

GENERAL NOTES

CONSTRUCTION AND SAFETY:

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE CONSTRUCTION CODE AND THE PROJECT SPECIFICATIONS.
- ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. ANY UNEXPECTED CONDITIONS OR DISCREPANCIES WITH THE DESIGN DOCUMENTS SHALL BE REPORTED TO THE ENGINEER PRIOR TO INSTALLATION OR ERECTION OF MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.
- NO PERSONNEL SHALL STEP OR STAND ON PV MODULES (SOLAR PANELS) AT ANY TIME. CANOPY STRUCTURE AND PV MODULES ARE NOT DESIGNED FOR LIVE LOADS AND MAY VOID WARRANTY.

MISCELLANEOUS:

- THIS SUBMITTAL/CONSTRUCTION SET WAS PRODUCED FROM DOCUMENTS RECEIVED FROM CUSTOMER ON 3/24/2017. RBI SOLAR IS NOT RESPONSIBLE FOR DISCREPANCIES FROM ACTUAL FIELD DIMENSIONS.
- THIS RBI SOLAR CONSTRUCTION SET IS DESIGNED FROM PV MODULE DATA SHEET(S) PROVIDED BY THE CUSTOMER. CUSTOMER IS RESPONSIBLE FOR VERIFYING THAT THE PV MODULE(S) DELIVERED TO SITE MATCH DATA SHEET(S) PROVIDED TO RBI SOLAR. RBI SOLAR IS NOT RESPONSIBLE FOR PV MODULE DIMENSIONAL DISCREPANCIES DUE TO FURNISHED PV MODULES NOT MATCHING CUSTOMER FURNISHED PV MODULE DATA SHEETS.

SPECIAL FIELD INSPECTIONS:

SPECIAL INSPECTION NOT REQUIRED BY RBI SOLAR, AS REQUIRED BY OWNER/CUSTOMER AND/OR AUTHORITY HAVING JURISDICTION. MINIMUM INSPECTION SHALL INCLUDE THE FOLLOWING NOTES AND TABLE:

- ALL SPECIAL INSPECTORS SHALL BE RETAINED BY OWNER/CUSTOMER. THE EXTENT OF THE INSPECTION SHALL COMPLY WITH THE CONTRACT DOCUMENTS, THE BUILDING CODE REQUIREMENTS, AND LOCAL JURISDICTION. IT IS THE OWNER'S/CUSTOMER'S RESPONSIBILITY TO GIVE PROPER NOTIFICATION TO THE SPECIAL INSPECTOR AND PROCEED WITH THE WORK ONLY AFTER THE SPECIAL INSPECTOR'S APPROVAL.
- FAILURE TO NOTIFY THE SPECIAL INSPECTOR MAY RESULT IN OWNER/CUSTOMER HAVING TO REMOVE WORK FOR THE PURPOSE OF INSPECTION AT THE OWNER'S/CUSTOMER'S EXPENSE.
- PREMATURE NOTIFICATION FOR INSPECTION WILL RESULT IN AN ADDITIONAL INSPECTION WITH ALL EXPENSES AND FEES PAID BY THE OWNER/CUSTOMER.
- SPECIAL INSPECTORS SHALL KEEP RECORDS OF ALL INSPECTIONS. RECORDS SHALL BE FURNISHED TO THE OWNER, ENGINEER OF RECORD, AND LOCAL JURISDICTION AS REQUIRED. ANY AND ALL DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR. CORRECTIONS SHALL BE MADE AND A FINAL REPORT OF INSPECTIONS SHALL BE PROVIDED NOTING COMPLETION OF INSPECTIONS AND CORRECTIONS OF DISCREPANCIES. FAILURE TO CORRECT DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD AND THE LOCAL JURISDICTION AND MAY RESULT IN REMOVAL OF COMPLETED WORK AND ADDITIONAL WORK TO CORRECT DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

STRUCTURAL STEEL/ALUMINUM FABRICATION	CONTINUOUS	PERIODIC
MATERIAL IDENTIFICATION		X
HIGH STRENGTH BOLTS - MATERIAL IDENTIFICATION OF BOLTS, NUTS AND WASHERS		X
WELD FILLER MATERIALS - IDENTIFICATION AND CONFIRMATION OF COMPLIANCE WITH DESIGN DOCUMENTS		X
STRUCTURAL STEEL/ALUMINUM ERECTION		
MATERIAL IDENTIFICATION		X
INSTALLATION OF HIGH STRENGTH BOLTS		X
WELDED CONNECTIONS		X
MEMBER SIZES AND PLACEMENT		X
GENERAL CONFORMANCE WITH DESIGN DOCUMENTS		X
CONCRETE CONSTRUCTION		
MATERIAL IDENTIFICATION		X
MIX DESIGN VERIFICATION		X
SIZE AND PLACEMENT OF REINFORCING STEEL		X
PLACEMENT OF CONCRETE USING PROPER TECHNIQUES		X
CONCRETE SAMPLES FOR SLUMP, AIR CONTENT, TEMPERATURE, STRENGTH TESTS, ETC. IN ACCORDANCE WITH ACI 318		X
PROPER MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
FOUNDATIONS		
SIZE AND LOCATION OF FOUNDATION EXCAVATIONS		X
PLACEMENT OF REINFORCING STEEL AS REQUIRED		X

STRUCTURAL STEEL:

- ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST VERSION OF AISC "MANUAL OF STEEL CONSTRUCTION." LIGHT GAGE COLD-FORMED SECTIONS SHALL CONFORM TO LATEST VERSION OF AISI SPECIFICATIONS FOR COLD-FORMED STEEL STRUCTURAL MEMBERS.
- MATERIALS:
 - ROLLED SHAPES: ASTM A992 OR A572 GRADE 50, $F_y = 50$ KSI MINIMUM
 - PLATES: ASTM A529 GRADE 50
 - TUBULAR SHAPES: ASTM A500 GRADE C, $F_y = 50$ KSI MINIMUM
 - FIELD BOLTS (TYP. U.N.O.): SAE J429 GRADE 5 AND/OR ASTM A325
 - SCREWS: #12 TEKs - GALVANIZED
 - COLD-FORMED/LIGHT GAGE: ASTM A653
 - ANCHOR RODS: ASTM A193 B7 OR ASTM F1554 GRADE 105
- TEK SCREWS ARE TO BE INSTALLED USING A 2500 RPM MAX. NON-IMPACTING VARIABLE SPEED DRILL WITH CLUTCH OUT.
- FIELD CONNECTIONS SHALL BE BOLTED EXCEPT WHERE WELDED CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS. ALL BOLTED CONNECTIONS SHALL BE INSTALLED TO THE "SNUG TIGHT" CONDITION DEFINED AS THE FULL EFFORT OF A MAN USING A NORMAL SPUD WRENCH OR A FEW IMPACTS OF AN IMPACT WRENCH. THE "SNUG TIGHT" CONDITION WILL ENSURE THE PLIES OF CONNECTED MATERIAL ARE IN FIRM CONTACT.
- ALL PV MODULE MOUNTING HARDWARE SHALL BE INSTALLED AND TORQUED PER PV MODULE MANUFACTURER'S RECOMMENDATIONS. CONNECTIONS USING WEBB BONDING WASHERS SHALL BE PER RBI INSTALLATION MANUAL - MINIMUM OF 12 FT-LBS FOR 5/16" MOUNTING HARDWARE AND 6 FT-LBS FOR 1/4" MOUNTING HARDWARE.
- ALL WELDING OF STEEL SHALL BE DONE IN ACCORDANCE WITH THE LATEST VERSION OF THE AMERICAN WELD SOCIETY'S SPECIFICATIONS - AWS D1.1. ELECTRODES SHALL BE E70 SERIES UNLESS NOTED OTHERWISE.
- GALVANIZING SPECIFICATIONS - GALVANIZING SHALL BE PER CONTRACT DOCUMENTS
 - HOT-DIPPED GALVANIZING SHALL BE PER ASTM A123.
 - PRE-GALVANIZED MATERIALS SHALL COMPLY WITH ASTM A653 - G140 MINIMUM.
 - ALL STRUCTURAL HARDWARE (NOT PV MODULE MOUNTING HARDWARE) SHALL BE GALVANIZED.

MISCELLANEOUS FASTENERS:

- ALL BOLTS SHALL BE THE TYPE AND SIZE INDICATED ON DRAWINGS.
- ALL HARDWARE USED FOR MOUNTING PV MODULES SHALL BE STAINLESS STEEL UNLESS NOTED OTHERWISE.

WORK BY OTHERS:

- ALL SHADING ANALYSIS AND/OR PRODUCTION ANALYSIS SHALL BE PERFORMED AND VERIFIED BY OTHERS. RBI SOLAR IS NOT RESPONSIBLE FOR PV SYSTEM DESIGN AS IT PERTAINS TO ELECTRICAL OR PV SYSTEM PRODUCTION.
- ITEMS AS DESIGNATED IN RESPONSIBILITY SCHEDULE ON SHEET G-001.

FOUNDATIONS/CONCRETE:

- THE FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT PREPARED BY: TERRACON CONSULTANTS, INC. DATED: APRIL 28, 2017 (REPORT #: J4175006). BEARING CAPACITY OF SOIL AT PIER TIP: 4,000 psf (NATIVE SAND) 10,000 psf (BEDROCK)
- ALLOWABLE LATERAL BEARING PRESSURE MAY BE DOUBLED DUE TO THE STRUCTURES NOT BEING ADVERSELY AFFECTED BY 1/2" MOTION AT THE GROUND SURFACE DUE TO SHORT-TERM LATERAL LOADS PER 2013 CBC 1806A.3.4.
- ALLOWABLE LATERAL BEARING PRESSURE MAY BE CONSIDERED TO ACT OVER AN AREA EQUAL TO TWO TIMES THE PIER DIAMETER DUE TO LARGE PIER SPACING. IF THIS IS ALLOWED, THE ALLOWABLE LATERAL BEARING PRESSURE MAY BE DOUBLED, ACTING OVER THE ACTUAL PIER DIAMETER.
- FOR VERTICAL LOADING, THE FOUNDATION DEPTHS SHOWN IN THE SCHEDULES ARE DESIGNED BASED ON EITHER END BEARING OR SKIN FRICTION, WHERE SKIN FRICTION HAS BEEN BASED ON 2013 CBC 1810A.3.3.1.4 (i.e., SKIN FRICTION BASED ON 1/6 THE VALUE OF END BEARING, AND END BEARING AND SKIN FRICTION NOT BEING COMBINED).
- VARIATIONS IN SOIL CONDITIONS SHALL BE REPORTED TO GEOTECHNICAL ENGINEER AND ENGINEER OF RECORD RESPONSIBLE FOR FOUNDATION DESIGN PRIOR TO INSTALLATION OF ANY FOUNDATION MATERIALS.
- INSTALLER/CONTRACTOR SHALL COORDINATE PLACEMENT OF FOUNDATIONS AND/OR ANCHOR BOLTS PER DESIGN DRAWINGS AND/OR MANUFACTURER'S SPECIFICATIONS.
- RBI SOLAR, INC. DESIGNS FOUNDATIONS BASED ON SOIL PROPERTIES OUTLINED IN CERTIFIED GEOTECHNICAL REPORTS. ALL DESIGNS ASSUME UNDISTURBED SOIL CONDITIONS, AND DO NOT TAKE INTO ACCOUNT TRENCHING NEAR FOUNDATIONS. FOR CASES WHERE TRENCHING FOR ELECTRICAL WORK IS AT OR NEAR A FOUNDATION, RBI SOLAR RECOMMENDS A MINIMUM OF 3'-0" CLEAR FROM THE EDGE OF THE TRENCH TO THE EDGE OF THE FOUNDATION FOR "NORMAL, GOOD SOIL CONDITIONS." IN CASES OF "POOR SOIL" CONDITIONS, RBI SOLAR RECOMMENDS A MINIMUM CLEAR DISTANCE EQUAL TO OR GREATER THAN THE DEPTH OF THE FOUNDATION. IF IN DOUBT OF SOIL CONDITIONS, RBI SOLAR RECOMMENDS CONSULTING A QUALIFIED GEOTECHNICAL ENGINEER TO ASSESS SOIL CONDITIONS AT THE SITE.

NOTE: TRENCHING/EXCAVATION WITHIN 3'-0" OF ANY FOUNDATION REQUIRES REPLACING THE ORIGINAL SOIL AND COMPACTION TO 95% STANDARD PROCTOR DENSITY. FOR FURTHER CLARIFICATION ON COMPACTION REQUIREMENTS, RBI SOLAR RECOMMENDS CONSULTING A QUALIFIED GEOTECHNICAL ENGINEER.
- ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST VERSION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
- CONCRETE MIX DESIGNS MUST HAVE ENGINEER OF RECORD APPROVAL PRIOR TO COMMENCEMENT OF ANY CONCRETE WORK.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 BILLET STEEL. REINFORCEMENT DETAILS PER ACI 318 AND IBC.
- MINIMUM CONCRETE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS: CONCRETE CAST AGAINST EARTH = 3.0".
- CONCRETE STRENGTH: 5,000 PSI AT 28 DAYS MINIMUM (WITH +/-4" SLUMP), NOMINAL AGGREGATE SIZE: 3/4".
- CONCRETE MIX DESIGN FOR C2 CORROSION EXPOSURE: MAX WATER/CEMENT RATIO = 0.5
MAX CHLORIDE CONTENT = 0.15%
- BASE PLATE GROUT: NON-SHRINK, MINIMUM 8000 PSI STRENGTH.
- ALTERING OR SUBSTITUTING OF REINFORCEMENT MUST HAVE ENGINEER OF RECORD APPROVAL.
- PLACEMENT OF CONDUIT MUST HAVE ENGINEER OF RECORD APPROVAL.

PV MODULE SPECIFICATION SHEETS

Innovation for
a Better Life

LG NeON™ 2 72cell LG400NZW-A5

72 cell

LG's new module, LG NeON™ 2, adopts Cello technology. Cello technology replaces 3 busbars with 12 thin wires to enhance power output and reliability. LG NeON™ 2 demonstrates LG's efforts to increase customer's value beyond efficiency. It features enhanced warranty, durability, performance under real environment, and aesthetic design suitable for roofs.



Enhanced Performance Warranty

LG NeON™ 2 has an enhanced performance warranty. The annual degradation has fallen from -0.6%/yr to -0.55%/yr. Even after 25 years, the cell guarantees 1.2% more output than the previous LG NeON™ 2 modules.



Aesthetic Roof

LG NeON™ 2 has been designed with aesthetics in mind; thinner wires that appear all black at a distance. The product may help increase the value of a property with its modern design.



Better Performance on a Sunny Day

LG NeON™ 2 now performs better on sunny days thanks to its improved temperature coefficient.



High Power Output

Compared with previous models, the LG NeON™ 2 has been designed to significantly enhance its output efficiency, thereby making it efficient even in limited space.



Outstanding Durability

With its newly reinforced frame design, LG has extended the warranty of the LG NeON™ 2 for an additional 2 years. Additionally, LG NeON™ 2 can endure a front load up to 5400 Pa, and a rear load up to 4300 Pa.



Double-Sided Cell Structure

The rear of the cell used in LG NeON™ 2 will contribute to generation, just like the front; the light beam reflected from the rear of the module is reabsorbed to generate a great amount of additional power.

LG NeON™ 2 72cell LG400NZW-A5

Mechanical Properties

Cells	6 x 12
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	161.7 x 161.7 mm / 6 inches
# of Busbar	12 (Multi Wire Busbar)
Dimensions (L x W x H)	2024 x 1024 x 40 mm 79.69 x 40.31 x 1.57 inch
Front Load	5400Pa
Rear Load	4300Pa
Weight	21.7 kg
Connector Type	MCA
Junction Box	IP68 with 3 Bypass Diodes
Cables	1200 mm x 2 ea
Glass	High Transmission Tempered Glass
Frame	Anodized Aluminum

Certifications and Warranty

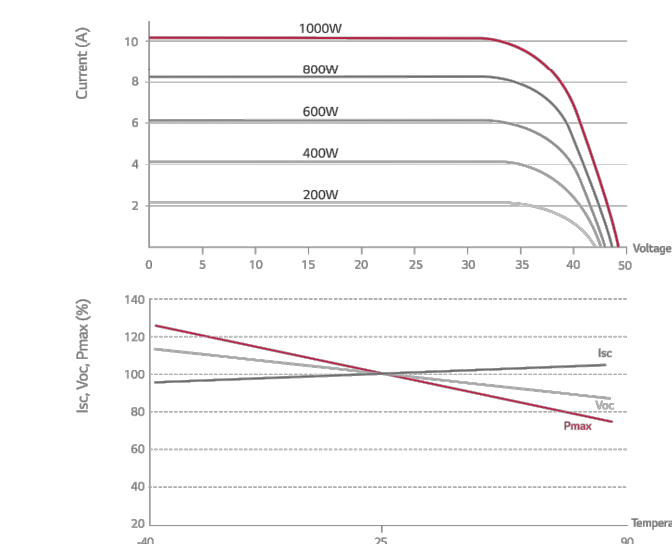
Certifications	IEC 61215, IEC 61730-1/-2 UL 1703 IEC 61701 (Salt mist corrosion test) IEC 62716 (Ammonia corrosion test) ISO 9001
Module Fire Performance (USA)	Type I
Fire Rating (CANADA)	Class C (ULC / ORD C1703)
Product Warranty	12 years
Output Warranty of Pmax	Linear warranty**

** 1) 1st year: 98%, 2) After 2nd year: 0.55% annual degradation, 3) 25 years: 84.8%

Temperature Characteristics

NOCT	45 ± 3 °C
Pmpp	-0.36%/°C
Voc	-0.26%/°C
Isc	0.02 %/°C

Characteristic Curves



North America Solar Business Team
LG Electronics U.S.A. Inc.
1000 Sylvan Ave, Englewood Cliffs, NJ 07632
Contact: ls.solar@lg.com
www.lgdisplay.com

Product specifications are subject to change without notice.
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01/01/2017

Innovation for a Better Life



Electrical Properties (STC *)

Module	400W
Maximum Power (Pmax)	400
MPP Voltage (Vmpp)	40.6
MPP Current (Impp)	9.86
Open Circuit Voltage (Voc)	49.3
Short Circuit Current (Isc)	10.47
Module Efficiency	19.3
Operating Temperature	-40 ~ +90
Maximum System Voltage	1500 (UL)
Maximum Series Fuse Rating	20
Power Tolerance (%)	0 ~ +3

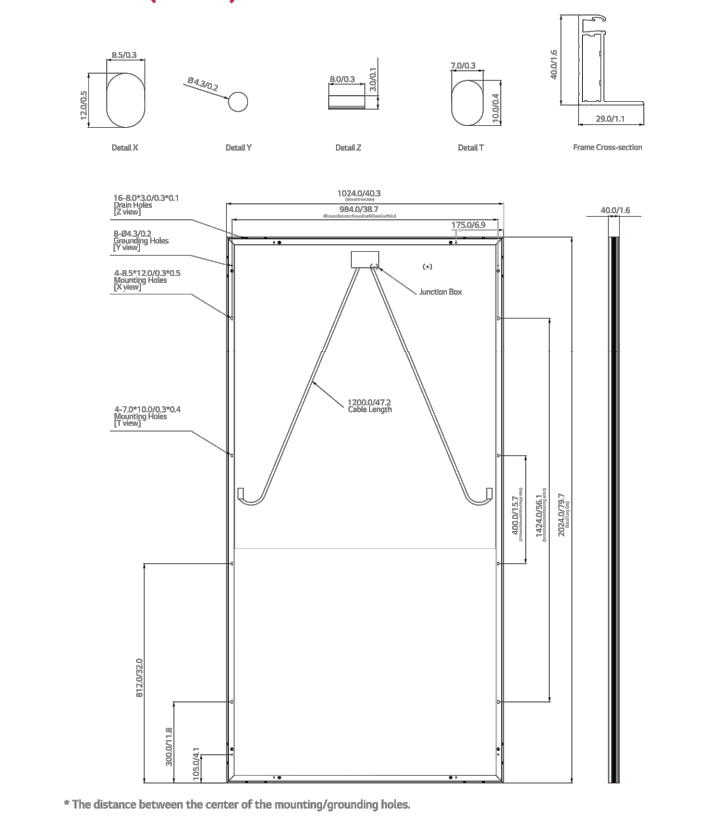
* STC (Standard Test Condition): Irradiance 1000 W/m², Ambient Temperature 25 °C, AM 1.5
* The temperature power output is measured and determined by LG Electronics at its sole and absolute discretion.
* The typical change in module efficiency at 2000W/m² in relation to 1000W/m² is -2.0%.

