIT STREET LOCKPORT, NEW YORK 14094  
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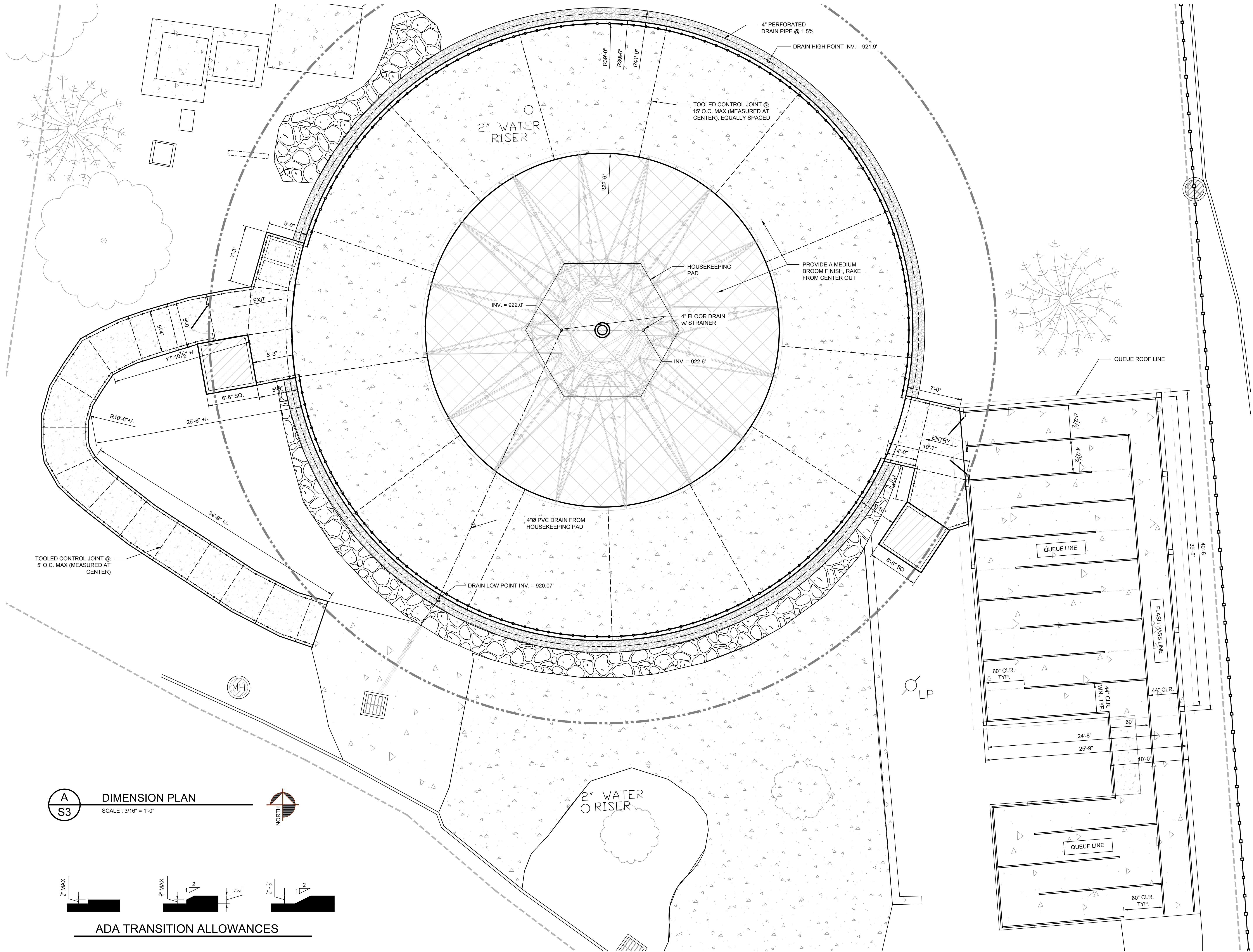
| ITEM | DATE     | REVISION                         |
|------|----------|----------------------------------|
| 1    | 11.30.18 | ISSUED FOR PERMIT & CONSTRUCTION |

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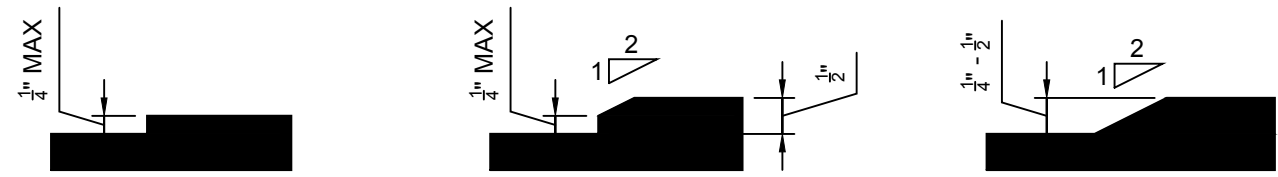







A  
S3

DIMENSION PLAN  
SCALE: 3/16" = 1'-0"



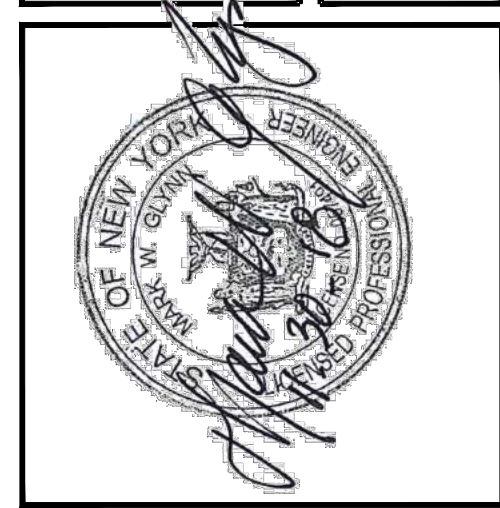
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PROJECT:  
**STAR FLYER**

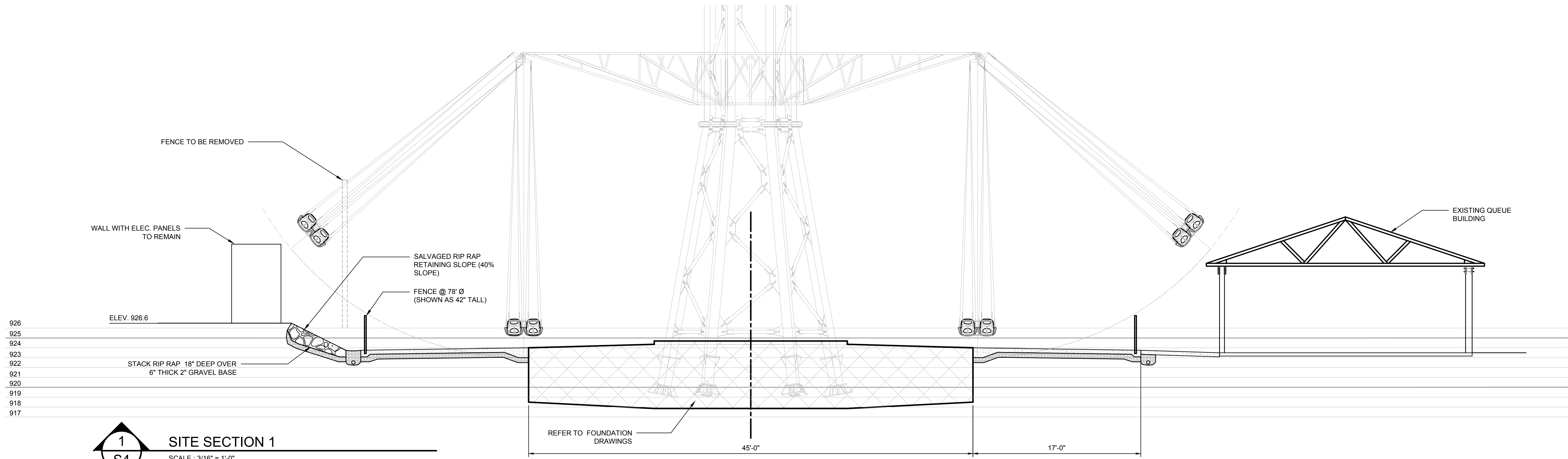
TITLE:  
**DIMENSION PLAN**

GGE PROJ #:  
18-2017  
GGE FILE:  
starflyer site  
DRAWN BY:  
VNF  
CHECKED BY:  
MWG

DWG:  
**S3**

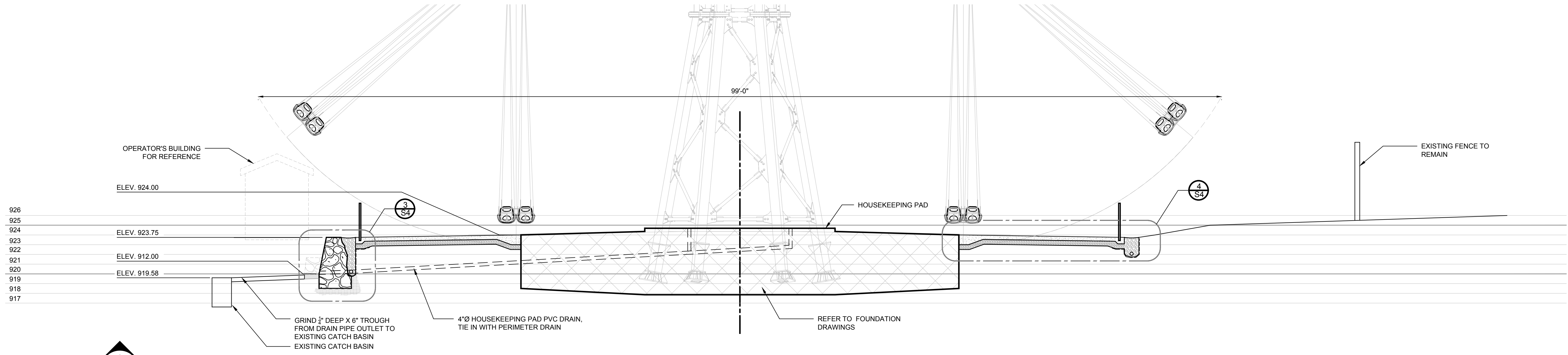
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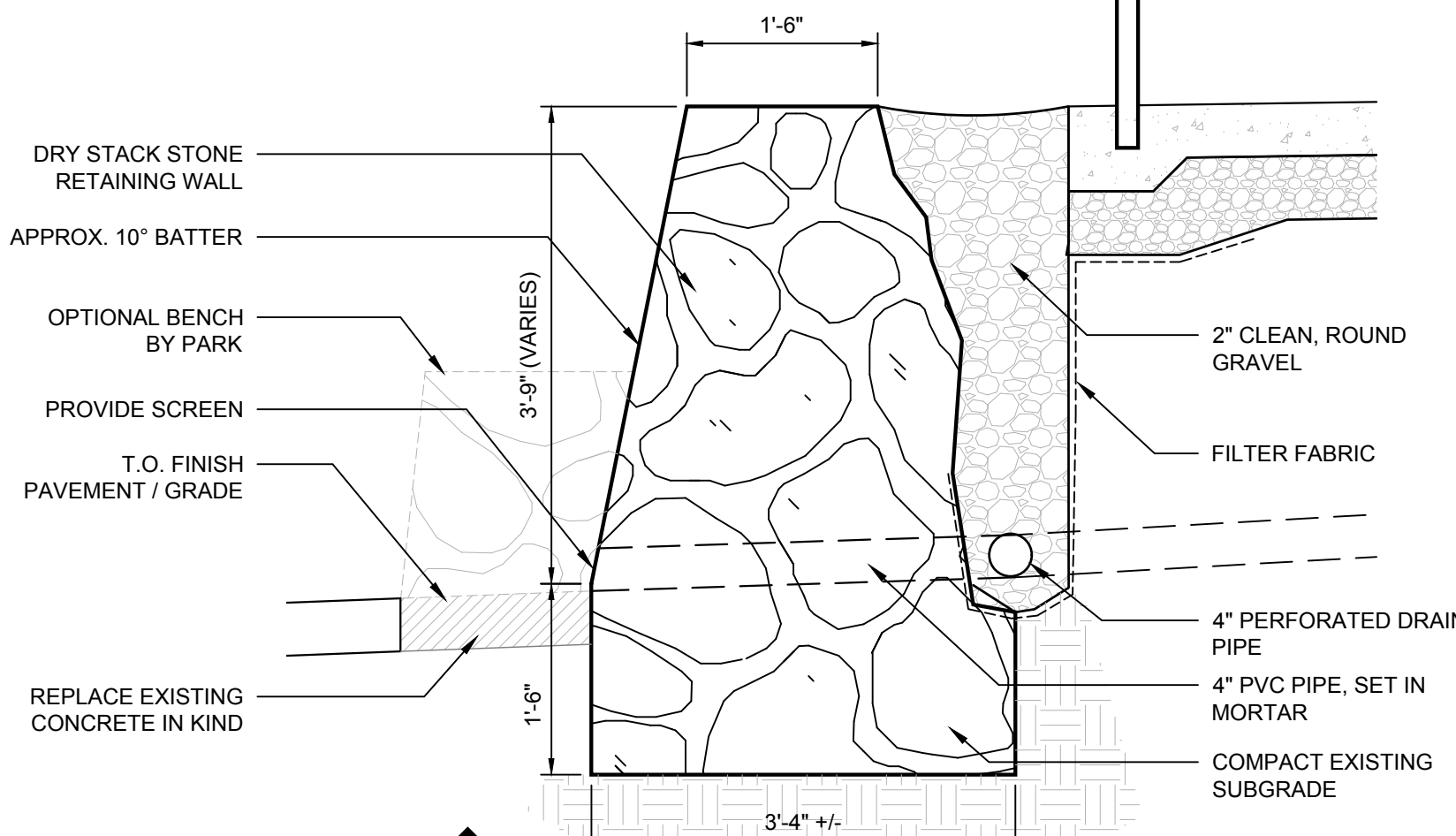
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S4

**SITE SECTION 1**  
SCALE : 3/16" = 1'-0"



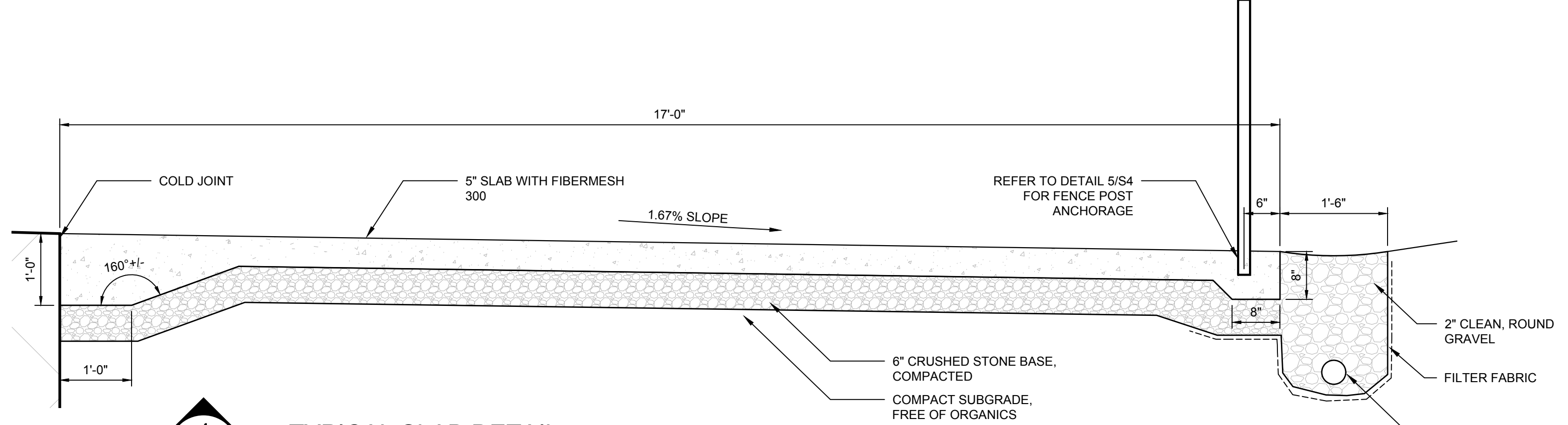
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S4

