CLARK REDER ENGINEERING

04/29/2022

Progressive Products & Apex Stages
3305 Airport Circle
Pittsburg, KS 66762
Attn: Todd Allison

RE: 3224 Mobile Stage – 2021 Certification
CRE Project No: 21.534.01

Dear Todd:

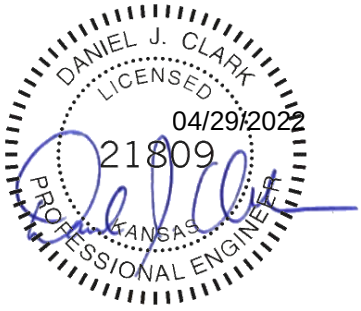
Clark Reder Engineering Inc. has completed our review of the Apex Stages 3224 Mobile Stage for conformance to the 2018 IBC as well as for general use in the United States in the calendar year of 2022. Our scope was to review the engineering calculations previously developed by Clark Reder Engineering in accordance with earlier versions of the International Building Code, ASCE 7, and the Aluminum Design Manual.

Our review confirms that the mobile stage structure requires no changes to the High Wind Action Plan or Allowable Loading criteria, which are included with this package. CRE has determined that the 3224 Apex Mobile Stage Unit, when built and used in accordance with the manufacturer's guidelines, represents a safe design in accordance with the structural provisions of the 2018 International Building Code and is fit for use in all 50 states. This stamped document is valid for use through December 31, 2022.

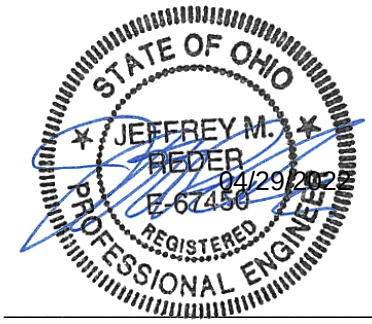
We trust this information is suitable for your needs at this time. Please do not hesitate to contact our office with any questions or comments.

Regards,

Clark-Reder Engineering, Inc.



Daniel J. Clark, P.E.
KS Registration No. 21809



Jeffrey M. Reder, P.E.
OH Registration No. 67450

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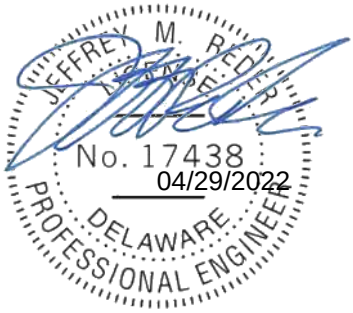
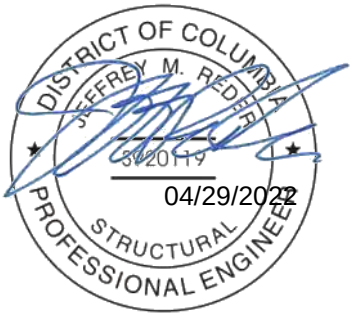
Connecticut	**Delaware**	**District of Columbia**
		
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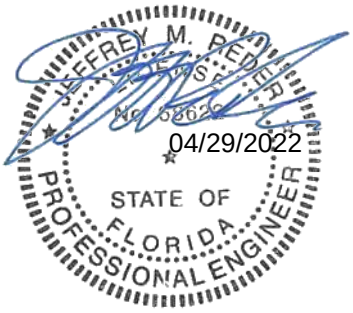
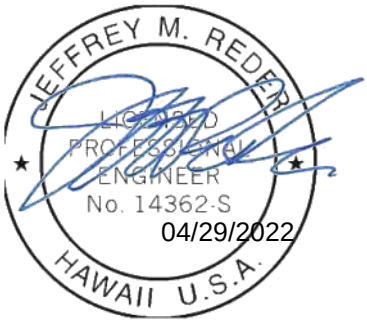
Florida	Georgia	Hawaii
		
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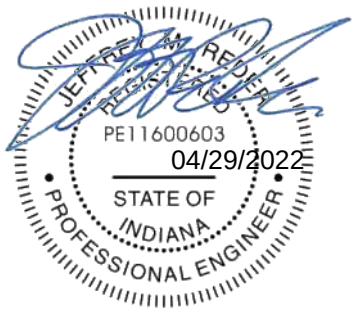
Idaho	**Illinois**	**Indiana**
		
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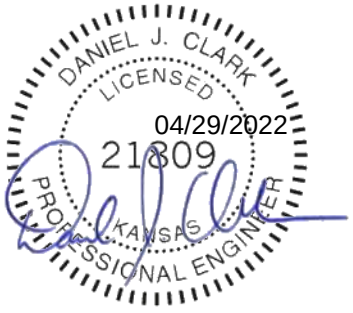
Iowa	**Kansas**	**Kentucky**
		
Jeffrey M. Reder, P.E. P.E. # 19998	Daniel J. Clark, P.E. P.E. # 21809	Jeffrey M. Reder, P.E. P.E. # 23597

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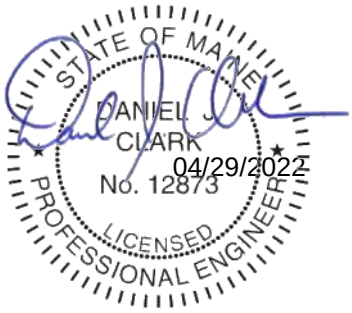
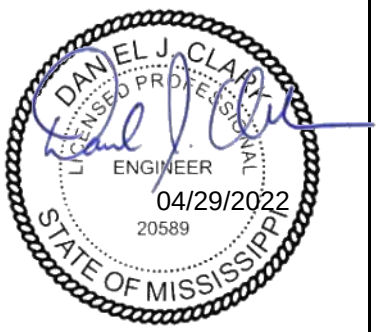
Louisiana	Maine	Maryland
		 Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License # 38421 Expiration Date: 01/29/2022
Jeffrey M. Reder, P.E. P.E. # 30304	Daniel J. Clark, P.E. P.E. # 12873	Jeffrey M. Reder, P.E. P.E. # 38421
Massachusetts	**Michigan**	**Minnesota**
		 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: JEFFREY M. REDER Date: 04/29/2022 License #: 56104
Jeffrey M. Reder, P.E. P.E. # 48535	Jeffrey M. Reder, P.E. P.E. # 6201056952	Jeffrey M. Reder, P.E. P.E. # 56104
Mississippi	**Missouri**	**Montana**
		
Daniel J. Clark, P.E. P.E. # 20589	Jeffrey M. Reder, P.E. P.E. # PE-2010003345	Daniel J. Clark, P.E. P.E. # 28452