Electrical Properties (NOCT*)

Module	400W
Maximum Power (Pmax)	296
MPP Voltage (Vmpp)	37.6
MPP Current (Impp)	7.88
Open Circuit Voltage (Voc)	46.1
Short Circuit Current (Isc)	8.41

* NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², ambient temperature 20 °C, wind speed 1m/s

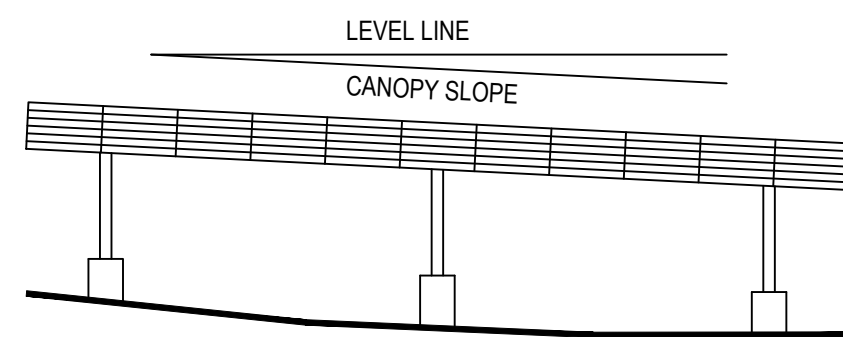
Dimensions (mm/in)



FINISH SCHEDULE

ITEM DESCRIPTION	N/A	HDG	POWDER COAT	PAINT	PREGALV	STAINLESS STEEL	ALUMINUM	PVC	REMARKS
COLUMN ASSEMBLIES		●							
TOP BEAM/TRUSS ASSEMBLIES		●							
KNEE BRACE & BRACKETS	●								
PURLIN BRACKETS		●							
PURLINS					●				
DECKING	●								
GUTTERS	●								
DOWNSPOUTS	●								
PURLIN ENCLOSURE	●								
SNOW GUARDS		●							
RAILS	●								
TUBE BRACING	●								
ANGLE BRACING					●				
STRUCTURAL HARDWARE		●							
MODULE HARDWARE & CLIPS						●	●		5/16"Ø MODULE HDWR.

CANOPY TOPOGRAPHIC RELATIONSHIP



KEY POINTS

- CANOPY STRUCTURE IS PARALLEL TO AVERAGE SITE GRADE
- CANOPY SLOPE MAY VARY PER STRUCTURE
- COLUMN LENGTHS MAY VARY
- TOPS OF PIERS MAY VARY

AVERAGE SLOPE

RBI SOLAR
Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service
5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN
OF STRUCTURAL COMPONENTS ONLY

SOLAR CANOPY
FOR
INDUSTRIA ENGINEERING

RELEASE RECORD

-	5/10/18	AS-BUILT SET
△	11/27/17	CONSTRUCTION SET
-	11/10/17	CONSTRUCTION SET
△	07/18/17	REVIEW RESPONSES
-	06/22/17	STAMPED SUBMITTAL
-	06/21/17	PV MODULE CHANGE
△	05/16/17	FOUNDATION INFO
-	04/27/17	STAMPED SUBMITTAL
-	04/20/17	REV. 75% SUBMITTAL
-	04/19/17	75% REVIEW SUBMITTAL
-	04/05/17	ENGINEERING REQUEST
-	03/29/17	50% REVIEW SUBMITTAL

MARK DATE DESCRIPTION

PROJECT INFORMATION

TITLE & ADDRESS:
**NATIONAL GRID - SUTTON
CANOPY PROJECT**

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY: RJS
REVIEWED BY: LN/MES

SHEET TITLE:
GENERAL NOTES
MODULE SPECIFICATION
SHEETS

SHEET No.:

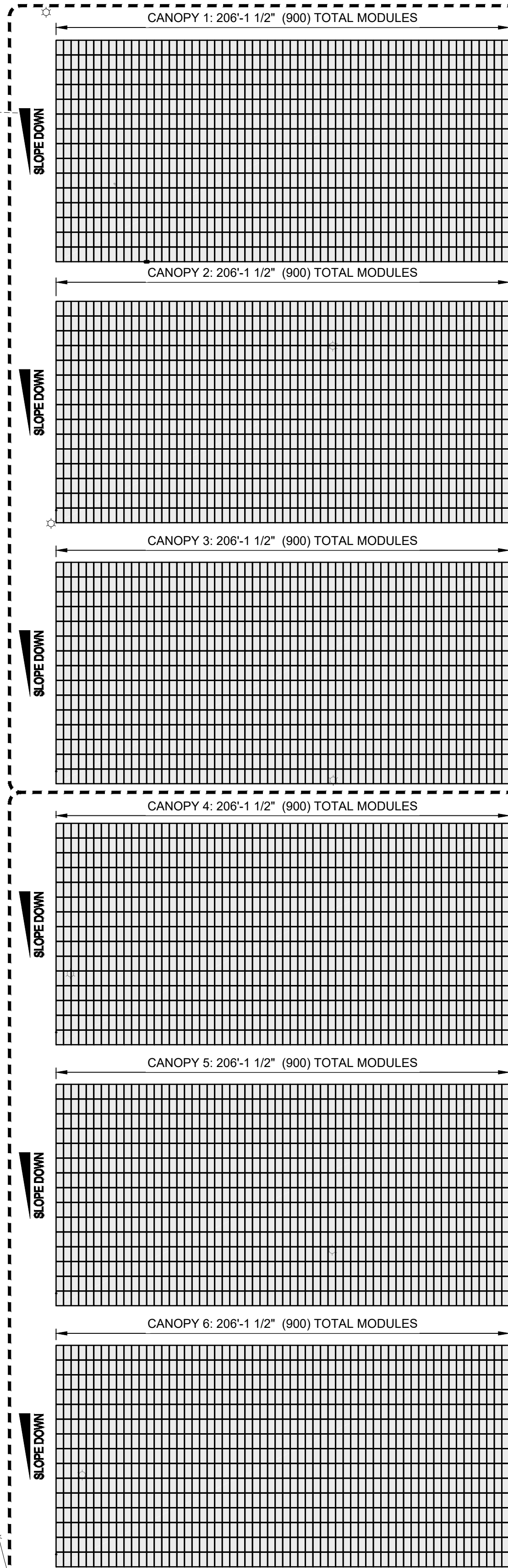
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A1
SCALE:
1" = 40'-0"

Site Plan



A1
S-102

TYP.
A1
S-301

18'-0"
TYP.

28'-6"
TYP.

A1
S-103

RBI SOLAR
Total Solar Service: Design * Fabrication
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5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

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ENGINEER'S SEAL APPLIES TO DESIGN
OF STRUCTURAL COMPONENTS ONLY



SOLAR CANOPY FOR INDUSTRIA ENGINEERING

RELEASE RECORD

-	5/10/18	AS-BUILT SET
3	11/27/17	CONSTRUCTION SET
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3	07/18/17	REVIEW RESPONSES
-	06/22/17	STAMPED SUBMITTAL
-	06/21/17	PV MODULE CHANGE
3	05/16/17	FOUNDATION INFO
-	04/27/17	STAMPED SUBMITTAL
-	04/20/17	REV. 75% SUBMITTAL
-	04/19/17	75% REVIEW SUBMITTAL
-	04/05/17	ENGINEERING REQUEST
-	03/29/17	50% REVIEW SUBMITTAL

MARK DATE DESCRIPTION

PROJECT INFORMATION

TITLE & ADDRESS:
**NATIONAL GRID - SUTTON
CANOPY PROJECT**

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY:
RJS

REVIEWED BY:
LN/MES

SHEET TITLE:

SITE PLAN

SHEET No.:

S-101

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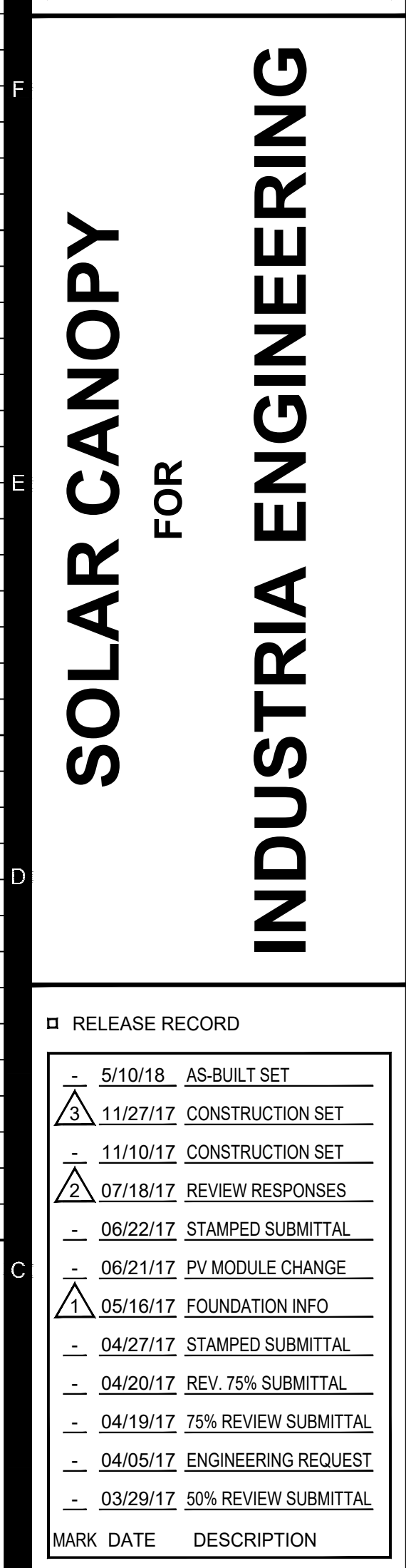


COLUMN SETTING NOTES:

1. ALL COLUMN DIMENSIONS SHOWN ARE $\pm$ TO $\pm$ OF COLUMN.
2. LOCATION OF UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. DIMENSIONS SHOWN ON PLAN SHALL BE VERIFIED IN THE FIELD.
4. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
5. REFERENCE SHEET S-401 FOR ADDITIONAL FOUNDATION INFORMATION.
6. "LENGTH" REFERS TO THE CUT LENGTH OF THE COLUMN ON ITS LONGEST FACE.

PIER NOTES:

1. $\pm$ OF ELEVATION AT THE BENCHMARK PIER IS FOR REFERENCE ONLY AND IS NOT RELATED TO SEA LEVEL.
2. TOP OF CONCRETE ELEVATION OF PIER IS IN RELATION TO CORRESPONDING BENCHMARK PIER.
3. REFER TO SHEET S-401 FOR FOUNDATION & LEVELING NUT DETAILS.
4. REFER TO SHEET S-401 FOR LEVELING NUT ADJUSTMENT DETAIL.



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COLUMN SCHEDULE				
MARK	FNDN. TYPE	DESCRIPTION	LENGTH	LEVELING NUT
43	A	WELDED W18x76 COLUMN ASSEMBLY	295"	1 3/8"
44	A	WELDED W18x76 COLUMN ASSEMBLY	296"	1 3/8"
45	A	WELDED W18x76 COLUMN ASSEMBLY	293"	1 3/8"
46	A	WELDED W18x76 COLUMN ASSEMBLY	294"	1 3/8"
47	A	WELDED W18x76 COLUMN ASSEMBLY	294"	1 3/8"
48	A	WELDED W18x76 COLUMN ASSEMBLY	291"	1 3/8"
49	A	WELDED W18x76 COLUMN ASSEMBLY	290"	1 3/8"
50	A	WELDED W18x76 COLUMN ASSEMBLY	255"	1 3/8"
51	A	WELDED W18x76 COLUMN ASSEMBLY	254"	1 3/8"
52	A	WELDED W18x76 COLUMN ASSEMBLY	257"	2"
53	A	WELDED W18x76 COLUMN ASSEMBLY	255"	2"
54	A	WELDED W18x76 COLUMN ASSEMBLY	258"	1 3/8"
55	A	WELDED W18x76 COLUMN ASSEMBLY	255"	1 3/8"
56	A	WELDED W18x76 COLUMN ASSEMBLY	253"	1 3/8"
57	A	WELDED W18x76 COLUMN ASSEMBLY	295"	1 3/8"
58	A	WELDED W18x76 COLUMN ASSEMBLY	294"	1 3/8"
59	A	WELDED W18x76 COLUMN ASSEMBLY	297"	1 3/8"
60	A	WELDED W18x76 COLUMN ASSEMBLY	294"	1 3/8"
61	A	WELDED W18x76 COLUMN ASSEMBLY	298"	1 3/8"
62	A	WELDED W18x76 COLUMN ASSEMBLY	291"	2"
63	A	WELDED W18x76 COLUMN ASSEMBLY	292"	1 3/8"
64	A	WELDED W18x76 COLUMN ASSEMBLY	257"	1 3/8"
65	A	WELDED W18x76 COLUMN ASSEMBLY	256"	1 3/8"
66	A	WELDED W18x76 COLUMN ASSEMBLY	257"	1 3/8"
67	A	WELDED W18x76 COLUMN ASSEMBLY	257"	1 3/8"
68	A	WELDED W18x76 COLUMN ASSEMBLY	260"	1 3/8"
69	A	WELDED W18x76 COLUMN ASSEMBLY	256"	1 3/8"
70	A	WELDED W18x76 COLUMN ASSEMBLY	253"	2 3/8"
71	A	WELDED W18x76 COLUMN ASSEMBLY	288"	1 3/8"
72	A	WELDED W18x76 COLUMN ASSEMBLY	294"	1 3/8"
73	A	WELDED W18x76 COLUMN ASSEMBLY	294"	1 3/8"
74	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	259"	2 3/8"
75	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	260"	1 3/8"
76	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	259"	1 3/8"
77	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	259"	1 3/8"
78	A	WELDED W18x76 COLUMN ASSEMBLY	248"	1 3/8"
79	A	WELDED W18x76 COLUMN ASSEMBLY	255"	1 3/8"
80	A	WELDED W18x76 COLUMN ASSEMBLY	259"	2 3/8"
81	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	219"	1 3/8"
82	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	220"	1 3/8"
83	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	220"	1 3/8"
84	B (RAISED)	WELDED W18x76 COLUMN ASSEMBLY	219"	1 3/8"
99	A	WELDED W18x76 COLUMN ASSEMBLY	285"	1 3/8"
100	A	WELDED W18x76 COLUMN ASSEMBLY	288"	1 3/8"
101	A	WELDED W18x76 COLUMN ASSEMBLY	288"	1 3/8"
102	A	WELDED W18x76 COLUMN ASSEMBLY	288"	1 3/8"
103	A	WELDED W18x76 COLUMN ASSEMBLY	287"	1 3/8"
104	A	WELDED W18x76 COLUMN ASSEMBLY	286"	1 3/8"
105	A	WELDED W18x76 COLUMN ASSEMBLY	286"	2"
106	A	WELDED W18x76 COLUMN ASSEMBLY	245"	2 3/8"
107	A	WELDED W18x76 COLUMN ASSEMBLY	249"	1 3/8"
108	A	WELDED W18x76 COLUMN ASSEMBLY	250"	1 3/8"
109	A	WELDED W18x76 COLUMN ASSEMBLY	249"	2"
110	A	WELDED W18x76 COLUMN ASSEMBLY	251"	1 3/8"
111	A	WELDED W18x76 COLUMN ASSEMBLY	248"	1 3/8"
112	A	WELDED W18x76 COLUMN ASSEMBLY	247"	1 3/8"
113	A	WELDED W18x76 COLUMN ASSEMBLY	285"	1 3/8"
114	A	WELDED W18x76 COLUMN ASSEMBLY	289"	1 3/8"
115	A	WELDED W18x76 COLUMN ASSEMBLY	289"	1 3/8"
116	A	WELDED W18x76 COLUMN ASSEMBLY	289"	1 3/8"
117	A	WELDED W18x76 COLUMN ASSEMBLY	287"	1 3/8"
118	A	WELDED W18x76 COLUMN ASSEMBLY	286"	1 3/8"
119	A	WELDED W18x76 COLUMN ASSEMBLY	284"	1 3/8"
120	A	WELDED W18x76 COLUMN ASSEMBLY	246"	1 3/8"
121	A	WELDED W18x76 COLUMN ASSEMBLY	250"	2"
122	A	WELDED W18x76 COLUMN ASSEMBLY	250"	1 3/8"
123	A	WELDED W18x76 COLUMN ASSEMBLY	250"	1 3/8"
124	A	WELDED W18x76 COLUMN ASSEMBLY	249"	2"
125	A	WELDED W18x76 COLUMN ASSEMBLY	247"	1 3/8"
126	A	WELDED W18x76 COLUMN ASSEMBLY	245"	1 3/8"
127	A	WELDED W18x76 COLUMN ASSEMBLY	284"	1 3/8"
128	A	WELDED W18x76 COLUMN ASSEMBLY	288"	1 3/8"
129	A	WELDED W18x76 COLUMN ASSEMBLY	287"	1 3/8"
130	A	WELDED W18x76 COLUMN ASSEMBLY	288"	1 3/8"
131	A	WELDED W18x76 COLUMN ASSEMBLY	287"	2"
132	A	WELDED W18x76 COLUMN ASSEMBLY	285"	1 3/8"
133	A	WELDED W18x76 COLUMN ASSEMBLY	284"	1 3/8"
134	A	WELDED W18x76 COLUMN ASSEMBLY	244"	1 3/8"
135	A	WELDED W18x76 COLUMN ASSEMBLY	248"	2"
136	A	WELDED W18x76 COLUMN ASSEMBLY	251"	1 3/8"
137	A	WELDED W18x76 COLUMN ASSEMBLY	252"	1 3/8"
138	A	WELDED W18x76 COLUMN ASSEMBLY	250"	2"
139	A	WELDED W18x76 COLUMN ASSEMBLY	247"	2"
140	A	WELDED W18x76 COLUMN ASSEMBLY	246"	1 3/8"

