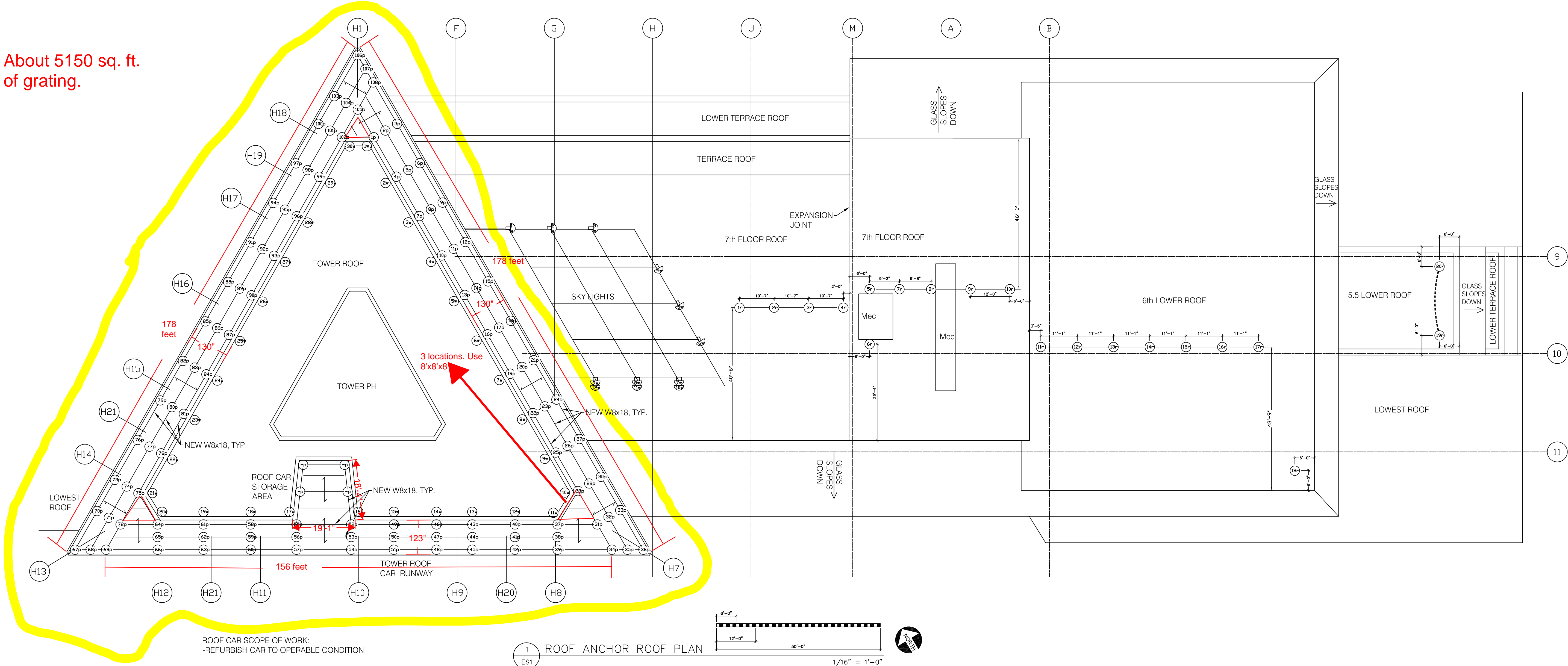



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
-	1	ISSUED FOR BID	09.09.2016	APG




ROOF CAR SCOPE OF WORK:  
-REFURBISH CAR TO OPERABLE CONDITION.  
  
-REFURBISH / REPLACE CONTINUOUS STABILIZATION ANCHORS TO OPERABLE CONDITION.  
  
-COMPLETE TEST DROP, LOG BOOKS, LABELING, AND USER MANUAL.  
  
-NON-ESSENTIAL ITEMS WILL BE ADDRESSED IN THE FUTURE AND ARE NOT A PART OF THIS PROJECT SCOPE.