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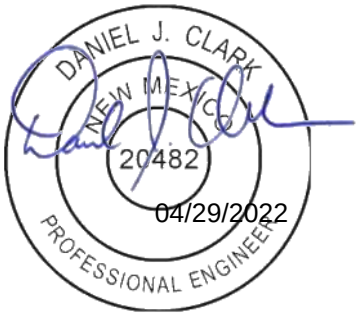
New Jersey	**New Mexico**	**New York**
		 It is a violation of law for any person, unless acting under the direction of a licensed professional engineer, to alter this document in any way. If any part of this document is altered, the altering engineer shall affix to this document their seal and the notation "altered by" followed by their signature, the date, and description.
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		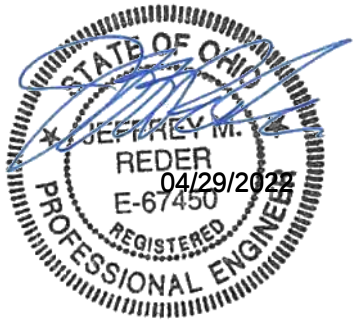
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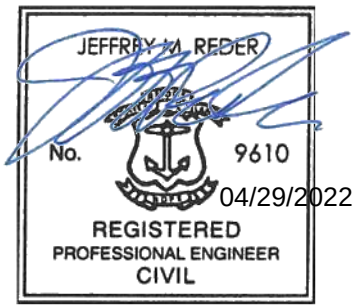		
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South Dakota	**Tennessee**	**Texas**
		 Clark Reder Engineering F-12154
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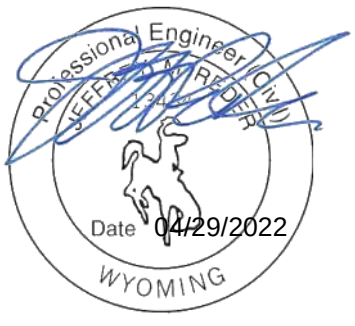
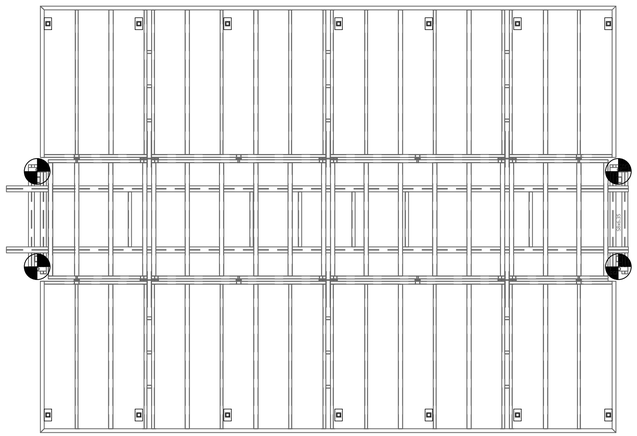
		
Jeffrey M. Reder, P.E. P.E. # 13434	Jeffrey M. Reder, P.E. P.E. # 25845	Daniel J. Clark, S.E. P.E. # 1798



- INDICATES NO BALLAST FOR AN OPEN STRUCTURE (NO SCRIM OR RIGGING) @ 40 MPH (64 km/hr), SCRIM INSTALLED ON BACK DROP, ROOF 1 SIDEWALL AND BANNER KIT SCRIMS @ 15 MPH (24 km/hr) OR SCRIM INSTALLED ON BACKDROP AND ROOF 1 SIDEWALL ONLY @ 20 MPH (32 km/hr).

- INDICATES 500# (230 Kg) BALLAST FOR AN OPEN STRUCTURE (NO SCRIM OR RIGGING) @ 45 MPH (72 km/hr), SCRIM INSTALLED ON BACKDROP, ROOF 1 SIDEWALL AND BANNER KIT SCRIMS @ 15 MPH (24 km/hr) OR SCRIM INSTALLED ON BACKDROP AND ROOF 1 SIDEWALL ONLY @ 20 PPH (32 km/hr).

- INDICATES 2,000# (910 Kg) BALLAST FOR AN OPEN STRUCTURE (NO SCRIM OR RIGGING) @ 45 MPH (72 km/hr), SCRIM INSTALLED ON BACKDROP, ROOF 1 SIDEWALL AND BANNER KIT SCRIMS @ 15 MPH (24 km/hr) OR SCRIM INSTALLED ON BACKDROP AND ROOF 1 SIDEWALL ONLY @ 30 PPH (48 km/hr).

NOTE: SEE HIGH WIND ACTION PLAN THIS SHEET.

UPLIFT BALLAST PLAN

1/4" = 1'-0"

GENERAL STRUCTURAL NOTES

CODES AND REFERENCE

1. 2015 INTERNATIONAL BUILDING CODE
2. ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
3. ASCE 37-14 DESIGN LOADS ON STRUCTURES UNDER CONSTRUCTION
4. ANSI E1.21-2013 ENTERTAINMENT TECHNOLOGY, "TEMPORARY GROUND-SUPPORTED OVERHEAD STRUCTURES USED TO COVER THE STAGE AREAS AND SUPPORT EQUIPMENT IN THE PRODUCTION OF OUTDOOR ENTERTAINMENT EVENTS"
5. ANSI E1.2-2006 ENTERTAINMENT TECHNOLOGY, "DESIGN, MANUFACTURE AND USE OF ALUMINUM TRUSSES AND TOWERS"
6. ALUMINUM DESIGN MANUAL, 2015 EDITION
7. AISC STEEL MANUAL, 14TH EDITION

DESIGN LOADS

1. DEAD LOAD: SELFWEIGHT OF STRUCTURE

2. ROOF RIGGING LOADS:
   A. SEE BEAM LOADING CHART ON SHEET S1.2
   NOTE: ROOF IS A SUN SHADE SYSTEM ONLY. IT HAS NOT BEEN DESIGNED FOR PERSONNEL ACCESS OR TO SUPPORT RAIN OR SNOW LOADS.

3. STAGE DECK LOADS:
   A. LIVE LOAD: 50 PSF

4. WIND LOAD:**
   A. DESIGN WIND SPEED: 45 MPH (BARE STRUCTURE - NO SCRIMS ATTACHED)
   B. DESIGN WIND SPEED :30 MPH (WITH ONLY BACKDROP, ROOF 1 SIDEWALL SCRIM, AND FRONT SKIRT SCRIM ATTACHED)
   C. DESIGN WIND SPEED: 15 MPH (WITH BACKDROP, ROOF 1 SIDEWALL SCRIM, FRONT SKIRT AND BANNER KIT SCRIMS*** ATTACHED)
   D. EXPOSURE C
   E. IMPORTANCE FACTOR: 1.0

5. SEISMIC LOADS DO NOT CONTROL THE DESIGN OF THIS STRUCTURE.

** SEE UPLIFT BALLAST PLAN THIS SHEET FOR REQUIRED BALLAST
*** BANNER KIT CONSISTS OF (X1) UPPER CENTER CROSS BANNER, (X1) LEFT AND (X1) RIGHT SIDE BANNER (3 SCRIMS TOTAL)

CONSTRUCTION AND SAFETY

1. ENGINEER SHALL NOT BE RESPONSIBLE FOR MEANS, METHODS, OR SEQUENCE OF CONSTRUCTION UNLESS SPECIFICALLY STATED ON THE DRAWINGS.
2. ENGINEER HAS DESIGNED THE STRUCTURES FOR THEIR FINAL AS-BUILT CONDITION. ENGINEER IS NOT RESPONSIBLE FOR TEMPORARY STABILITY OF STRUCTURES DURING ERECTION UNLESS SPECIFICALLY STATED ON THE DRAWINGS.
3. STRUCTURE HAS BEEN DESIGNED AS A TEMPORARY STRUCTURE THAT SHALL BE IN PLACE FOR LESS THAN 6 WEEKS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE ON THE DRAWINGS:
   A. ROLLED WIDE FLANGE SHAPES: ASTM A992, FY = 50 KSI
   B. MISC PLATE, BAR, ANGLES AND CHANNELS: ASTM A36, FY = 36 KSI
   C. PIPE SHAPES: ASTM A53, TYPE E OR S, GRADE B, FY = 35 KSI
   D. HSS RECTANGULAR TUBE: ASTM A500 GR B, FY = 46 KSI
   E. HSS ROUND TUBE: ASTM A500 GR B, FY = 42KSI
   F. BOLTS OR SCAFFOLD CONNECTION PINS: SAE J429 GRADE 5 BOLTS (FY=92 KSI) UNLESS NOTED OTHERWISE
2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY LATEST EDITION.
3. FIELD CONNECTIONS SHALL BE BOLTED OR CONNECTED WITH APPROVED SCAFFOLD CONNECTORS.