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PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

SOLAR CANOPY FOR INDUSTRIAL ENGINEERING

RELEASE RECORD

MARK	DATE	DESCRIPTION
3	5/10/18	AS-BUILT SET
3	11/27/17	CONSTRUCTION SET
3	11/10/17	CONSTRUCTION SET
3	07/18/17	REVIEW RESPONSES
3	06/22/17	STAMPED SUBMITTAL
3	06/21/17	PV MODULE CHANGE
3	05/16/17	FOUNDATION INFO
3	04/20/17	REV. 75% SUBMITTAL
3	04/19/17	75% REVIEW SUBMITTAL
3	04/05/17	ENGINEERING REQUEST
3	03/29/17	50% REVIEW SUBMITTAL

PROJECT INFORMATION

TITLE & ADDRESS:
NATIONAL GRID - SUTTON CANOPY PROJECT

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY: RJS
REVIEWED BY: LN/MES

SHEET TITLE:
CANOPY 4, 5, 6 & 8, 9, 10
FOUNDATION & COLUMN PLAN

SHEET No.:
S-103

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KEY NOTES

1. PURLIN BRIDGING REQUIRED AT END OF THE CANOPY REFER TO DETAIL A10 ON SHEET S-501

2. PURLIN SPLICE REFER TO DETAIL A1 ON SHEET S-501

3. TOP BEAM FLANGE BRACE REFER TO DETAIL C6 ON SHEET S-501

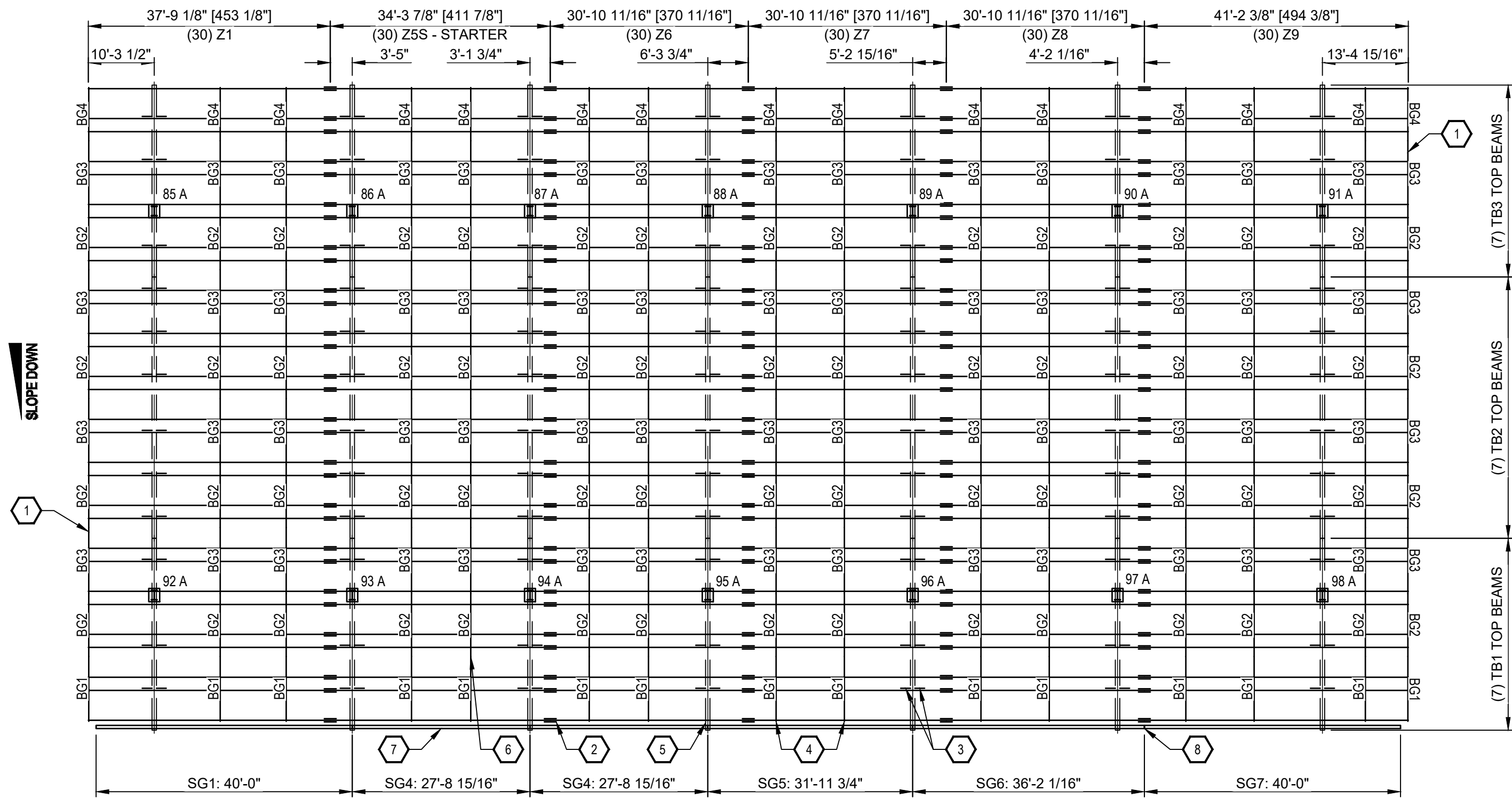
4. PURLIN BRIDGING REQUIRED AT ALL BAYS REFER TO DETAIL A6 ON SHEET S-501

5. STEEL TOP BEAM BELOW.

6. BRIDGING SPLICE AS SHOWN REFER TO DETAIL A8 ON SHEET S-501

7. SNOW GUARD AT LOW EAVE OF TOP BEAM; REFER TO DETAIL G1 ON SHEET S-501

8. SNOW GUARD SPLICE; REFER TO DETAIL E10 ON SHEET S-502



TOP BEAM SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
TB1	W21x73 - TOP BEAM	30'-0" [360"]	7
TB2	W21x73 - TOP BEAM	40'-10" [490"]	7
TB3	W21x73 - TOP BEAM	30'-0" [360"]	7

TOP BEAM SETTING NOTES:
1. ALL TOP BEAM DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL TOP BEAM CONNECTION INFORMATION.

CANOPY 7 PURLIN SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
Z1	12" 10 GA. GALVANIZED Z	37'-9 5/8" [453 3/4"]	30
Z5S	12" 10 GA. GALVANIZED Z - STARTER	34'-3 3/8" [411 1/4"]	30
Z6	12" 10 GA. GALVANIZED Z	30'-10 1/8" [370 1/8"]	30
Z7	12" 10 GA. GALVANIZED Z	30'-10 1/8" [370 1/8"]	30
Z8	12" 10 GA. GALVANIZED Z	30'-10 1/8" [370 1/8"]	30
Z9	12" 10 GA. GALVANIZED Z	41'-2 1/8" [494 1/4"]	30

PURLIN SETTING NOTES:
1. ALL PURLIN DIMENSIONS SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL PURLIN CONNECTION INFORMATION.
4. PURLIN LABELS ENDING WITH "S" REFER TO STARTER PURLINS AND ARE INTENDED TO BE INSTALLED FIRST WITHIN THAT CANOPY.

SNOW GUARD SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY
SG1	8" x 8" x 5/8" STEEL ANGLE	40'-0" [480"]	1
SG4	8" x 8" x 5/8" STEEL ANGLE	27'-8 1/8" [332 1/8"]	2
SG5	8" x 8" x 5/8" STEEL ANGLE	31'-11 1/4" [383 1/4"]	1
SG6	8" x 8" x 5/8" STEEL ANGLE	36'-2 1/8" [434 1/8"]	1
SG7	8" x 8" x 5/8" STEEL ANGLE	40'-0" [480"]	1

SNOW GUARD SETTING NOTES:
1. ALL SNOW GUARD DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL SNOW GUARD CONNECTION INFORMATION.

BRIDGING SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
BG1	12GA. FORMED ANGLE	121' 1/8"	15
BG2	12GA. FORMED ANGLE	117' 5/8"	60
BG3	12GA. FORMED ANGLE	123' 5/8"	60
BG4	12GA. FORMED ANGLE	99' 1/8"	15

BRIDGING SETTING NOTES:
1. ALL BRIDGING DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL BRIDGING CONNECTION INFORMATION.

E1

Canopy 7
Component Plan

SCALE:
1/16" = 1'-0"

KEY NOTES

1. PURLIN BRIDGING REQUIRED AT END OF THE CANOPY REFER TO DETAIL A10 ON SHEET S-501

2. PURLIN SPLICE REFER TO DETAIL A1 ON SHEET S-501

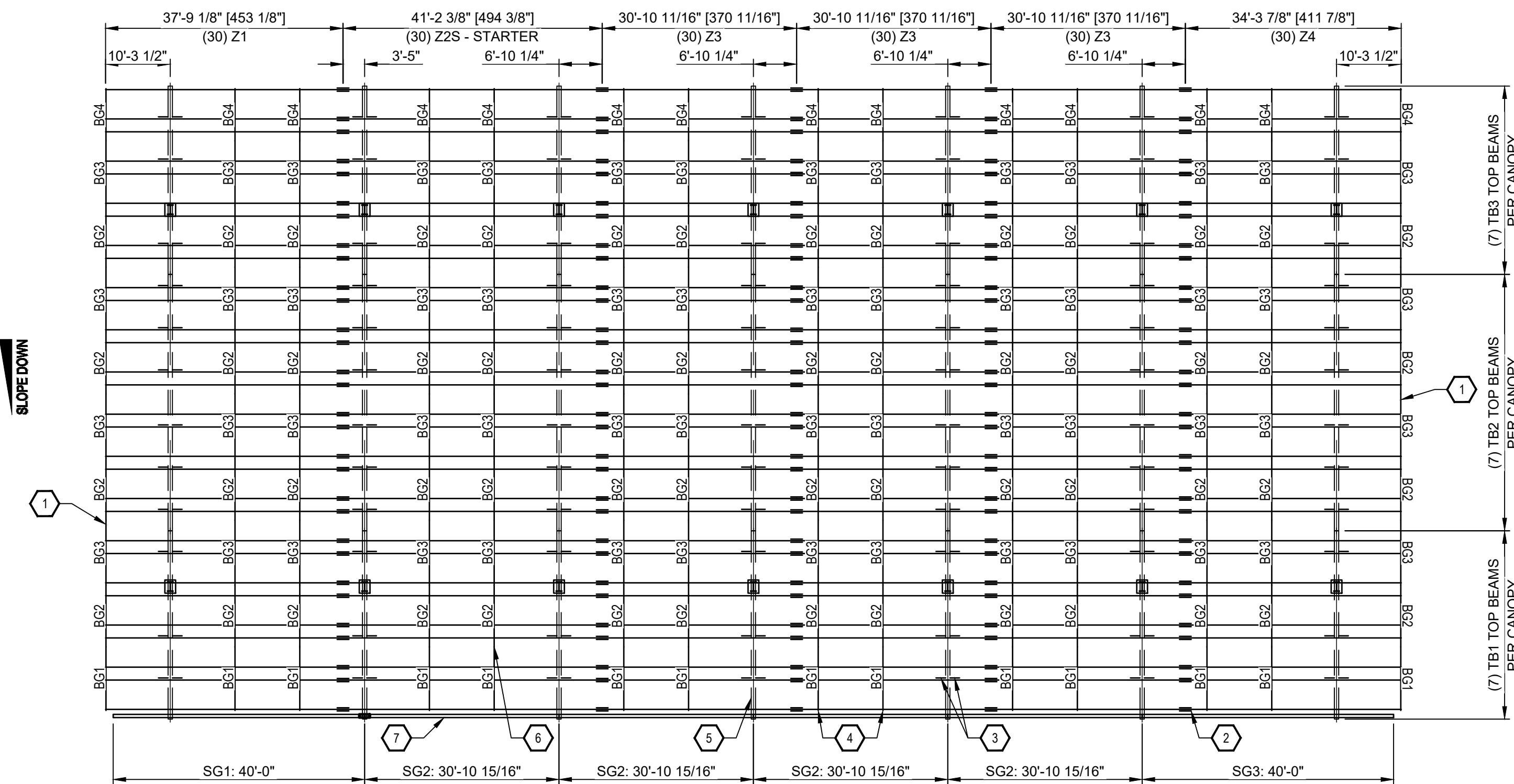
3. TOP BEAM FLANGE BRACE REFER TO DETAIL C6 ON SHEET S-501

4. PURLIN BRIDGING REQUIRED AT ALL BAYS REFER TO DETAIL A6 ON SHEET S-501

5. STEEL TOP BEAM BELOW.

6. BRIDGING SPLICE AS SHOWN REFER TO DETAIL A8 ON SHEET S-501

7. SNOW GUARD AT LOW EAVE OF TOP BEAM; REFER TO DETAIL G1 ON SHEET S-501



TOP BEAM SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY. PER CANOPY
TB1	W21x73 - TOP BEAM	30'-0" [360"]	7
TB2	W21x73 - TOP BEAM	40'-10" [490"]	7
TB3	W21x73 - TOP BEAM	30'-0" [360"]	7

TOP BEAM SETTING NOTES:
1. ALL TOP BEAM DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL TOP BEAM CONNECTION INFORMATION.

PURLIN SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY. PER CANOPY
Z1	12" 10 GA. GALVANIZED Z	37'-9 5/8" [453 3/4"]	30
Z2S	12" 10 GA. GALVANIZED Z - STARTER	41'-2 1/8" [494 1/4"]	30
Z3	12" 10 GA. GALVANIZED Z	30'-10 1/8" [370 1/8"]	90
Z4	12" 10 GA. GALVANIZED Z	34'-3 3/8" [411 1/4"]	30

PURLIN SETTING NOTES:
1. ALL PURLIN DIMENSIONS SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL PURLIN CONNECTION INFORMATION.
4. PURLIN LABELS ENDING WITH "S" REFER TO STARTER PURLINS AND ARE INTENDED TO BE INSTALLED FIRST WITHIN THAT CANOPY.

SNOW GUARD SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY. PER CANOPY
SG1	8" x 8" x 5/8" STEEL ANGLE	40'-0" [480"]	1
SG2	8" x 8" x 5/8" STEEL ANGLE	30'-10 1/8" [370 1/8"]	4
SG3	8" x 8" x 5/8" STEEL ANGLE	40'-0" [480"]	1

SNOW GUARD SETTING NOTES:
1. ALL SNOW GUARD DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL SNOW GUARD CONNECTION INFORMATION.

BRIDGING SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY. PER CANOPY
BG1	12GA. FORMED ANGLE	121' 1/8"	14
BG2	12GA. FORMED ANGLE	117' 5/8"	56
BG3	12GA. FORMED ANGLE	123' 5/8"	56
BG4	12GA. FORMED ANGLE	99' 1/8"	14

BRIDGING SETTING NOTES:
1. ALL BRIDGING DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL BRIDGING CONNECTION INFORMATION.