**SITE SECTION 2**  
SCALE : 3/16" = 1'-0"



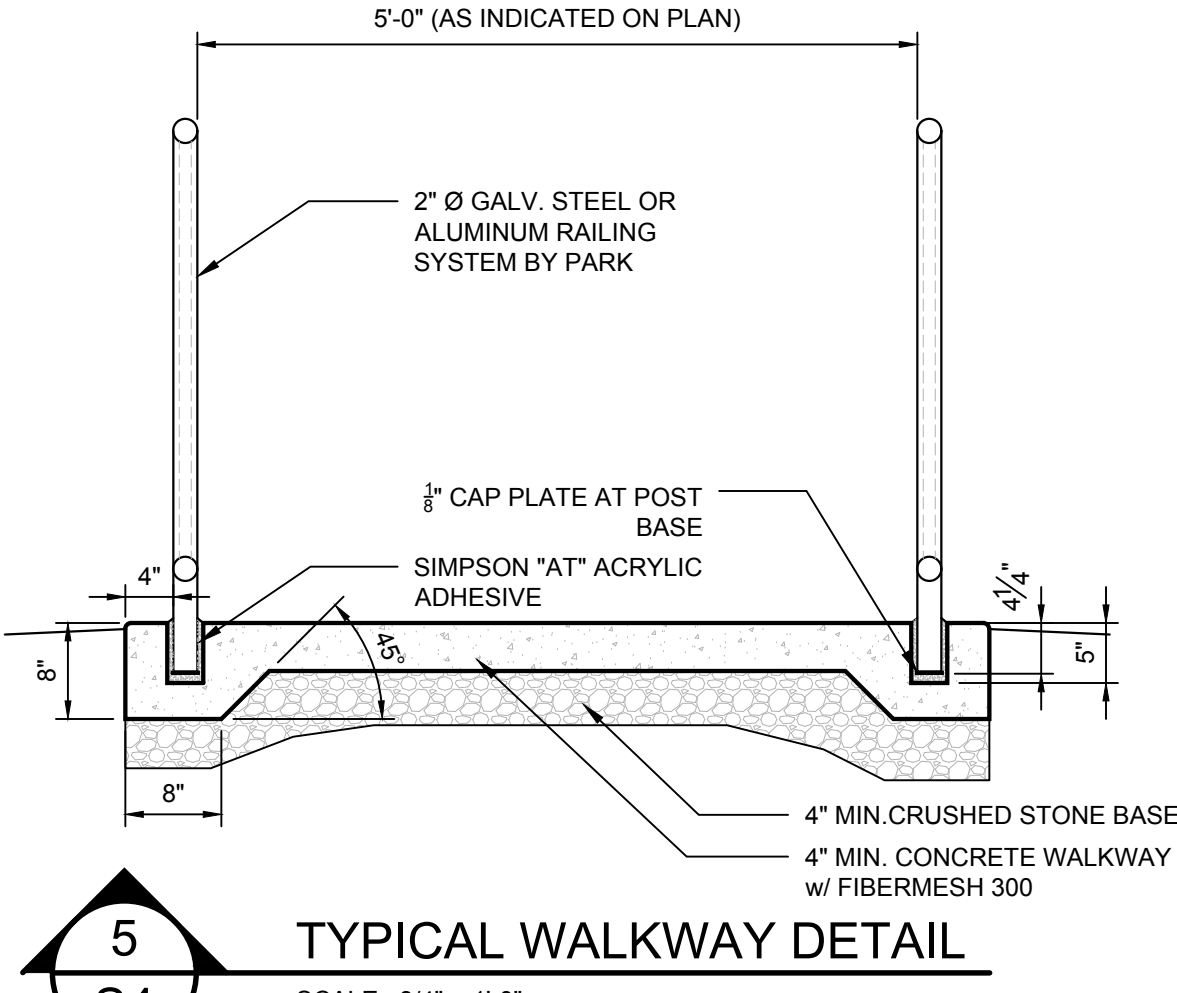
3  
S4

**RETAINING WALL DETAIL**  
SCALE : 3/4" = 1'-0"



4  
S4

**TYPICAL SLAB DETAIL**  
SCALE : 3/4" = 1'-0"



5  
S4

**TYPICAL WALKWAY DETAIL**  
SCALE : 3/4" = 1'-0"

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PROJECT:  
**STAR FLYER**

TITLE:  
**SITE SECTIONS**

GGE PROJ #: 18-2017  
GGE FILE: starflyer site  
DRAWN BY: VNF  
CHECKED BY: MWG

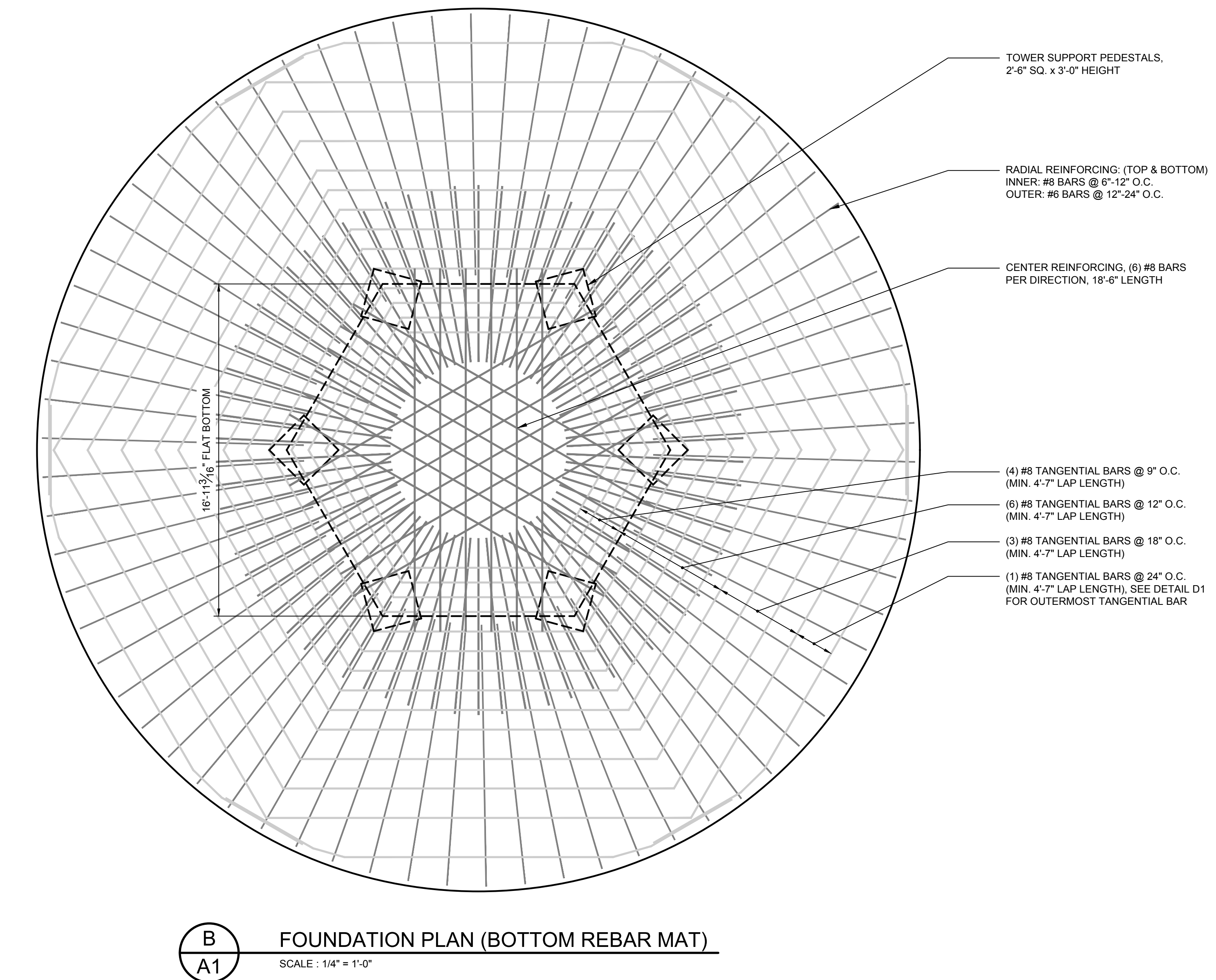
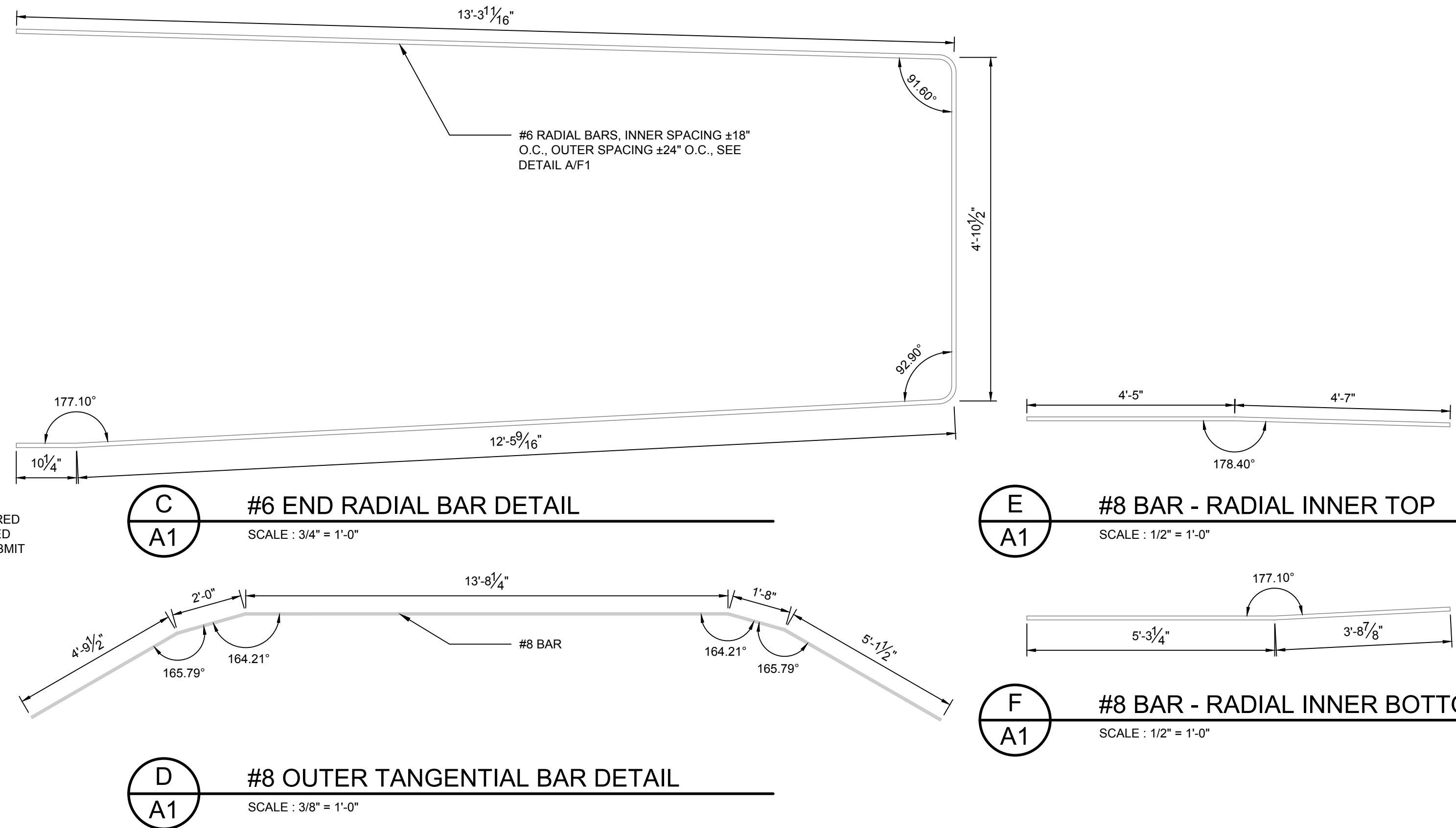
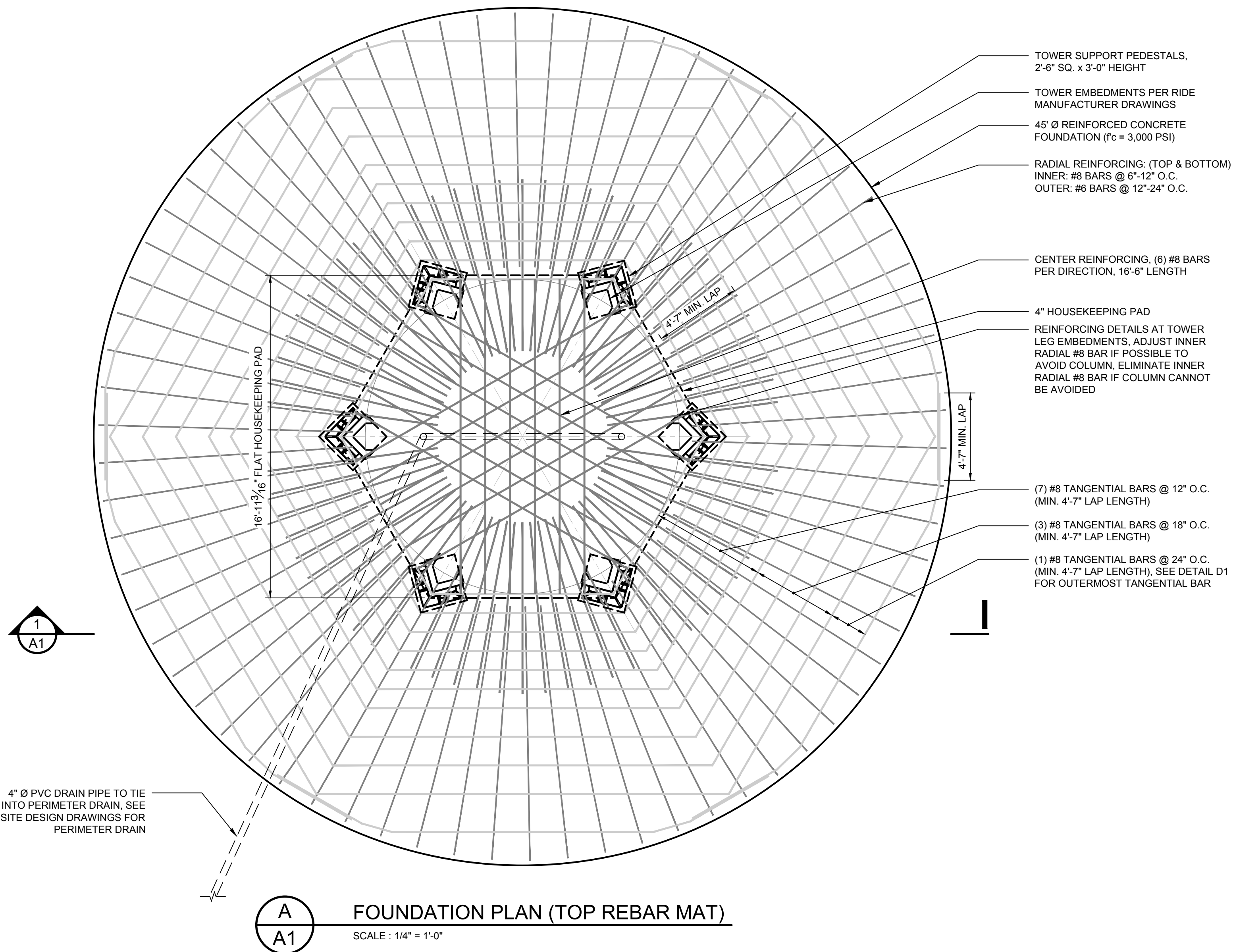
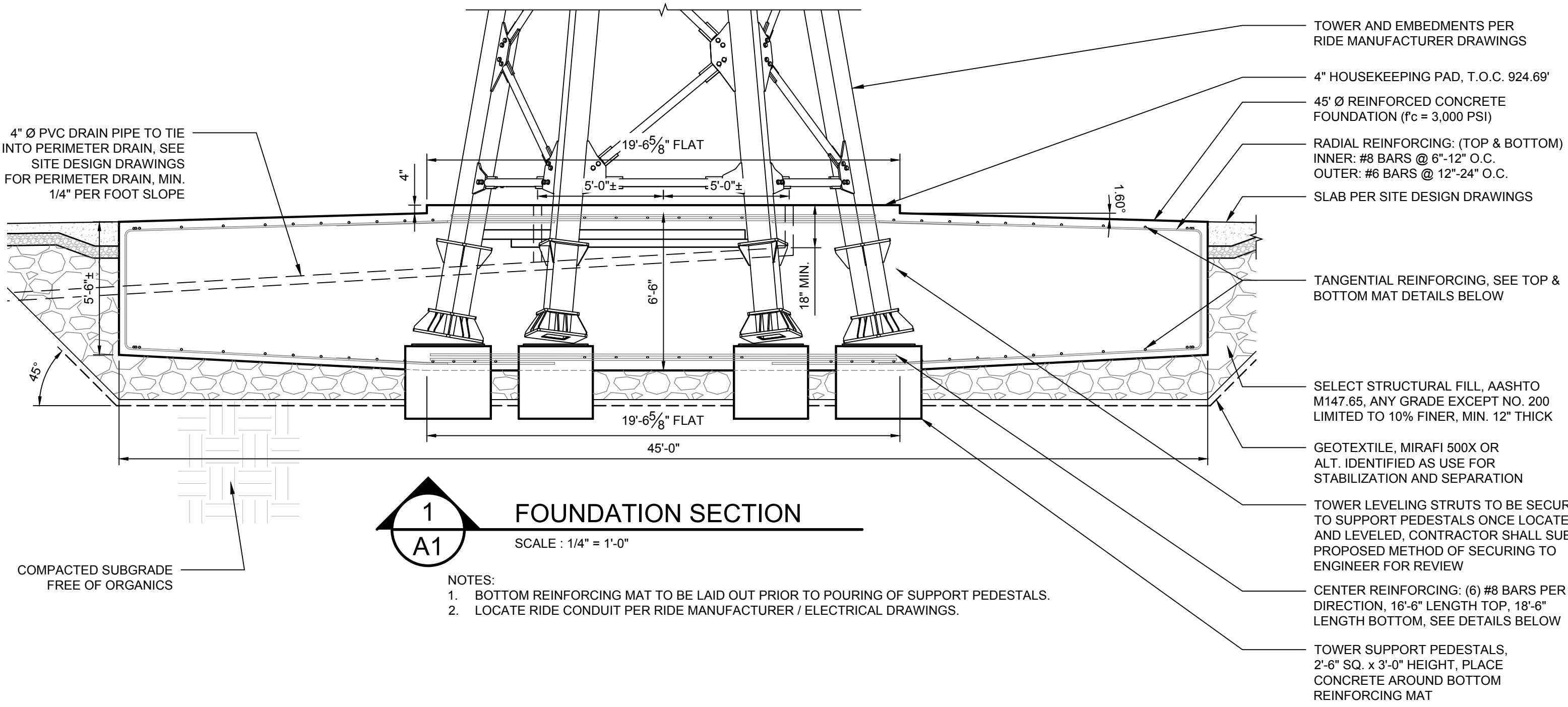
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PROJECT:

STAR FLYER

TITLE:

FOUNDATION PLAN

GGE PROJ #:

18-2017

GGE FILE:

star flyer

DRAWN BY:

VNF

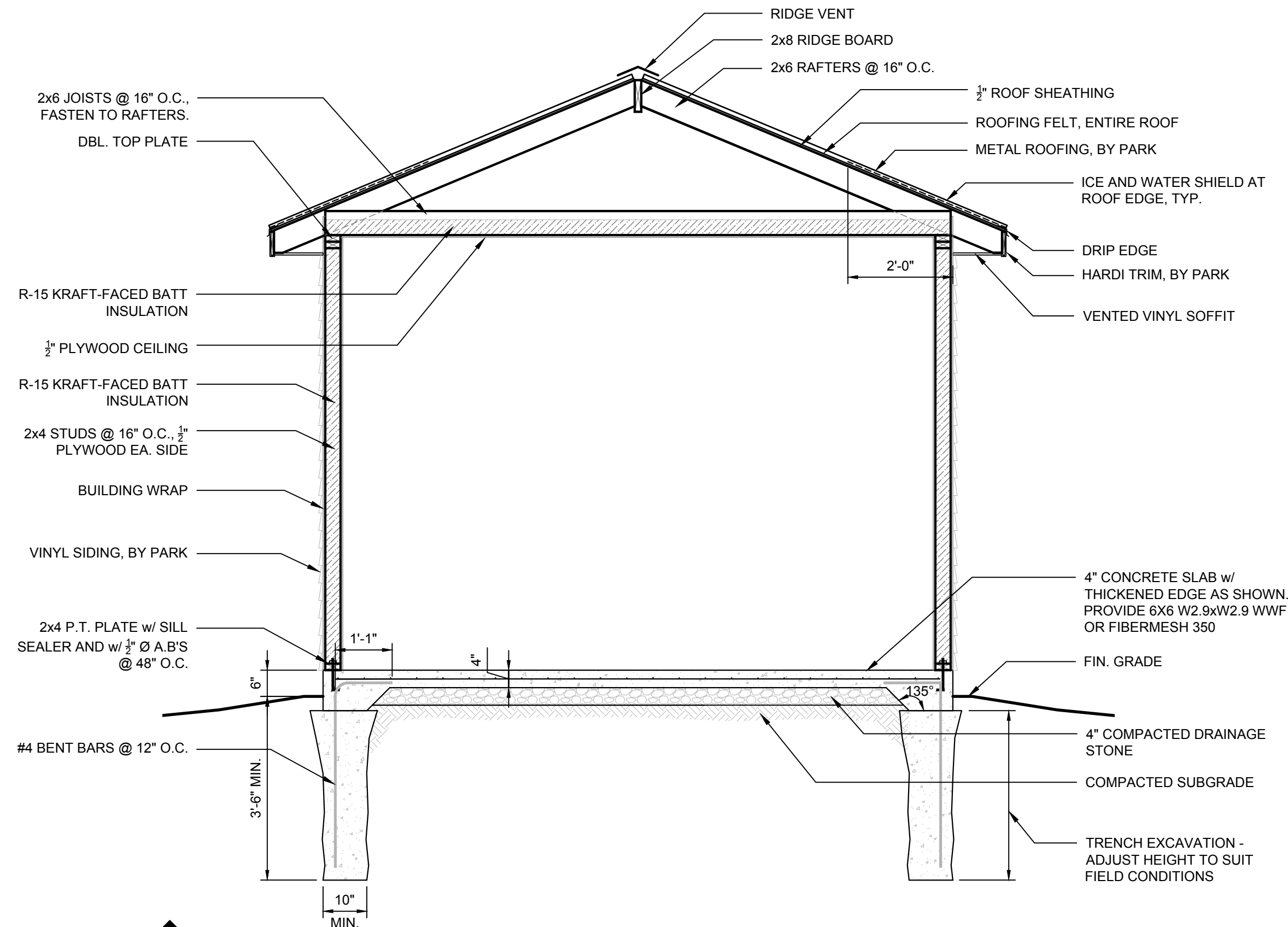
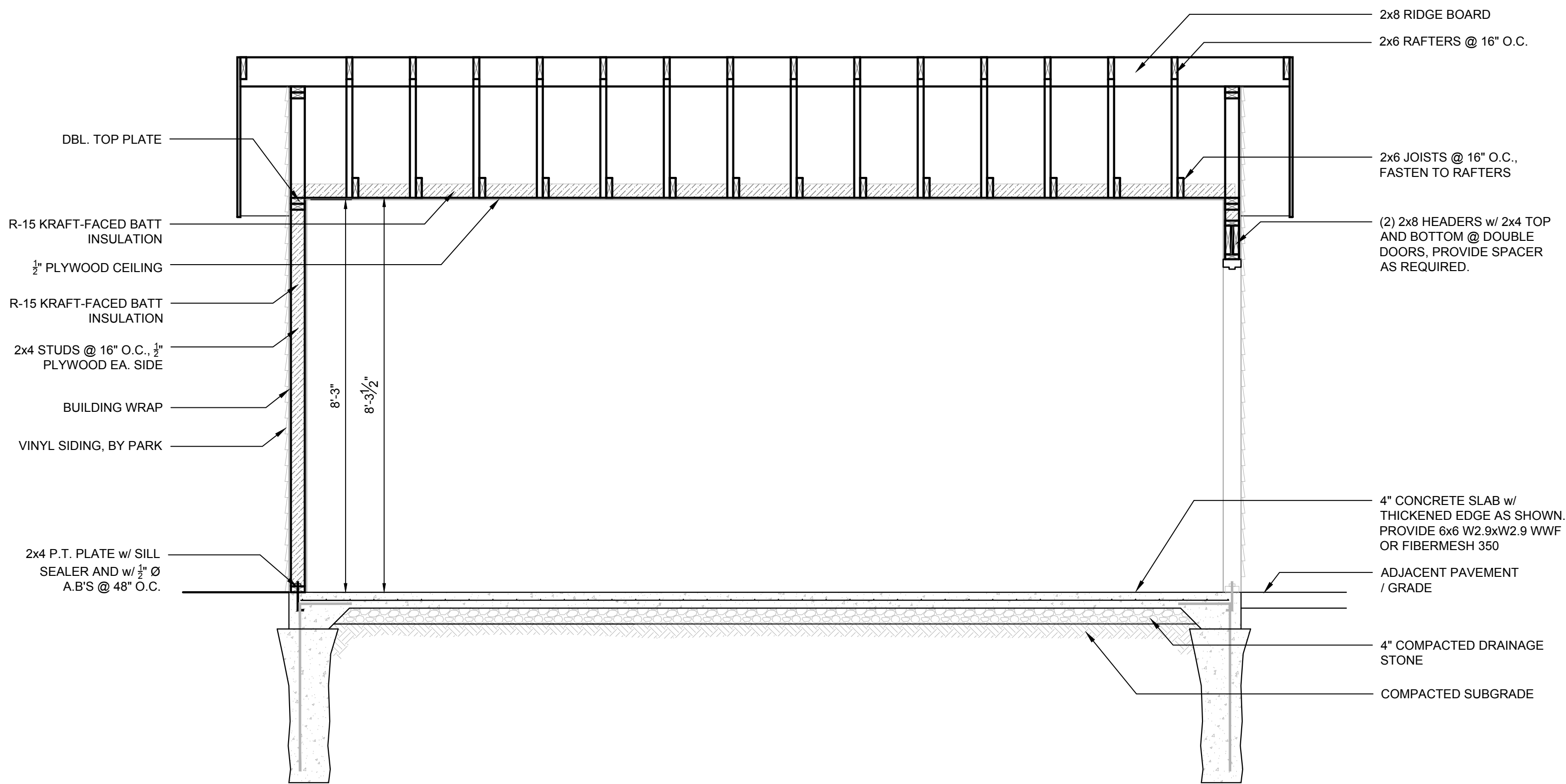
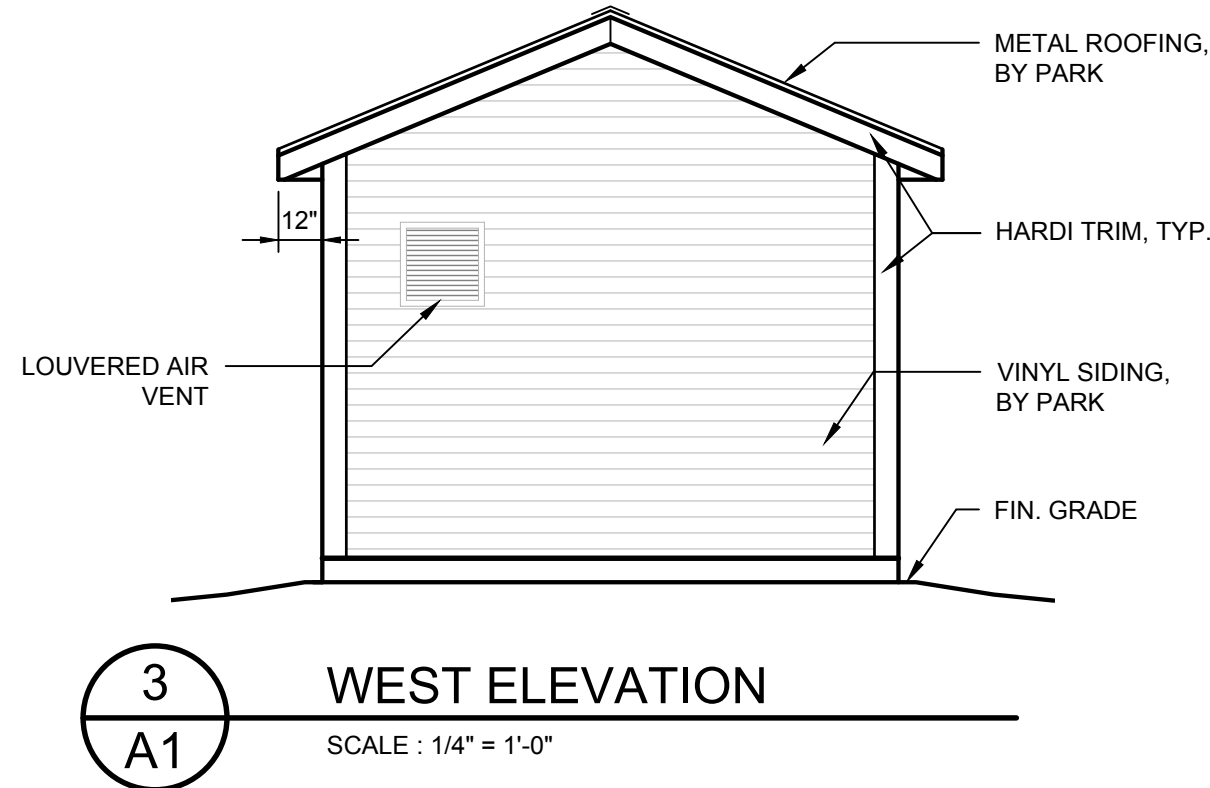
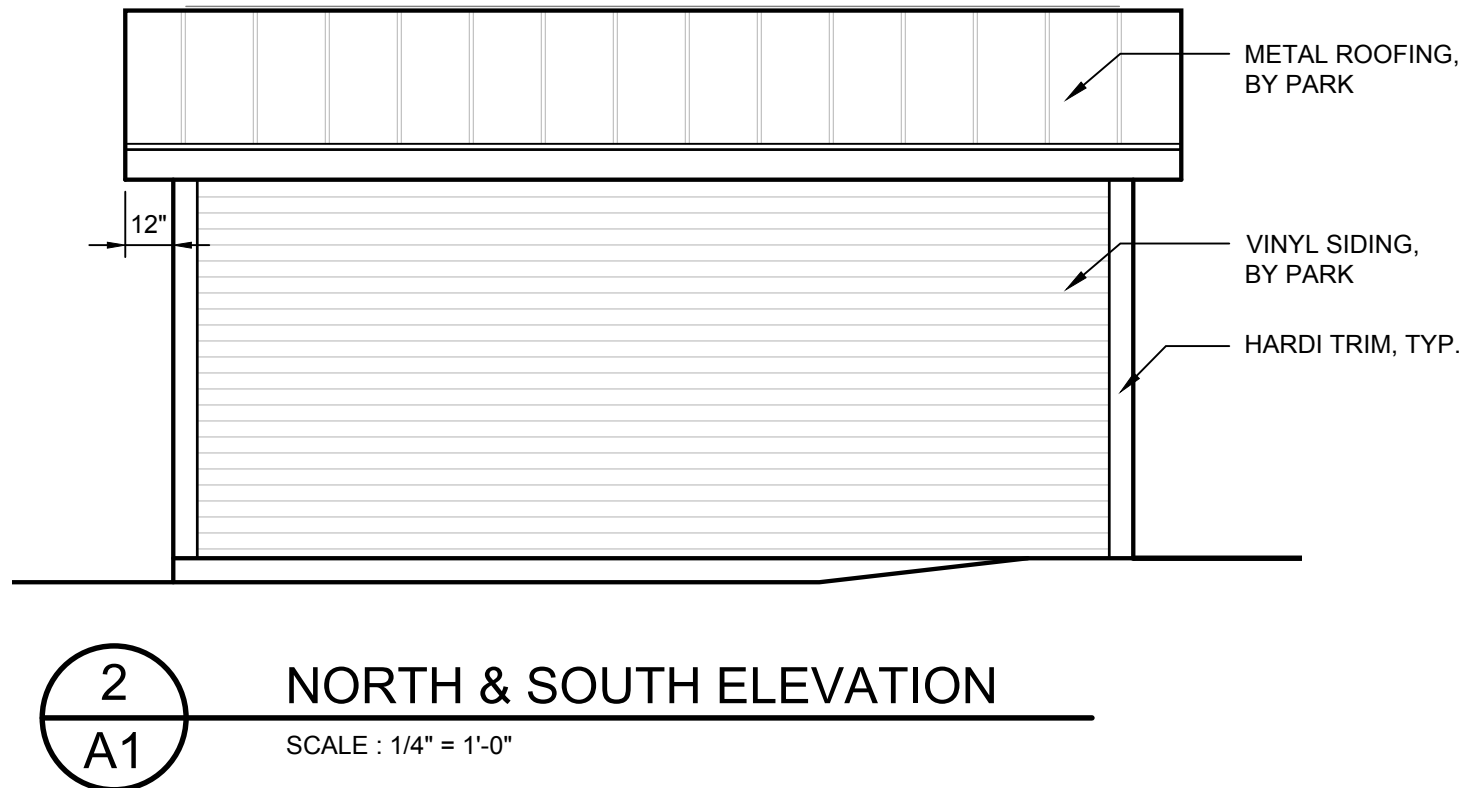
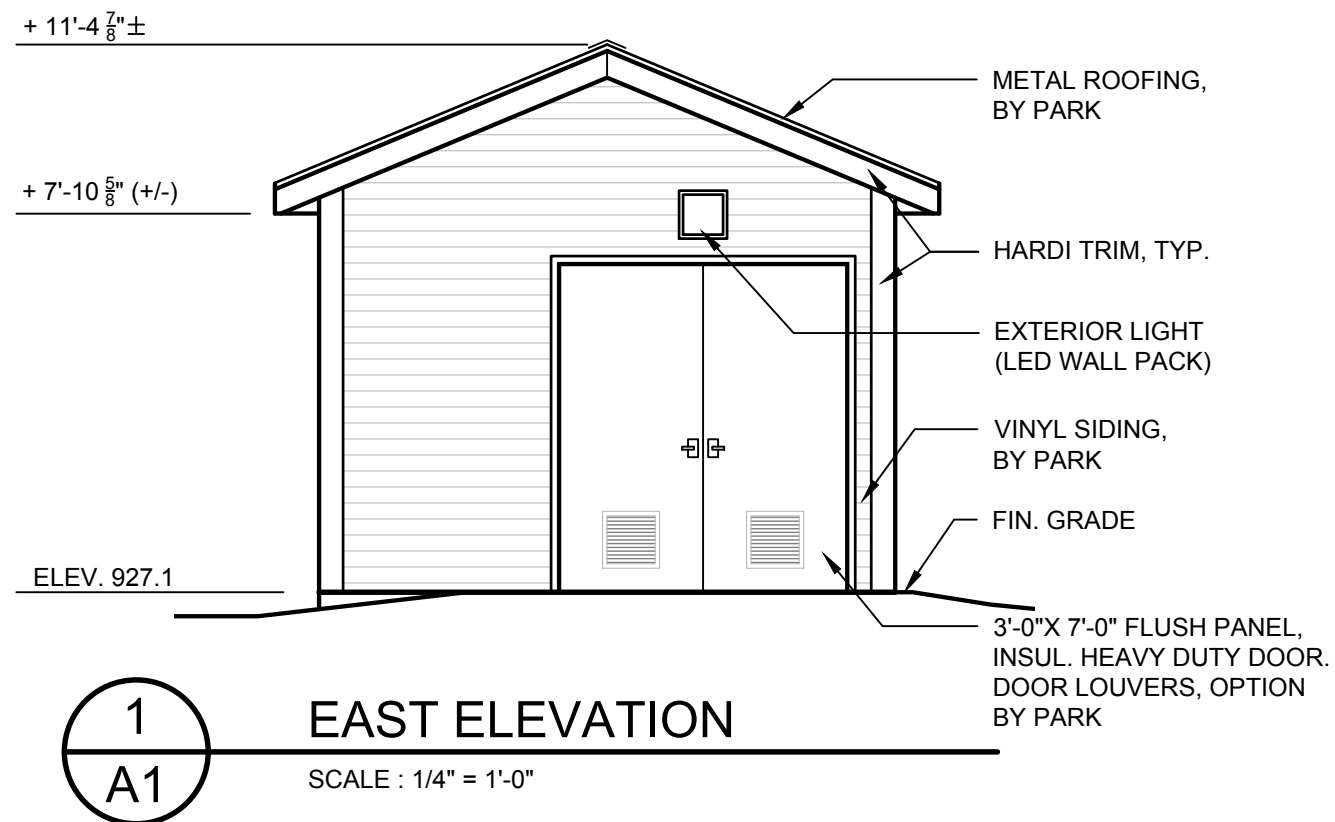
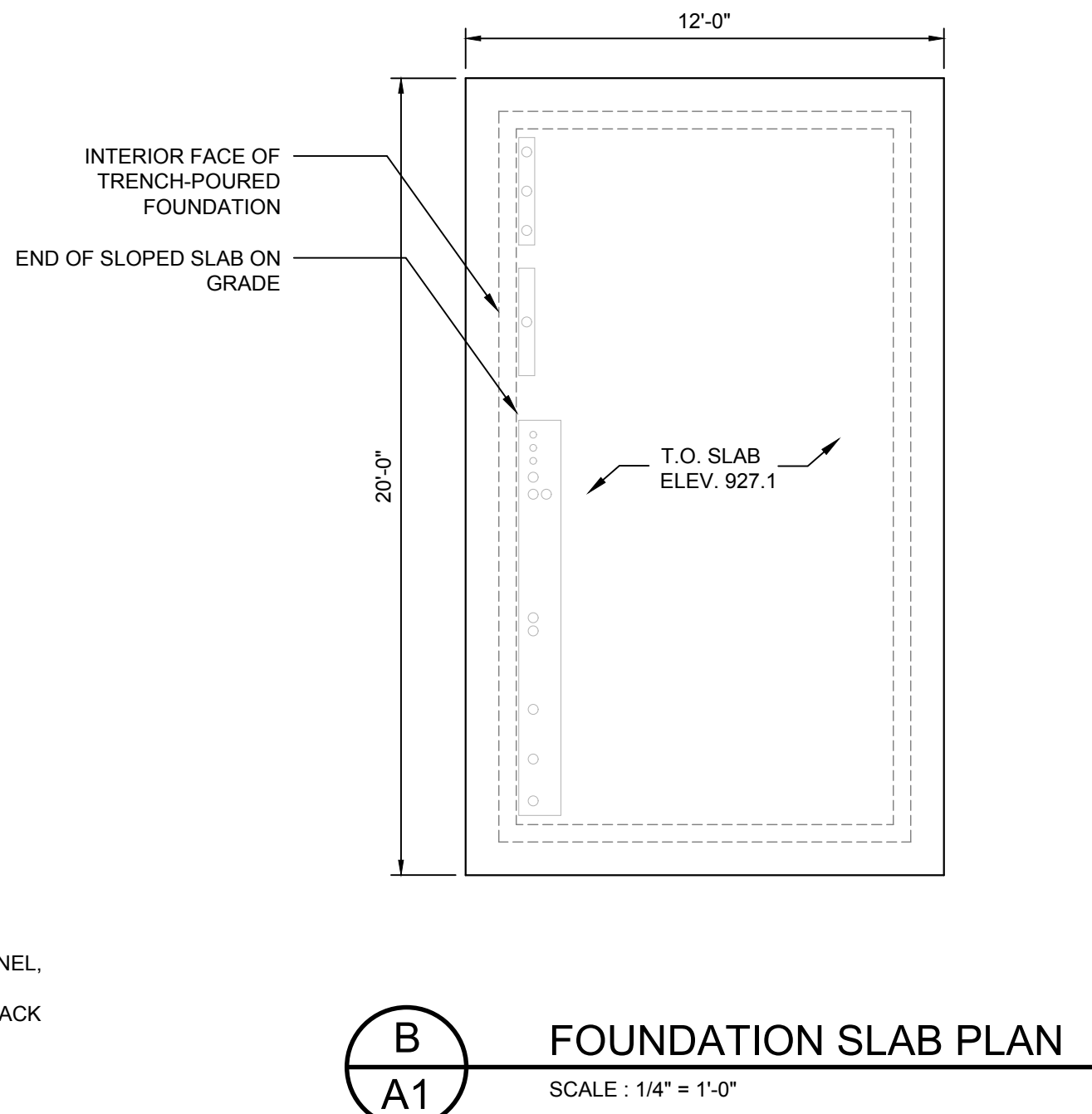
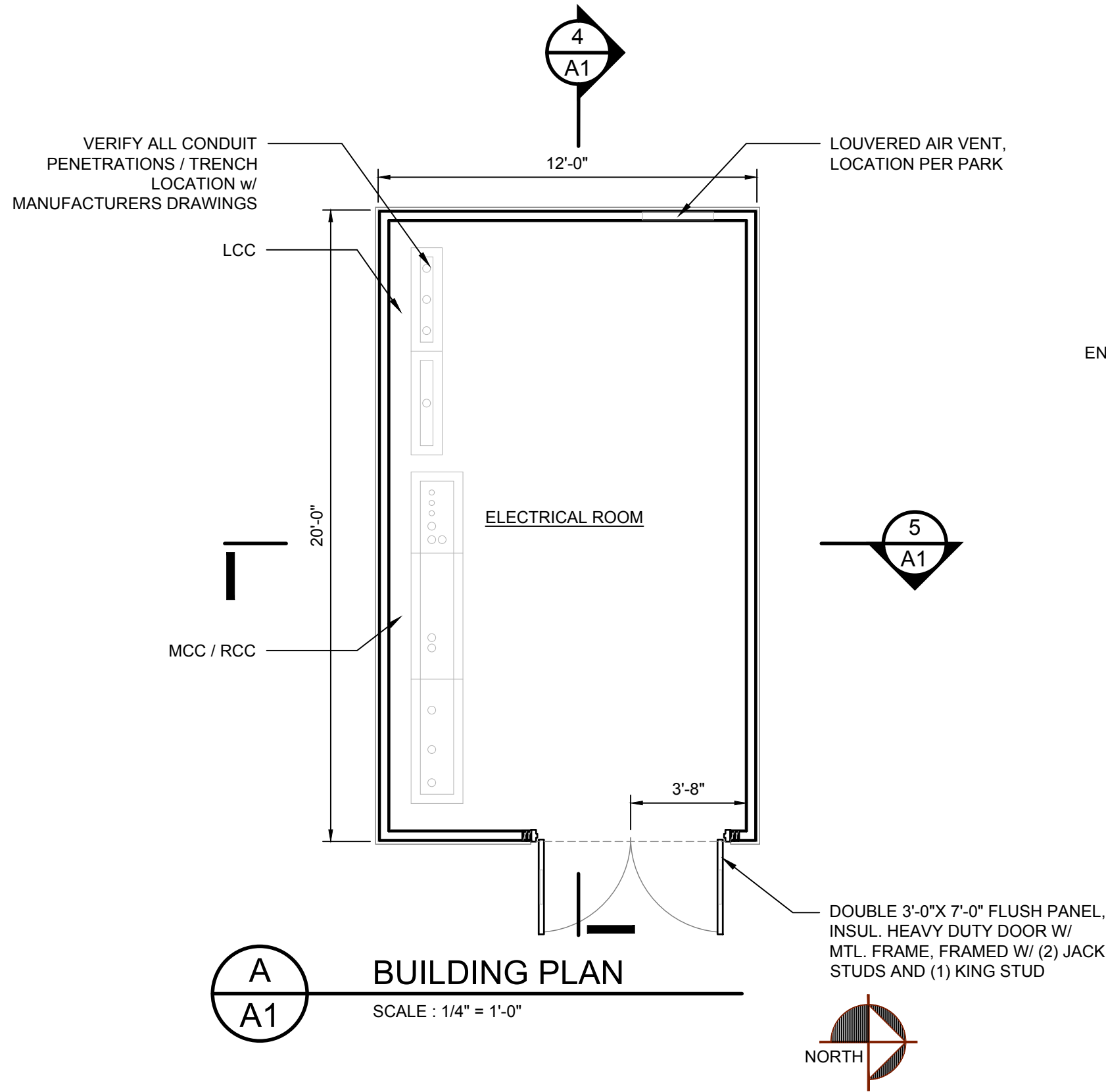
CHECKED BY:

MWG

DWG:

F1





## CONSTRUCTION SPECIFICATIONS AND PROCEDURES

1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.
2. CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND NOTIFY GLYNN GROUP ENGINEERING & ARCHITECTURE (GGEA) IN WRITING OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION. NO MODIFICATIONS OR ALTERATIONS MAY BE MADE WITHOUT WRITTEN DIRECTION FROM GGEA.
3. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR CONSTRUCTION AND ABIDE BY REGULATIONS FOR INSPECTION.
4. COORDINATE THESE DRAWINGS WITH PROPOSED MECHANICAL, ELECTRICAL AND PLUMBING CONDUIT RUNS BY OTHERS.
5. CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, PROCEDURES AND SAFETY FOR ALL CONSTRUCTION EFFORTS.

## CODES AND STANDARDS:

1. ALL CONCRETE WORK SHALL BE IN CONFORMANCE WITH RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI).
2. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND THE LOCAL OR REGIONAL BUILDING CODES.
3. SATISFACTORY BACKFILL MATERIALS CONSIST OF SOIL OR CRUSHED STONE FREE OF CLAY, FROZEN MATERIALS, DEBRIS, WASTE, WOOD, VEGETABLE MATTER AND OTHER DELETERIOUS SUBSTANCES. SOIL MATERIAL SHALL MEET THE UNIFIED SOIL CLASSIFICATION DESIGNATION OF GW,GP,GM,SW,SP AND/OR SM.
4. BACKFILL SHALL NOT BE PLACED OVER FROZEN GROUND OR IN SATURATED CONDITIONS.

## EARTHWORK:

1. REMOVE ALL ORGANIC SOILS WITHIN THE AREA OF THE PROPOSED BUILDING. MAINTAIN DRY EXCAVATION.
2. EXCAVATE TO THE REQUIRED BEARING ELEVATION AND CONFIRM NON-ORGANIC NATIVE SOIL. EXCAVATE ADDITIONAL DEPTH IF DESIGN BEARING DEPTH OCCURS WITHIN ORGANIC SOIL. COMPACT ULTIMATE BEARING GRADE, AND ALL MATERIAL USED TO FILL ADDITIONAL DEPTH EXCAVATION.
3. SATISFACTORY BACKFILL MATERIALS CONSIST OF SOIL OR CRUSHED STONE FREE OF CLAY, FROZEN MATERIALS, DEBRIS, WASTE, WOOD, VEGETABLE MATTER AND OTHER DELETERIOUS SUBSTANCES. SOIL MATERIAL SHALL MEET THE UNIFIED SOIL CLASSIFICATION DESIGNATION OF GW,GP,GM,SW,SP AND/OR SM.
4. BACKFILL SHALL NOT BE PLACED OVER FROZEN GROUND OR IN SATURATED CONDITIONS.

## CONCRETE:

1. ALL REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS.
2. CONCRETE DESIGN STRENGTH SHALL BE A MINIMUM OF 3,500 PSI. CONCRETE SHALL BE DESIGNED WITH A MAXIMUM WATER/CEMENT RATIO OF 0.45, ENTRAINED AIR CONTENT OF 4% TO 7%, AND MINIMUM 3/4 INCH AGGREGATE.
3. ALL CONCRETE SHALL BE PLACED WITH A SLUMP RANGE OF 2 INCHES TO 4 INCHES. ANY OUT OF SPECIFICATION CONCRETE SHALL BE REJECTED AT THE COST OF THE CONTRACTOR. WATER MAY BE ADDED TO THE FRESH CONCRETE ONLY (1) ONE TIME WHILE ON SITE AND ONLY AT THE BEGINNING OF DISCHARGE OF THE CONCRETE.
4. PROVIDE A STEEL TROWELLED FINISH TO ALL EXPOSED CONCRETE SURFACES. (CONFIRM W/ CLIENT)

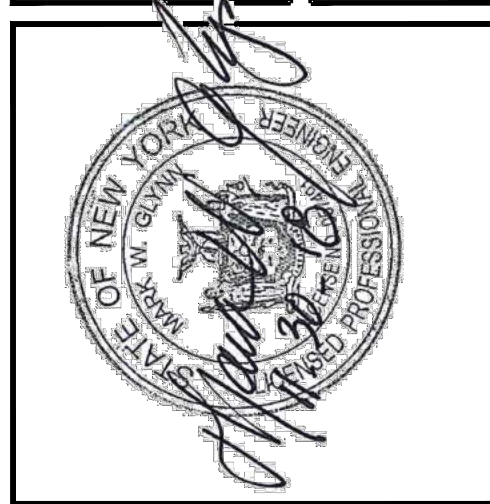
## WOOD FRAMING:

1. FRAMING LUMBER MIN. DESIGN PROPERTIES:  
No.2 GRADE OR BETTER, Fb= 850 psi E= 1,300,000 psi MAX.  
MOISTURE CONTENT = 19%
2. CONNECTORS: CONNECTORS SPECIFIED AS "SIMPSON" TYPE ARE TO BE MFR'D. BY 'SIMPSON TIE CO. OR APPROVED EQUAL. COMPLY WITH MFR'S FASTENING PROCEDURES. IF MANUFACTURER PROVIDES AN OPTION FOR THE INSTALLATION PROCEDURE, PROVIDE THE STRONGEST CONNECTION. FINISH OF ALL CONNECTORS SHALL BE SELECTED BASED ON WOOD TREATMENT AND EXPOSURE. VERIFY WITH FIELD CONDITIONS.
3. THE NUMBER AND SIZE OF NAILS AT ALL WOOD CONNECTIONS SHALL BE PER THE INTERNATIONAL BUILDING CODE TABLE 2304.10.1 FASTENING SCHEDULE.
4. SET ROUGH CARPENTRY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB, TRUE TO LINE, CUT, AND FITTED. FIT ROUGH CARPENTRY TO OTHER CONSTRUCTION, SCRIBE AND COPE AS NEEDED FOR ACCURATE FIT. LOCATE FURRING, NAILERS, BLOCKING, GROUNDS, AND SIMILAR SUPPORTS TO COMPLY WITH REQUIREMENTS FOR ATTACHING OTHER CONSTRUCTION.
5. FRAMING STANDARDS: COMPLY WITH AF&PA's "DETAILS FOR CONVENTIONAL WOOD FRAME CONSTRUCTION," UNLESS OTHERWISE INDICATED.
6. FRAMING WITH ENGINEERED WOOD PRODUCTS: INSTALL ENGINEERED WOOD PRODUCTS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
7. DO NOT SPLICE STRUCTURAL MEMBERS BETWEEN SUPPORTS, UNLESS OTHERWISE INDICATED.
8. COMPLY WITH AWPA M4 FOR APPLYING FIELD TREATMENT TO CUT SURFACES OF PRESERVATIVE-TREATED LUMBER.
9. ALL PLATES OR FRAMING IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH AWPA STANDARDS FOR SPECIES, PRODUCT, AND USE.
10. ALL PARTITION DIMENSIONS ARE SHOWN TO THE FACE OF STUD.

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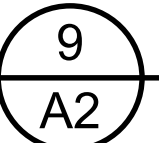
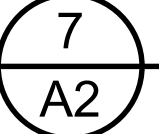
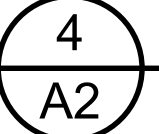
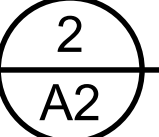
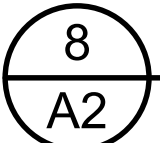
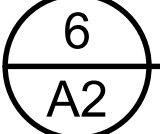
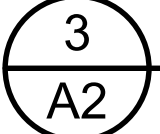
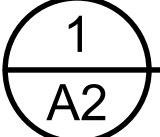
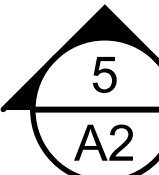
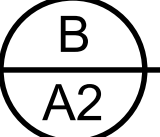
PROJECT:  
STAR FLYER

TITLE:  
ELECTRICAL BUILDING

GGE PROJ #:  
18-2017  
ACAD FILER:  
ELEC BLDG  
DRN:  
VNF / NMC  
CHK:  
MWG

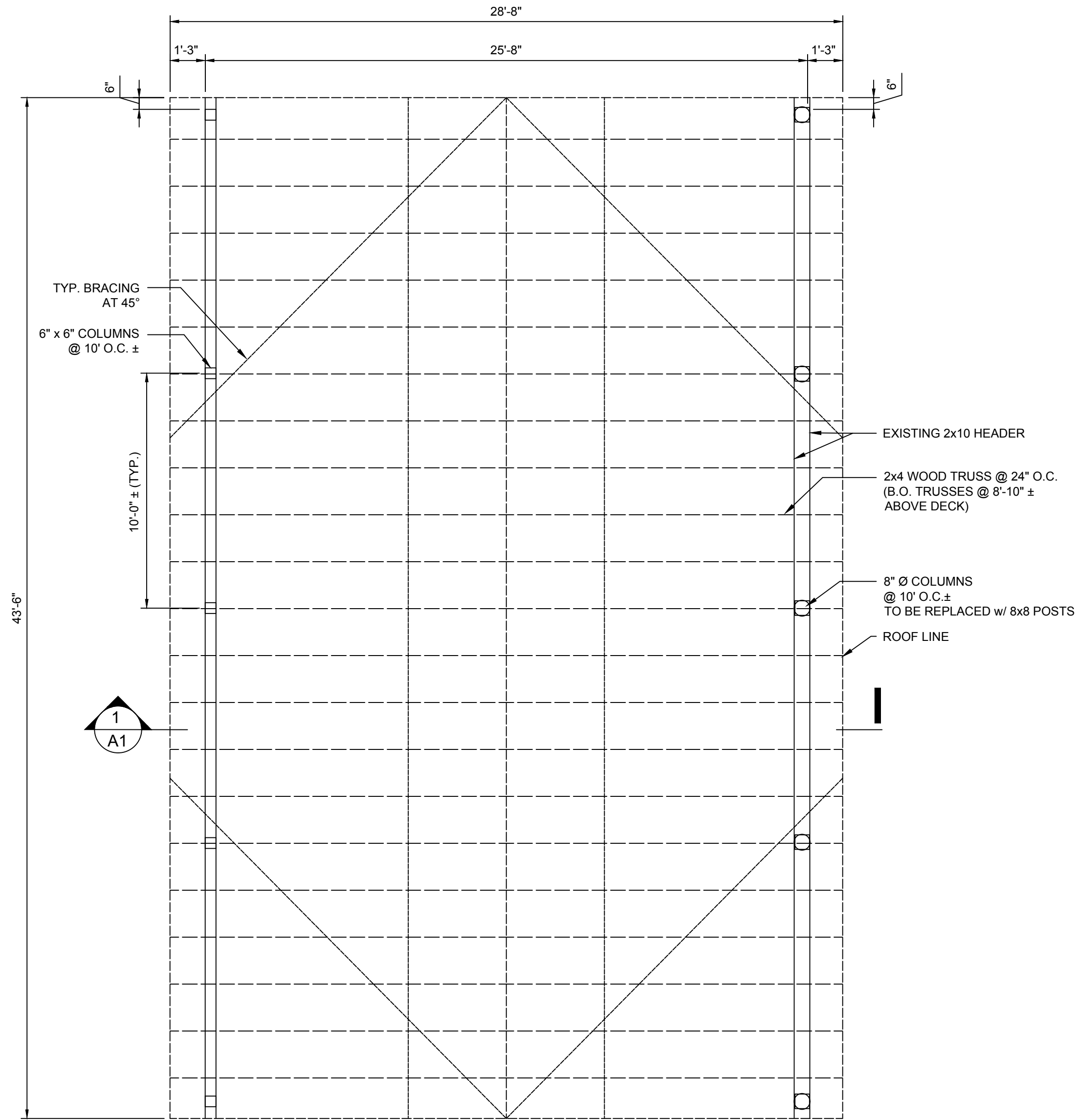
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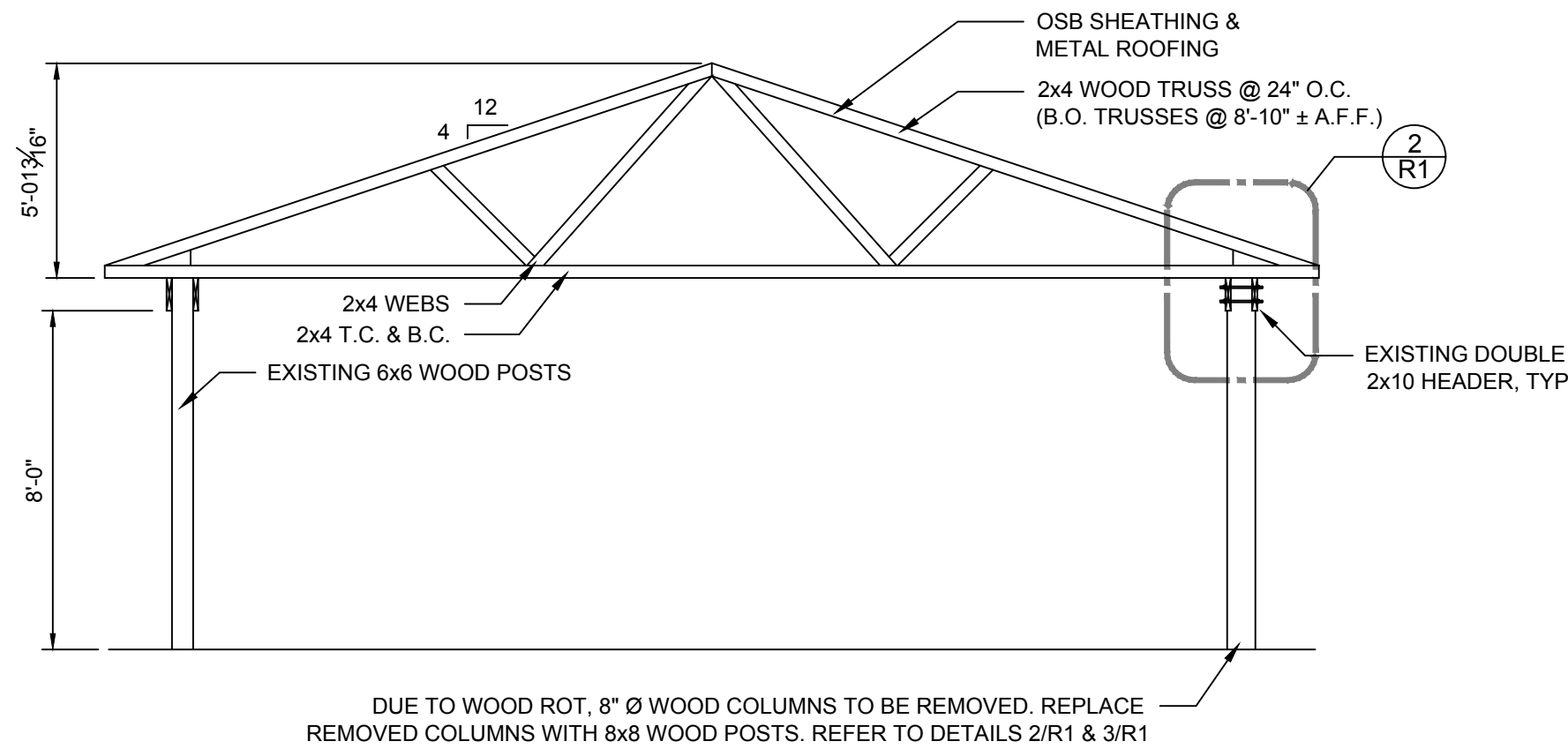