ALUMINUM

1. ALUMINUM SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE ON THE DRAWINGS:
   A. MEMBER ALLOY: 6061-T6 UNLESS NOTED OTHERWISE
   B. MEMBER ALLOY FOR STAGE ROOF BEAM EXTRUSIONS: 6063-T5
   C. MEMBER ALLOY FOR STAGE DECK EXTRUSIONS; 6063-T6
   D. WELD FILLER ALLOW: 4043 (MIN)
2. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE ALUMINUM ASSOCIATION ALUMINUM DESIGN MANUAL, 2010 EDITION.
3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY LATEST EDITION.
4. FIELD CONNECTIONS SHALL BE BOLTED UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.

WIRE ROPE AND RIGGING ACCESSORIES

1. WIRE ROPE 3/8" OR LESS IN DIAMETER: 7X19 GAC, MEETING FEDERAL SPEC, RR-W-410E
2. WIRE ROPE 7/16" OR GREATER IN DIAMETER: 6X19 IWRC, MEETING FEDERAL SPEC, RR-W-410D, TYPE 1 CLASS 2
3. SHACKLES: GALVANIZED, SCREW PIN ANCHOR TYPE, ASTM A153
4. TURNBUCKLES: GALVANIZED, ASTM F-1145
5. FORGED WIRE ROPE CLIPS: GALVANIZED, MEETING FEDERAL SPEC, FF-C-450 TYPE I CLASS I
6. WIRE ROPE THIMBLES: GALVANIZED, MEETING FEDERAL SPEC, FF-T-276B TYPE II
7. WIRE ROPE THIMBLES: GALVANIZED, MEETING FEDERAL SPEC, FF-T-276B TYPE II
8. RATCHET STRAPS:
   a. RATCHET STRAPS SHALL BE INSTALLED PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS TO DEVELOP THE RATED WORKING LOAD OF THE STRAP.
   b. RATCHET STRAPS WITH OPEN ENDED HOOKED CONNECTION SHALL HAVE A POSITIVE CONNECTION TO THE ATTACHMENT POINT. EXAMPLE: USE A 5/8" SHACKLE BETWEEN THE BARS OF A J-HOOK.

FOUNDATIONS

1. PER CLIENTS REQUEST, THE FOUNDATION DESIGN AND GENERAL FOUNDATION NOTES BASED ON THE ASSUMPTION OF FAVORABLE SOIL CONDITIONS. ALL FOUNDATION ASSEMBLIES SHALL BEAR ON LEVEL (WITHIN 1 IN 12) GROUND

ROOF HOISTING

1. ALL BALLAST SHALL BE IN PLACE PRIOR TO HOISTING ROOF SYSTEM.
2. ROOF SYSTEM SHALL NOT BE HOISTED IN WIND SPEEDS GREATER THAN 10 MPH.

RIGGING

1. BRIDLES SHALL NOT BE USED UNLESS SPECIFICALLY NOTED BY THE ENGINEER OF RECORD.
2. DO NOT EXCEED THE ALLOWABLE RIGGING LOADS SHOWN ON SHEET S1.2 WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

INSPECTIONS

1. ALL TRUSS UNITS, SCAFFOLD AND/OR OTHER RIGGING EQUIPMENT SHALL BE VISUALLY INSPECTED PRIOR TO ERECTION. DAMAGED OR CORRODED EQUIPMENT SHALL NOT BE USED. FIELD MODIFICATIONS SHALL BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO INSTALLATION.

OPERATIONS MANAGEMENT PLAN

IMPLEMENTATION OF PLAN

1. PRIOR TO EACH INSTALLATION, THE **VENUE/STAGE OWNER** SHALL DESIGNATE A RESPONSIBLE PERSON IN CHARGE OF IMPLEMENTING ALL PHASES OF THE OPERATIONS MANAGEMENT PLAN.
2. A MEETING SHALL BE HELD AT THE VENUE WITH THE PROMOTER, OWNER OR STAGE MANAGER TO DISCUSS THE HIGH WIND ACTION PLAN AND OTHER OPERATIONAL ITEMS.
3. THE METHOD OF INITIATING EVENT CANCELLATION MUST BE OUTLINED EXPLICITLY PRIOR TO THE EVENT ALLOWING FOR IMMEDIATE ACTION IF NECESSARY.
4. A COPY OF THIS PLAN SHOULD BE PROVIDED TO LOCAL POLICE OR FIRE DEPARTMENTS IN ORDER TO HELP USHER PATRONS IN THE EVENT OF AN EVACUATION.

HIGH WIND ACTION PLAN WITH NO BALLAST INSTALLED

1. THE HIGH WIND ACTION PLAN SHALL BE IN EFFECT FOR THE ENTIRETY OF THE EVENT. AN EVENT SHALL BE DEFINED AS STARTING AT THE INITIAL COMMENCEMENT OF THE STRUCTURE INSTALLATION AND ENDING ONCE THE STRUCTURE IS COMPLETELY DISMANTLED.
2. A COMPETENT RESPONSIBLE PERSON FROM THE VENUE OR RIGGING COMPANY SHALL BE PRESENT FOR THE DURATION OF THE EVENT (SEE ABOVE) TO IMPLEMENT THE HIGH WIND ACTION PLAN.
3. A REGULAR LIAISON WITH LOCAL AIRPORTS AND/OR WEATHER INFORMATION CENTERS SHALL BE MAINTAINED TO ASCERTAIN IF ANY SIGNIFICANT WEATHER EVENTS ARE EXPECTED IN THE IMMEDIATE VICINITY OF THE STRUCTURE
4. AN ANEMOMETER SHALL BE PLACED ON THE STRUCTURE TO MONITOR WIND SPEEDS. THE ANEMOMETER SHALL BE PLACED AT THE TOP OF A TOWER OR AN ADJACENT STRUCTURE AT A HEIGHT EQUIVALENT TO THE HEIGHT OF THE TOWER. THE ANEMOMETER SHALL BE LOCATED WITHIN 50 YARDS OF THE STRUCTURE.
5. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 15 MPH (24 km/hr)**: ALL SCRIM ASSOCIATED WITH THE BANNER PACKAGE SHALL BE REMOVED FROM THE SYSTEM. THIS INCLUDES THE BANNER SCRIM ON TOP OF THE STAGE THAT CONCEALS THE SPEAKER WING WIRES AND THE SPEAKER WING BANNER SCRIM. LOWERING OF SCRIM SHALL BE DONE FROM THE GROUND BY MEANS OF REMOTELY ACTIVATED EQUIPMENT SUCH AS MOTORS OR MECHANICAL RELEASES.
6. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 20 MPH (32 km/hr)**: ALL SCRIM SHALL BE REMOVED FROM THE SYSTEM. ALL RIGGING EQUIPMENT AND SPEAKER CLUSTERS SHALL BE LOWERED TO THE GROUND AND SECURED. LOWERING OF SCRIM OR EQUIPMENT SHALL BE DONE FROM THE GROUND BY MEANS OF REMOTELY ACTIVATED EQUIPMENT SUCH AS MOTORS OR MECHANICAL RELEASES.
7. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 40 MPH (64 km/hr)**: ALL SHOW OPERATIONS SHALL CEASE AND THE IMMEDIATE AREA SHALL BE EVACUATED. LOWER ROOF IF TIME PERMITS AND WIND SPEEDS ARE BELOW 15 MPH. ALL PERSONNEL SHOULD MAINTAIN SAFE DISTANCE FROM THE ROOF SYSTEM AS COLLAPSE MAY OCCUR.
8. THE HIGH WIND ACTION PLAN SHALL BE POSTED AT A CONSPICUOUS AREA ON SITE. IT MUST BE AVAILABLE AT ALL TIMES TO VENUE OPERATORS AND CREW.