**RBI SOLAR**
Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service
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CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY



SOLAR CANOPY
FOR
INDUSTRIA ENGINEERING

RELEASE RECORD

MARK	DATE	DESCRIPTION
-	5/10/18	AS-BUILT SET
3	11/27/17	CONSTRUCTION SET
-	11/10/17	CONSTRUCTION SET
3	07/18/17	REVIEW RESPONSES
-	06/22/17	STAMPED SUBMITTAL
-	06/21/17	PV MODULE CHANGE
3	05/16/17	FOUNDATION INFO
-	04/27/17	STAMPED SUBMITTAL
-	04/20/17	REV. 75% SUBMITTAL
-	04/19/17	75% REVIEW SUBMITTAL
-	04/05/17	ENGINEERING REQUEST
-	03/29/17	50% REVIEW SUBMITTAL

PROJECT INFORMATION

TITLE & ADDRESS:
**NATIONAL GRID - SUTTON
CANOPY PROJECT**

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY:
RJS

REVIEWED BY:
LN/MES

SHEET TITLE:

COMPONENT PLANS

SHEET No.:

S-104

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PROFESSIONAL SEAL

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OF STRUCTURAL COMPONENTS ONLY



SOLAR CANOPY FOR INDUSTRIA ENGINEERING

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MARK	DATE	DESCRIPTION

PROJECT INFORMATION

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**NATIONAL GRID - SUTTON
CANOPY PROJECT**

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY:
RJS

REVIEWED BY:
LN/MES

SHEET TITLE:

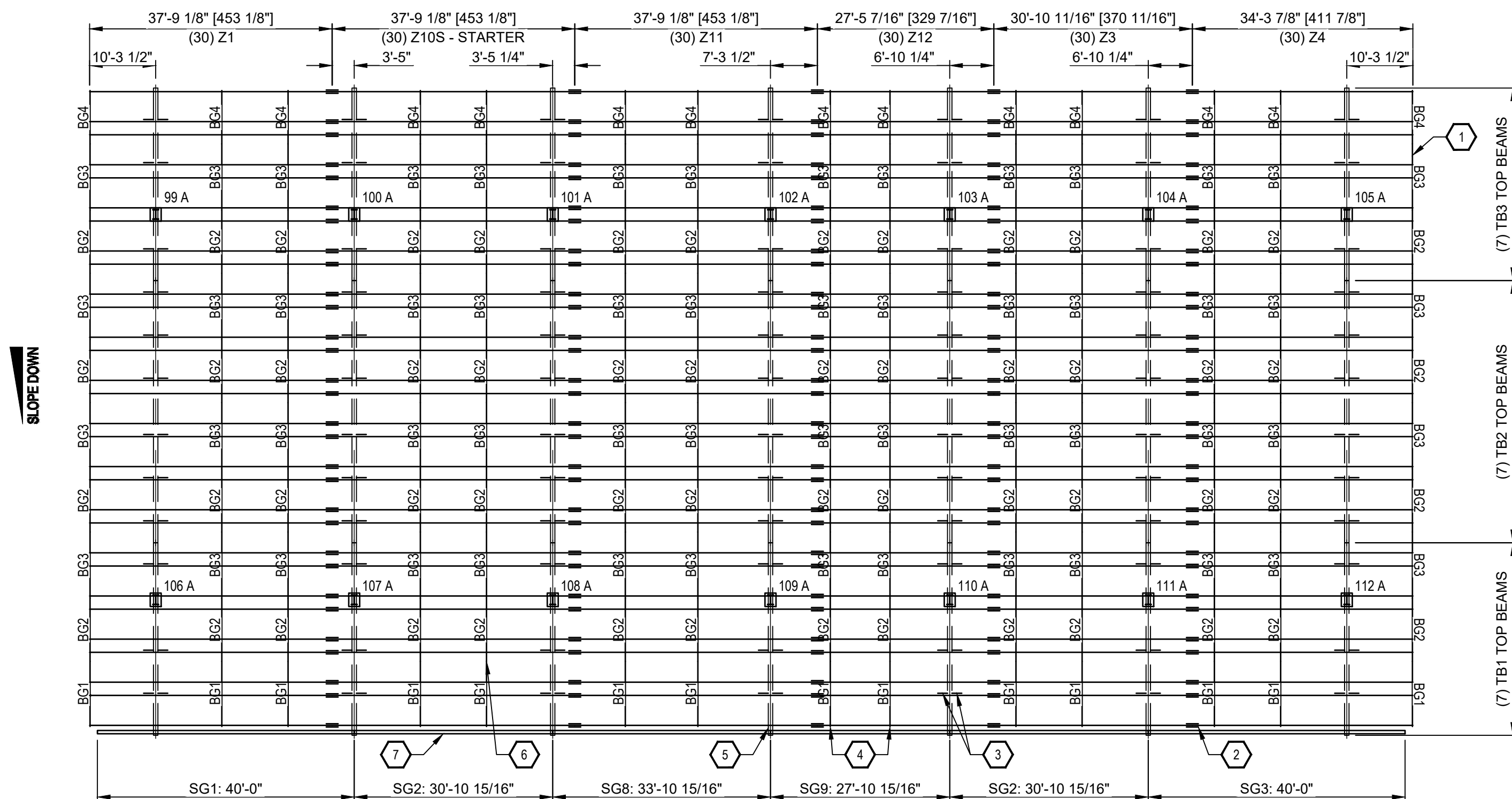
COMPONENT PLANS

SHEET No.

S-105

KEY NOTES

- PURLIN BRIDGING REQUIRED AT END OF THE CANOPY REFER TO DETAIL A10 ON SHEET S-501
- PURLIN SPLICE REFER TO DETAIL A1 ON SHEET S-501
- TOP BEAM FLANGE BRACE REFER TO DETAIL C6 ON SHEET S-501
- PURLIN BRIDGING REQUIRED AT ALL BAYS REFER TO DETAIL A6 ON SHEET S-501
- STEEL TOP BEAM BELOW.
- BRIDGING SPLICE AS SHOWN REFER TO DETAIL A8 ON SHEET S-501
- SNOW GUARD AT LOW EAVE OF TOP BEAM; REFER TO DETAIL G1 ON SHEET S-501



TOP BEAM SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
TB1	W21x73 - TOP BEAM	30'-0" [360"]	7
TB2	W21x73 - TOP BEAM	40'-10" [490"]	7
TB3	W21x73 - TOP BEAM	30'-0" [360"]	7

TOP BEAM SETTING NOTES:
1. ALL TOP BEAM DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL TOP BEAM CONNECTION INFORMATION.

CANOPY 8 PURLIN SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
Z1	12" 10 GA. GALVANIZED Z	37'-9 1/8" [453 3/8"]	30
Z10S	12" 10 GA. GALVANIZED Z - STARTER	37'-9 1/8" [453 3/8"]	30
Z11	12" 10 GA. GALVANIZED Z	37'-9 1/8" [453 3/8"]	30
Z12	12" 10 GA. GALVANIZED Z	27'-5 1/8" [329 1/8"]	30
Z3	12" 10 GA. GALVANIZED Z	30'-10 11/16" [370 11/16"]	30
Z4	12" 10 GA. GALVANIZED Z	34'-3 7/8" [411 7/8"]	30

PURLIN SETTING NOTES:
1. ALL PURLIN DIMENSIONS SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL PURLIN CONNECTION INFORMATION.
4. PURLIN LABELS ENDING WITH "S" REFER TO STARTER PURLINS AND ARE INTENDED TO BE INSTALLED FIRST WITHIN THAT CANOPY.

SNOW GUARD SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
SG1	8" x 8" x 5/8" STEEL ANGLE	40'-0" [480"]	1
SG2	8" x 8" x 5/8" STEEL ANGLE	30'-10 15/16" [370 15/16"]	2
SG3	8" x 8" x 5/8" STEEL ANGLE	40'-0" [480"]	1
SG8	8" x 8" x 5/8" STEEL ANGLE	33'-10 15/16" [406 15/16"]	1
SG9	8" x 8" x 5/8" STEEL ANGLE	27'-10 15/16" [334 15/16"]	1

SNOW GUARD SETTING NOTES:
1. ALL SNOW GUARD DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL SNOW GUARD CONNECTION INFORMATION.

BRIDGING SCHEDULE

MARK	DESCRIPTION	LENGTH	QTY.
BG1	12GA. FORMED ANGLE	121 1/16"	14
BG2	12GA. FORMED ANGLE	117 5/16"	56
BG3	12GA. FORMED ANGLE	123 3/16"	56
BG4	12GA. FORMED ANGLE	99 1/16"	14

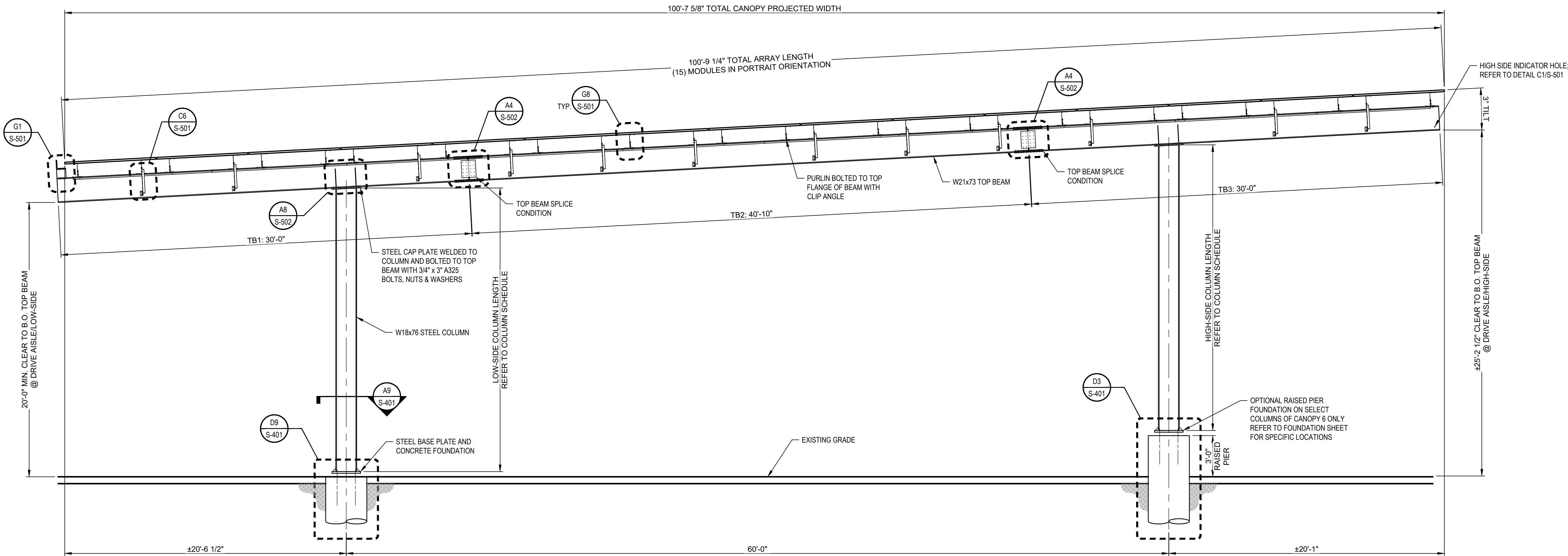
BRIDGING SETTING NOTES:
1. ALL BRIDGING DIMENSION SHOWN ARE END TO END.
2. LAYOUT IS SUBJECT TO CHANGE PER REQUEST AND/OR EXISTING CONDITIONS IN THE FIELD.
3. REFERENCE SHEET S-501 FOR ADDITIONAL BRIDGING CONNECTION INFORMATION.

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A1
SCALE:
1/4" = 1'-0"

Section





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PROFESSIONAL SEAL

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MICHAEL E. STURBER
STRUCTURAL
No. 46512
8-01-2022

SOLAR CANOPY
FOR
INDUSTRIA ENGINEERING

RELEASE RECORD

-	5/10/18	AS-BUILT SET
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-	11/10/17	CONSTRUCTION SET
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-	04/27/17	STAMPED SUBMITTAL
-	04/20/17	REV. 75% SUBMITTAL
-	04/19/17	75% REVIEW SUBMITTAL
-	04/05/17	ENGINEERING REQUEST
-	03/29/17	50% REVIEW SUBMITTAL
MARK	DATE	DESCRIPTION