- 1  
ES1
- ROOF ANCHOR ROOF PLAN
- UNLESS NOTED OTHERWISE:
- "⊖" INDICATES ROOF ANCHOR ON CONCRETE STRUCTURE, 20 THUS. (SEE DETAIL 1)
  - "⊕" INDICATES WALL ANCHOR ON CONCRETE COLUMN, 12 THUS. (SEE DETAIL 2)
  - "⋯" INDICATES SLOPED WINDOW AREA THAT WILL BE SERVICED BY CONTROLLED DESCENT ACCESS.
  - "⋯" INDICATES HORIZONTAL LIFELINE SYSTEM, 1 THUS. (SEE DETAIL 3).
  - "⋯" INDICATES 4"x8", 19 SPACE (1-3/16" BEARING BAR SPACING) BANDED BAR GRATING SPAN WITH 2" CROSSROD CENTERS. SEE DETAIL 4.
  - "⊕" INDICATES BAR GRATE SUPPORT POST ON CONCRETE STRUCTURE. 108 THUS (SEE DETAIL 4)
  - "⊕" INDICATES WELD ON PLATE ANCHOR. 30 THUS. (SEE DETAIL 4)

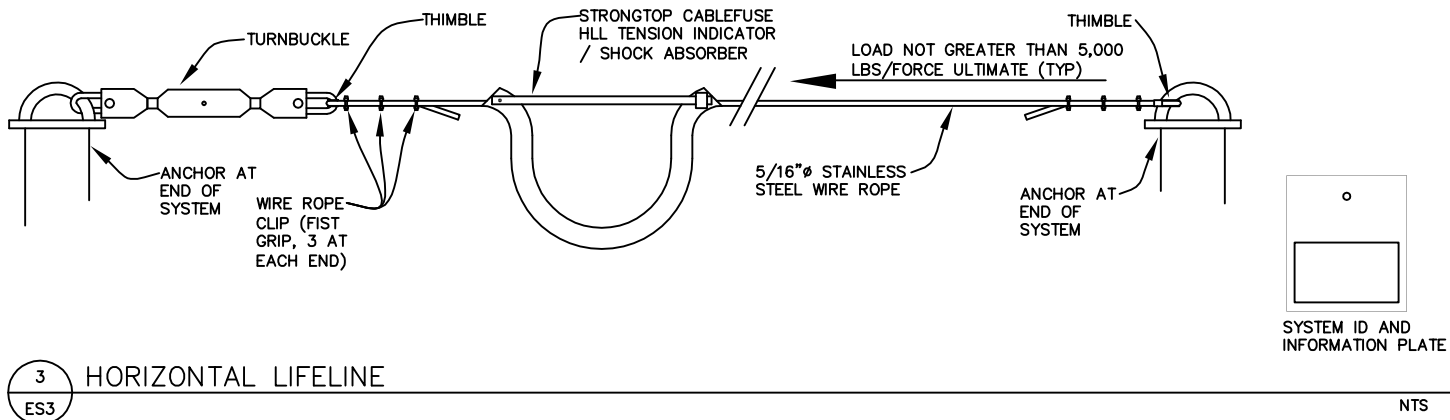
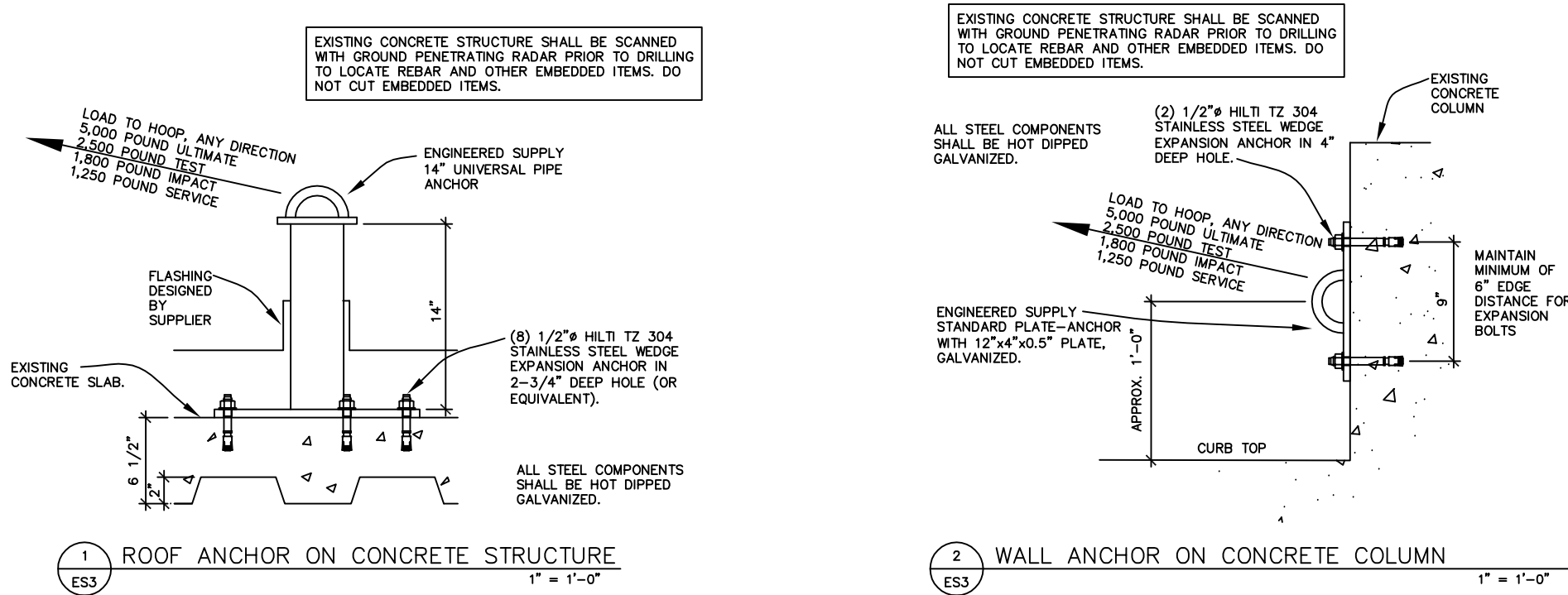
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:   
TYPED OR PRINTED NAME: ARLEN P. GRANT  
DATE: 09.09.2016  
REGISTRATION NO: 43827