GGE PROJ #:  
18-2017  
ACAD FILE#:  
OPER BLDG  
DRN:  
VNF / NMC  
CHK:  
MWG

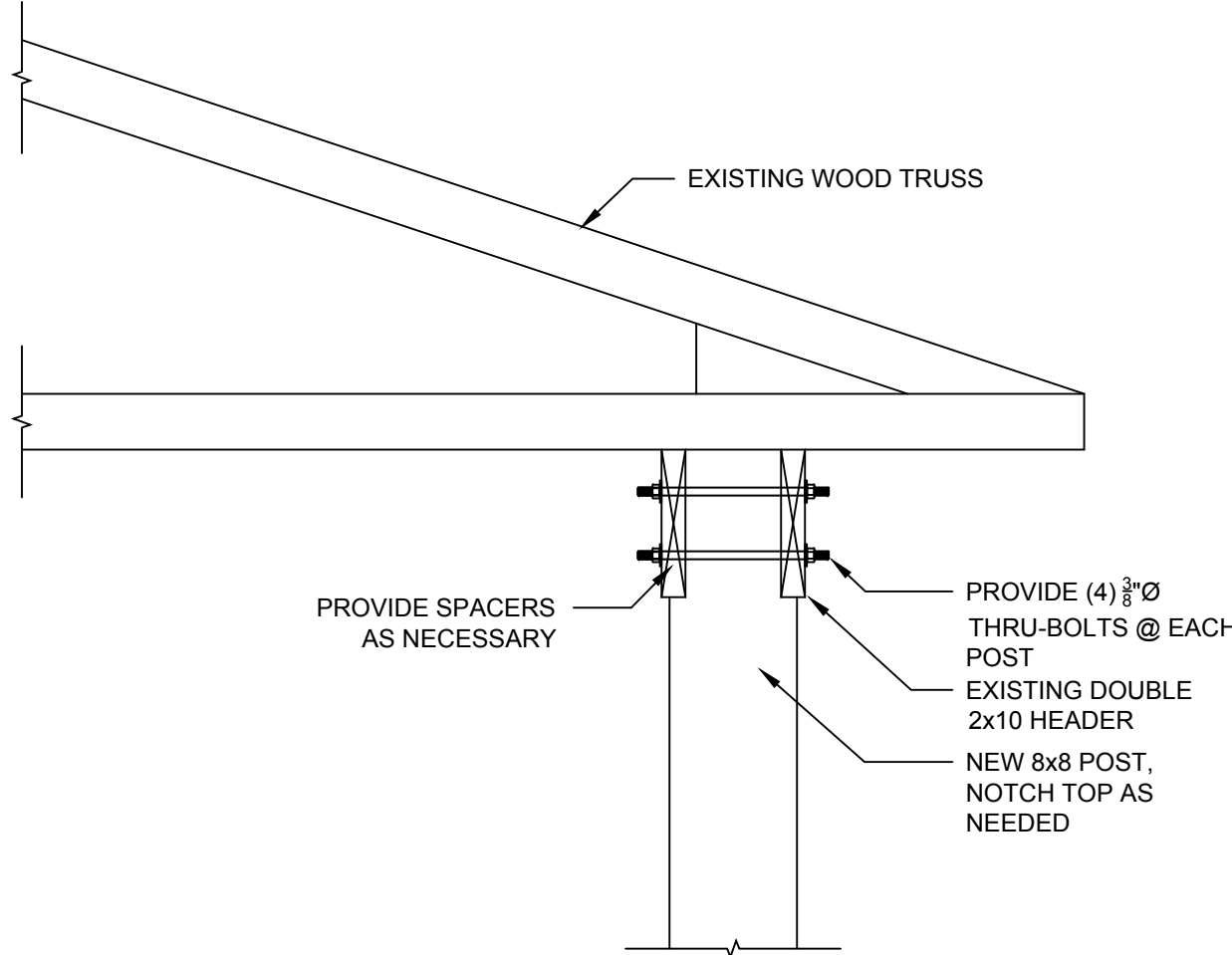




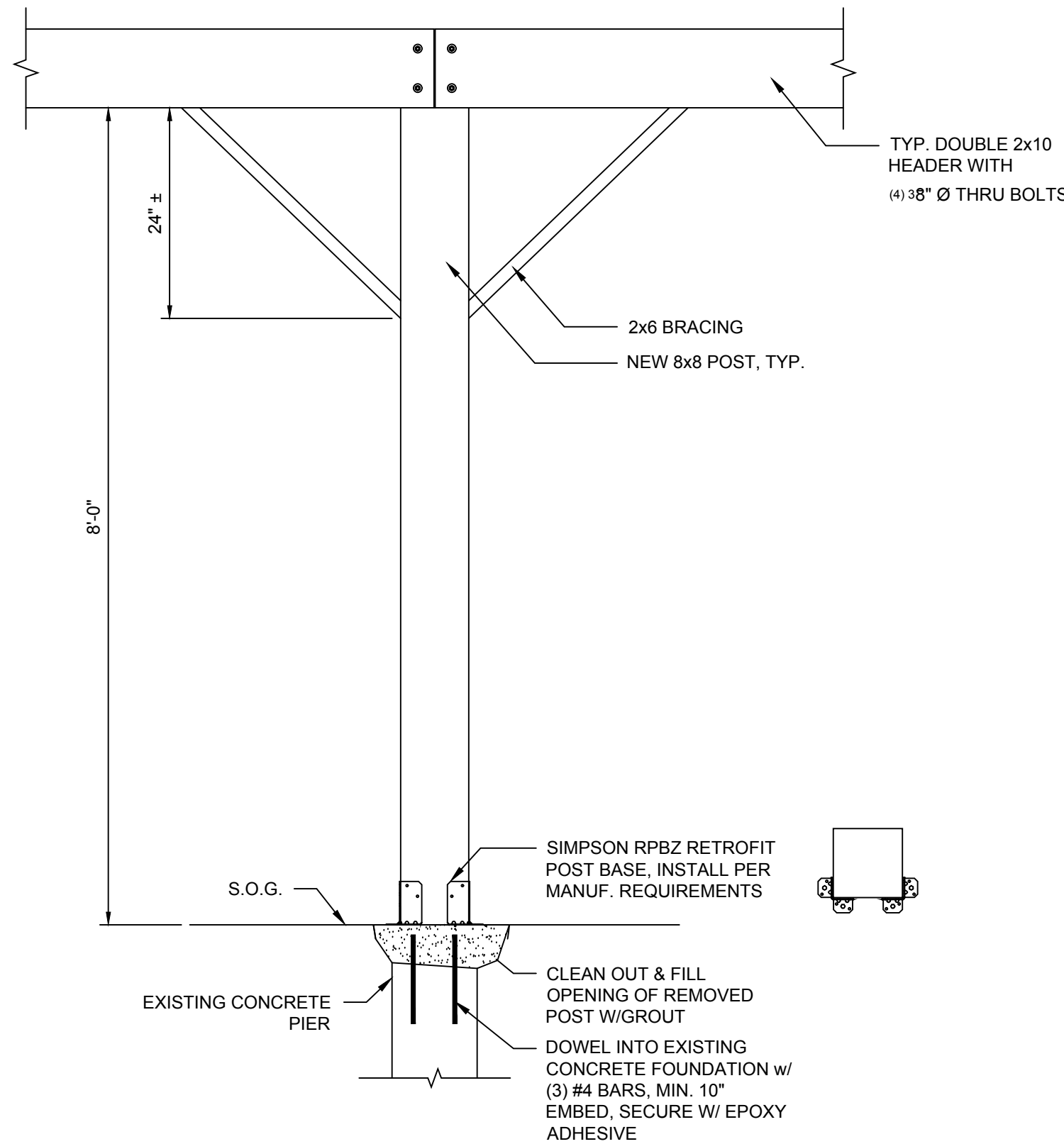
**A**  
**R1** ROOF FRAMING PLAN  
SCALE : 1/4" = 1'-0"



**1**  
**R1** SCHEMATIC STRUCTURAL BUILDING SECTION  
SCALE : 1/4" = 1'-0"



**2**  
**R1** FRAMING SECTION  
SCALE : 1" = 1'-0"



**3**  
**R1** ELEVATION @ POSTS  
SCALE : 3/4" = 1'-0"

## DESIGN LOADING INFORMATION

|  |                                    |
|--|------------------------------------|
| (IBC '15/ ASCE 7-10)                       |                                    |
| FLOOR LIVE LOAD-                           | 100 #/sf                           |
| ROOF LIVE LOAD-                            | 20 #/sf (min.)                     |
| ROOF SNOW LOAD-                            |                                    |
| GROUND SNOW LOAD (pg)-                     | 50 #/sf                            |
| FLAT ROOF SNOW LOAD (pf)-                  | 42 #/sf                            |
| SLOPED ROOF SNOW LOAD (ps)-                | 30.6 #/sf                          |
| SNOW EXPOSURE FACTOR (Ce)-                 | 0.9                                |
| SNOW IMPORTANCE FACTOR (Is)-               | 1.0                                |
| THERMAL FACTOR (Ct)-                       | 1.2                                |
| UNBALANCED SNOW LOAD-                      | 42 #/sf                            |
| WIND DATA- (ASCE 7, DIRECTIONAL PROCEDURE) |                                    |
| BASIC WIND SPEED-                          | 115 MPH                            |
| WIND IMPORTANCE FACTOR-                    | 1.0                                |
| WIND EXPOSURE-                             | C                                  |
| MWFRS WIND PRESSURE-                       | MIN. 24.46 #/sf                    |
| EARTHQUAKE DATA- (ASCE 7, 12.14)           |                                    |
| OCCUPANCY CATEGORY-                        | II                                 |
| SEISMIC IMPORTANCE FACTOR-                 | 1.0                                |
| MAPPED SPECTRAL RESPONSE-                  | Ss= 0.212, S1= 0.062               |
| SITE CLASS-                                | D                                  |
| SPECTRAL RESPONSE COEFF.-                  | SDS= 0.226, SD1= 0.099             |
| SEISMIC DESIGN CATEGORY-                   | B                                  |
| BASIC SEISMIC FORCE RESISTING SYSTEM-      | LIGHT WOOD FRAME SYSTEM            |
| DESIGN BASE SHEAR (V)-                     | 0.035W                             |
| SEISMIC RESPONSE COEFF. (Cs)-              | 0.035                              |
| RESPONSE MODIFICATION FACTOR 6.5 (R)-      |                                    |
| ANALYSIS PROCEDURE USED-                   | EQUIVALENT LATERAL FORCE PROCEDURE |

THE EXISTING QUEUE BUILDING STRUCTURE HAS BEEN ANALYZED ACCORDING TO THE "DESIGN LOADING INFORMATION" ABOVE. THE ANALYSIS RESULT SHOWS THAT THE CURRENT STRUCTURE WITH THE IDENTIFIED MODIFICATIONS MEETS THE LOADING DESIGN CRITERIA ESTABLISHED BY THE 2015 IBC AND ASCE 7-10. THE STRUCTURAL ANALYSIS HAS BEEN BASED ON THE OVERARCHING AND TYPICAL STRUCTURAL FRAMING OBSERVED.

## SPECIFICATIONS AND PROCEDURES

- GENERAL:
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.
  - CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND NOTIFY GLYNN GROUP ENGINEERING & ARCHITECTURE (GGEA) IN WRITING OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION. NO MODIFICATIONS OR ALTERATIONS MAY BE MADE WITHOUT WRITTEN DIRECTION FROM GGEA.
  - OWNER / CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR CONSTRUCTION AND ABIDE BY REGULATIONS FOR INSPECTION.
  - CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, PROCEDURES AND SAFETY FOR ALL CONSTRUCTION EFFORTS.
  - CONTRACTOR TO PROVIDE TO OWNER ALL OPERATING, MAINTENANCE, AND WARRANTY MANUALS AND DOCUMENTS AS APPLICABLE FOR BUILDING SYSTEMS INCLUDING OVERHEAD DOORS, ROOFING, FINISH MATERIALS, HEATING SYSTEMS, AND ELECTRICAL SYSTEMS.

### CODES AND STANDARDS:

- ALL WORK SHALL BE IN CONFORMANCE WITH THE 2015 INTERNATIONAL CODES WITH NYS AMENDMENTS, AMERICAN CONCRETE INSTITUTE (ACI), OSHA STANDARDS, AND ANY OTHER APPLICABLE LOCAL OR REGIONAL CODES.

### MATERIALS:

- ALL BUILDING MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS FOR THE INTENDED USE. ANY QUESTIONS REGARDING INSTALLATION SHOULD BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY OR WORKED OUT WITH MANUFACTURERS REPRESENTATIVES.
- MATERIAL FINISHES, COLOR, OR OTHERWISE WHERE OPTIONS ARE PROVIDED REGARDING AESTHETIC OPTIONS SHALL BE VERIFIED WITH THE OWNER.

### WOOD FRAMING:

- ALL WOOD FRAMING AND FRAMING CONNECTIONS SHALL COMPLY WITH THE REQUIREMENTS OF IBC 2015 AND FASTENING SCHEDULES IN SECTION 2304 OF THE IBC UNLESS SPECIFICALLY NOTED OTHERWISE IN THE CONSTRUCTION DOCUMENTS.
- SET FRAMING MEMBERS TO REQUIRED LINES AND LEVEL. ALL MEMBERS SHALL BE PLUMB, TRUE, AND FITTED.
- INSTALL SIMPLY-SUPPORTED BEAMS, RAFTERS AND GIRDERS WITH NATURAL CAMBER UP. INSTALL CANTILEVERED BEAM ELEMENTS WITH NATURAL CAMBER DOWN.
- DO NOT SPLICE STRUCTURAL MEMBERS BETWEEN SUPPORTS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
- COMPLY WITH THE AF&PA "DETAILS FOR CONVENTIONAL WOOD CONSTRUCTION" UNLESS OTHERWISE INDICATED.
- FRAMING CONNECTIONS SHALL BE SECURELY ANCHORED AND FASTENED TO SUBSTRATE.
- PROVIDE BLOCKING AND NAILERS AS NECESSARY TO PROVIDE SECURE ATTACHMENTS.
- DIMENSIONAL LUMBER FRAMING SHALL MEET THE FOLLOWING MINIMUM CRITERIA - MAX MOISTURE CONTENT- 19% -MIN. COMPRESSION PARALLEL TO GRAIN (Fc)- 925psi -MIN. ALLOWABLE BENDING STRESS (Fb)- 900 psi -MIN. ELASTIC MODULUS (E)- 1,400,00 psi
- ALL DIMENSIONAL FRAMING MEMBERS IN CONTACT WITH THE CONCRETE, GROUND, AND/OR EXPOSED TO WEATHER SHALL BE PRESERVATIVE TREATED BY PRESSURE PROCESS AWPA C2.
- FRAMING CONNECTORS SPECIFICALLY IDENTIFIED AS "SIMPSON" SHALL BE AS MANUFACTURED BY THE SIMPSON STRONG-TIE CO., INC. INSTALL ALL HARDWARE PER MANUFACTURER REQUIREMENTS.

**GLYNN GROUP**  
CIVIL • GEOTECHNICAL  
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| ITEM | DATE     | REVISION                         |
|------|----------|----------------------------------|
| 1    | 11.30.18 | ISSUED FOR PERMIT & CONSTRUCTION |

CLIENT:  
**DARIEN LAKE  
9993 ALLEGHANY RD.  
DARIEN CENTER, NY**

PROJECT:  
**STAR FLYER**

TITLE:  
**EXISTING QUEUE BUILDING  
MODIFICATIONS**

GGE PROJ #:  
18-2017  
ACAD FILE:  
Q BLDG  
DRN:  
KEB / VNF  
CHK:  
MWG

DWG:  
**R1**



DIVISION 1 GENERAL REQUIREMENTS

SECTION 01010 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.01 MISCELLANEOUS INFORMATION

A. Furnish all labor, materials, equipment and incidentals necessary to construct the foundations, concrete, various support structures and earthworks. Items marked with N.I.C. are to be considered Not in Contract. The work may include, but is not limited to:

1. Establishing and maintaining line and grade control.
2. Excavation of foundations, including undercut, structural fill work and excavation support such as sheeting or bracing.
3. Preparation of foundation bearing subgrades.
4. Furnishing and installing forms and reinforcing steel for foundations.
5. Furnish and install all steel framing.
6. Furnishing and placing concrete.
7. Preparing and submitting reinforcing steel shop drawings.
8. Curing and finishing of concrete.
9. Furnishing and installing all joint sealant and other joint materials.
10. Furnishing backfill material and backfill foundations, to specified degree of compaction.
11. Disposal of excess soil off site.
12. Furnishing and installing all other items as required by the drawings but not indicated as furnished or installed by others.
13. Testing not specifically furnished by Owner.
14. Pumping of excavations and control of ground water, associated with foundation work, including environmental controls.
15. Rough grading final site conditions. Conditions to promote drainage.
16. Furnishing and installing epoxy anchors.
17. Demolition as shown on drawings or as otherwise required.
18. Surveying to include, but not limited to initial layout, locations of footers, and preparation of record drawings (as-builts).
19. Submitting specified or alternate product submittals for approval. All products used for the construction of the project must be submitted for approval.

20. Installation of concrete piles plus testing a minimum 100% thereof.
21. Furnishing and installing of steel H-piles.

NIC

SECTION 01040 - COORDINATION

PART 1 - GENERAL

1.01 MISCELLANEOUS INFORMATION

A. Drawing Revisions: It shall be the Contractor's responsibility to verify that construction proceeds in accordance with the latest revision of design drawings.

B. Coordination Drawings: Prepare field coordination drawings where work by separate entities requires off-site fabrication of products and materials which must accurately interface. Coordination drawings shall indicate how work shown by separate shop drawings will interface, and shall indicate sequence for installation.

C. Openings required in structural members but not shown on the structural drawings shall be submitted to the Engineer for approval before they are constructed.

D. Site design based on ride designer / manufacturer's drawings.  
Construction shall be coordinated with the latest manufacturer's drawings.

E. Communication: An emailing list shall be compiled including all pertinent project owners, agents, contractors, engineers, consultants, etc. before commencement of any on-site work. All communications, including but not limited to RFIs, drawing verification, modifications in the field, requests for product or design substitutions, and submittals must be sent to all parties in the emailing list as required for the matter at hand. All verbal communication must be immediately put in writing to all parties involved. Engineer to respond in writing to all requests and communications. Any verbal approval or solution is valid only if verified in writing.

SECTION 01060 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 MISCELLANEOUS INFORMATION

A. Construction shall conform to the latest edition of the International Building Code requirements with state amendments.

B. Foundation design is based on subsurface conditions and site geotechnical report provided to GGE.

C. Where specifically indicated, the Geotechnical Engineer or the Owners Testing Agency shall verify adequacy of all subgrades, fills and backfills before placement of fills, footings, piers, slabs, or other construction dependent upon them.

D. Coordinate all work with the contract drawings, site development drawings, electrical drawings, architectural drawings, and the latest manufacturer's drawings. Notify Glynn Geotechnical Engineering (referred to as the Engineer) in writing of conflicts prior to construction. Resolution by Engineer will be given in writing.

E. Perform detailed survey to verify location of existing structures and utilities.

F. Contractor is responsible for means, methods, procedures and safety associated with performance of the work.

G. Contractor shall verify all dimensions on the job. Verification of existing dimensions and conditions shall be done prior to preparation of shop drawings.

H. Consult the Architectural, Mechanical, and Electrical drawings and ride manufacturer's drawings for locations and dimensions of chases, inserts, openings, sleeves, washes, drips, reveals, depressions, shear pockets and other project requirements.

I. All work shall conform to the latest editions of the local building code, the AISI code, the ACI building code (ACI 301, ACI 318, ACI 530), the American Welding Society Code and all other applicable standards.

J. Typical details apply to all drawings and shall be used except where otherwise shown or noted.

K. All work shall be performed in accordance with local practice in a workmanlike manner.

L. Provide attachment and connection devices and methods for securing work. Secure work true to line and level, and within recognized industry tolerances. Allow for expansion and thermal movement.

M. Design data: Structural design is based on the latest edition of the International Building Code with state amendments and ASCE-7.

N. Ride foundation loads: As furnished by the ride manufacturer.

O. General: Working from lines and levels established by the contract documents, establish and maintain bench marks and other dependable markers. Establish bench marks and markers to set lines and levels for work at each level of construction and elsewhere as needed to properly locate each element of the project. Calculate and measure required dimensions as shown within recognized tolerances. Drawings shall not be scaled to determine dimensions.

P. Record Drawings: Record and maintain a set of construction drawings on site to document details of construction that differ from the design. The contractor shall also document the location of new and existing utilities.

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.01 SUMMARY OF WORK

- A. Testing and inspection shall conform to the latest edition of the International Building Code
1. Reports are required to be sent to the Engineer of Record.
- B. Special inspection required for:
1. Concrete
  2. Bolts or anchors installed in concrete
  3. Reinforcing steel
  4. Compacted fill
  5. Special cases as required by the building official

C. See design drawings, requirements of these specifications and applicable building code for additional requirements.

D. The inspector shall notify the Engineer of any construction that is not in conformance with the contract documents. This notification shall be made by email or telephone including leaving a message at the office of the Engineer as to the nature of the situation, with follow up confirmation in writing. Contractor shall be immediately advised of any construction which, in the inspector's opinion, is not in conformance with the contract documents.