PROJECT INFORMATION

TITLE & ADDRESS:
**NATIONAL GRID - SUTTON
CANOPY PROJECT**

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

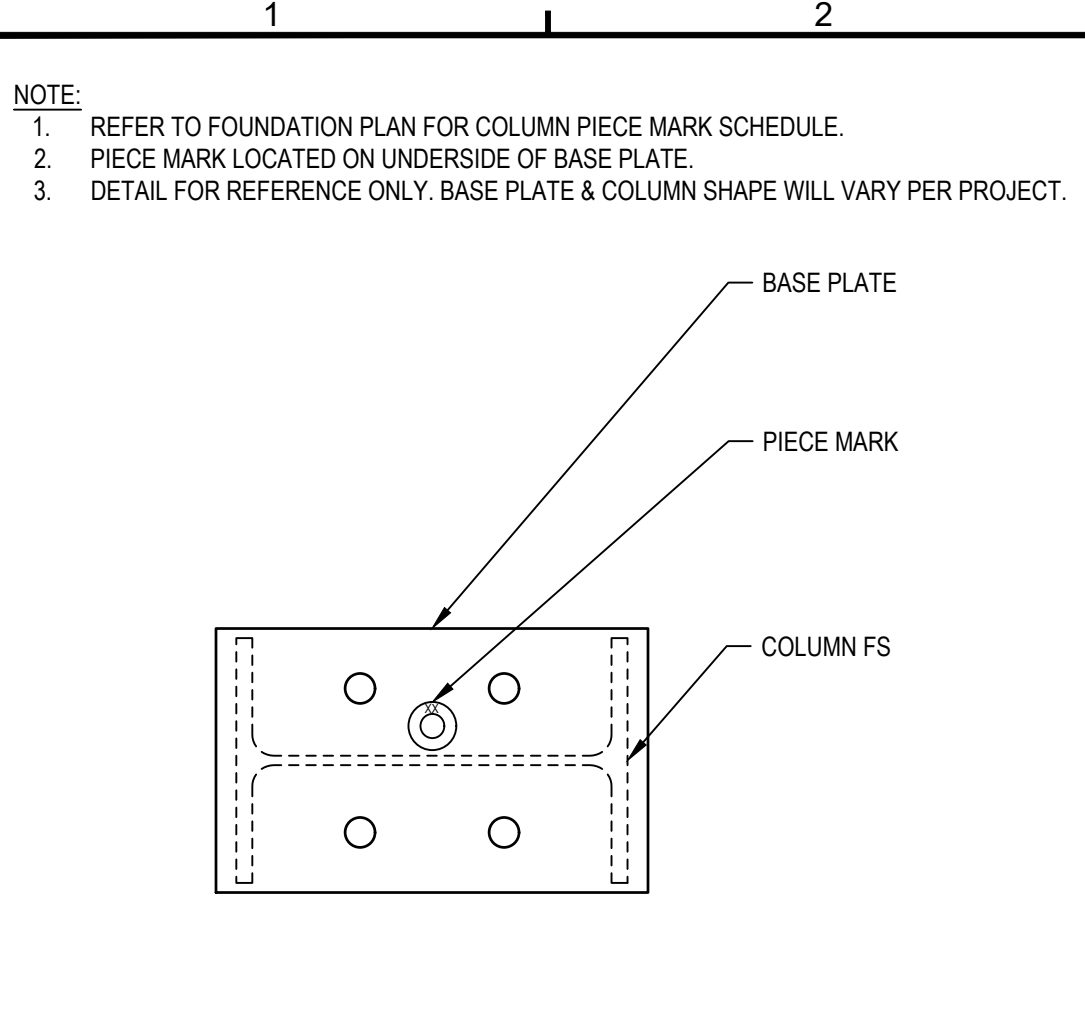
RBI SOLAR PROJECT No.:
177012

DRAWN BY:
RJS

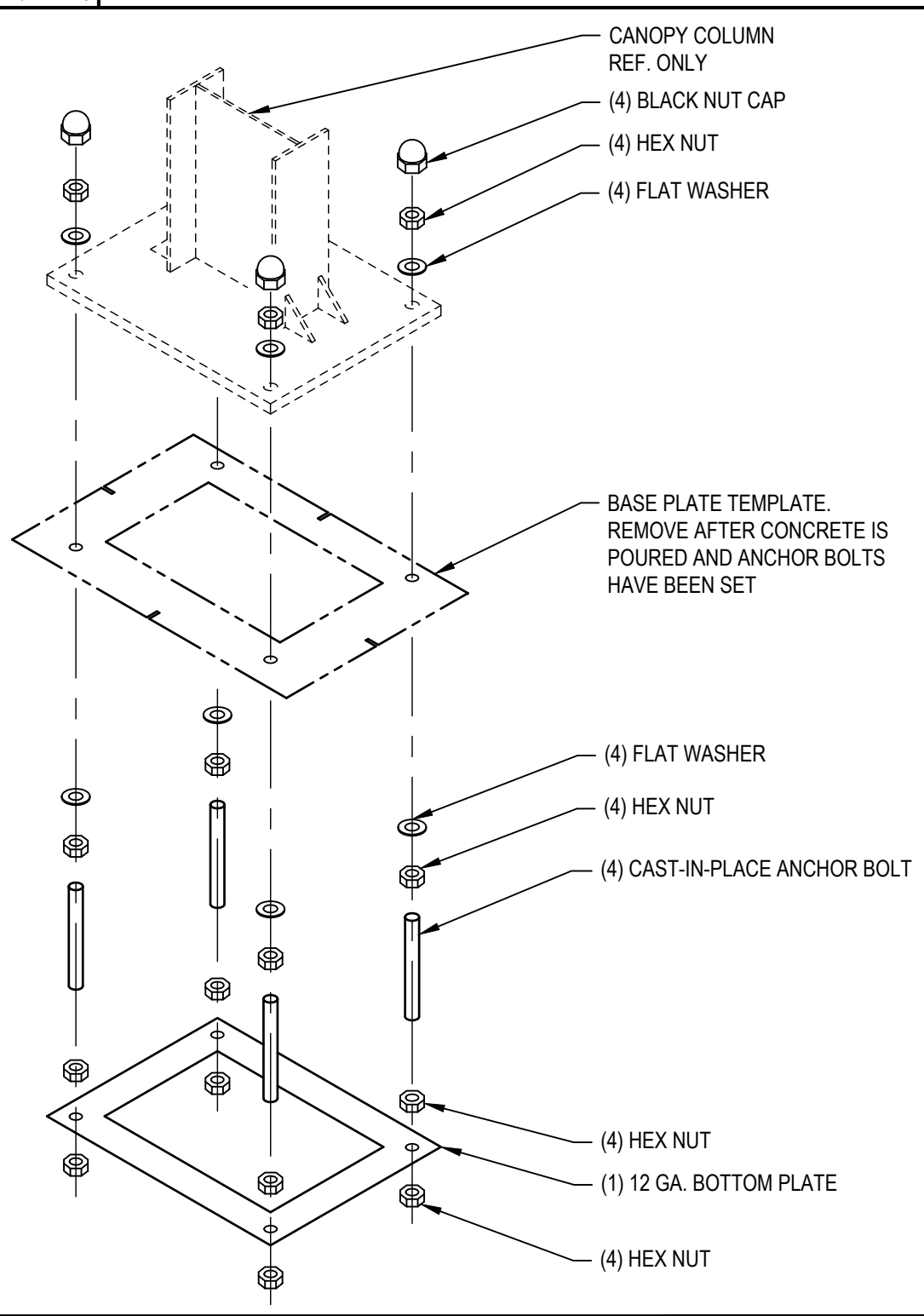
REVIEWED BY:
LN/MES

SHEET TITLE:
LONG-SPAN
CANOPY SECTION

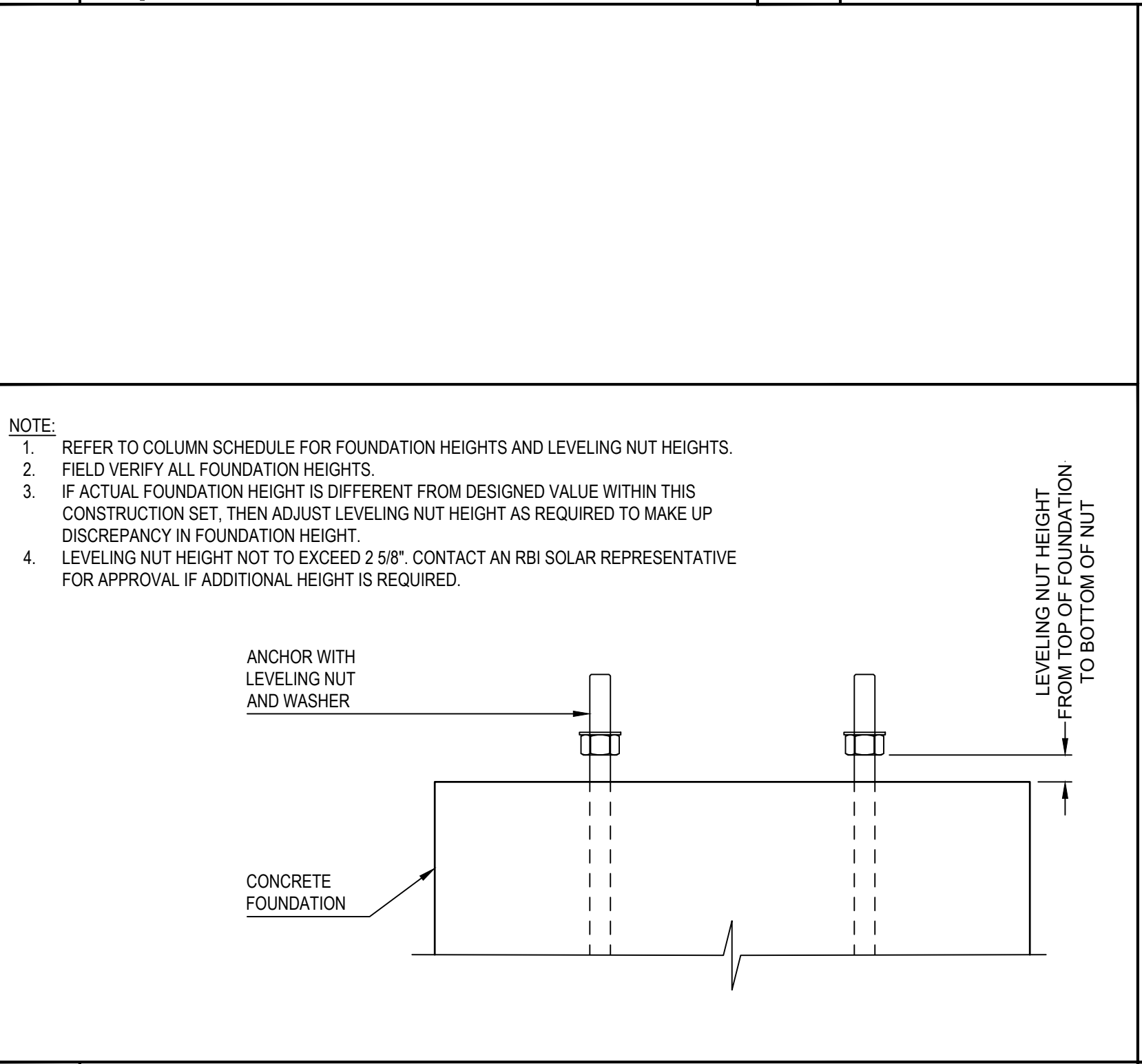
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S-301



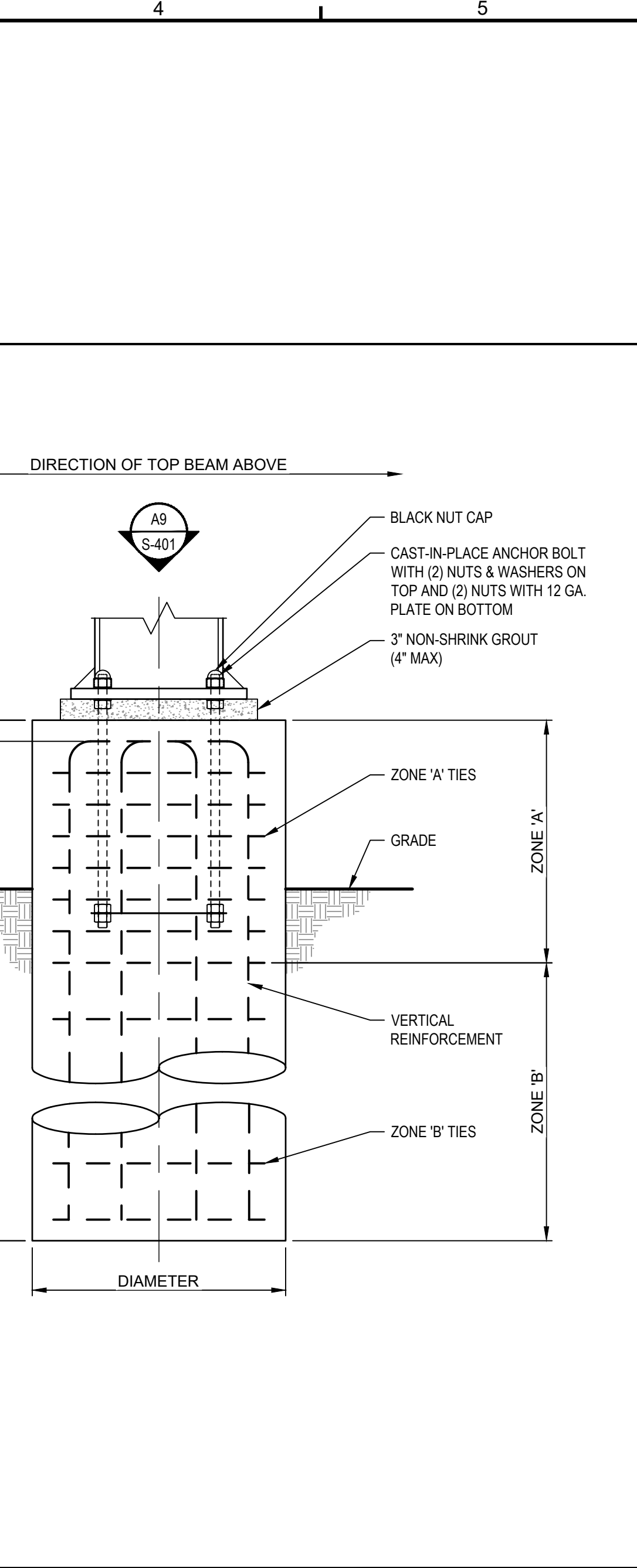
G1 Column Piece Mark Detail
SCALE: 1 1/2" = 1'-0"



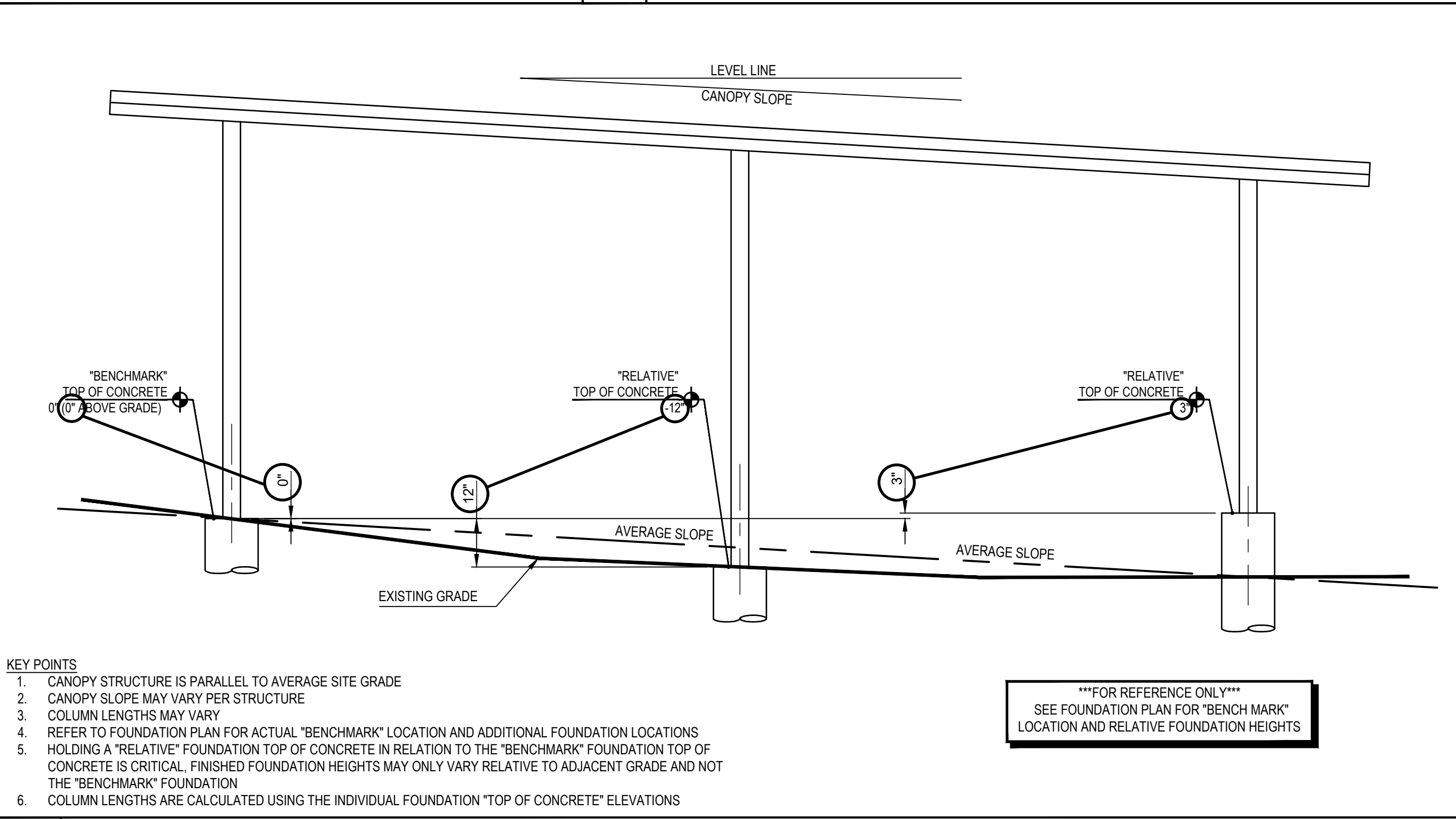
D1 Anchor Connection Exploded View
SCALE: 1 1/2" = 1'-0"



A1 Leveling Nut Detail Side View
SCALE: 1 1/2" = 1'-0"



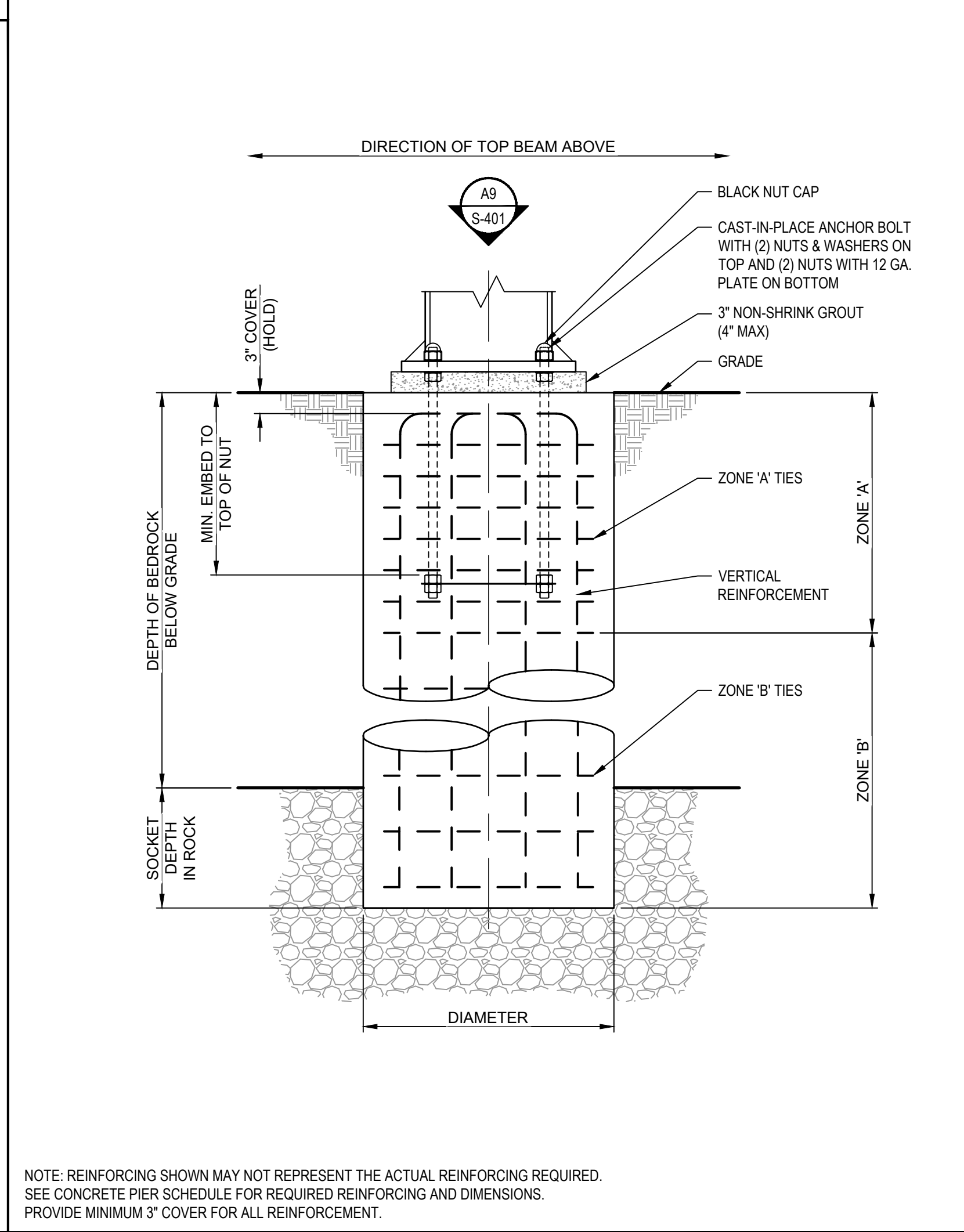
D3 Typical Raised Pier - Type "B" Side View
SCALE: 3/4" = 1'-0"



A4 AVERAGE SLOPE LAYOUT KEY
SCALE: 1 1/2" = 1'-0"

ROCK SOCKET FOUNDATION SCHEDULE		
BEDROCK HIT @ DEPTH	SOCKET DEPTH IN ROCK	COMMENTS
5'-0"	3'-0"	
6'-0"	2'-3"	
7'-0"	1'-3"	
8'-0"	6"	
9'-0"	0	

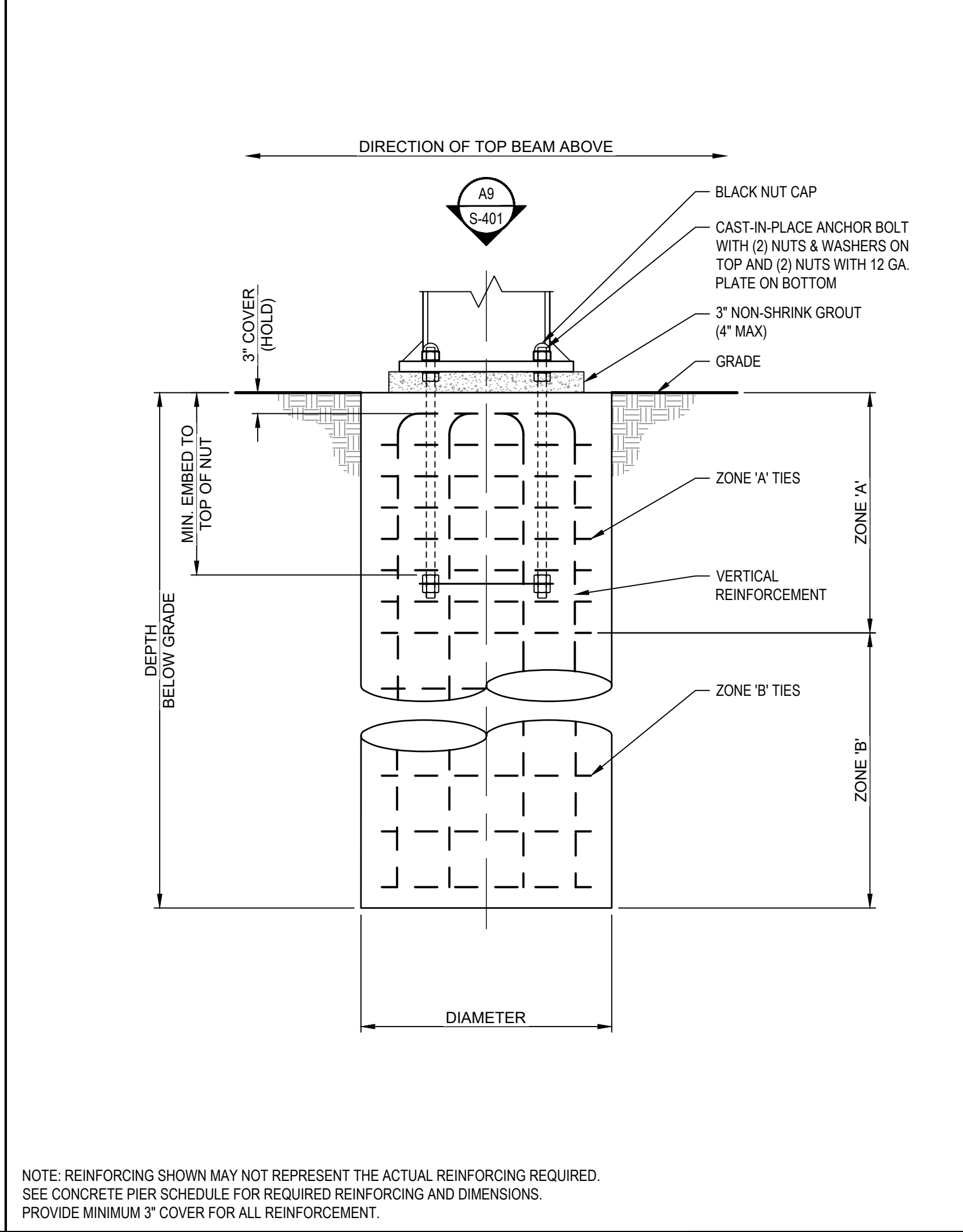
NOTE:
1. ALL REINFORCING TO HAVE 3" MINIMUM COVER
2. DIAMETER & REINFORCEMENTS ARE THE SAME AS THOSE REQUIRED FOR TYPICAL PIER DESIGN IN NATIVE SOIL CONDITIONS.