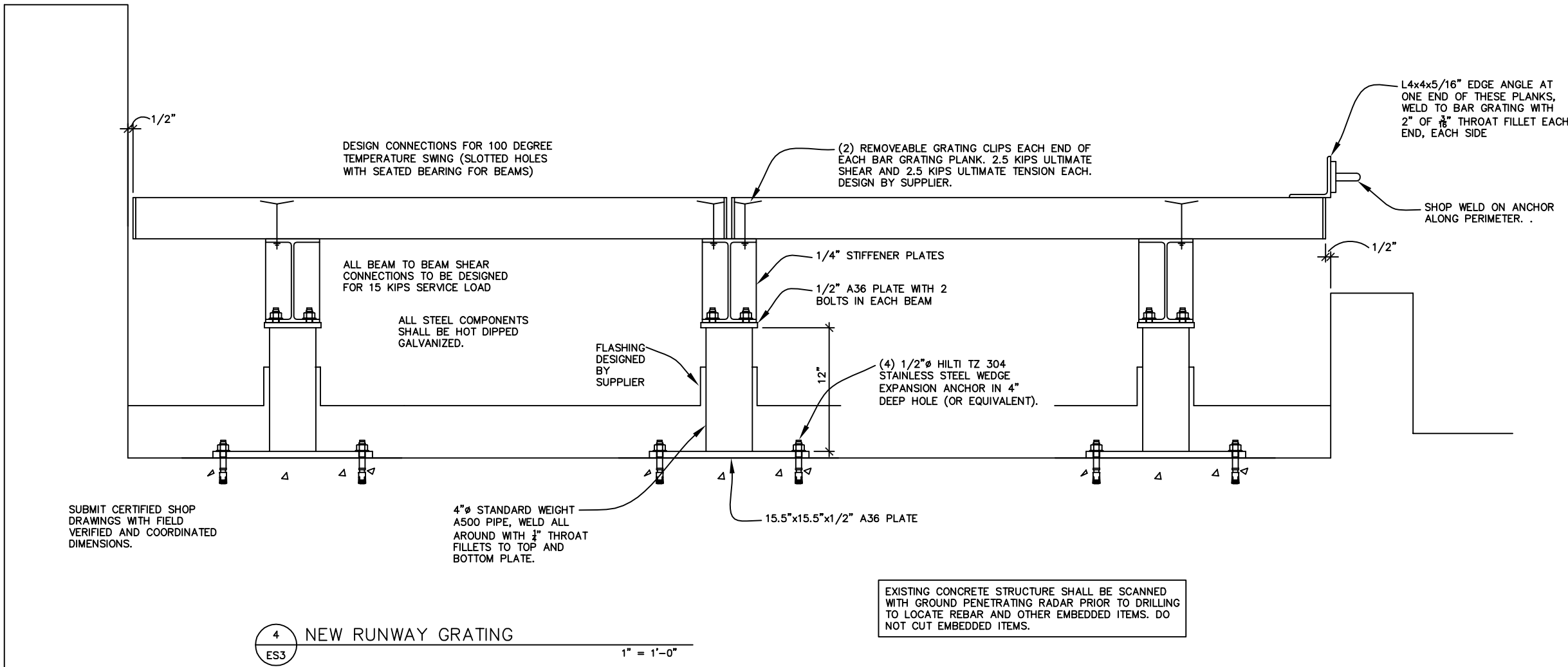
 ENGINEERED SUPPLY 1286 OLDRIDGE AVE N STILLWATER, MN 55082 612.508.7287		ES P/N 915166-001	
MINNEAPOLIS CITY CENTER MARRIOTT 2016 SUSPENDED MAINTENANCE INSTALLATION		MINNEAPOLIS, MN	
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SCALE SEE ABOVE		SHEET ES1 of 3	