HIGH WIND ACTION PLAN WITH 500# (230 kg) BALLAST INSTALLED @ 4 LOCATIONS

1. THE HIGH WIND ACTION PLAN SHALL BE IN EFFECT FOR THE ENTIRETY OF THE EVENT. AN EVENT SHALL BE DEFINED AS STARTING AT THE INITIAL COMMENCEMENT OF THE STRUCTURE INSTALLATION AND ENDING ONCE THE STRUCTURE IS COMPLETELY DISMANTLED.
2. A COMPETENT RESPONSIBLE PERSON FROM THE VENUE OR RIGGING COMPANY SHALL BE PRESENT FOR THE DURATION OF THE EVENT (SEE ABOVE) TO IMPLEMENT THE HIGH WIND ACTION PLAN.
3. A REGULAR LIAISON WITH LOCAL AIRPORTS AND/OR WEATHER INFORMATION CENTERS SHALL BE MAINTAINED TO ASCERTAIN IF ANY SIGNIFICANT WEATHER EVENTS ARE EXPECTED IN THE IMMEDIATE VICINITY OF THE STRUCTURE
4. AN ANEMOMETER SHALL BE PLACED ON THE STRUCTURE TO MONITOR WIND SPEEDS. THE ANEMOMETER SHALL BE PLACED AT THE TOP OF A TOWER OR AN ADJACENT STRUCTURE AT A HEIGHT EQUIVALENT TO THE HEIGHT OF THE TOWER. THE ANEMOMETER SHALL BE LOCATED WITHIN 50 YARDS OF THE STRUCTURE.
5. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 15 MPH (24 km/hr)**: ALL SCRIM ASSOCIATED WITH THE BANNER PACKAGE SHALL BE REMOVED FROM THE SYSTEM. THIS INCLUDES THE BANNER SCRIM ON TOP OF THE STAGE THAT CONCEALS THE SPEAKER WING WIRES AND THE SPEAKER WING BANNER SCRIM. LOWERING OF SCRIM SHALL BE DONE FROM THE GROUND BY MEANS OF REMOTELY ACTIVATED EQUIPMENT SUCH AS MOTORS OR MECHANICAL RELEASES.
6. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 20 MPH (32 km/hr)**: ALL SCRIM SHALL BE REMOVED FROM THE SYSTEM. ALL RIGGING EQUIPMENT AND SPEAKER CLUSTERS SHALL BE LOWERED TO THE GROUND AND SECURED. LOWERING OF SCRIM OR EQUIPMENT SHALL BE DONE FROM THE GROUND BY MEANS OF REMOTELY ACTIVATED EQUIPMENT SUCH AS MOTORS OR MECHANICAL RELEASES.
7. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 45 MPH (72 km/hr)**: ALL SHOW OPERATIONS SHALL CEASE AND THE IMMEDIATE AREA SHALL BE EVACUATED. LOWER ROOF IF TIME PERMITS AND WIND SPEEDS ARE BELOW 15 MPH. ALL PERSONNEL SHOULD MAINTAIN SAFE DISTANCE FROM THE ROOF SYSTEM AS COLLAPSE MAY OCCUR.
8. THE HIGH WIND ACTION PLAN SHALL BE POSTED AT A CONSPICUOUS AREA ON SITE. IT MUST BE AVAILABLE AT ALL TIMES TO VENUE OPERATORS AND CREW.

HIGH WIND ACTION PLAN WITH 2000# (910 kg) BALLAST INSTALLED @ 4 LOCATIONS

1. THE HIGH WIND ACTION PLAN SHALL BE IN EFFECT FOR THE ENTIRETY OF THE EVENT. AN EVENT SHALL BE DEFINED AS STARTING AT THE INITIAL COMMENCEMENT OF THE STRUCTURE INSTALLATION AND ENDING ONCE THE STRUCTURE IS COMPLETELY DISMANTLED.
2. A COMPETENT RESPONSIBLE PERSON FROM THE VENUE OR RIGGING COMPANY SHALL BE PRESENT FOR THE DURATION OF THE EVENT (SEE ABOVE) TO IMPLEMENT THE HIGH WIND ACTION PLAN.
3. A REGULAR LIAISON WITH LOCAL AIRPORTS AND/OR WEATHER INFORMATION CENTERS SHALL BE MAINTAINED TO ASCERTAIN IF ANY SIGNIFICANT WEATHER EVENTS ARE EXPECTED IN THE IMMEDIATE VICINITY OF THE STRUCTURE
4. AN ANEMOMETER SHALL BE PLACED ON THE STRUCTURE TO MONITOR WIND SPEEDS. THE ANEMOMETER SHALL BE PLACED AT THE TOP OF A TOWER OR AN ADJACENT STRUCTURE AT A HEIGHT EQUIVALENT TO THE HEIGHT OF THE TOWER. THE ANEMOMETER SHALL BE LOCATED WITHIN 50 YARDS OF THE STRUCTURE.
5. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 15 MPH (24 km/hr)**: ALL SCRIM ASSOCIATED WITH THE BANNER PACKAGE SHALL BE REMOVED FROM THE SYSTEM. THIS INCLUDES THE BANNER SCRIM ON TOP OF THE STAGE THAT CONCEALS THE SPEAKER WING WIRES AND THE SPEAKER WING BANNER SCRIM. LOWERING OF SCRIM SHALL BE DONE FROM THE GROUND BY MEANS OF REMOTELY ACTIVATED EQUIPMENT SUCH AS MOTORS OR MECHANICAL RELEASES.
6. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 30 MPH (48 km/hr)**: ALL SCRIM SHALL BE REMOVED FROM THE SYSTEM. ALL RIGGING EQUIPMENT AND SPEAKER CLUSTERS SHALL BE LOWERED TO THE GROUND AND SECURED. LOWERING OF SCRIM OR EQUIPMENT SHALL BE DONE FROM THE GROUND BY MEANS OF REMOTELY ACTIVATED EQUIPMENT SUCH AS MOTORS OR MECHANICAL RELEASES.
7. **WHEN WIND SPEEDS ARE EXPECTED TO EXCEED 45 MPH (72 km/hr)**: ALL SHOW OPERATIONS SHALL CEASE AND THE IMMEDIATE AREA SHALL BE EVACUATED. LOWER ROOF IF TIME PERMITS AND WIND SPEEDS ARE BELOW 15 MPH. ALL PERSONNEL SHOULD MAINTAIN SAFE DISTANCE FROM THE ROOF SYSTEM AS COLLAPSE MAY OCCUR.
8. THE HIGH WIND ACTION PLAN SHALL BE POSTED AT A CONSPICUOUS AREA ON SITE. IT MUST BE AVAILABLE AT ALL TIMES TO VENUE OPERATORS AND CREW.