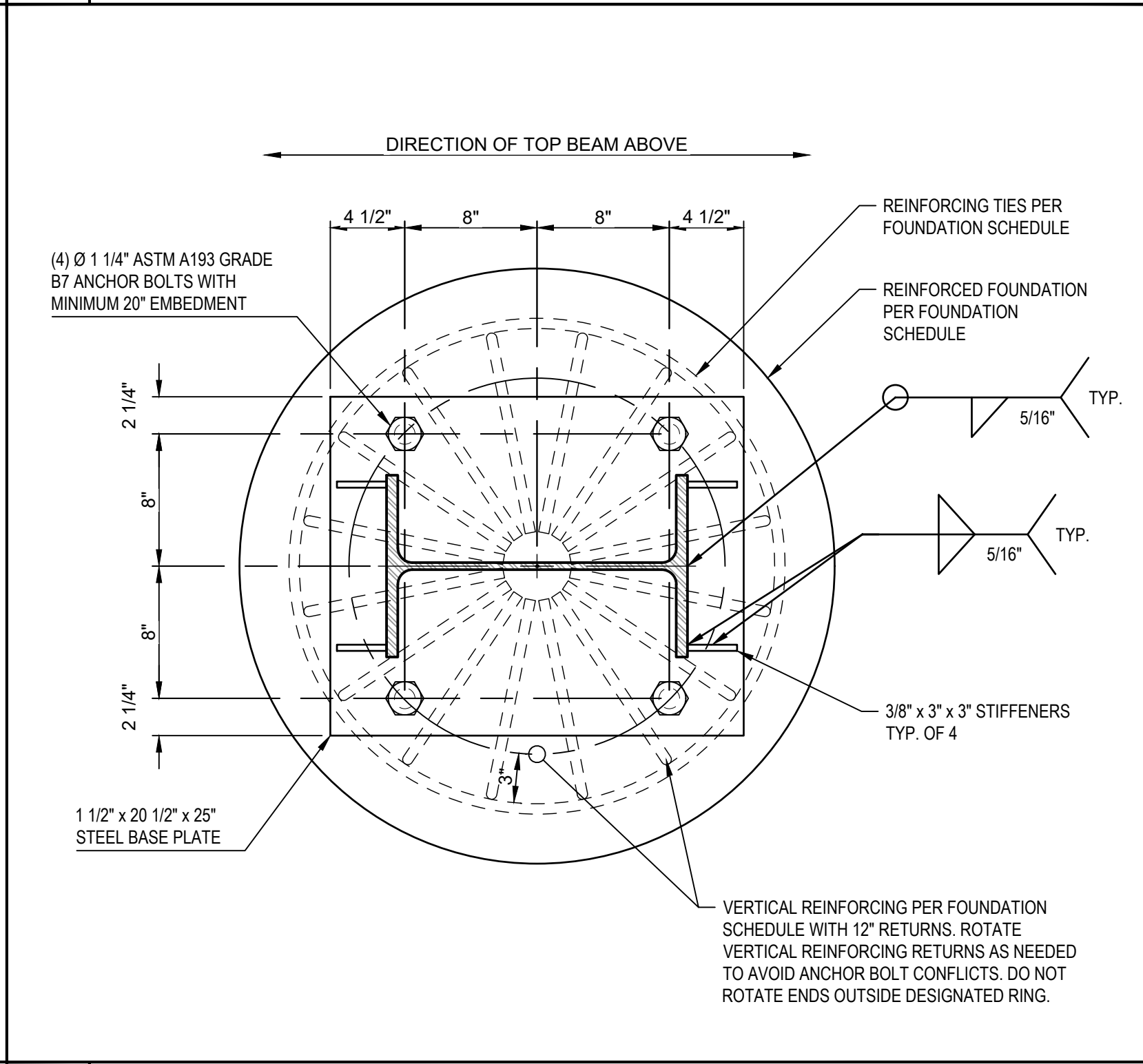
D6 Rock Socket Pier Side View
SCALE: 3/4" = 1'-0"

FOUNDATION SCHEDULE						
TYPE	SIZE			APPROX. OVERALL LENGTH	REINFORCEMENT	
	DIAMETER	TOP OF FOUNDATION	DEPTH BELOW GRADE		VERTICAL REINFORCEMENT	ZONE 'A' REINFORCEMENT TIES
A	36"	FLUSH	9'-9"	9'-9"	(16) #5 BARS	#5 BARS @ 4" O.C. FOR 36"
B	36"	RAISED	10'-6"	13'-6"	(16) #5 BARS	#5 BARS @ 4" O.C. FOR 36"

NOTE:
1. ALL REINFORCING TO HAVE 3" MINIMUM COVER
2. REFERENCE THE FOUNDATION PLAN FOR DESIGNED HEIGHT ABOVE GRADE VALUES. SEE LEVELING NUT DETAIL FOR ADJUSTMENTS.
3. REFER TO DETAIL D6 FOR ALTERNATE ROCK SOCKET FOUNDATION WHEN TYPICAL DRILLED PIER ENCOUNTERS BEDROCK.



D9 Typical Flush Pier - Type "A" Side View
SCALE: 3/4" = 1'-0"



A9 Base Plate Detail
SCALE: 1 1/2" = 1'-0"

Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service

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PROFESSIONAL SEAL

SOLAR CANOPY FOR INDUSTRIAL ENGINEERING

RELEASE RECORD

5/10/18	AS-BUILT SET
11/27/17	CONSTRUCTION SET
11/10/17	CONSTRUCTION SET
07/18/17	REVIEW RESPONSES
06/22/17	STAMPED SUBMITTAL
06/21/17	PV MODULE CHANGE
05/16/17	FOUNDATION INFO
04/27/17	STAMPED SUBMITTAL
04/20/17	REV. 75% SUBMITTAL
04/19/17	75% REVIEW SUBMITTAL
04/05/17	ENGINEERING REQUEST
03/29/17	50% REVIEW SUBMITTAL

PROJECT INFORMATION

TITLE & ADDRESS:
NATIONAL GRID - SUTTON CANOPY PROJECT

100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY: RJS
REVIEWED BY: LN/MES

SHEET TITLE:
FOUNDATION DETAILS

SHEET No.:
S-401

\\nj-gblabart1.com\dfs\RB\RB8 SolarDesign\2017 Jobs\177012 - Industria Engineering - NEDC - Northbridge MA\Drawings\177012.dwg, 8/2/2022 8:28 AM, rsoil

USER: RSTOLL PLOTTED: 8/2/2022 8:28 AM

LAYOUT: S-402

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SOLAR CANOPY
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INDUSTRIA ENGINEERING

RELEASE RECORD

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MARK DATE DESCRIPTION

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CANOPY PROJECT**

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WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

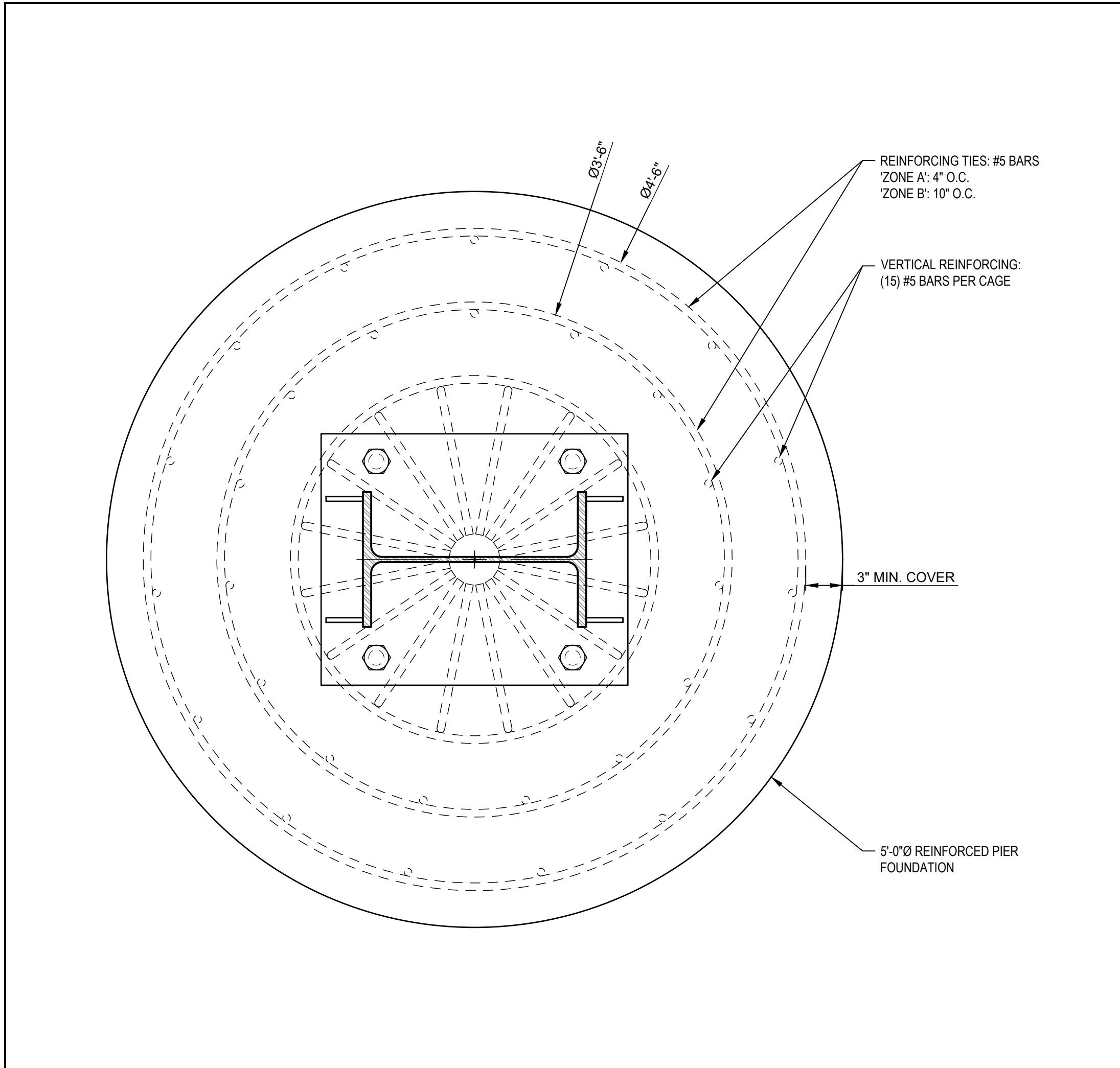
DRAWN BY:	REVIEWED BY:
RJS	LN/MES

SHEET TITLE:

FOUNDATION DETAILS

SHEET No.:

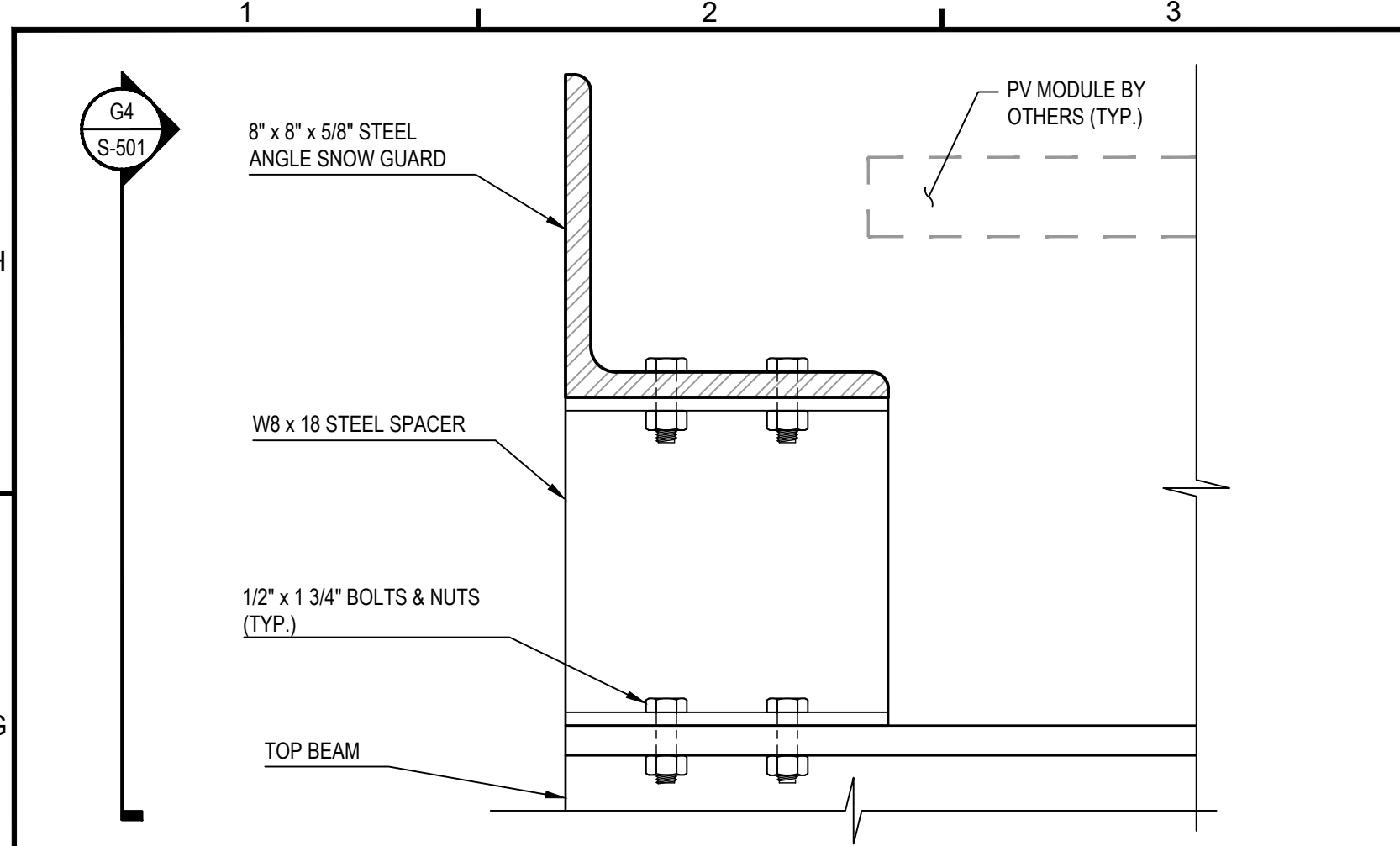
S-402



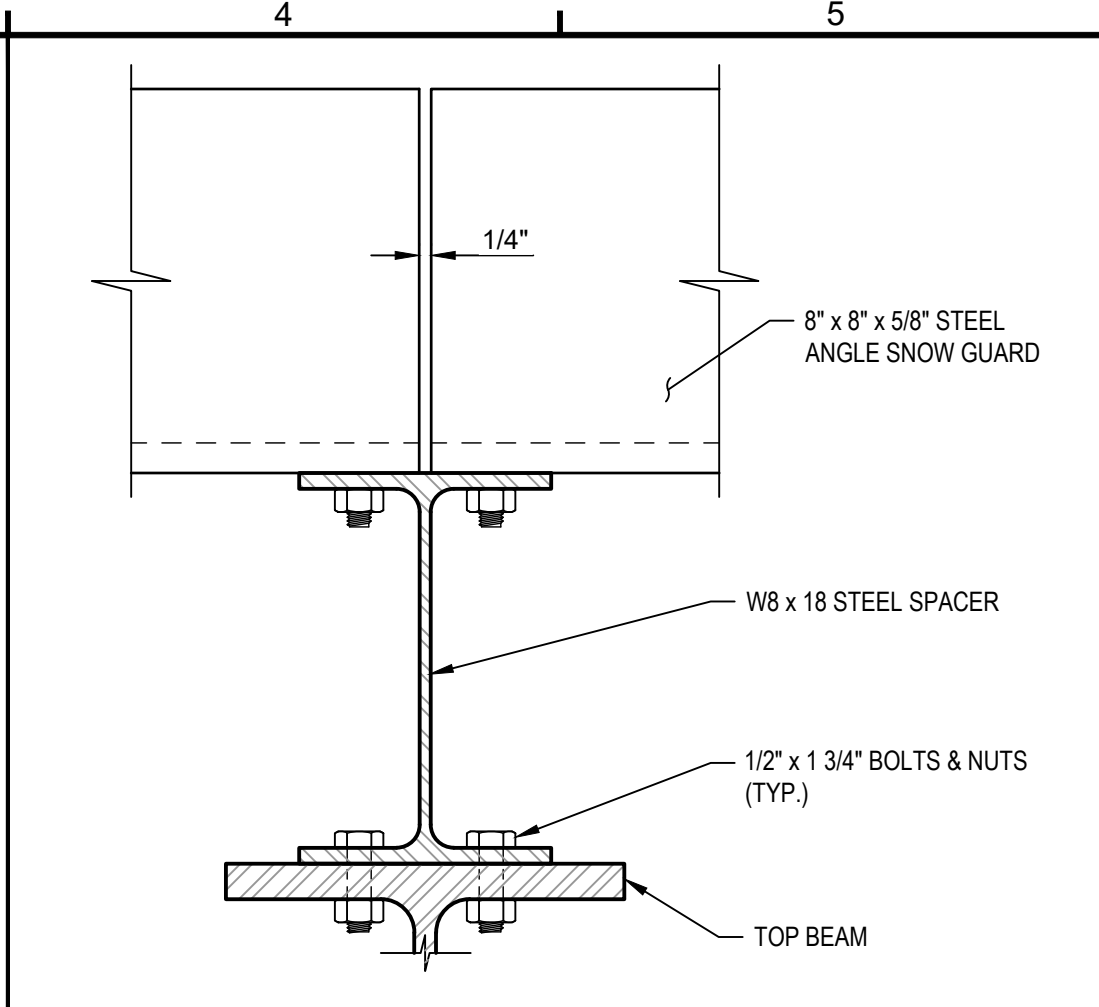
A8
SCALE:
1/2\"/>

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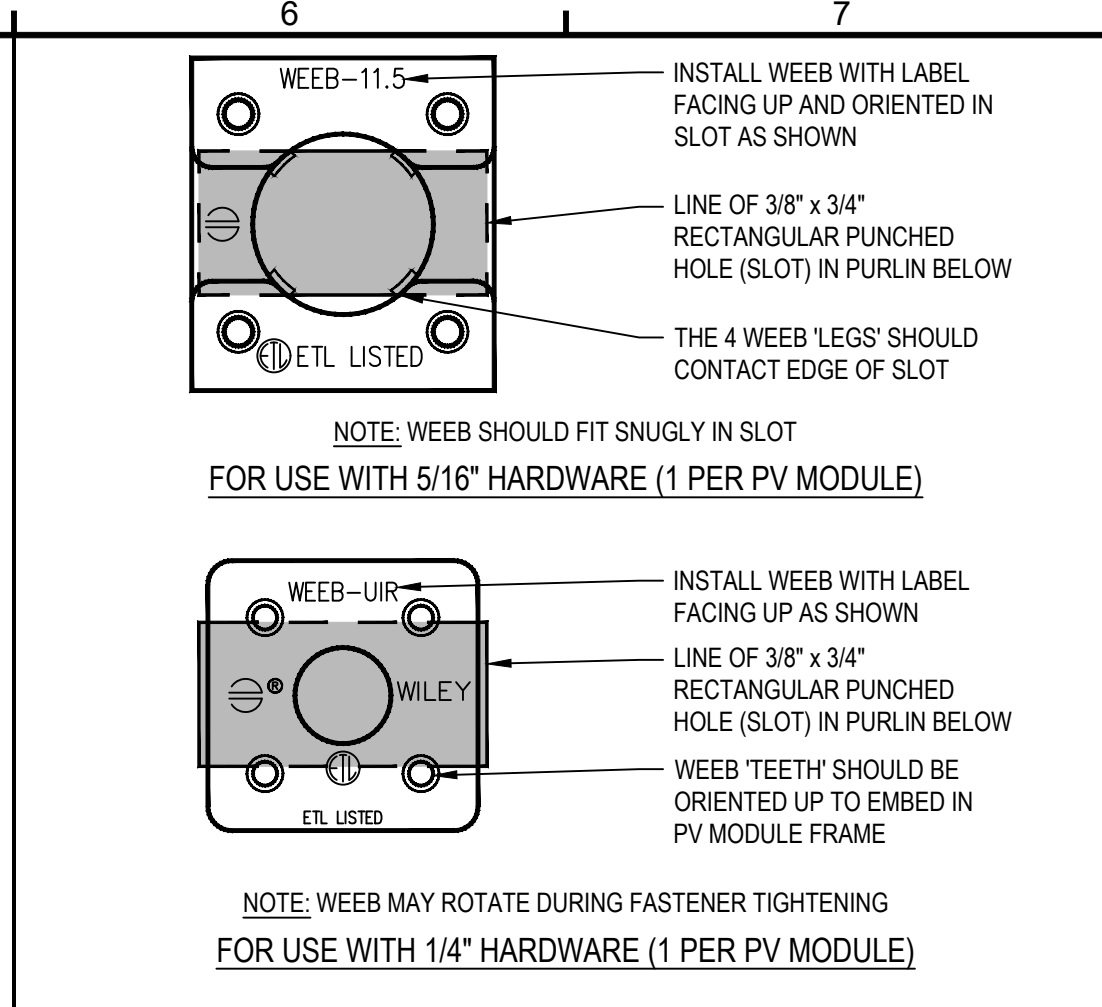
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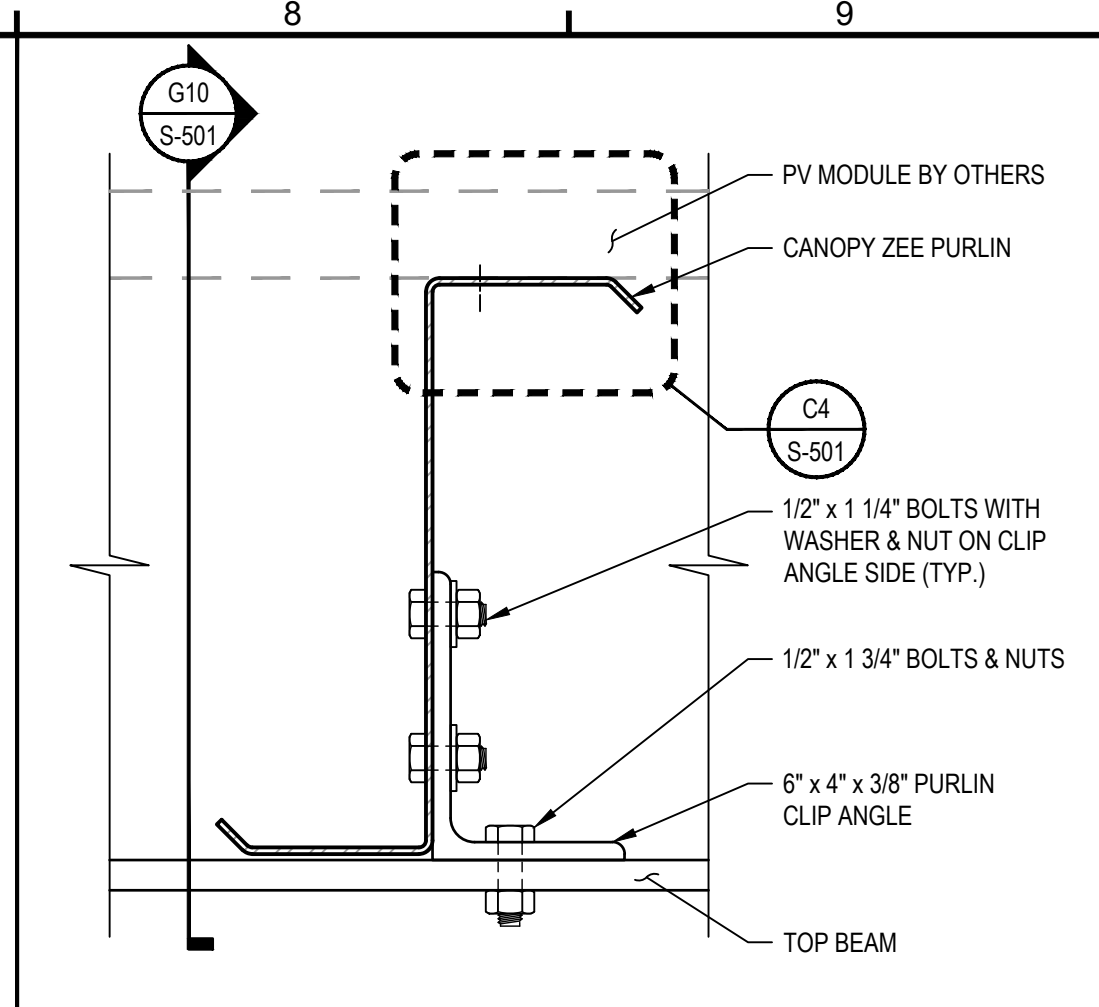
G1
SCALE: 3" = 1'-0"
Snow Guard Transverse Section



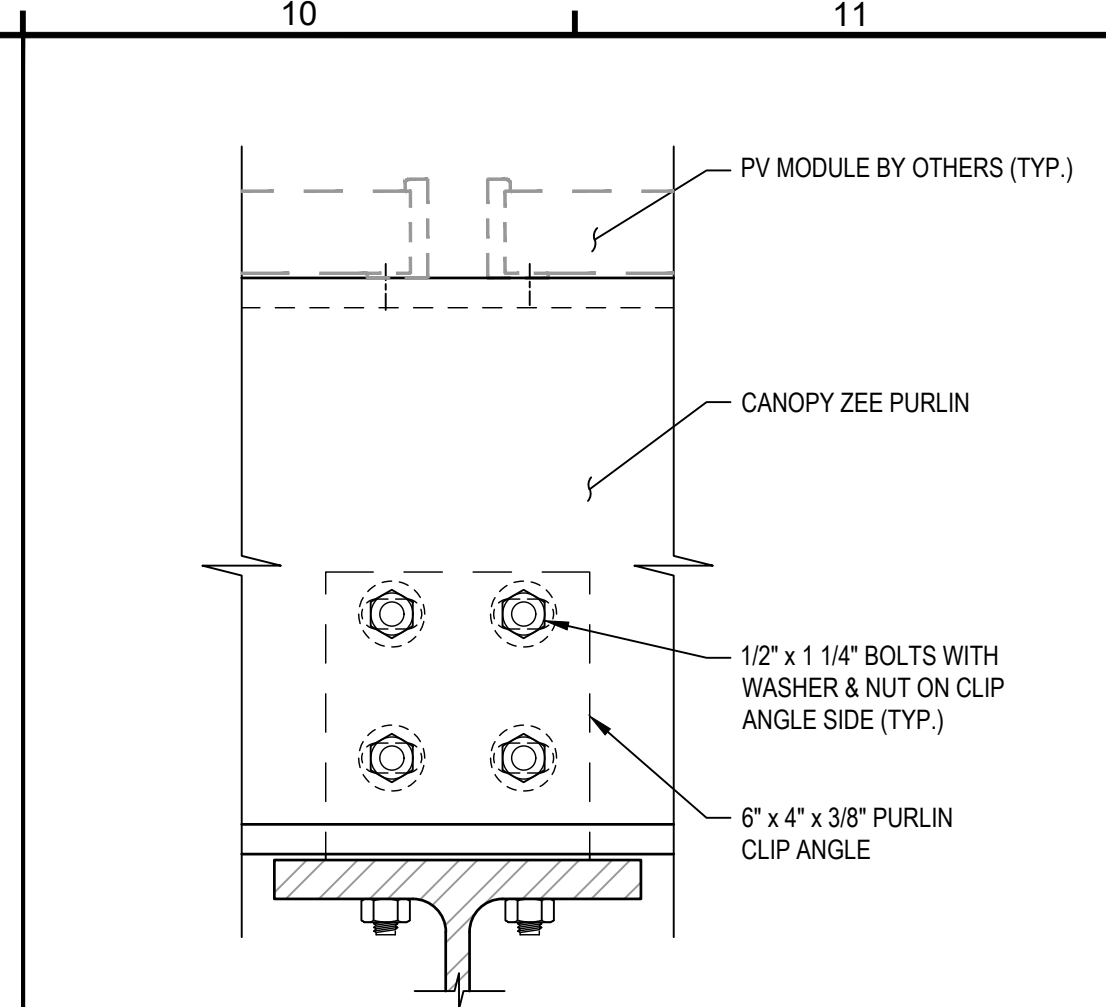
G4
SCALE: 3" = 1'-0"
Snow Guard Longitudinal Section



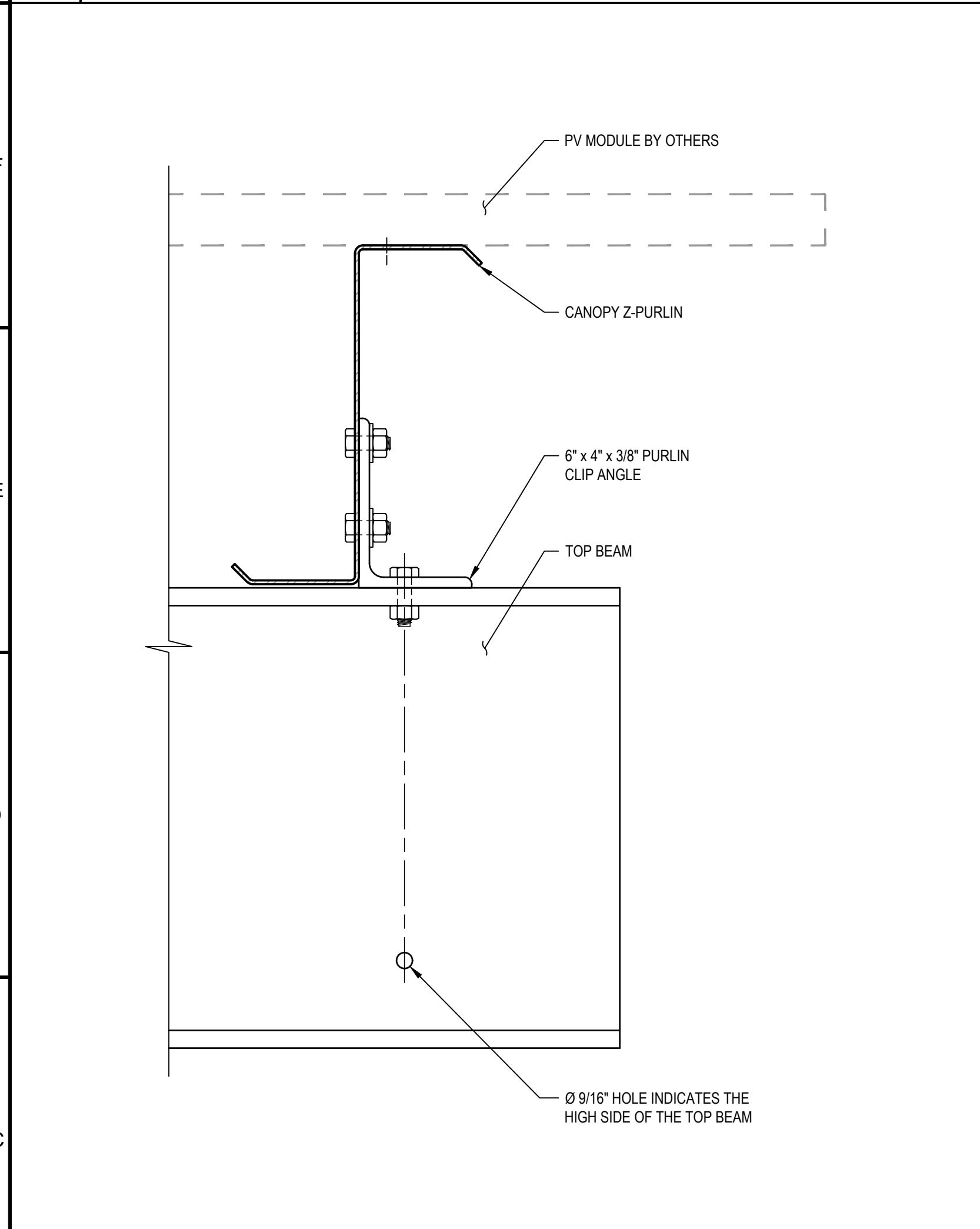
G6
SCALE: NONE
WEEB PV Module Bonding Washer Detail