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-A TOTAL OF 2 (TWO) USERS ARE ALLOWED ON THIS SYSTEM AT ONE TIME. SYSTEM HAS BEEN DESIGNED FOR FALL ARREST.  
-USERS SHALL SELECT AND SUPPLY THEIR OWN PERSONAL FALL PROTECTION EQUIPMENT. TAKE CARE TO CHOSE EQUIPMENT THAT DOES NOT ALLOW A FREE FALL OF MORE THAN 6'-0".  
-IF A FALL OCCURS THE STRONGTOP SHOCK ABSORBER MAY DEPLOY. DO NOT USE THE SYSTEM THAT HAS SUSTAINED A FALL UNTIL A FULL INSPECTION AND REPAIR HAS BEEN COMPLETED.  
-IN THE WORSE CASE SCENARIO, EXPECT A WIRE ROPE DEFLECTION OF 7'-0" MAXIMUM.  
-FOR A MORE COMPREHENSIVE GUIDE PLEASE READ THE COMPONENT INSTRUCTIONS FOUND IN THE LOG BOOK.



## ANCHORAGE NOTES

This sheet indicates positions of anchors as coordinated with the contract building documents in accordance with the applicable provisions of 2001 IWCA, and MN OSHA 5205.0650 to 5205.0720. Prior to anchor use, the window washing or facade maintenance contractor is responsible for creating a safety plan that addresses the remaining aspects of these and other applicable standards.

## DESIGN LOADS

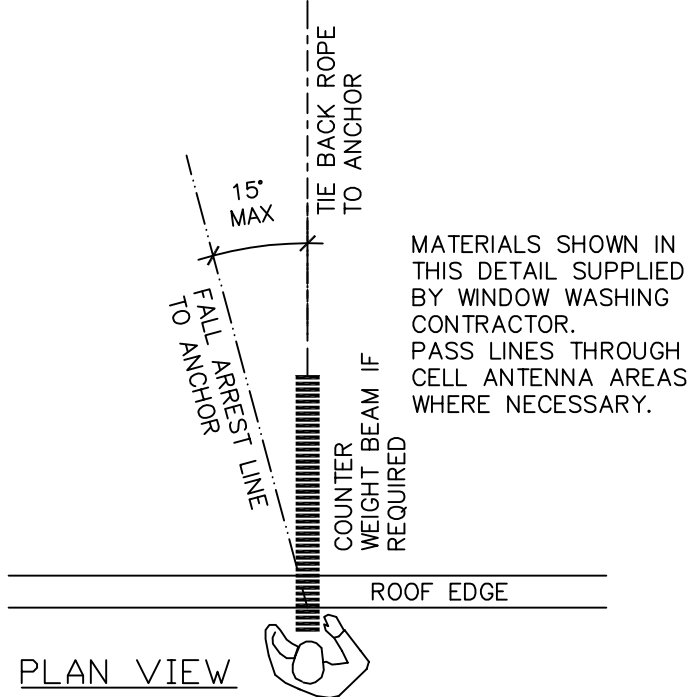
Anchor Loads (applied at hoop)  
5,000lbf Ultimate  
2,500lbf Test Load  
1,800lbf Impact Load  
1,250lbf Working Load