SNOW/RAIN REMOVAL

1. THE ROOF SKIN HAS NOT BEEN DESIGNED TO SUPPORTED PONDED WATER OR SNOW. REMOVE ANY AND ALL SUCH ACCUMULATIONS.

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DANIEL J. CLARK LICENSED PROFESSIONAL ENGINEER 06/30/2019 21809

PROGRESSIVE PRODUCTS INC. APEX

32X24 MOBILE STAGE

PROGRESSIVE PRODUCTS
PITTSBURG, KS 66762

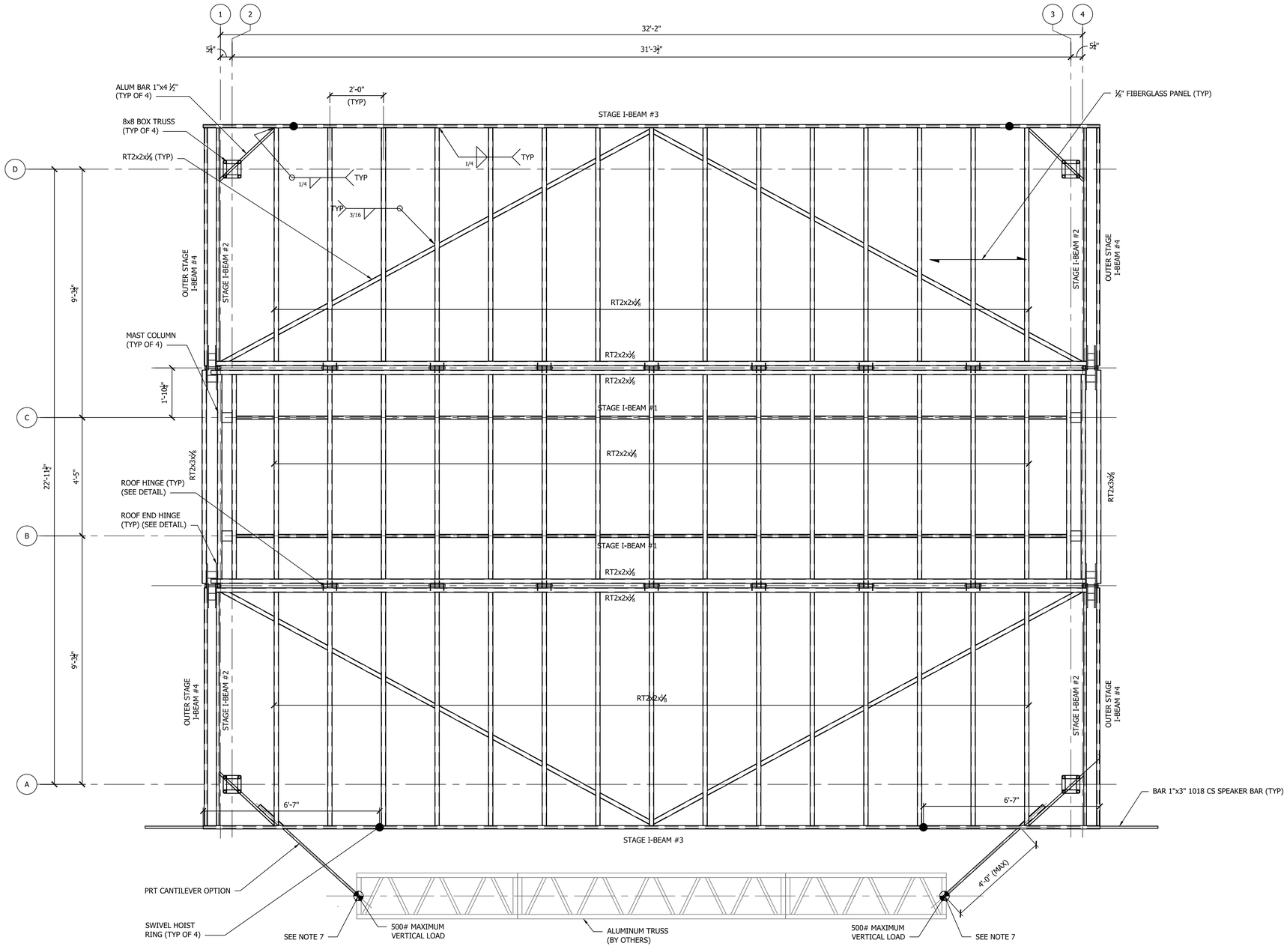
ISSUE/REVISIONS

	REVISION DESCRIPTION - DATE
1	

DATE: 1/8/2018
CRE PROJECT NO.: 17.534.03
DRAWN BY: AAW/DDL

GEN NOTES, OPS PLAN, BALLAST PLAN

S1.1



BEAM LOADING CHART WITHOUT PRT CANTILEVER

BEAM CALLOUT	UNIFORMLY DISTRIBUTED LOAD	CENTER POINT LOAD	THIRD POINT LOAD	QUARTER POINT LOAD
I-BEAM #1	25 lb/ft	400 lb	300 lb	200 lb
I-BEAM #2	57 plf	-	-	-
I-BEAM #3	50 lb/ft	800 lb	500 lb	330 lb
SPEAKER BEAM	-----	2,000 lb	-----	-----

ROOF FRAMING PLAN

1/2" = 1'-0"

NOTE:

1. REFERENCE EL = GRADE = 100'-0"
2. FLOOR EL 103'-9"±
3. SEE SHEET S5.1 FOR GENERAL NOTES, HIGH WIND ACTION PLAN, AND BALLAST REQUIREMENTS
4. SCRIM ON SIDES OF STRUCTURE MUST BE INSTALLED WITH A 3 FOOT SAG AT MIDSPAN TO PREVENT EXCESSIVE LATERAL LOADS ON THE STRUCTURAL MEMBERS
5. FRAMING MEMBERS ARE ALUMINUM UNLESS OTHERWISE NOTED
6. PRT CANTILEVER OPTION IN DETAIL 10/S3.1 IS SHOWN ON ONE SIDE OF THE ROOF FRAMING PLAN FOR CLARITY. THE PRT CANTILEVER OPTION IS APPLICABLE ON BOTH SIDES OF THE ROOF FRAMING PLAN
7. RIGGING FOR PRT CANTILEVER SHALL BE A VERTICAL DEAD HANG ONLY. NO BRIDLE OR LATERAL COMPONENT OF LINE LOAD IS PERMITTED

BEAM LOADING CHART WITH PRT CANTILEVER

BEAM CALLOUT	UNIFORMLY DISTRIBUTED LOAD	CENTER POINT LOAD	THIRD POINT LOAD	QUARTER POINT LOAD
I-BEAM #1	25 lb/ft	400 lb	300 lb	200 lb
I-BEAM #2	57 plf	-	-	-
I-BEAM #3	40 lb/ft	610 lb	450 lb	309 lb
SPEAKER BEAM	-----	2,000 lb	-----	-----