E. Manufacturer's Instructions: Where installations include manufactured products, comply with the manufacturers applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the contract documents.

F. Conflicting Requirements: Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the contract documents specifically indicate otherwise. Refer to Engineer for a written decision regarding requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent, before proceeding.

G. Inspection and Tests: Required inspection and testing services are intended to assist in the determination of probable compliance of the work with requirements specified or indicated. These required services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the contract documents. Inspections, tests and related actions specified in this section are not intended to limit the Contractor's own quality control procedures which facilitate overall compliance with requirements of the contract documents.

H. Retest Responsibility: Where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance of related work with the requirements of the contract documents, retests are the responsibility of the Contractor, regardless of whether or not the original test was the Contractor's responsibility. Retesting the work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original work.

I. Responsibility for Associated Services: The Contractor is required to cooperate with the independent agencies performing required inspections, tests and similar services. Provide such auxiliary services as are reasonably requested. Notify the testing agency sufficiently in advance of operations to permit assignment of personnel. These auxiliary services include but are not necessarily limited to the following:

1. Providing access to the work.
2. Taking samples or assistance with taking samples.
3. Delivery of samples to test laboratories.
4. Security and protection of samples and test equipment at the project site.

J. Coordination: The Contractor and each independent agency engaged to perform inspections, tests and similar services for the project shall coordinate the sequence of their activities so as to accommodate required services with a minimum of delay in the progress of the work. In addition, Contractor and each independent testing agency shall coordinate their work so as to avoid the necessity of removing or replacing work to accommodate inspections and tests. The Contractor is responsible for scheduling times for inspections, tests, taking of samples and similar activities.

DIVISION 2 SITEWORK

SECTION 02100 - SITEWORK CLEARING

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. Clear and grub the site as shown on the drawings and as specified in this Section.

1.02 PROJECT CONDITIONS

A. Implement temporary erosion and sediment control measures prior to clearing of vegetation as required by state and local requirements.

B. Site clearing shall be performed in a manner that does not damage existing pavement, structures or other facilities not indicated to be removed.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.01 CLEARING AND GRUBBING

A. Cut and remove trees, brush, grass and other vegetation down to existing ground surface within the limits of construction as necessary to achieve design requirements. Refer to the existing conditions plan and landscaping plan for location of trees to protected and remain after construction is complete.

B. Remove tree stumps and roots to a minimum depth of 12 inches below existing grade or subgrade of new graded surface, whichever is lower. Tree roots remaining in the soil shall be treated to prevent further growth.

3.02 DISPOSAL

A. Cleared vegetation that is removed from the site shall be transported and disposed off-site. Conform to all applicable local, state, and federal regulations for transport and disposal of vegetation.

B. Do not store or permit debris to accumulate on the construction site.

C. Do not burn debris at the construction site.

3.03 UTILITIES

A. Coordinate with utility companies and agencies as required.

B. Where utility cutting, capping, or plugging is required, perform such work in accordance with requirements of the utility company or governmental agency having utility jurisdiction.

SECTION 02200 - EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. Extent of earthwork is indicated on drawings and includes the following:

1. Preparation of subgrade for foundation footings, including excavation.
2. Backfill of foundation footings and pedestals.
3. Fine grading of entire project area to receive finished surface specified by Owner.
4. Other work as shown, specified or necessary and/or prudent to complete the work.
5. Dewatering as required.

B. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1.02 SUBMITTALS

A. Submit the following to Engineer:

1. Grain Size reports on borrow material.
2. One optimum moisture-maximum density curve for each type of soil and/or backfill (ASTM D-1557-78) and for each 5000 cubic yards of backfill.

PART 2 - PRODUCTS

2.01 PRODUCT INFORMATION

A. Definitions:

1. Satisfactory soil materials: those soils complying with ASTM D2487 soil classification groups GW, GC, GP, GM, SM, SC, SW, SP and CL.

2. Unsatisfactory soil materials: those soils complying with ASTM D2487 soil classification groups ML, MH, CH, CL, OH and PT.
3. Select Structural Fill: Naturally or artificially graded mixture of natural or crushed gravel or crushed stone meeting GW soil classification; 100% passing 2 inch sieve and with less than 10% passing no. 200 sieve. (Commonly referred to as Dense Grade or 2" crusher run.)
4. Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable or other deleterious matter.
5. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone or crushed slag meeting GW soil classification and with less than 10% passing no. 200 sieve.
6. Drainage Stone: (No. 1 Stone) Washed, crushed stone, or crushed or uncrushed gravel, meeting ASTM C33 Size 57 requirements or an alternate acceptable to Engineer.

PART 3 - EXECUTION

3.01 EXCAVATION

A. Excavation is Unclassified, and includes excavation and undercut to subgrade elevations indicated, regardless of character of materials and obstructions encountered. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be at the Contractor's expense. Under footings and foundation bases, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top of excavation. Structural concrete fill must be used to bring footing bearing grade elevations to proper position, when acceptable to Engineer. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Engineer.

B. Locate all existing below grade utilities. Provide utilities with positive protection against damage due to settlement and construction operations.

C. Additional Excavation: When excavation has reached required subgrade elevations, notify the owner's Geotechnical Engineer who will make an inspection of conditions. If unsuitable bearing materials are encountered, Engineer will specify required action.

D. Stability of Excavations: Slope sides of excavations to comply with federal and local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions (neighboring structures, trees) or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

E. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.

F. Establish requirements for excavation shoring and bracing to comply with OSHA, local codes and authorities having jurisdiction. When mandated by OSHA and/or local authority having jurisdiction, design of shoring and bracing shall be a Registered Professional Engineer. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

G. Dewatering: Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bearing grades, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines and other dewatering system components necessary to convey water away from excavations. Unless noted otherwise, maintain dewatering system until constructed elements have reached full design strength to avoid overloading caused by the build up of hydrostatic head.

H. Excavation for Structures: Conform to elevations shown within tolerance of plus 0.00' or minus 0.10'; plan dimension tolerance of plus 0.10' or minus 0.00', and extending a sufficient distance from footings and foundations to permit placing and removing formwork, installation of services, other construction and for inspection. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate to final grade by hand or with smooth bucket backhoe just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive other work. Compact as specified in the following paragraphs. Do not backfill foundations until tests and inspections have been made and backfilling has been authorized by the Engineer.

3.02 COMPACTION

A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification indicated below.

B. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D 1557; and not less than the following percentages of relative density, determined in accordance with ASTM D 2049, for soils which will not exhibit a well-defined moisture-density relationship (cohesionless soils).

C. Structures & Footings: Compact load bearing soils, including but not limited to top 12" of subgrade and each layer of backfill or fill material, to 95% maximum density for cohesive material or 70% relative density for cohesionless material.

D. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material. Apply water in manner to prevent free water from appearing on surface during or subsequent to compaction operations. Blend water into full depth of layer being conditioned. Remove and replace, or scarify and air dry soil material that is too wet to permit compaction to specified density. Soil that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value. The moisture content of compacted soil and/or other specified fill, shall be within 2% (+ or -) of the optimum value as determined by a modified Proctor.

3.03 BACKFILL AND STRUCTURAL FILL

A. Backfill excavations as promptly as work permits but not until completion of the following:

1. Acceptance of construction below finished grade including, where applicable, damp-proofing, waterproofing and perimeter insulation.
2. Inspection, testing, approval and recording locations of underground utilities.
3. Removal of concrete formwork.
4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials.
5. Cut off temporary sheeting driven below bottom of structures and remove in manner to prevent settlement of structure or utilities, or leave in place if required.
6. Removal of trash and debris.
7. Repair of defective concrete areas.

B. Ground Surface Preparation: Remove topsoil, vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

C. When existing surface to receive concrete or structural fill has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

D. Placement and Compaction: Place backfill and structural fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to the required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice. Place backfill and fill material evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately the same elevation in each lift.

E. Compaction against foundations shall be uniform in density with no decrease in degree of compaction immediately against concrete. Compaction shall achieve complete contact and develop full passive pressure against the structure. Contractor shall select compaction equipment size and methods to suit conditions, backfill materials and mandate to provide uniformly dense backfill against foundations.

F. Place Soil Fill (Native Soils) in uniform lifts not exceeding 10" inches loose lift thickness, and at not greater than 3 points above or below optimum moisture content. Fill shall be tracked into place before subsequent lifts are placed.

3.04 GRADING

A. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between points and existing grades. Finished grading shall provide positive drainage away from foundations and other completed works unless noted otherwise.

B. Grading Outside Building Lines: Grade areas adjacent to building lines to drain away from structures and to prevent ponding. Finish surfaces to eliminate irregular surface changes, and as follows:

1. Paved Area: Finish areas to receive stone surfacing, blacktop or asphalt to within 0.02' above or below the required elevation.
2. Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than 0.10' above or below required subgrade elevation.
3. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

3.05 FIELD QUALITY CONTROL

A. Quality Control Testing During Construction: Coordinate testing and certification of subgrade by owner's Geotechnical Engineer. Allow testing service to test subgrades and fill layers before further construction work is performed. Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2922 (Nuclear Density Method), as applicable.

B. If in opinion of Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional expense.

C. Testing Frequency: Perform in-place density testing in accordance with the following minimum schedule. Additional tests shall be performed to document adequate compaction. Test reports shall include a scaled plan of test location and lift level. Test reports shall be submitted to the Engineer within 24 hours of field work.

1. Structural fill under foundations: One test per 200 square feet per lift. Not less than two (2) tests per footing, per lift.
2. Backfill against footings and pedestals: One test per 25 linear feet of trench per lift. No less than 1 test per footing or pedestal per lift.

3.06 MAINTENANCE

A. Protection of Graded Areas: Protect active fill and newly graded areas from traffic and erosion. Keep areas free of trash and debris. Repair and reestablish grades in settled, eroded and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape and compact to the required density prior to further construction.

C. Settling: Where settling is measurable or observable at excavated areas during general project warranty period (12 months from contract completion, unless specified otherwise, herein or by owner) remove surface treatment (pavement, lawn, sidewalk or other finish) and recompact or replace backfill material.

SECTION 02220 - EARTHWORK: FOUNDATIONS AND STRUCTURES

PART 1 - GENERAL

1.01 EXCAVATION FOR STRUCTURES

A. Footings shall bear on undisturbed native soil. Any over excavations shall be backfilled to the design bearing grade with lean concrete or compact native soil fill. Sloped footing excavations shall not exceed 1 (vertical) to 10 (horizontal).

1.02 SUBMITTALS

A. Backfill for load bearing areas (ie, paving, structures)

Submit the following to Engineer / Design Team:

1. Grain Size reports on all material used as backfill. One test shall be performed at every 5000 cubic yards.
2. One optimum moisture-maximum density curve for each type of material used as backfill (ASTM D-1557-78), at a rate of one test per 5000 cubic yards.
3. Field Density Test reports, not later than 2 days after tests are conducted.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.01 FIELD QUALITY CONTROL

A. Provide results of the following tests to the approval of the Engineer/ Design Team:

1. At paved areas, at least one field density test for every 2000 square feet of paved areas, but not less than three tests per lift.
2. In each compacted fill layer, one field density test for every 2000 square feet of overlying paved area, but not less than three tests per lift.

SECTION 02316 - TRENCH EXCAVATION, PIPE INSTALLATION AND BACKFILL

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. All excavating, pipe installation, backfill, and testing as shown, specified and required for the purpose of constructing the complete works - buried piping, in every respect.

B. All temporary means necessary to prevent discharge of sediment to water courses by erosion or dewatering systems.

C. Protection of all existing and new buried piping and other site facilities.

D. Soil Testing including retaining services of independent laboratory.

1.02 QUALITY ASSURANCE

A. All works shall be performed in compliance with local, state, and federal safety standards.

- B. Reference Standards: Comply with the following
1. ASTM D 422, Particle-Size Analysis of Soils.
  2. ASTM D 1556, Density of Soil in Place by the Sand-Cone Method.
  3. ASTM D 1557, Moisture-Density Relations of Soils, using 10 lb. (4.5 kg) Rammer and 18-inch (457 mm) Drop.
  4. ASTM D 2922 - Density of Soil in place by the Nuclear Gauge Method

1.03 SUBMITTALS

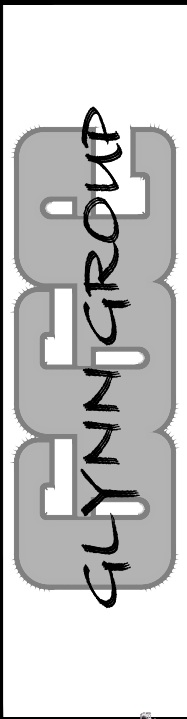
- A. Submittals shall be made for the following:
1. Proposed third party, independent Soil Testing Laboratory
  2. Underpinning and shoring design if required
  3. Certified test reports for soil gradation, Moisture Density Relationships, and field density test reports

1.04 PROJECT CONDITIONS

A. Existing Utilities: Locate existing underground utilities in the area of the Work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.

B. Do not interrupt existing utilities serving facilities occupied and used by others.

C. Protect structures, other utilities, sidewalks, pavement, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards caused by earthwork operations.



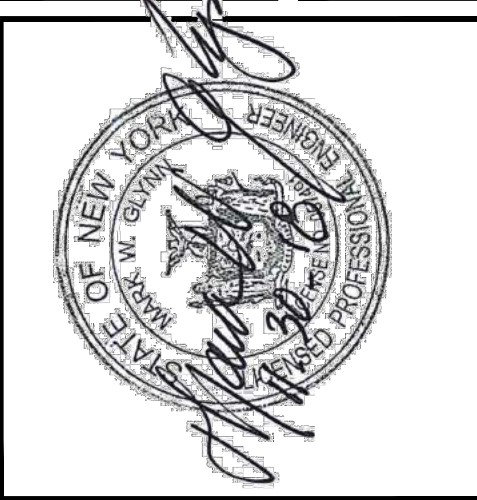
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| REVISION | DATE     | ITEM                             | DESCRIPTION |
|----------|----------|----------------------------------|-------------|
| 1        | 11.30.18 | ISSUED FOR PERMIT & CONSTRUCTION |             |

CLIENT:

DARIEN LAKE  
9993 ALLEGHANY RD.  
DARIEN CENTER, NY

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209.2, FOR ANY PERSON TO ALTER THIS DRAWING UNDER THE DIRECT SUPERVISION OF AN ENGINEER. ANY SUCH ALTERATIONS SHALL BE DULY NOTED WITH SIGNATURE, DATE AND DESCRIPTION.

PROJECT:

STAR FLYER

TITLE:

SPECIFICATION No. 1

GGE PROJ #:

18-2017

ACAD FILE:

SP1 - SP3

CHK:

MMWG

DWG:

SP1



PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe bedding and backfill shall consist of native soils from the site U.N.O.

B. Borrow material obtained from off site may only be used with approval of the Engineer / Design Team.

C. Pipe Materials shall be as specified in other sections or as called out on the drawings.

D. All finished underground utilities, including but not limited to storm piping, sanitary sewers, manholes, catch basins, water supply, etc. shall be water tight and virtually leak free.

PART 3 - EXECUTION

3.01 INSPECTION

A. The Contractor shall provide Engineer / Design Team with sufficient time and means to examine the areas and conditions under which excavating, filling, and grading are to be performed. The Contractor shall notify the Engineer / Design Team of conditions detrimental to the proper and timely completion of the Work. The Contractor shall not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer / Design Team.

3.02 EXCAVATION

A. Excavations for pipelines, utilities and structures shall be open excavations, shored and braced where necessary to prevent possible injury to workmen and to new and existing structures or pipelines.

B. Excavations for pipelines shall be made sufficiently wide to permit proper laying and jointing of the pipe. The trench width at the top of the pipe should not be greater than the outside diameter of the pipe barrel plus 2 feet for unsheeted trenches (or plus 3 feet for sheeted trenches), but shall be sufficient to allow thorough compacting of earth backfill adjacent to the bottom half of the pipe. Enlargements of the trench shall be made to give ample space for required operations at pipe joints. The use of excavating equipment which requires the trench to be excavated to an excessive width will not be allowed. All trenches for buried piping shall be excavated at least 6 inches below the bottom of the pipe and backfilled with pipe bedding material, specified as native soils from the site U.N.O.

C. The trench depth shall be as shown on the Drawings.

D. If the material at the design grade is unsuitable as determined by the Engineer / Design Team, the Contractor shall excavate additional material to the depth necessary and shall backfill to the proposed grade with select backfill material as directed.

E. At such locations where two pipes may be installed in parallel in a common trench, and where approved by the Engineer / Design Team, the Contractor shall install the pipes a minimum of 2'-0" apart as measured horizontally from the outside diameter of pipe.

3.03 DRAINAGE AND DEWATERING

A. General:

1. Prevent surface and subsurface water from flowing into excavations and from flooding adjacent areas. Provide temporary berms, swales, silt fencing or other barriers and control measures as required.
2. Remove water from excavations as fast as it collects.
3. Provide approved sediment traps when water is conveyed into water courses.
4. Standing water shall not be permitted in the excavation at any time. If the material at the design grade becomes unsuitable or contaminated, excavate additional material to the depth necessary and backfill to the proposed grade with select fill or crushed stone.
5. Repair all soil erosion and sloughing of soil that occurs due to flowing surface and subsurface waters.

3.04 BEDDING, BACKFILL, AND COMPACTION

A. All backfill required for trenches and structures and required to provide the finished grades shown and as described herein shall be furnished, placed and compacted by the Contractor. Unless otherwise specified or required, fill shall be obtained from the excavated materials. All materials used for bedding and backfilling shall be soil of acceptable quality, free from boulders, frozen lumps, wood, stumps, sludge, or other organic matter or other deleterious materials. Material greater than 6-inches in any direction is unacceptable. Excavated materials meeting these requirements may be used as backfill.

B. Backfill excavations as promptly as Work permits, but not until completion of the following:

1. Acceptance by the Engineer / Design Team of all Work within the excavation.
2. Inspection, testing approval, and recording of locations of underground utilities, connections, branches, structures and other facilities.

C. Excavation shall be kept dry during backfilling operations. Backfill around piping and structures shall be brought up evenly on all sides.

D. The minimum density to be obtained during bedding and backfilling operations shall be 95 percent and is a percentage of the maximum density obtained in the laboratory as defined in ASTM D 1557 - 78. The frequency of field testing required to determine the density of the bedding shall be at least one test per 50 linear feet of trench per lift.

E. The water content of fill material shall be controlled during placement within the range necessary to obtain the density specified. In general, the moisture content of the fill shall be within 5 percent dry and 2 percent wet of the optimum moisture content for the specified density as determined by laboratory tests. No fill material shall be placed and no compaction of fill will be permitted when there is any standing water in the trenches or when the fill material or the ground the fill is to be placed on is frozen.

F. If the specified densities are not obtained because of the Contractor's improper control of placement or compaction procedures, or because of inadequate or improperly functioning equipment, the Contractor shall perform whatever work is required to provide the specified densities. This work shall include complete removal of unacceptable fill areas and replacement and recompaction until acceptable fill is provided.

G. All backfill in pipe trenches which is below pipes, foundations, or paved areas shall be placed in horizontal layers not exceeding 6 inches in depth and thoroughly compacted before the next layer is placed. In other pipe trenches, layers shall be 6 inches up to 12 inches above the top of pipe and 12 inches thereafter.

H. Backfill by hand and use hand driven compactors and tampers until pipe is covered by at least one foot of fill.

3.05 SPECIAL CONSTRUCTION REQUIREMENTS

A. Catch Basins, Manholes, and Other Buried Structures shall conform to the following special bedding and backfill requirements.

1. Bedding shall be in native soils and shall be compacted to 95% of the Modified Proctor Density (MPD).
2. Backfill shall be placed in lifts of not more than 6" loose lifts and compacted to 95% MPD.
3. On site borrow soils shall be used for all bedding and backfill. Offsite borrow shall only be used with prior written approval of the Engineer / Design Team.
4. Density testing shall be performed at a rate of one test per lift around each Catch Basin, Manhole, or Other Buried Structure.

B. Catch Basins, Manholes, and Other Buried Structures shall all be constructed in a fashion to be virtually water tight.

C. Shop drawings for Catch Basins, Manholes, and Other Buried Structures shall detail joints, seals, and other mechanisms for creating a water tight product.

D. All buried underground piping systems and appurtenances shall be hydrostatically tested to demonstrate virtually leak free construction.

1. Pressure piping shall be tested at 150% of design pressure.
2. Gravity systems shall be tested with maximum hydrostatic head generated by gravity.

E. Conduct pressure tests in conformance with generally accepted industry standards and limits.

F. Conduct Disinfection testing of waterlines in accordance with AWWA C 651.

DIVISION 3 CONCRETE

SECTION 03010 - CONCRETE MATERIALS

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. Extent of concrete work is shown on drawings. Note: all concrete shall be reinforced unless specifically noted "not reinforced".

B. Installation of structural inserts furnished by Contractor and as supplied by others.

C. Concrete for foundation footings, steel column pedestals, and foundation walls.

D. Anchor bolts, strap anchors and/or anchor plates furnished by Owner and installed by Contractor.

1.02 SUBMITTALS

A. Product Data: Submit data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, curing compounds, dry-shake finish materials, and other products as requested by Engineer.

B. Reinforcement Shop Drawings: Submit one copy of original shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Details and Detailing of Concrete Reinforcement" showing bar schedules, stirrup spacing, diagrams of bent bars and arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete reinforcement. Hooks are to be detailed as standard hooks, except where shown otherwise. Shop drawings shall demonstrate resolution of placement conflicts with anchor bolts group and embed plate.

All reinforcing bar spacing called out on the design drawings to be considered a maximum distance between centerlines of the bars. Exercise caution to space the reinforcing bar appropriately as an "additional" bar may be needed to meet or stay below the maximum spacing required; simply dividing distance by the required spacing does not necessarily provide the number of bars required. All edge distances to be maintained as required.

C. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design test.

1.03 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. ACI 301 "Specifications for Structural Concrete for Buildings".
2. ACI 318 "Building Code Requirements for Reinforced Concrete".
3. ACI 315 "Details and Detailing of Concrete Reinforcement"
4. Concrete Reinforcing Steel Institute, (CRSI) "Manual of Standard Practice".

B. Materials and installed work may require testing and retesting at anytime during progress of work. Retesting of rejected materials for installed work shall be done at Contractor's expense.

C. Concrete Testing Service: Contractor shall engage a testing laboratory acceptable to Engineer to perform material evaluation tests and to design concrete mixes. The Owner will employ a testing laboratory to perform tests and to submit test reports. Sampling and testing for quality control during placement of concrete may include the following, as directed by Engineer:

1. Sampling Fresh Concrete: ASTM C 172, except modified for slump.
2. Slump: ASTM C 143, one test at point of discharge for each set of compressive test cylinders for each type of concrete; additional tests when concrete consistency appears to have changed.
3. Air Content: ASTM C 231, one test at point of placement for each set of compressive test cylinders for each type of concrete, additional tests when concrete consistency seems to have changed.
4. Concrete Temperature: Test hourly when air temperature is 40 deg F (4 deg C) and below, and when 80 deg F (27 deg C) and above; and each time a set of compression test specimens is made.
5. Compressive Strength Tests: ASTM C 39, one set for each day's pour exceeding 10 cu. yds. plus additional sets for each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day, one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used. When total quantity of a given class of concrete is less than 50 cu. yds., strength test may be waived by Engineer if, in his judgment, adequate evidence of satisfactory strength is provided. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
6. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
7. Test results will be reported in writing to Engineer and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength and type of break for both 7-day tests and 28-day tests.
8. Nondestructive Testing: Windsor Probe, impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
9. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by the Engineer. The testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests when unacceptable concrete is verified.

D. Protect adjacent finish materials against splatter during concrete placement.

PART 2 - PRODUCTS

2.01 MISCELLANEOUS PRODUCTS INFORMATION

A. Portland Cement: ASTM C 150, Type I. Use one brand of cement throughout project, unless otherwise acceptable to Engineer.

B. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete. For exterior exposed surfaces, do not use aggregates containing deleterious substances that may encourage spalling. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Engineer.

C. Water: Drinkable.

D. Air-Entraining Admixture: ASTM C 260, all admixtures are to be by the same manufacturer and shall have demonstrated compatibility in actual project use or mix design.

E. Water Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1 percent chloride ions.

F. High Range, Water Reducing Admixture (Super Plasticizer): ASTM C-494, Type F or Type G and containing not more than 0.1 percent chloride ions.