## DESIGN CODES

2001 ANSI/IWCA I14.1  
MN OSHA 5205.0650 to 5205.0730  
Minnesota State Building Code (2015)  
International Building Code (2012)  
American National Standards Institute/American Society of Civil Engineers - (ANSI/ASCE 7)  
American Institute of Steel Construction (ASD/LRFD)  
American Welding Society Standards for Welding as modified by AISC Spec.  
Structural Welding Code (ANSI/AWS D1.1 for steel)

## GENERAL NOTES

The contractor completing their respective section of work is solely responsible for their site safety including all temporary precautionary measures and safety programs. Site observation visits by Engineered Supply do not include review of other contractor's safety precautions.



## EXISTING CONDITIONS

Contractor shall verify all dimensions, elevations, and details of existing structure where they affect the structural work. Notify Engineered Supply if there are any deviations from the contract documents.  
Contractor shall field verify dimensions and elevations.  
Remove and replace roofing, architectural, structural, civil, mechanical, electrical, and miscellaneous as / if necessary.

## ANCHOR TESTING

Assembled anchors shall be pull tested to 2,500 pounds by the anchor installer.  
A testing log book including anchor roof reference plan, completed initial anchor test log, yearly inspection log to be filled out by others, and 10 year retest log to be filled out by others will be submitted.

## INSPECTION AND TRAINING

Systems users to inspect all equipment prior to each use, including all visible attachment points, locks, and pins to ensure all equipment is in safe working order. All users shall be trained on proper use of the equipment, as well as knowing and complying with OSHA, ANSI and other pertinent life safety regulations. All equipment shall be annually inspected by a qualified person and also re-certified within 10 years under direct supervision of a licensed engineer.

## ROOFING

Installation shall maintain the roofing warranty, as applicable. Roofing removal, flashing, and all other details shall be per the manufacturer roofing specification or as designed by the roofing contractor and shall maintain the roofing warrantee.  
Provide flexible boots around roof anchors at penetrations, as they may deflect during proof loading, which may occur several times over the life of the anchor.

## STRUCTURAL STEEL

All structural steel shall be designed, fabricated, and erected according to the specifications of the American Institute of Steel Construction (AISC) Latest Adoption.  
Structural steel supplier shall supply all cap plates, bearing assemblies, base plates, stiffeners, splices and connections, and shall design same.  
All welding shall match filler materials in accordance with the rules of the American Welding Society (AWS) Structural Welding Code, Latest Adoption.  
All welders shall be certified by the rules of the American Welding Society.  
Modification of structural steel members in the field is not permitted without written approval by the SER.

## STRUCTURAL STEEL CONNECTIONS

Provide standard connections given in parts 7 - 10 of the AISC ASD/LRFD Manual. Provide calculations, certified by a licensed engineer, for non-standard connections.  
Connections which have special load requirements are noted on the drawings. Typically, provide welded or bolted shop connections and bolted field connections.  
Typical bolts are 3/4" diameter A325-N hot dip bolts in standard or short slotted holes.

SPECIAL INSPECTIONS  
2015 MINNESOTA BUILDING CODE  
1705.2 STEEL CONSTRUCTION  
AISC 14th EDITION, SPECIFICATION N5

SPECIAL INSPECTOR SHALL FIELD OBSERVE THE THE INSTALLED STRUCTURE AND EACH INSTALLED CONNECTION FOR THE FOLLOWING:  
1. GENERAL MEMBER CONFIGURATION AND FITUP.  
2. THREADED FASTENERS INSTALLED IN THE SNUG TIGHT CONDITION WITH ALL SURFACES DRAWN TOGETHER.  
3. FIELD WELDS ARE COMPLETED BY AWS CERTIFIED WELDERS AND PASS A VISUAL INSPECTION.

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SIGNATURE: ARLEN P. GRANT  
DATE: 09/02/2016  
REGISTRATION NO: 438827

		ES P/N 915166-001	
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