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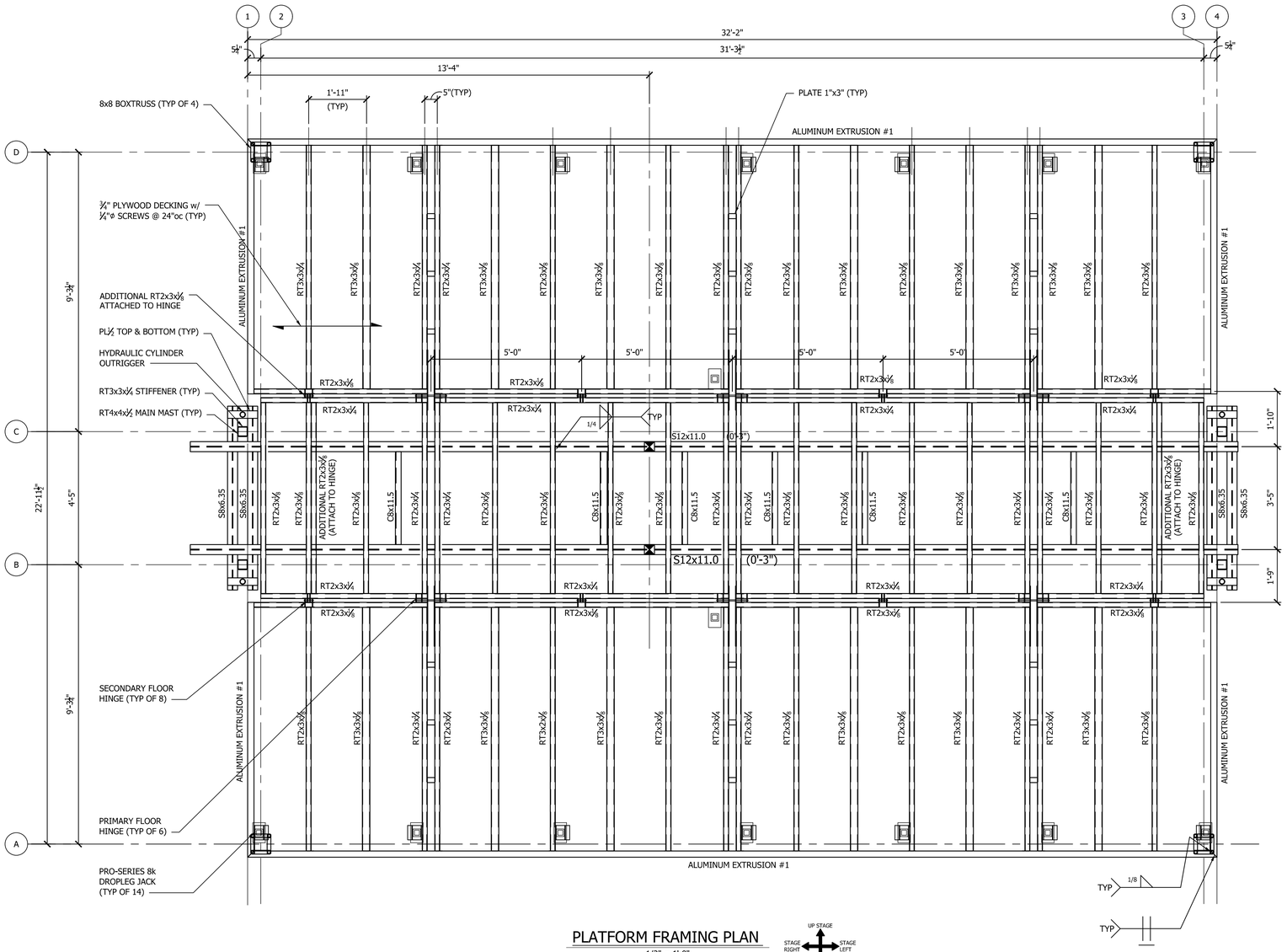
ROOF FRAMING PLAN

S1.2



PLATFORM FRAMING PLAN

1/2" = 1'-0"

UP STAGE
STAGE RIGHT
STAGE LEFT
DOWN STAGE

NOTE:
1. REFERENCE EL = GRADE = 100'-0"
2. FLOOR EL 103'-9"±
3. SEE SHEET S5.1 FOR GENERAL NOTES, HIGH WIND ACTION PLAN, AND BALLAST REQUIREMENTS.
4. SCRIM ON SIDES OF STRUCTURE MUST BE INSTALLED WITH A 3 FOOT SAG AT MIDSPAN TO PREVENT EXCESSIVE LATERAL LOADS ON THE STRUCTURAL MEMBERS.
5. FRAMING MEMBERS ARE ALUMINUM UNLESS OTHERWISE NOTED.

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PROGRESSIVE PRODUCTS INC. APEX

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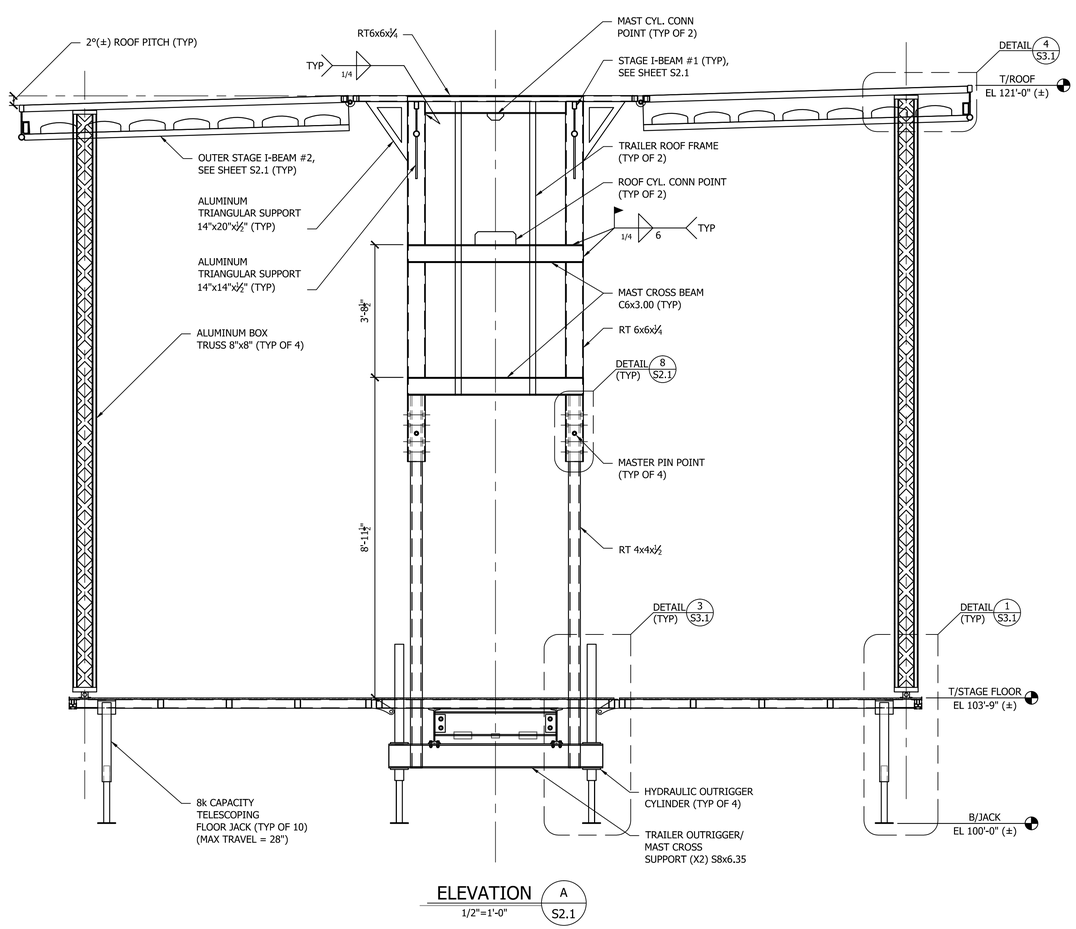
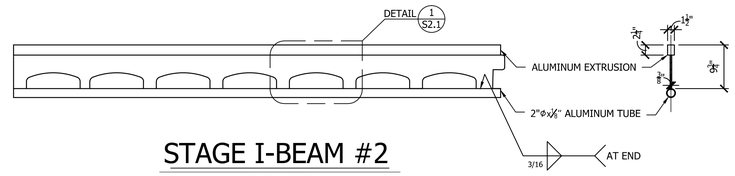
PLATFORM FRAMING PLAN

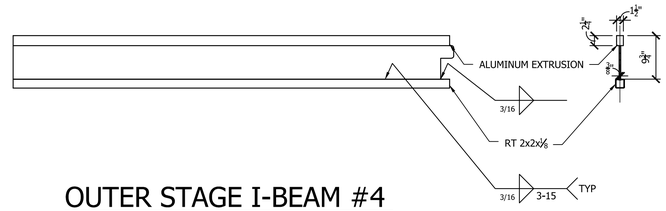
S1.3



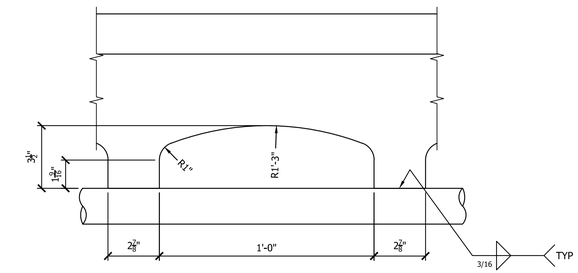
ELEVATION A S2.1
1/2"=1'-0"