G. Water Reducing, Non-Chloride Accelerator Admixture: ASTM C-494, Type E and containing not more than 0.1 percent chloride ions.

H. Water Reducing, Retarding Admixture: ASTM C-494, Type D and containing not more than 0.1 percent chloride ions.

I. Prohibited Admixtures: Calcium chloride thiocyanates or admixtures containing more than 0.1 percent chloride ions are not permitted.

PART 3 - EXECUTION

3.01 ANCHOR BOLTS

A. Anchor bolts shall conform to diameter and length as shown on drawings.

1. Bolt length shall provide for required embedment, grout layer, base plate thickness, washer, multiple nuts, min. two (2) full inches of exposed threads, and any spacers required by the manufacturer. At the top of the anchor bolt, contractor to ensure sufficient bolt thread length is provided for all required components, including exposed 2" length and sufficient length for leveling nuts, associated washers, manufacturer's spacers and at least 2" for adjustments. At the bottom of the anchor bolt, contractor to ensure sufficient bolt thread length is provided for all components including nuts, embed plate, and an additional two (2) full inches of thread above the top nut.

2. Contractor shall layout anchor bolts and anchor bolt groups as shown on drawings. Secure to form work or existing concrete and verify location/layout prior to proceeding with concrete placement. Coordinate anchor bolt layout with manufacturer drawings.

3. After placement of concrete and prior to finishing, perform second verification of bolt location/layout. Contractor is responsible for removing and reconstruction of misplaced and / or misaligned anchor bolts.

3.02 MISCELLANEOUS INFORMATION

A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301 Section 3.9. If field experience method is used, Contractor shall submit complete evidence of satisfactory performance. If trial batch method used, use an independent testing facility acceptable to the Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing. Submit written reports to Engineer of each proposed mix for each class of concrete at least 7 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Engineer. Design mixes are to provide normal weight concrete with the following properties, as indicated on drawings and schedules:

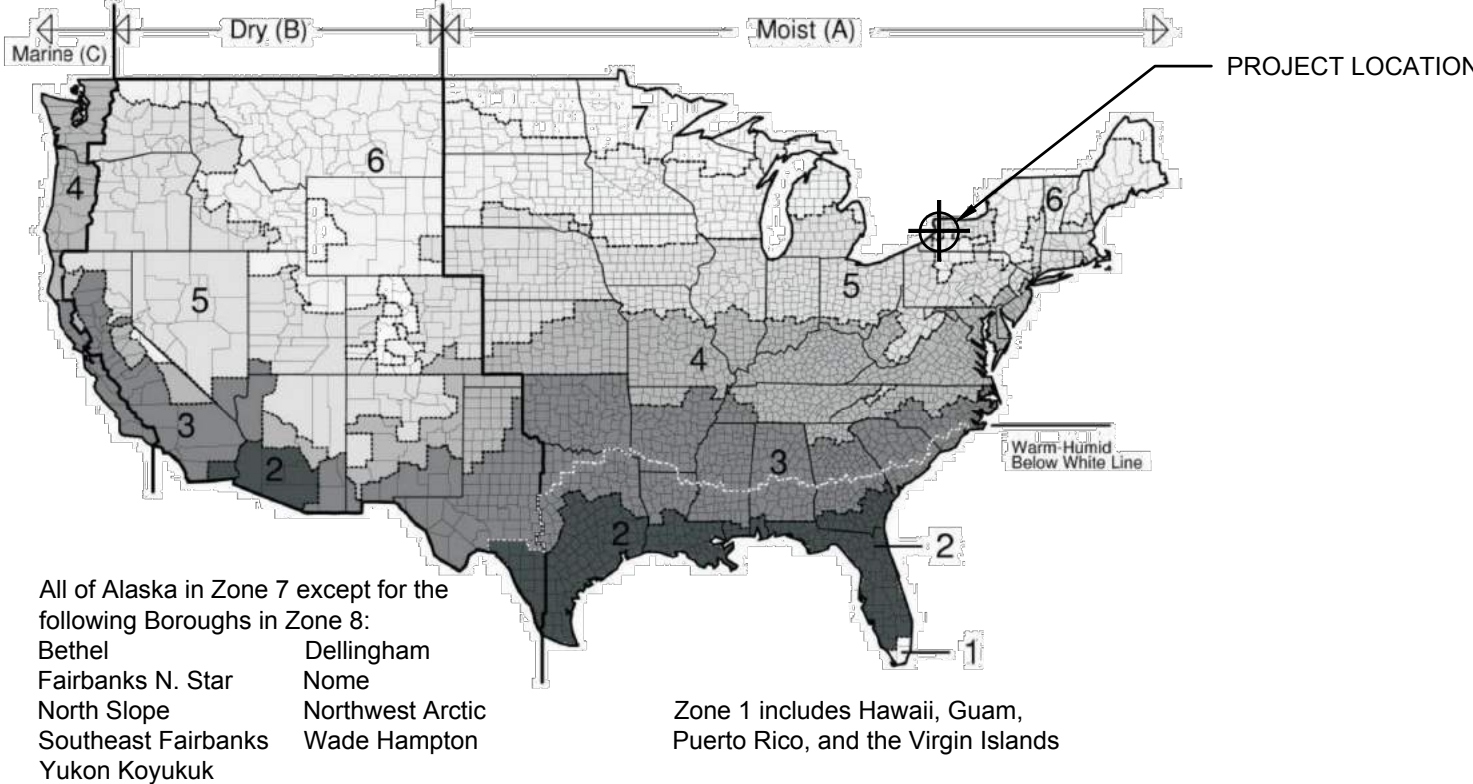
1. Footings (Grade Beams and Piers), Columns/Pedestals, Foundation Walls: 28-day compressive strength as called out on drawings; water/cement (w/c) ratio, 0.45 maximum. Refer to section "C" below for air entrainment requirements.

2. Structural Fill Concrete: Mixture of cement, sand, aggregate, and water to achieve minimum compressive strength of 3,000 psi at 28 days; non-air entrained.

B. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in work.

C. Admixtures: At Contractors option, use water-reducing admixture or high range water-reducing admixture (super plasticizer) in concrete as required for placement and workability. Use admixtures for water-reducing and set control in strict compliance with manufacturer's directions. Use high-range water-reducing admixture in pumped concrete, concrete for industrial slabs, architectural concrete, concrete required to be watertight, and concrete with water/cement ratios below 0.50. Use air-entrained admixture in exterior exposed concrete as indicated by the climate chart below. Add air-entrained admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus or minus one percent within the following limits:

1. Concrete structures and slabs exposed to freezing and thawing, deicer chemicals, or subjected to hydraulic pressure should be provided with air entrainment.



\* climate zone map courtesy of the ICC 2015 International Energy Conservation Code \*

| % OF AIR ENTRAINMENT IN CONCRETE (+/- 1%) |                    |                   |                   |
|---|--------------------|-------------------|-------------------|
| CLIMATE ZONE                              | 1½" MAX. AGGREGATE | 1" MAX. AGGREGATE | ¾" MAX. AGGREGATE |
| 1 (A-C)                                   | 0%                 | 0%                | 0%                |
| 2 (A-C)                                   | 0%                 | 0%                | 0%                |
| 3A (3B & 3C = 0%)                         | 4.5%               | 4.5%              | 5.0%              |
| 4A  | 5.5%               | 6.0%              | 6.0%              |
| 4B & 4C                                   | 4.5%               | 4.5%              | 5.0%              |
| 5 (A-C)                                   | 5.5%               | 6.0%              | 6.0%              |
| 6 (A-C)                                   | 5.5%               | 6.0%              | 6.0%              |
| 7 (A-C)                                   | 5.5%               | 6.0%              | 6.0%              |
| 8 (A-C)                                   | 5.5%               | 6.0%              | 6.0%              |

For climate zones listed without air entrainment, an optional 2%-4% air entrainment can be provided for workability

D. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

1. Reinforced foundation systems: Not less than 2" and not more than 4".
2. Concrete containing HRWR admixture (super plasticizer): Not more than 8" after addition of HRWR to a previously verified 2"-3" slump.
3. Other Concrete: Not less than 1" nor more than 4".

E. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C-94 may be required.

SECTION 03100 - CONCRETE FORMWORK

PART 1 - GENERAL

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.01 MISCELLANEOUS INFORMATION

A. Forms: Design, erect, support, brace and maintain formwork to support vertical and lateral, static, and dynamic loads that might be applied until such loads can be supported by the concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position. Install all joints as shown on drawings. Any additions, deletions or relocation of joints must be approved by the Engineer in writing. Maintain formwork construction tolerances complying with ACI 347. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

B. Construct forms to sizes shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures.

C. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations. Chamfer exposed corners and edges, nominal 3/4 inches, unless noted otherwise, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

F. Cleaning and Tightening: Thoroughly clean, repair and patch forms and adjacent surfaces as required to receive concrete. Remove concrete matrix residue, chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement as required to eliminate mortar leaks and maintain proper alignment.

G. Coat contact surfaces of forms with a form coating compound before installing forms. Thin form coating compounds only with thinning agent of type, and amount, and under conditions of form coating compound manufacturer's directions. Do not allow excess form coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions. Coat steel forms with a non-staining, rust preventative form oil and otherwise protect against rusting. Rust stained steel formwork is not acceptable.

3.02 REMOVAL

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg. F (10 deg C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum 28-day compressive strength. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of structural concrete elements.

C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

D. Fill in holes and openings left in concrete structures for passage of work by other trades after work of other trades is in place, unless otherwise shown or directed. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

3.03 REUSE

A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Engineer.

SECTION 03150 - FORMS

PART 1 - GENERAL

PART 2 - PRODUCTS

2.01 MISCELLANEOUS INFORMATION

A. Forms for Exposed Finish Concrete: Use plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Use overlaid plywood complying with U.S. Product Standard PS-1 A-C or B-B High Density Overlaid Concrete Form, Class I. Use plywood complying with U.S. Product Standard PS-1 B-B (Concrete Form) Plywood, Class I, Exterior Grade or Better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

B. Forms for Unexposed Finish Concrete: Use plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

C. Form Coatings: Provide commercial formulation form coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and that will not impair subsequent treatments of concrete surfaces.

D. Form Ties: Use factory fabricated, adjustable length, removable or snap off metal form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units which will leave no metal closer than 1-1/2 inch to surface. Provide ties which, when removed will leave holes no larger than 1 inch diameter in concrete surface.

SECTION 03200 - CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required. Place reinforcement to obtain at least minimum coverage for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Adjust position of reinforcing, within allowable tolerances, to accommodate anchor bolts and embed plates.

1.02 QUALITY ASSURANCE

A. Comply with ACI specifications and Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

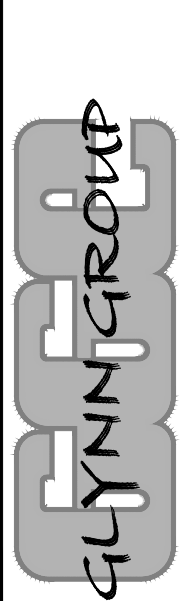
B. Install specified "top" bars and "bottom" bars as detailed on design drawings.

PART 2 - PRODUCTS

2.01 MISCELLANEOUS PRODUCT INFORMATION

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed bars.

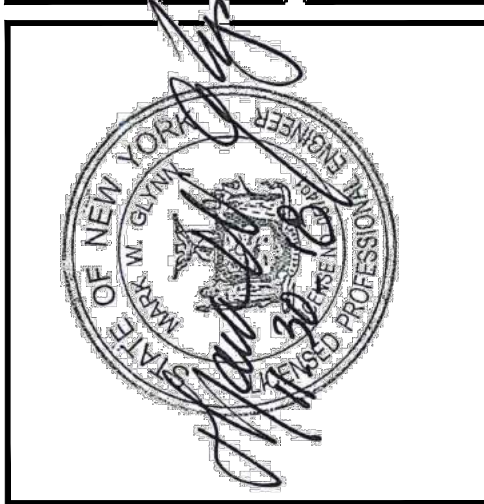
B. Supports for Reinforcement: Use bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars in place. Use wire bar type supports complying with CRSI specifications. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class I) or stainless steel protected (CRSI, Class 2).



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| 11/30/18 | ISSUED FOR PERMIT & CONSTRUCTION |
| 1        | ITEM                             |

CLIENT:

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9993 ALLEGHANY RD.  
DARIEN CENTER, NY

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PROJECT:

STAR FLYER

TITLE:

SPECIFICATION No. 2

GGE PROJ #:  
18-2017  
ACAD FILER:  
DRN SP1 - SP3  
CHK:  
MWG

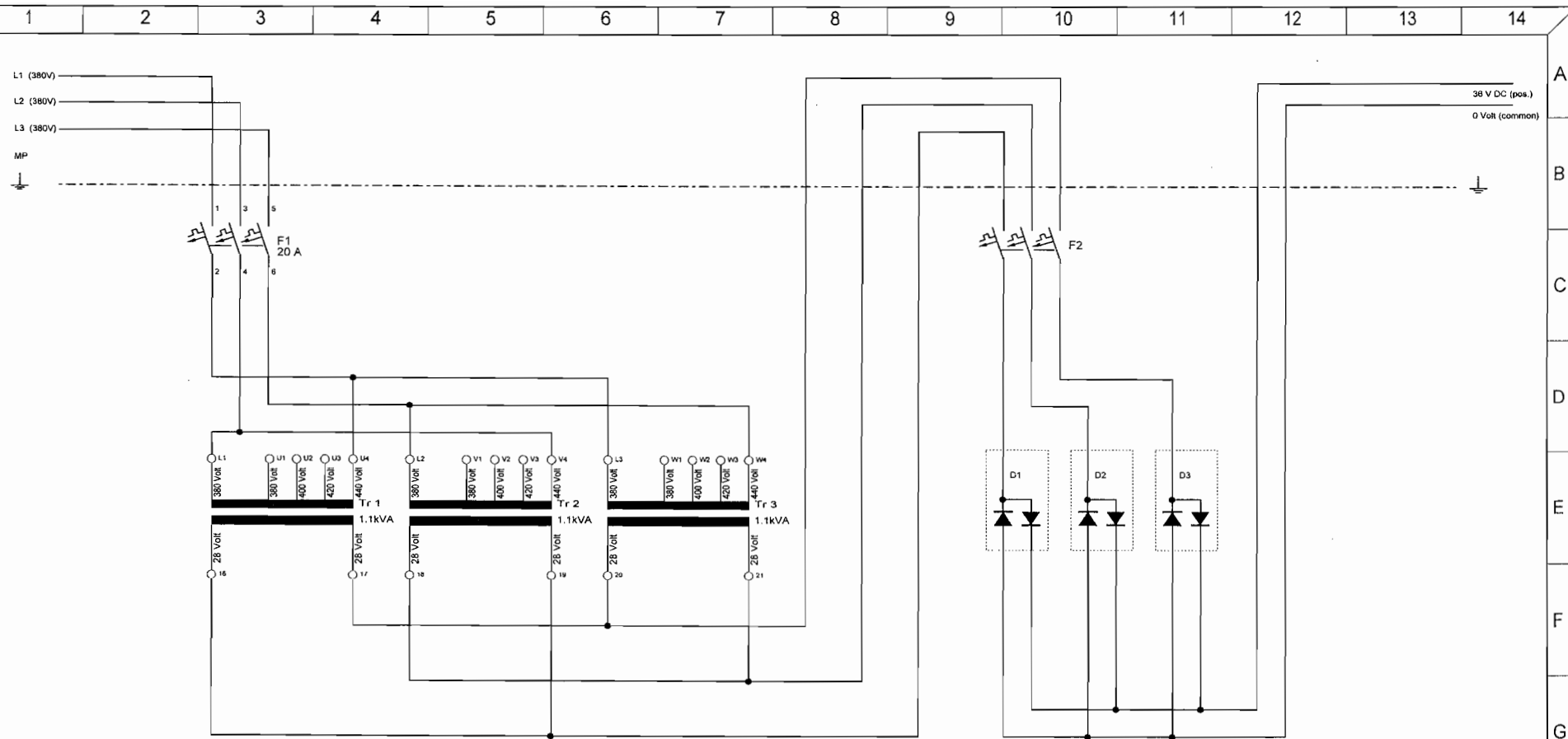
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**SP2**