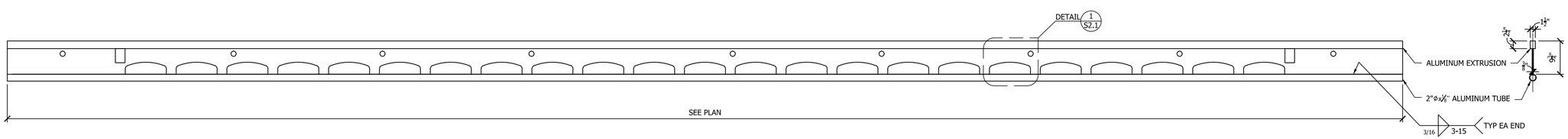
STAGE I-BEAM #2
3/4"=1'-0"



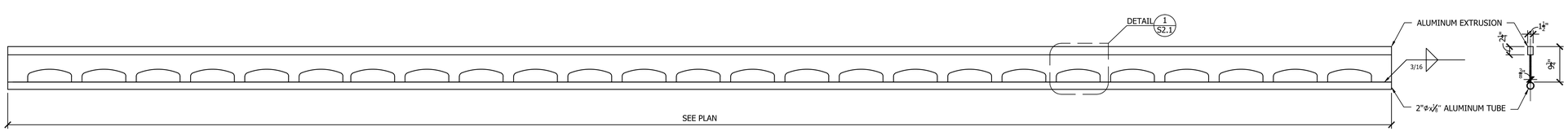
OUTER STAGE I-BEAM #4
3/4"=1'-0"



DETAIL 1 S2.1
3"=1'-0"



STAGE I-BEAM #3
3/4"=1'-0"



STAGE I-BEAM #1
3/4"=1'-0"

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DANIEL J. CLARK LICENSED PROFESSIONAL ENGINEER 21809 06/30/2013
STATE OF OHIO

THOMAS W. LEBLANC PROFESSIONAL ENGINEER 06/12/2013

32x24 MOBILE STAGE w/ PRT CANTILEVER

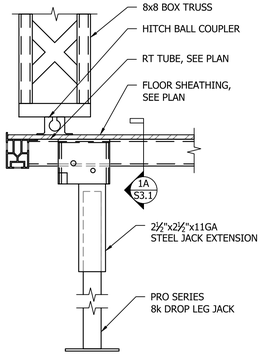
ISSUE/REVISIONS

	REVISION DESCRIPTION - DATE

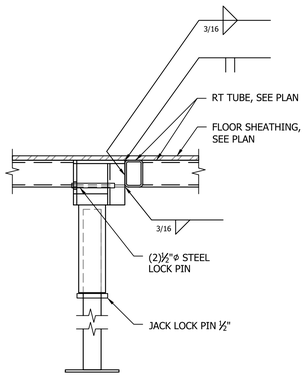
DATE: 06/12/2013
CRE PROJECT NO.: 13.501.30 (B)
DRAWN BY: AJG / TWL

STAGE & BEAM ELEVATIONS & DETAILS

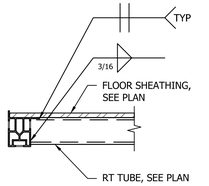
S2.1



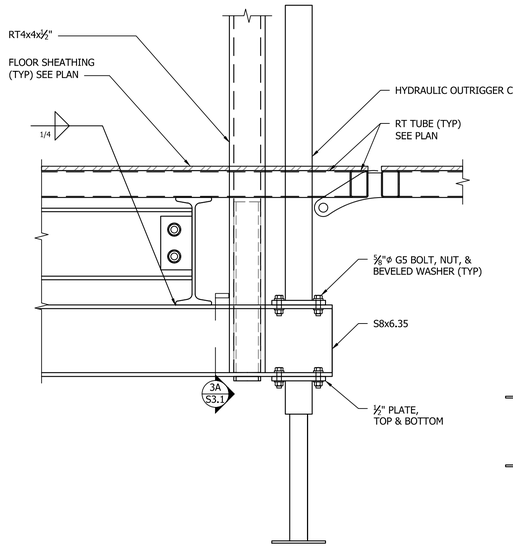
SECTION 1 — 1 1/2"=1'-0" — S3.1



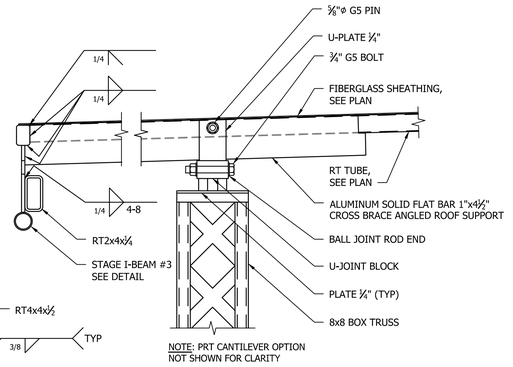
SECTION 1A — 1 1/2"=1'-0" — S3.1



SECTION 2 — 1 1/2"=1'-0" — S3.1

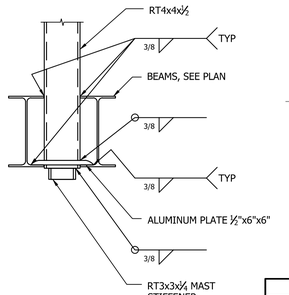


SECTION 3 — 1 1/2"=1'-0" — S3.1

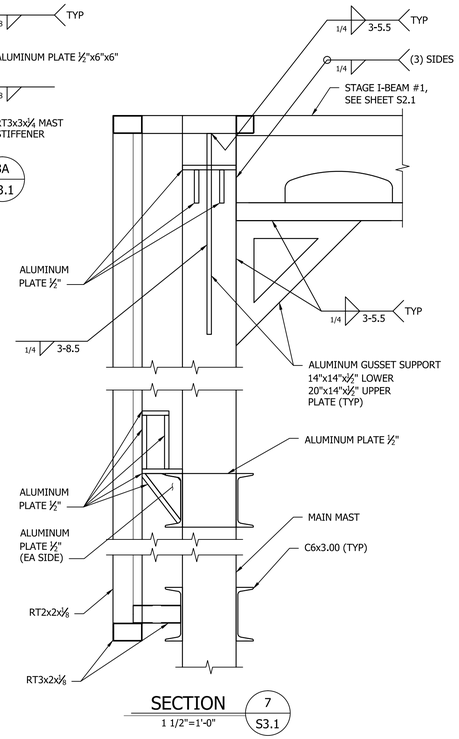


NOTE: PRT CANTILEVER OPTION NOT SHOWN FOR CLARITY

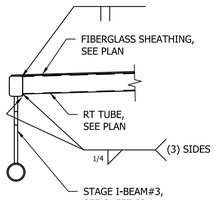
SECTION 4 — 1 1/2"=1'-0" — S3.1



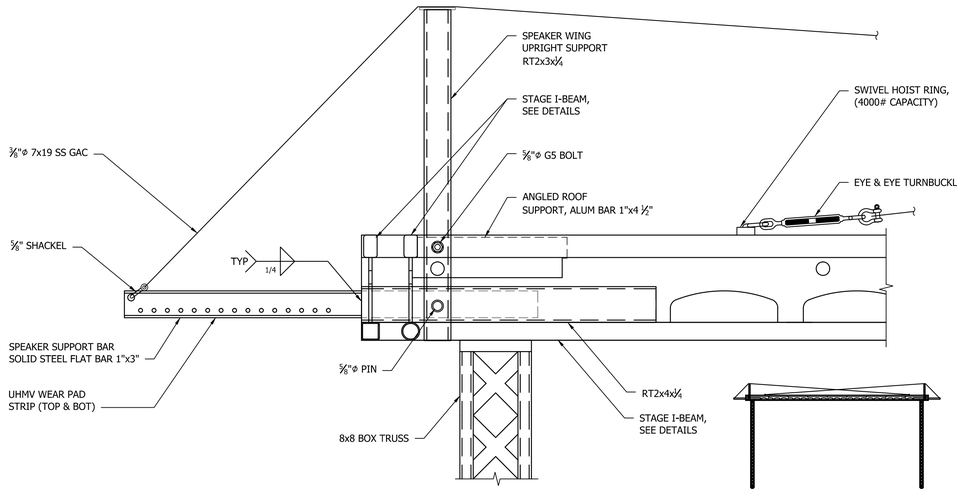
SECTION 3A — 1 1/2"=1'-0" — S3.1



SECTION 7 — 1 1/2"=1'-0" — S3.1



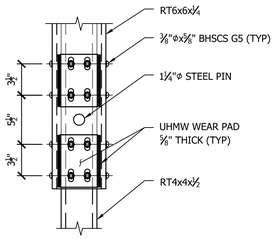
SECTION 5 — 1 1/2"=1'-0" — S3.1



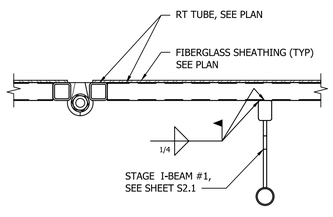
NOTE: PRT CANTILEVER OPTION NOT SHOWN FOR CLARITY

SECTION 6 — 1 1/2"=1'-0" — S3.1

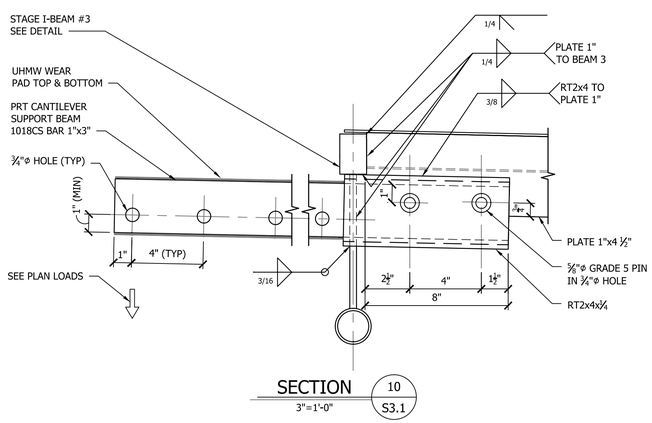
WIRE LAYOUT



SECTION 8 — 1 1/2"=1'-0" — S3.1



SECTION 9 — 1 1/2"=1'-0" — S3.1



SECTION 10 — 3"=1'-0" — S3.1

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32x24 MOBILE STAGE w/ PRT CANTILEVER

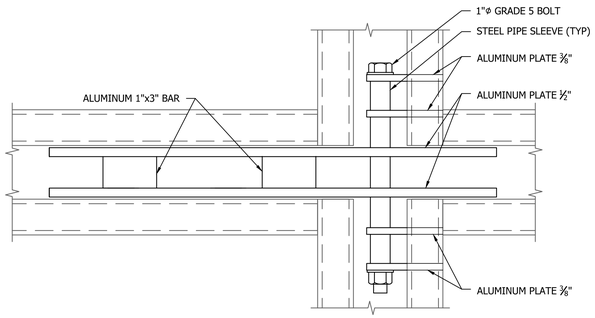
ISSUE/REVISIONS

	REVISION DESCRIPTION - DATE

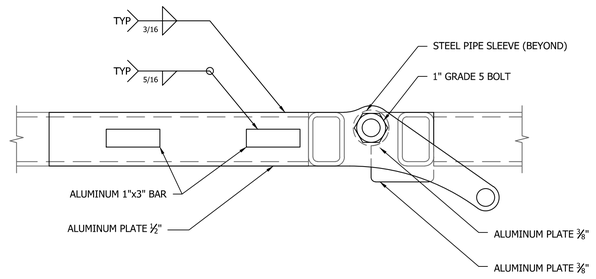
DATE: 06/12/2013
CRI PROJECT NO.: 13.501.30 (B)
DRAWN BY: AJG / TWL

FRAMING SECTIONS

S3.1



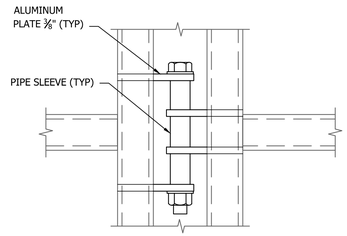
PLAN VIEW



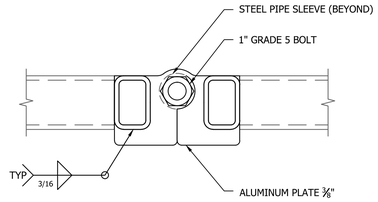
SECTION VIEW

PRIMARY FLOOR HINGE

3"=1'-0"



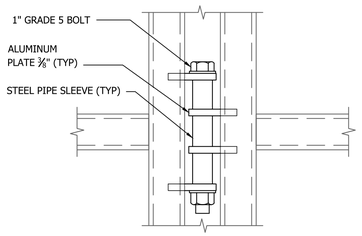
PLAN VIEW



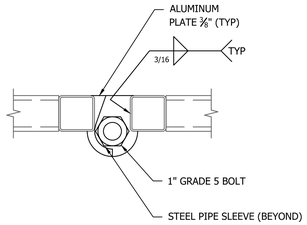
SECTION VIEW

SECONDARY FLOOR HINGE

3"=1'-0"



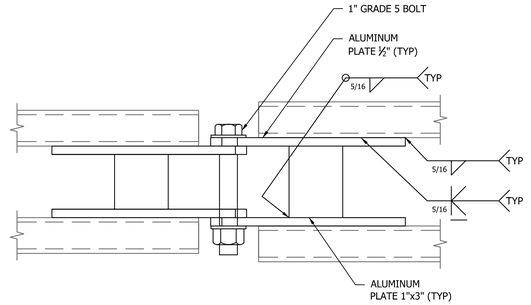
PLAN VIEW



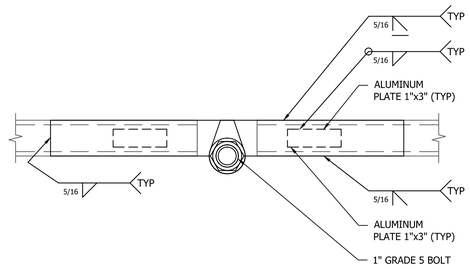
SECTION VIEW

ROOF HINGE

3"=1'-0"



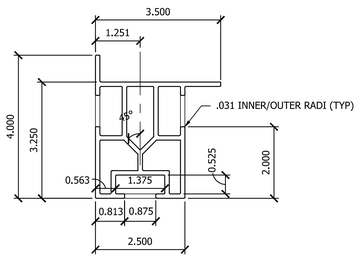
PLAN VIEW



SECTION VIEW

ROOF END HINGE

3"=1'-0"



ALUMINUM EXTRUSION #1

6"=1'-0"

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JEFFREY M. REDER LICENSE No 68622 STATE OF OHIO PROFESSIONAL ENGINEER 6/12/2013

APEX a division of Progressive Products Inc.

PROGRESSIVE PRODUCTS INC.

32x24 MOBILE STAGE w/ PRT CANTILEVER

ISSUE/REVISIONS

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DRAWN BY: AJG / TWL

FRAMING SECTIONS HINGES

S4.1