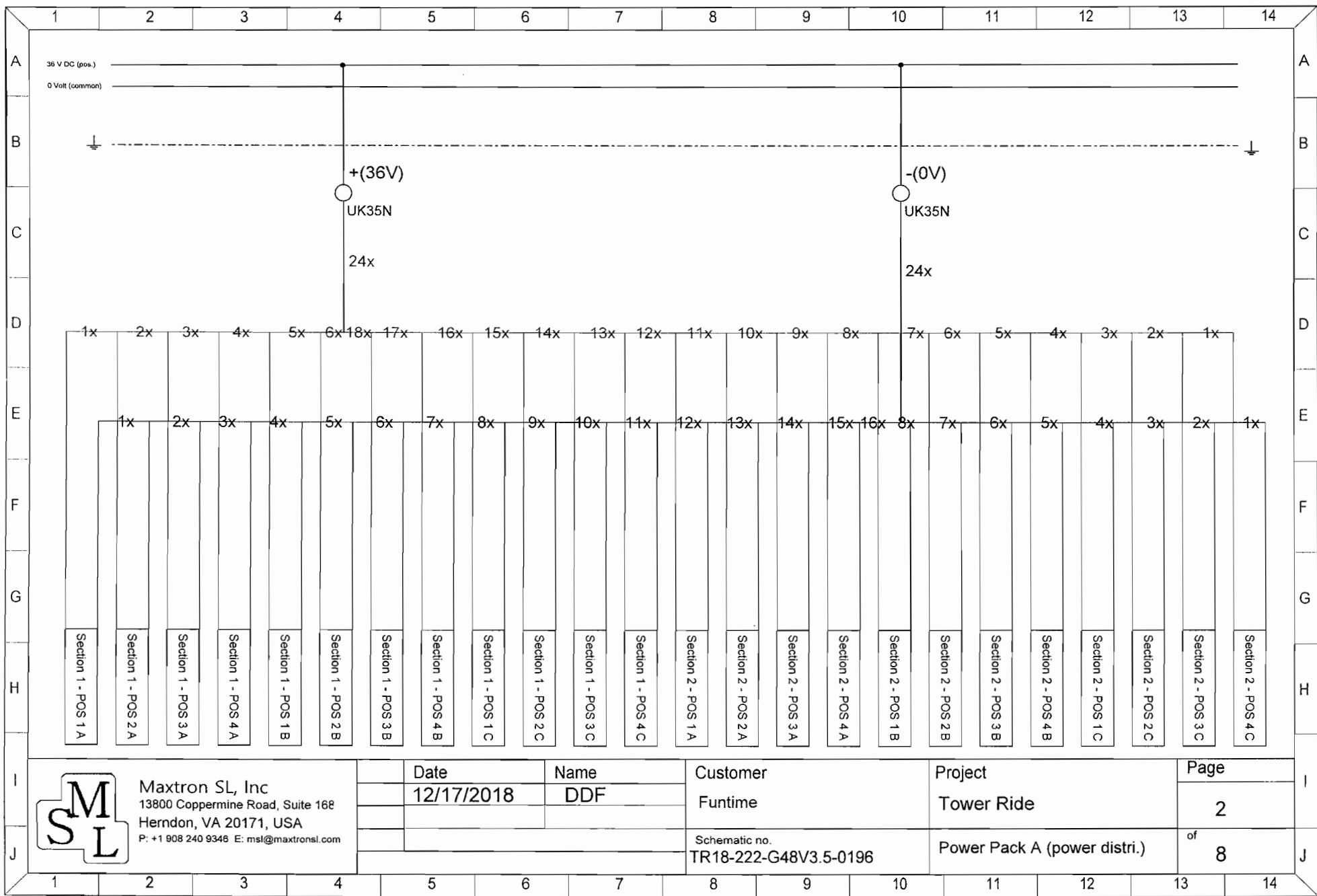


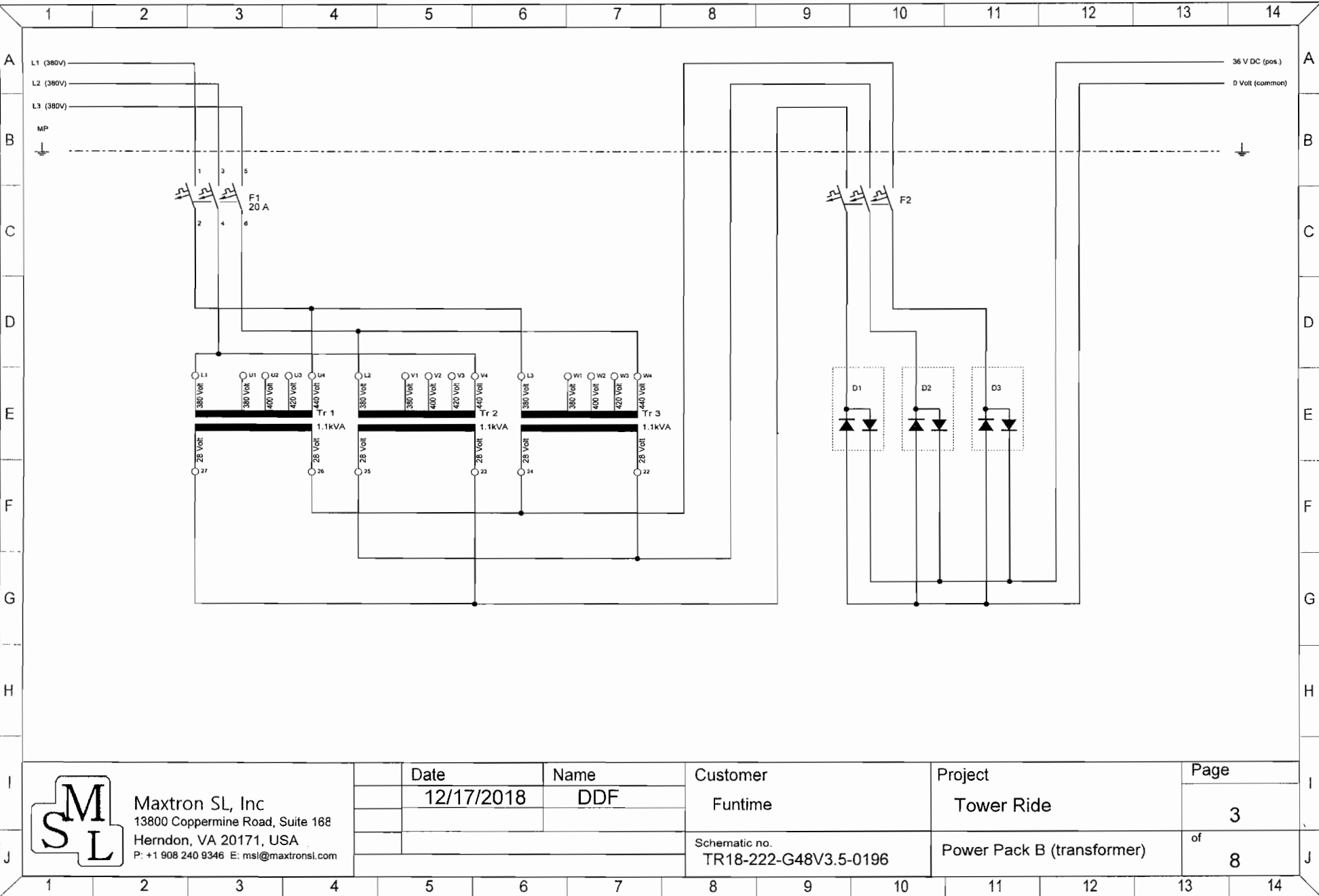


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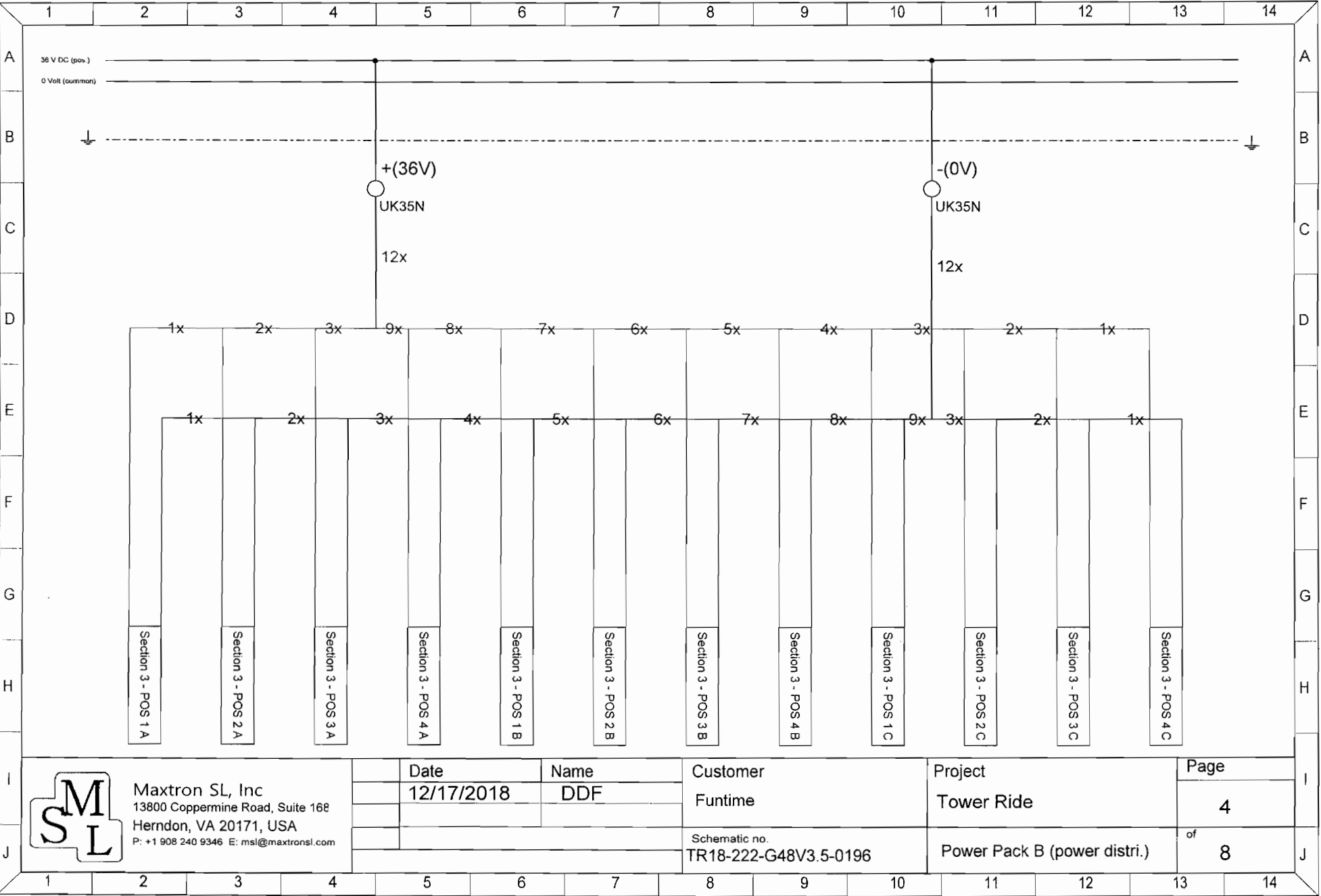
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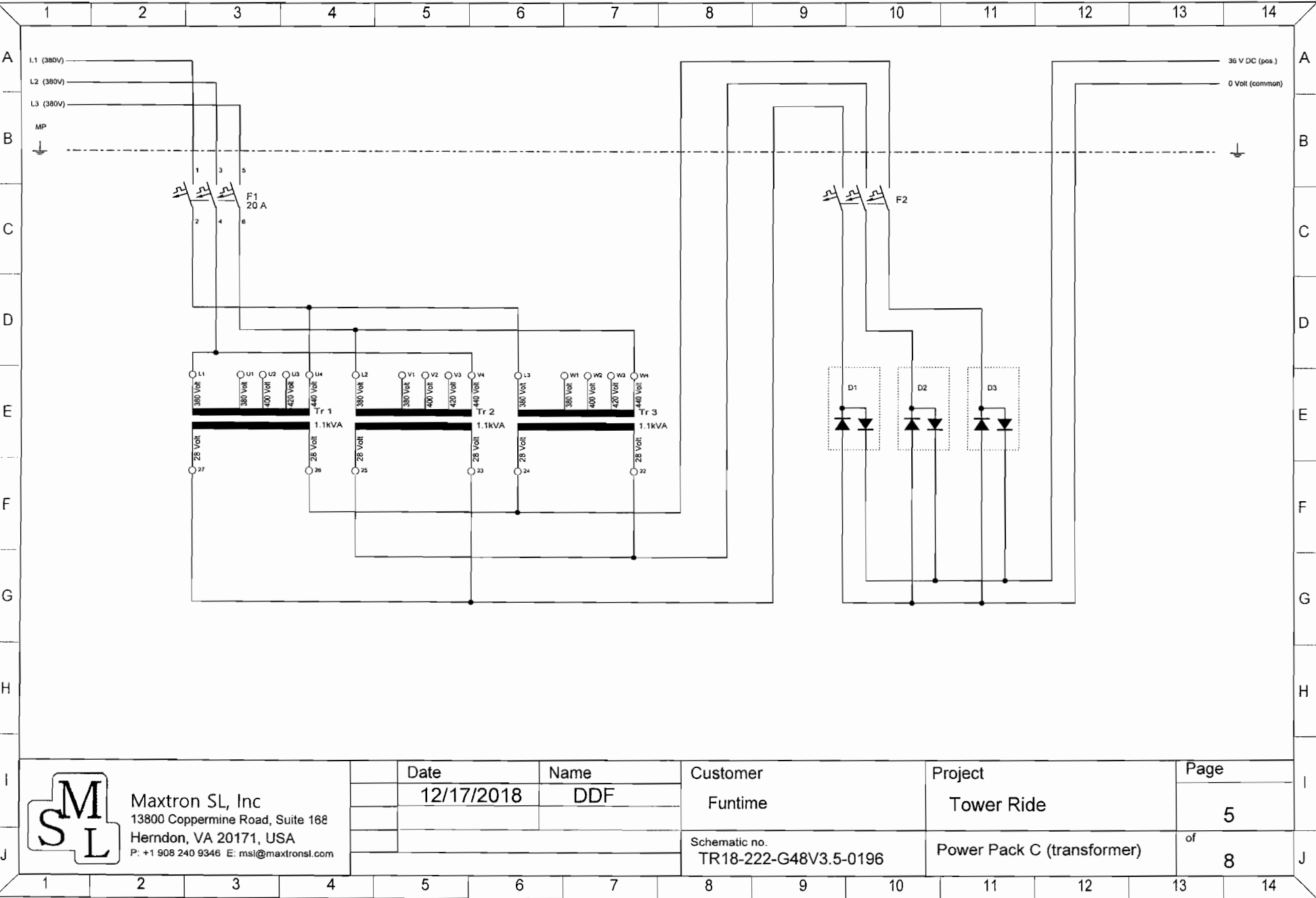
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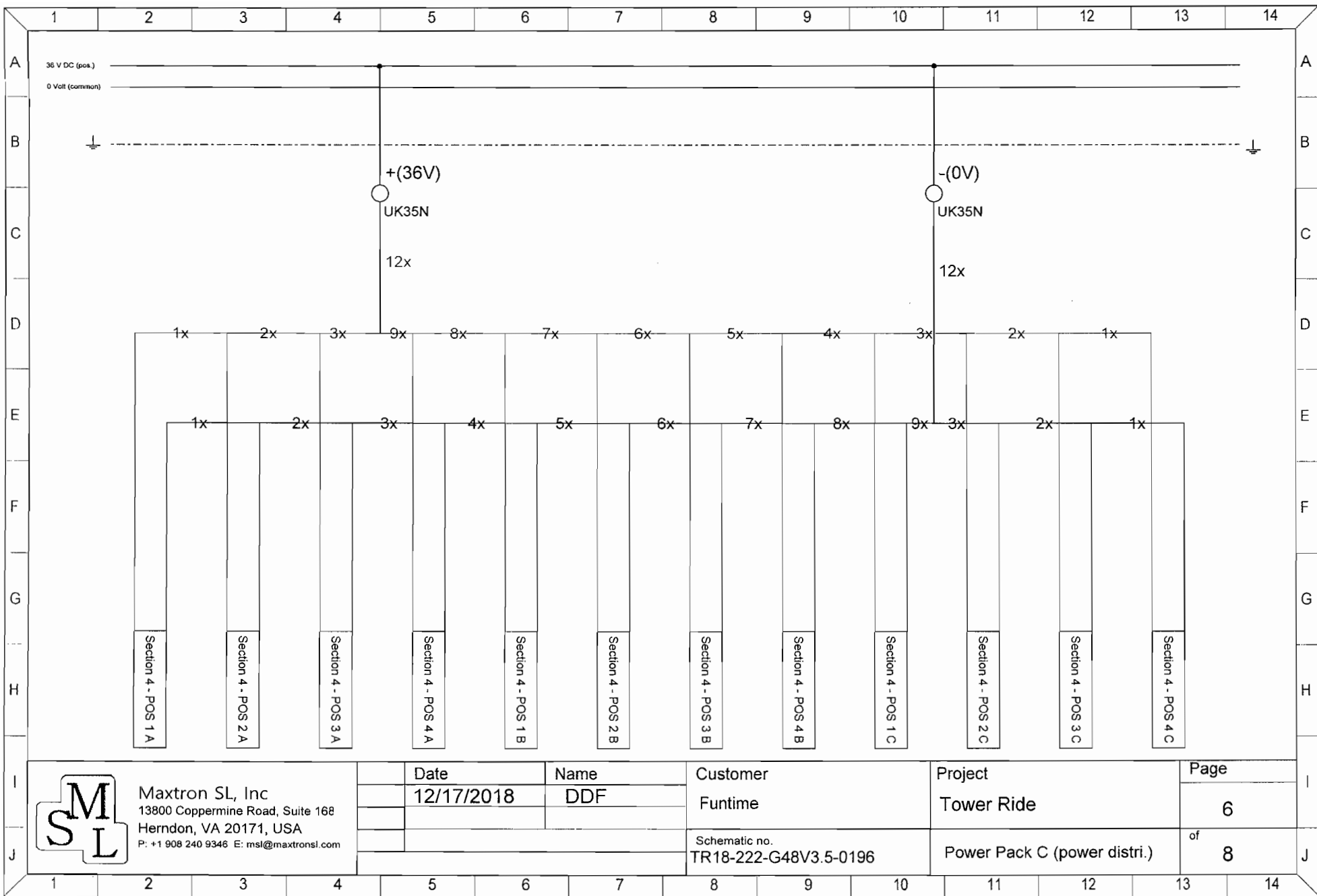


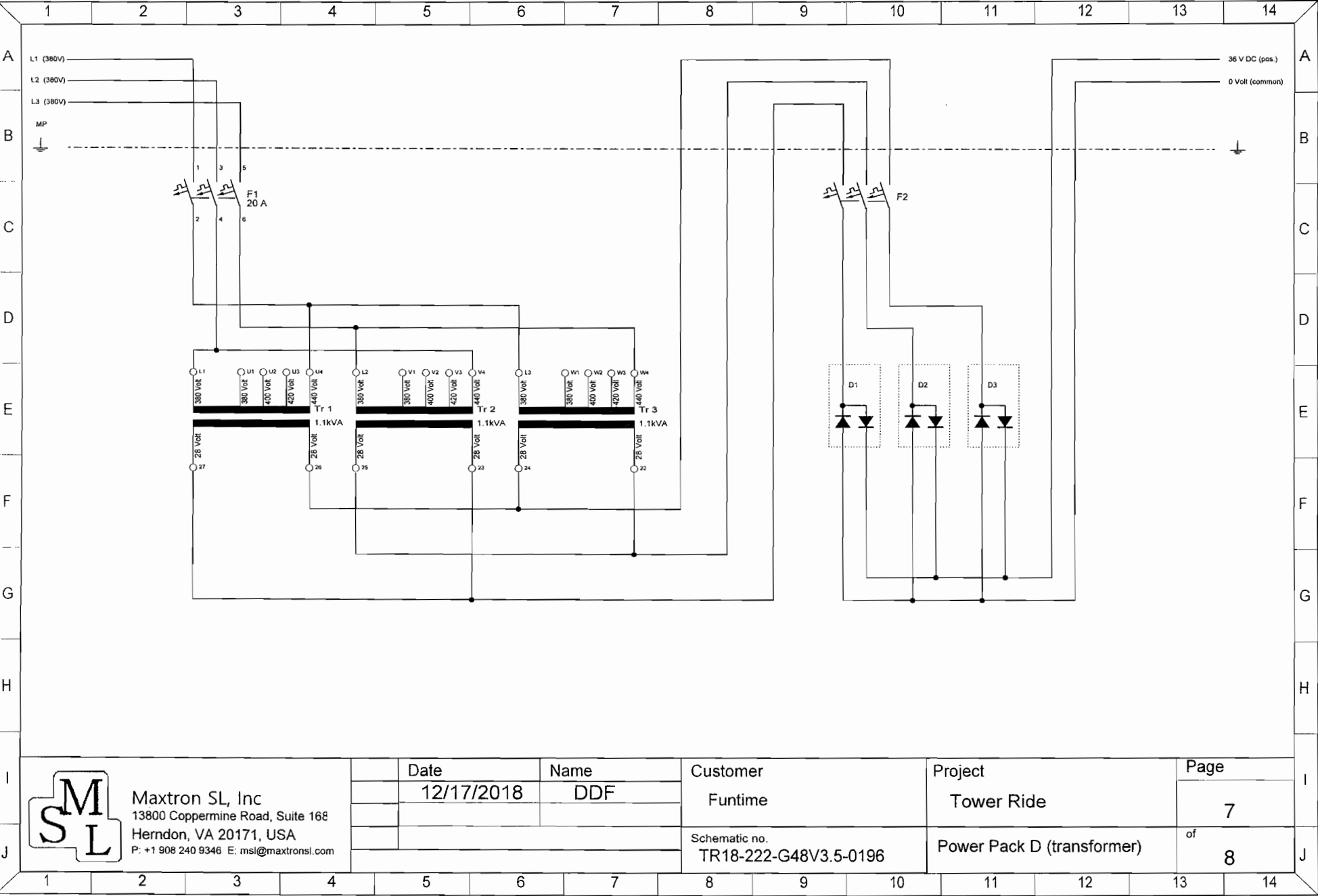




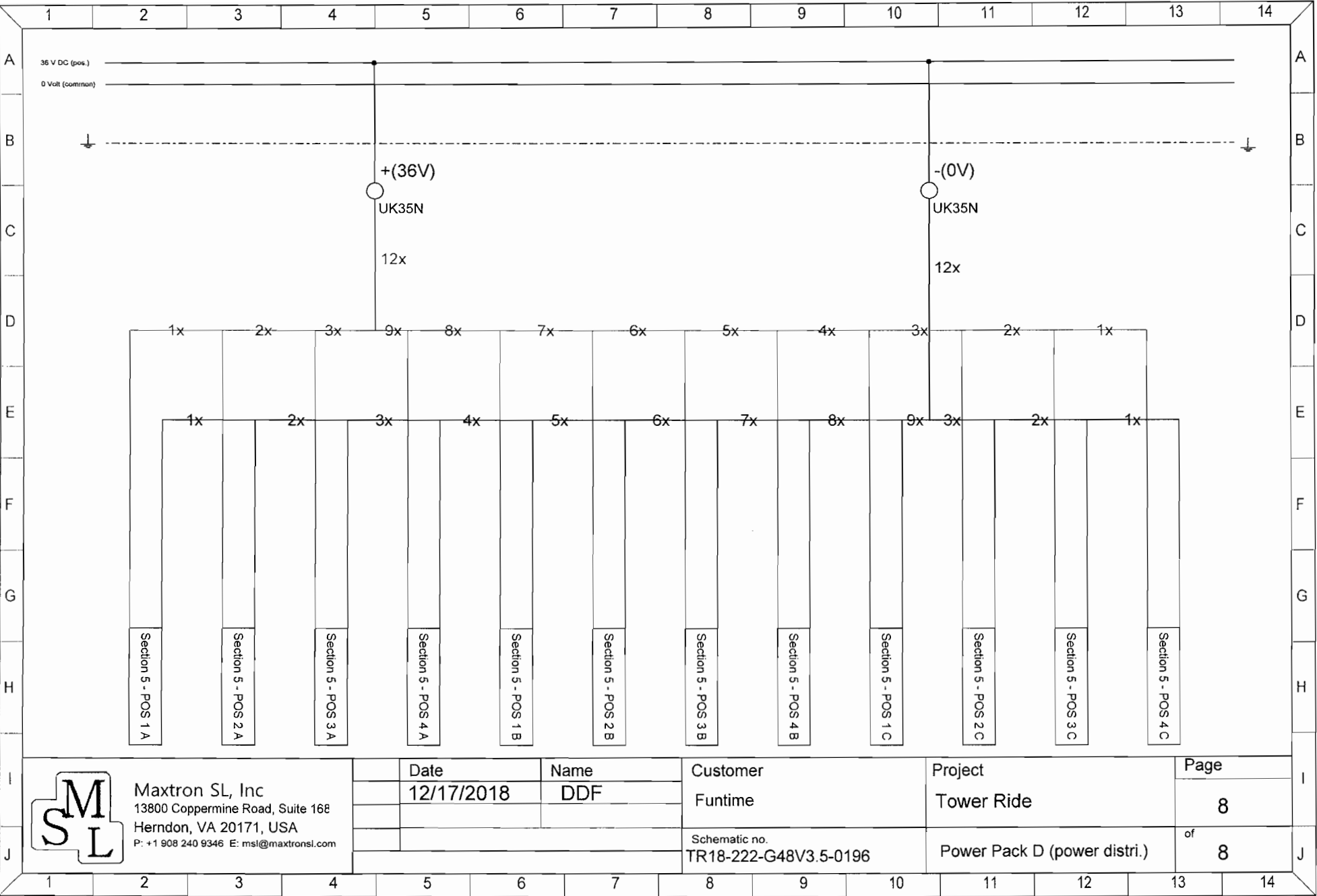
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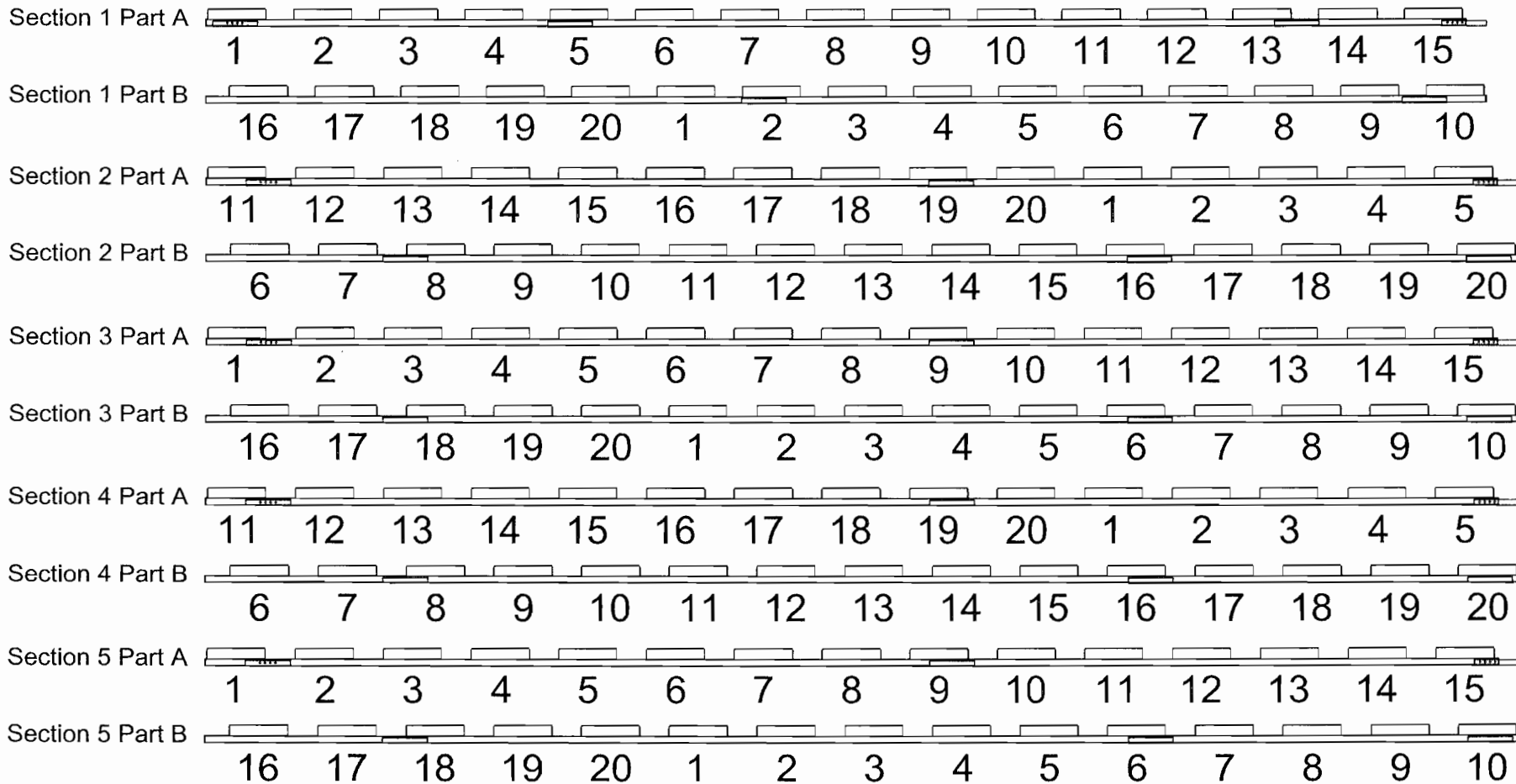


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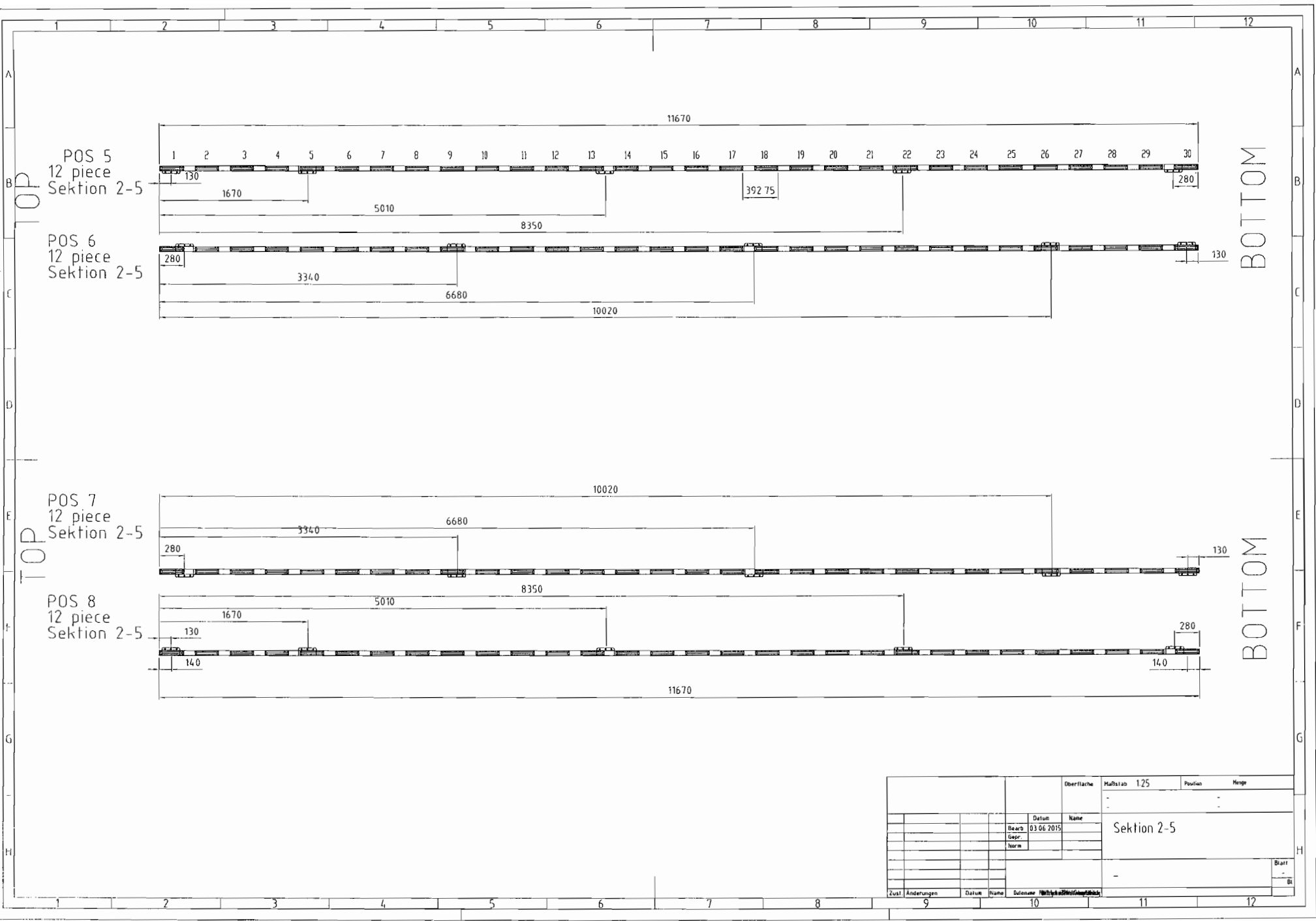


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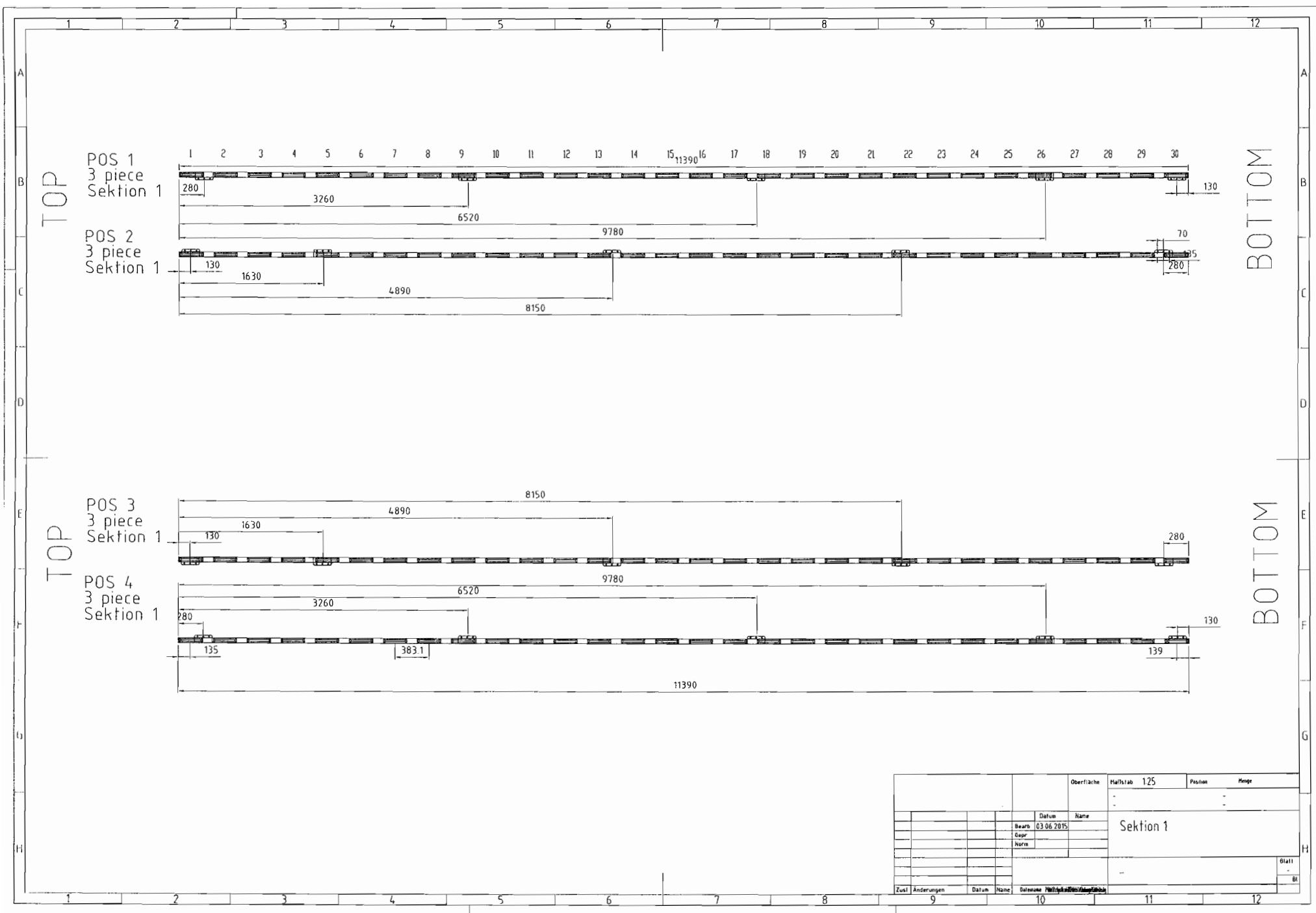
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|---------------|---------------|------------------------|-------|
| PROJECT:      |               | PRODUCT:               |       |
| Funtime Tower |               |                        |       |
| Pr. No.       |               | Module Type            |       |
| Material      |               | First angel projection |       |
| Precision     |               | Weight                 |       |
| Author        | Twinkle Liang | Scale                  | 1 : 1 |
| Date          | 10/11/2018    | Auditing               |       |

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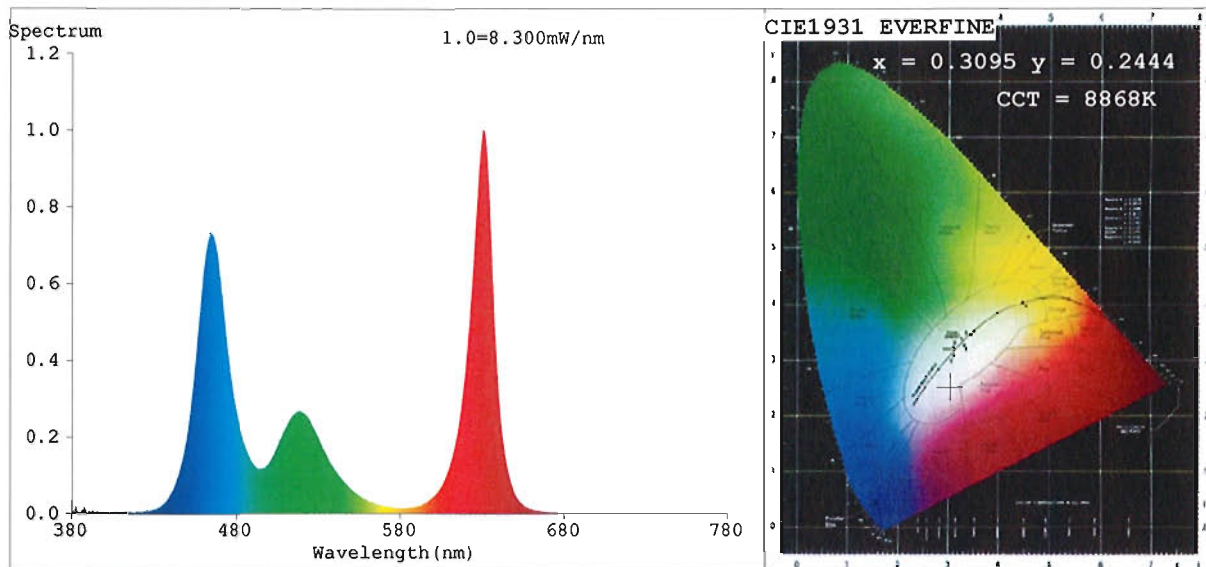
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|  |  |  |  | Datum 03.06.2015 |  | Name         |  |          |  |       |  |
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## Spectrum Test Report



### Color Parameters:

Chromaticity Coordinate:  $x=0.3095$   $y=0.2444$   $u'=0.2330$   $v'=0.4140$

CCT=8868K(Duv=-0.0459) Dominant WL:Ld =380.0nm Purity=25.2%

Ratio:R=36.6% G=51.0% B=12.4%; Peak WL:Lp=630.7nm FWHM=14.9nm

Render Index:Ra=-16.0

R1 =-58 R2 =0 R3 =68 R4 =-35 R5 =-38 R6 =-16 R7 =40

R8 =-89 R9 =-377 R10=-117 R11=-66 R12=-32 R13=-51 R14=75 R15=-81

### Photo Parameters:

Flux = 82.54 lm Eff. : 14.61 lm/W Fe = 400.2 mW

### Electrical parameters:

V = 35.998 V I = 0.1569 A P = 5.648 W PF = 1.000

LEVEL:OUT WHITE:OUT

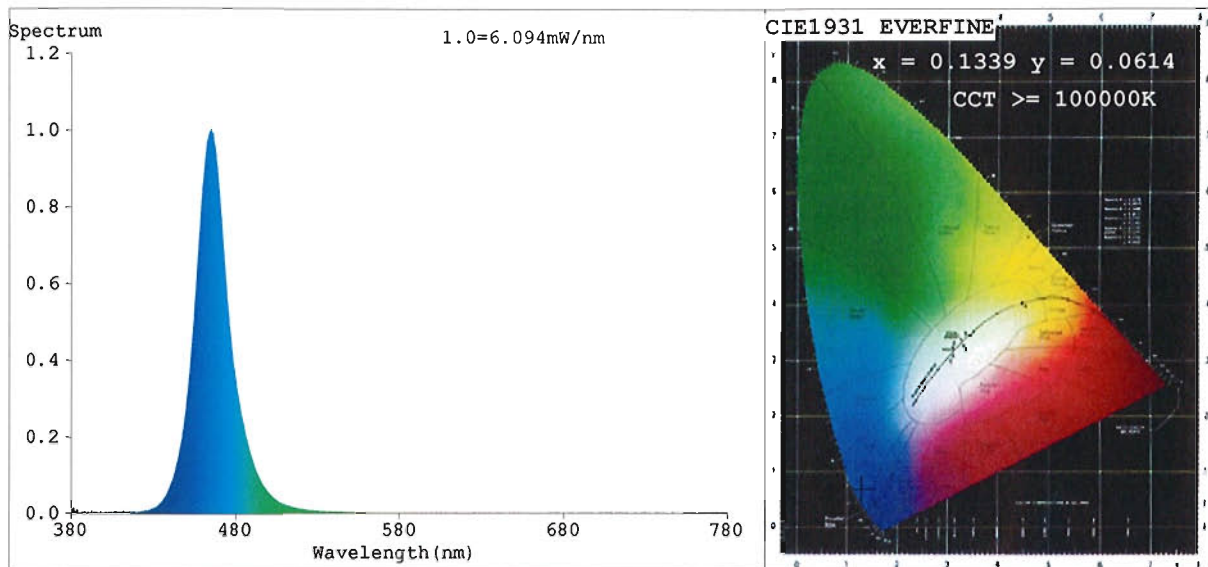
Status: Integral T = 144 ms Ip = 37277 (57%)

Model:48G RGB Prism Lens  
Tester:Sheldon  
Temperature:22.4Deg  
Manufacturer:Maxtron

Number:27  
Date:2017-02-16  
Humidity:24%  
Remarks:---



## Spectrum Test Report



### Color Parameters:

Chromaticity Coordinate:  $x=0.1339$   $y=0.0614$   $u'=0.1544$   $v'=0.1592$

CCT=100000K(Duv=0.1619) Dominant WL:Ld =468.7nm Purity=96.8%

Ratio:R=0.4% G=15.5% B=84.1%; Peak WL:Lp=464.9nm FWHM=21.6nm

Render Index:Ra=-49.3

R1 =-15 R2 =-42 R3 =-131 R4 =-81 R5 =3 R6 =-51 R7 =-44

R8 =-34 R9 =-278 R10=-221 R11=-111 R12=-99 R13=-33 R14=-28 R15=-0

### Photo Parameters:

Flux = 11.13 lm Eff. : 5.01 lm/W Fe = 162.0 mW

### Electrical parameters:

V = 35.998 V I = 0.06180 A P = 2.225 W PF = 1.000

LEVEL:OUT WHITE:OUT

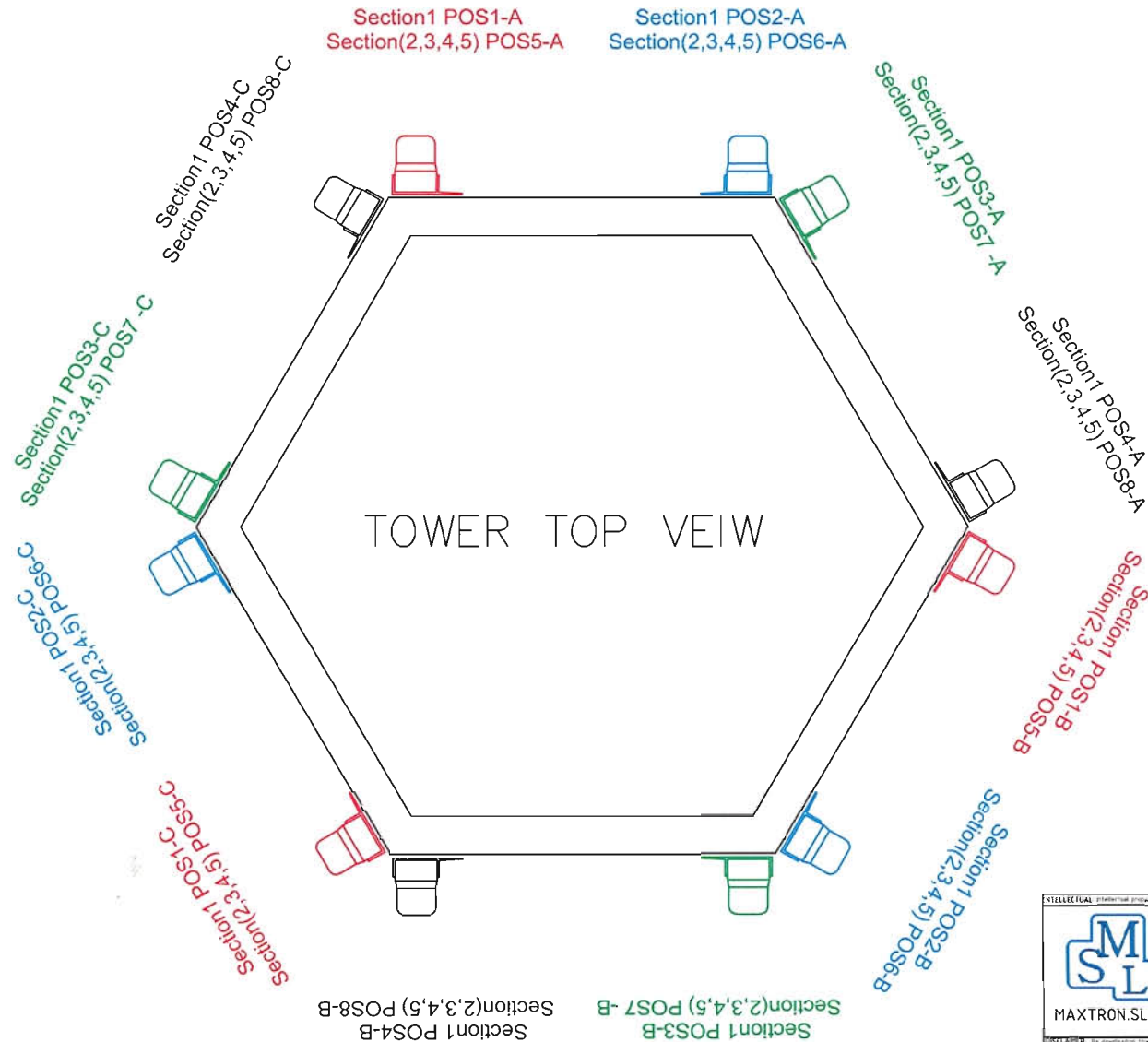
Status: Integral T = 289 ms Ip = 46941 (72%)

Model:48G Blue Prism Lens  
Tester:Sheldon  
Temperature:22.4Deg  
Manufacturer:Maxtron

Number:36  
Date:2017-02-16  
Humidity:24%  
Remarks:---

# TR18-222-G48V3.5-0196

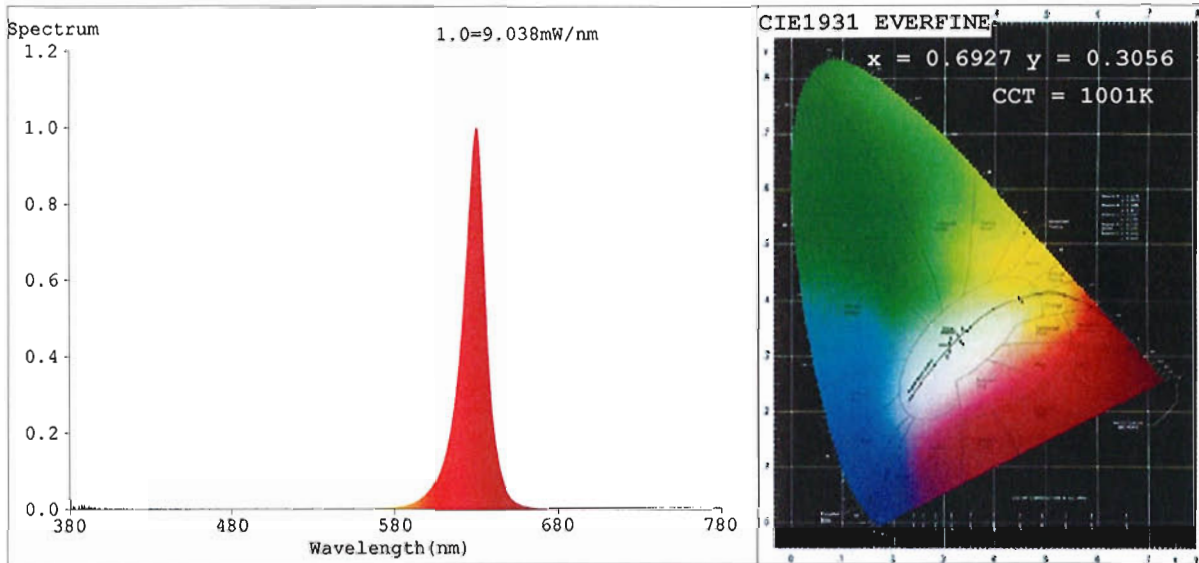
## Tower Ride Installation



|            |                       |                        |       |
|------------|-----------------------|------------------------|-------|
| PROJECT:   |                       | PRODUCT:               |       |
| Pr. No.    | FunTime Tower Ride    | Module Type            |       |
| Material   | 1819-222-G48V3.5-0196 | First angle projection |       |
| Projection |                       | Weight                 |       |
| Author     | Twinkle Liang         | Scale                  | 1 : 1 |
| Date       | 10/11/2018            | Auditing               |       |

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## Spectrum Test Report



### Color Parameters:

Chromaticity Coordinate:  $x=0.6927$   $y=0.3056$   $u'=0.5246$   $v'=0.5207$

CCT=1001K(Duv=-0.0770) Dominant WL:Ld =621.5nm Purity=99.5%

Ratio:R=95.5% G=4.5% B=0.0%; Peak WL:Lp=630.0nm FWHM=14.7nm

Render Index:Ra=16.4

|         |          |        |         |        |        |         |
|---------|----------|--------|---------|--------|--------|---------|
| R1 =9   | R2 =79   | R3 =32 | R4 =-23 | R5 =4  | R6 =91 | R7 =7   |
| R8 =-68 | R9 =-219 | R10=73 | R11=-11 | R12=79 | R13=32 | R14=61  |
|         |          |        |         |        |        | R15=-31 |

### Photo Parameters:

Flux = 34.77 lm Eff. : 16.04 lm/W Fe = 169.2 mW

### Electrical parameters:

V = 35.998 V I = 0.06020 A P = 2.167 W PF = 1.000

LEVEL:OUT WHITE:OUT

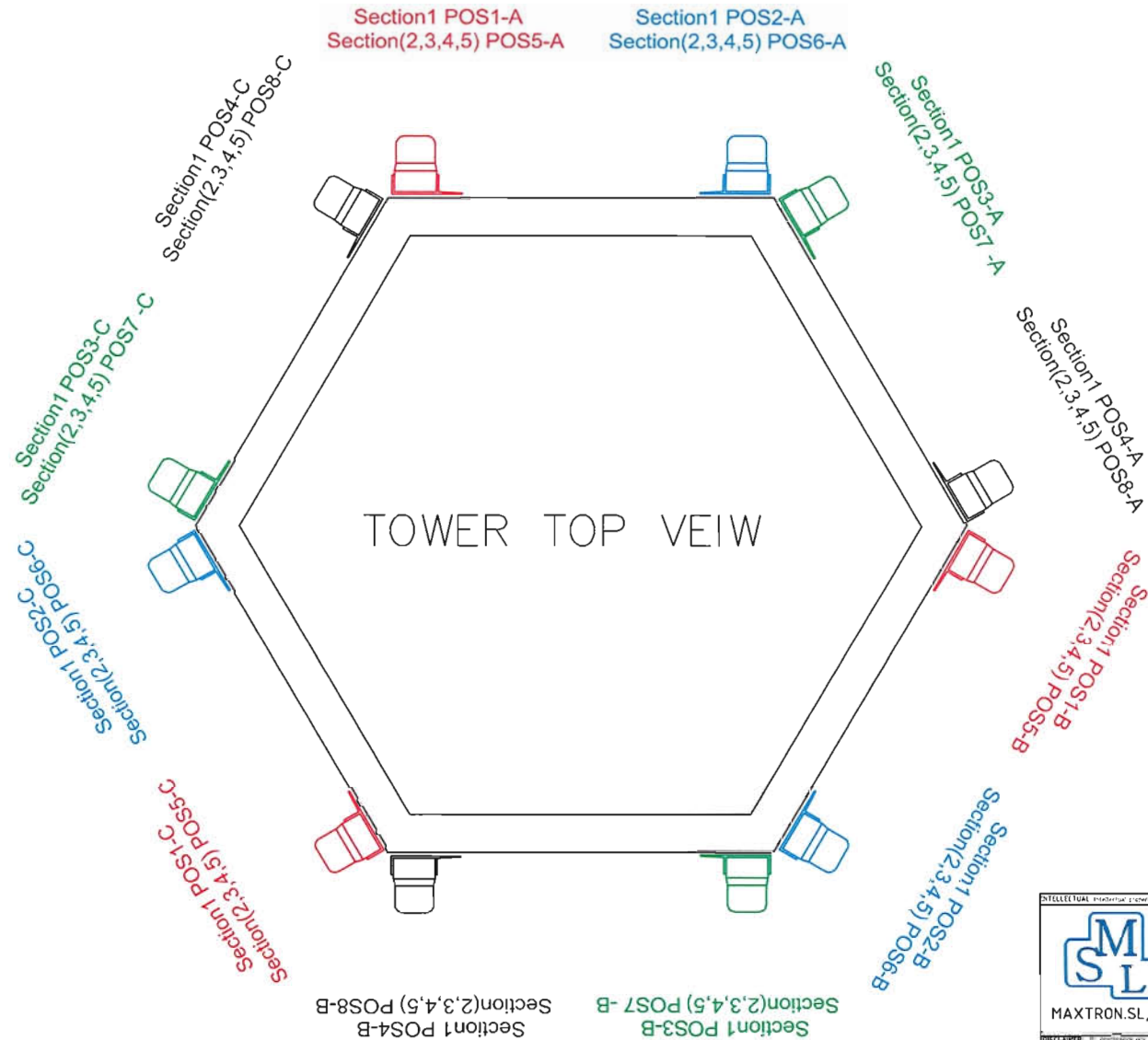
Status: Integral T = 157 ms Ip = 44526 (68%)


Model:48G Red Prism Lens  
Tester:Sheldon  
Temperature:22.4Deg  
Manufacturer:Maxtron

Number:34  
Date:2017-02-16  
Humidity:24%  
Remarks:---

# TR18-222-G48V3.5-0196

## Tower Ride Installation



|  |                        |
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| MAXTRON SL, INC.   |                        |
| PROJECT:   | FunTime Tower Ride     |
| PROJ. NO.:   | TR18-222-G48V3.5-0196  |
| MATERIAL:  | Module Type            |
| PERMISSION:  | First angle projection |
| AUTHOR:  | Twinkle Liang          |
| DATE:  | 10/11/2018             |
| SCALE:   | 1 : 1                  |
| REVISION:  | Any                    |



**T-01-DAR-1-19**



**05/01/2018**