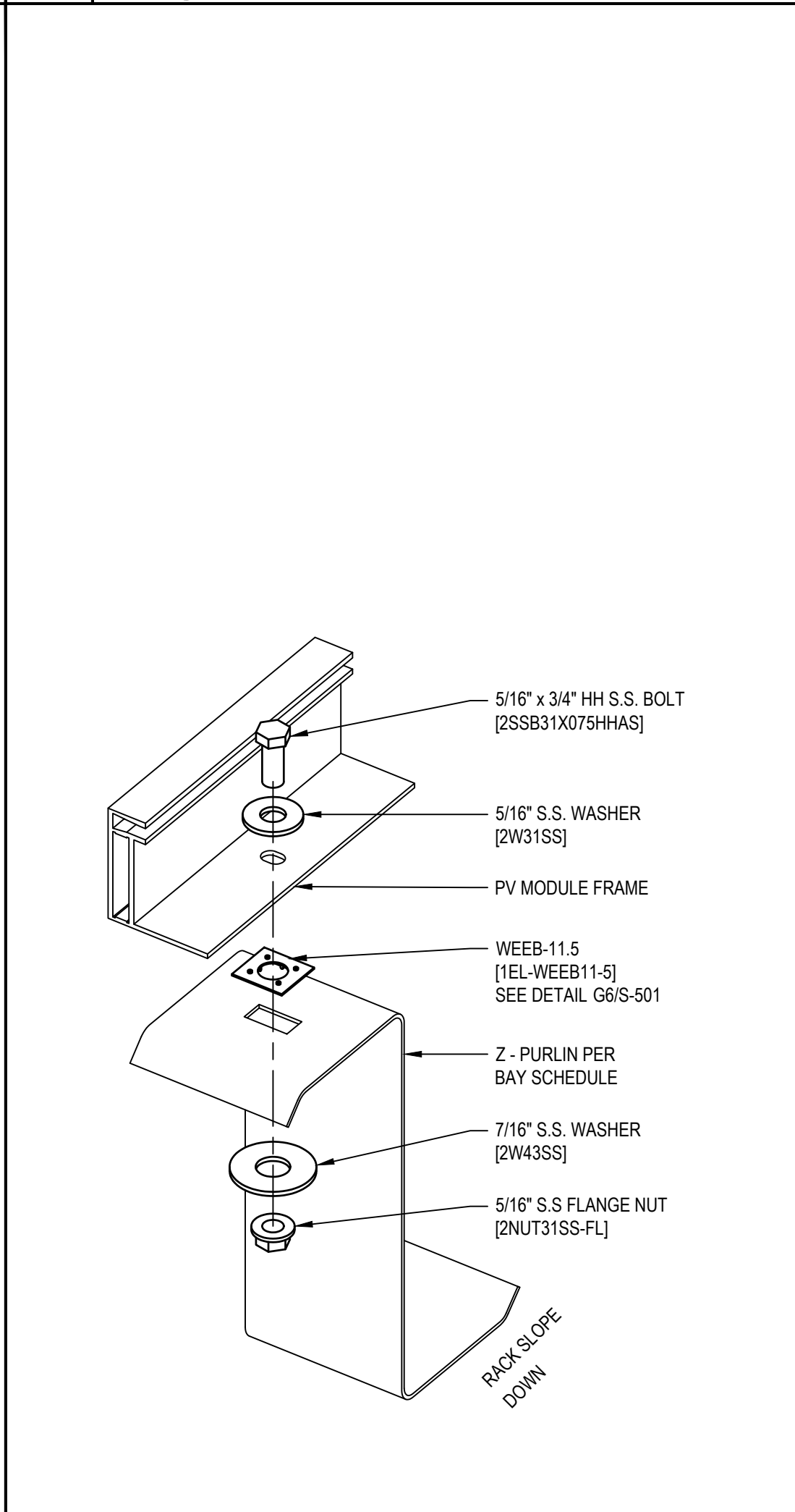
G8
SCALE: 3" = 1'-0"
Canopy Zee Purlin Connection Transverse Section



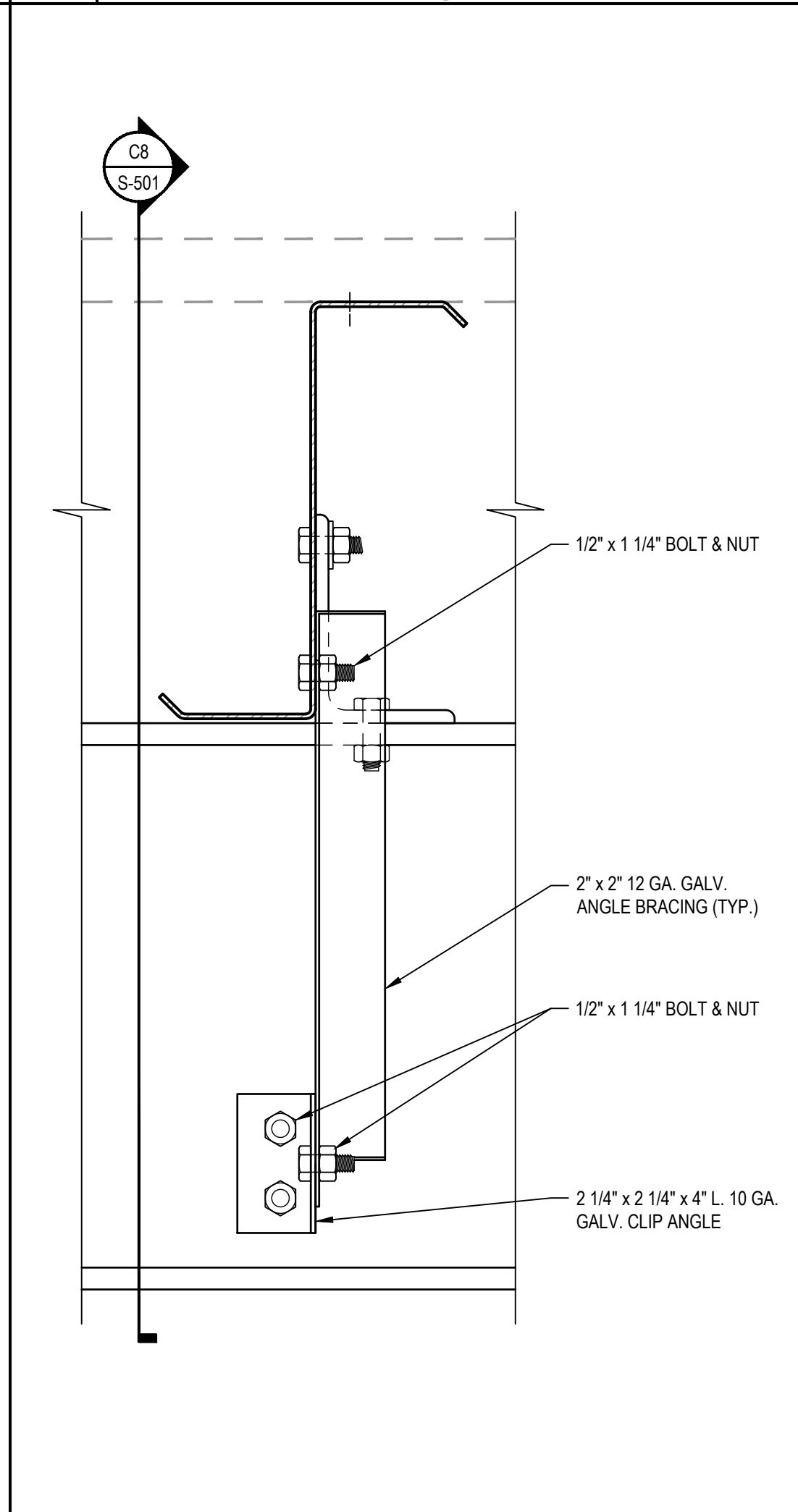
G10
SCALE: 3" = 1'-0"
Canopy Zee Purlin Connection Longitudinal Section



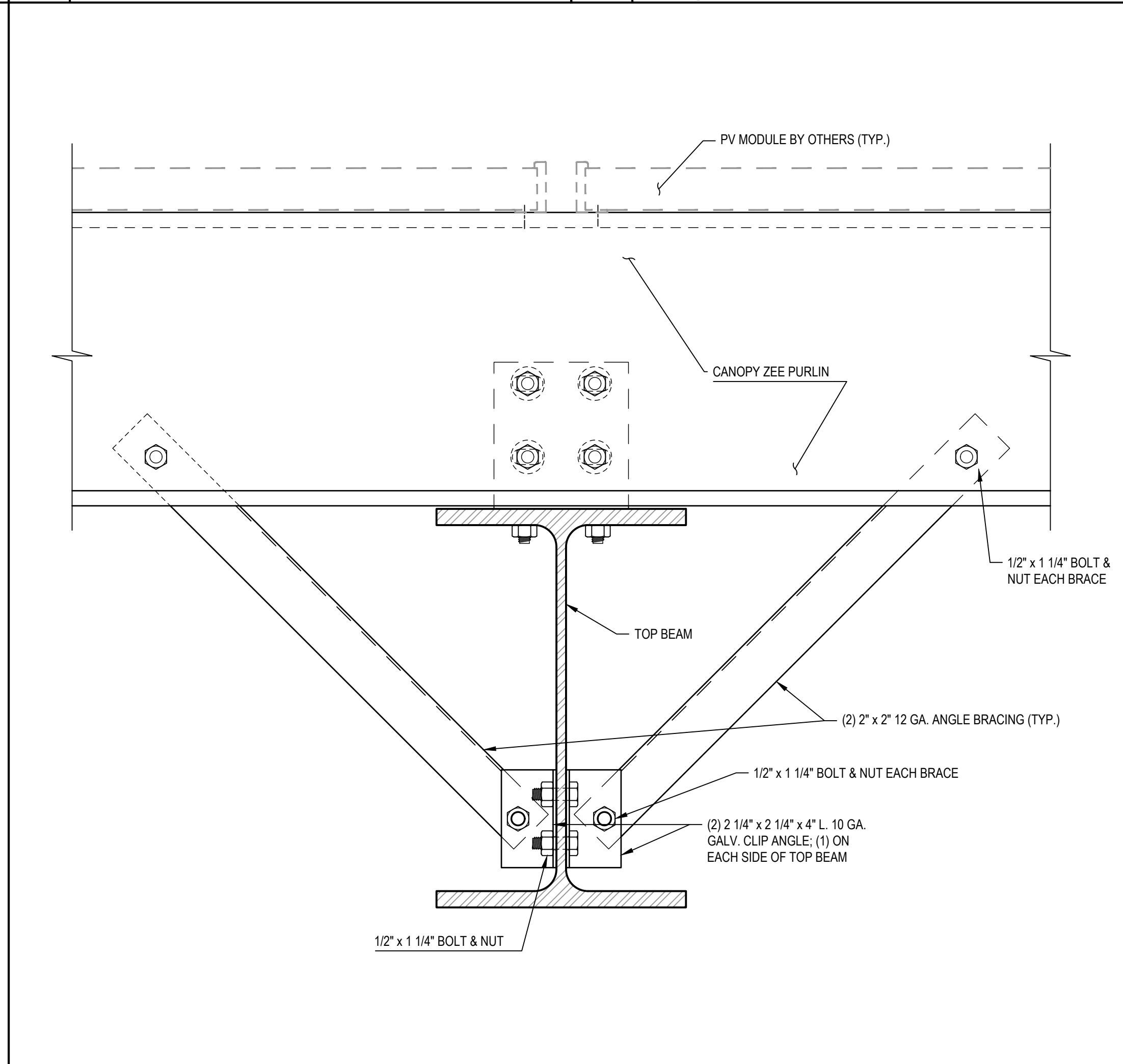
C1
SCALE: 3" = 1'-0"
Top Beam High Side Indicator Hole



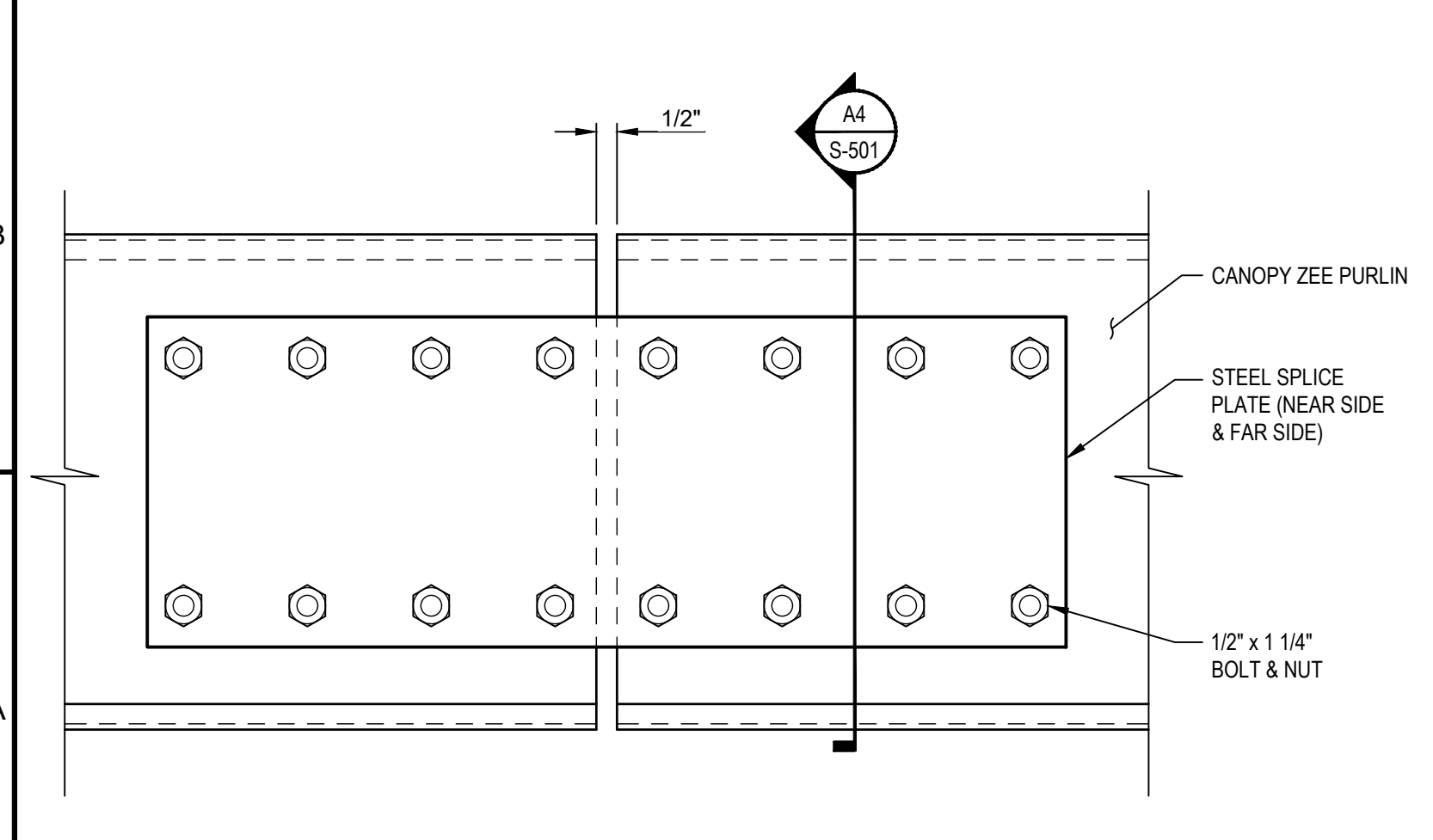
C4
SCALE: NONE
Expanded PV Module Frame to Canopy Zee Purlin Connection Detail



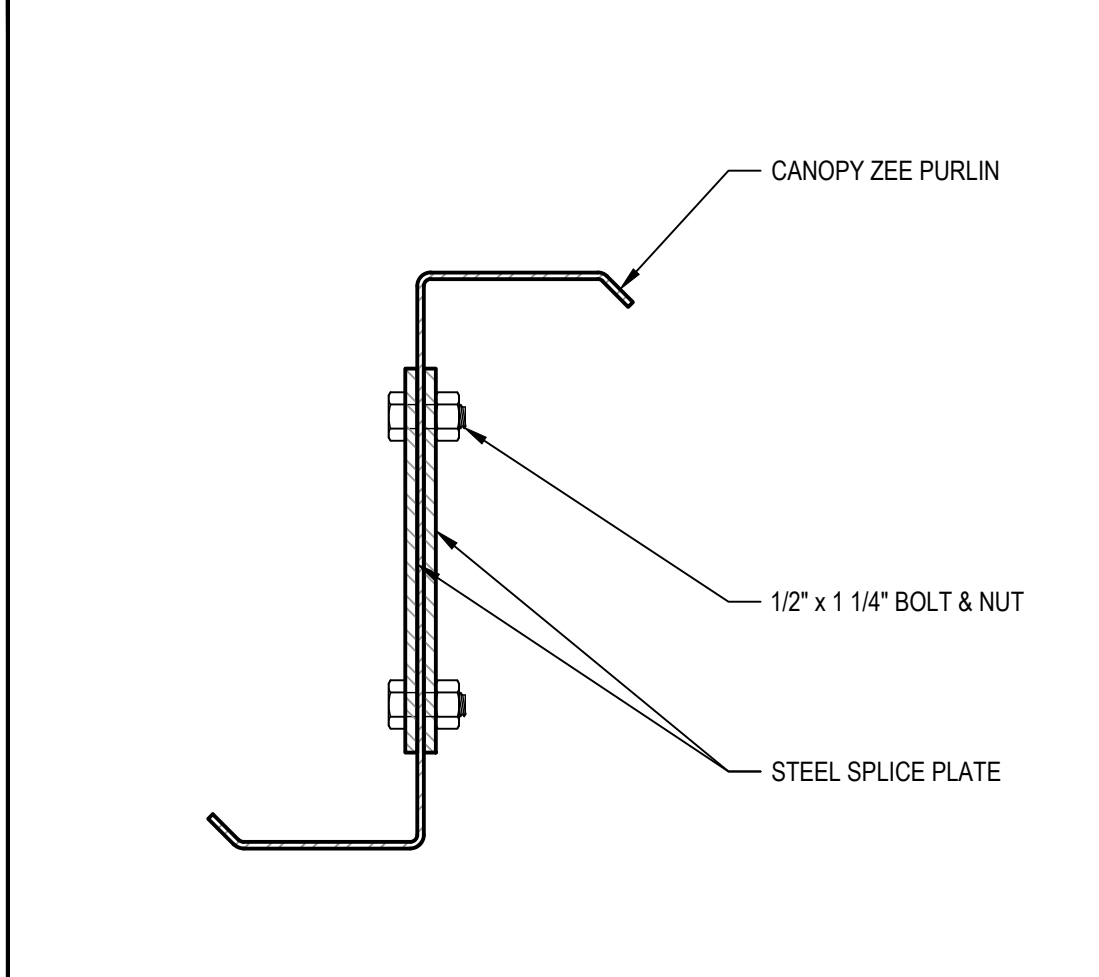
C6
SCALE: 3" = 1'-0"
Top Beam Flange Brace Connection Section



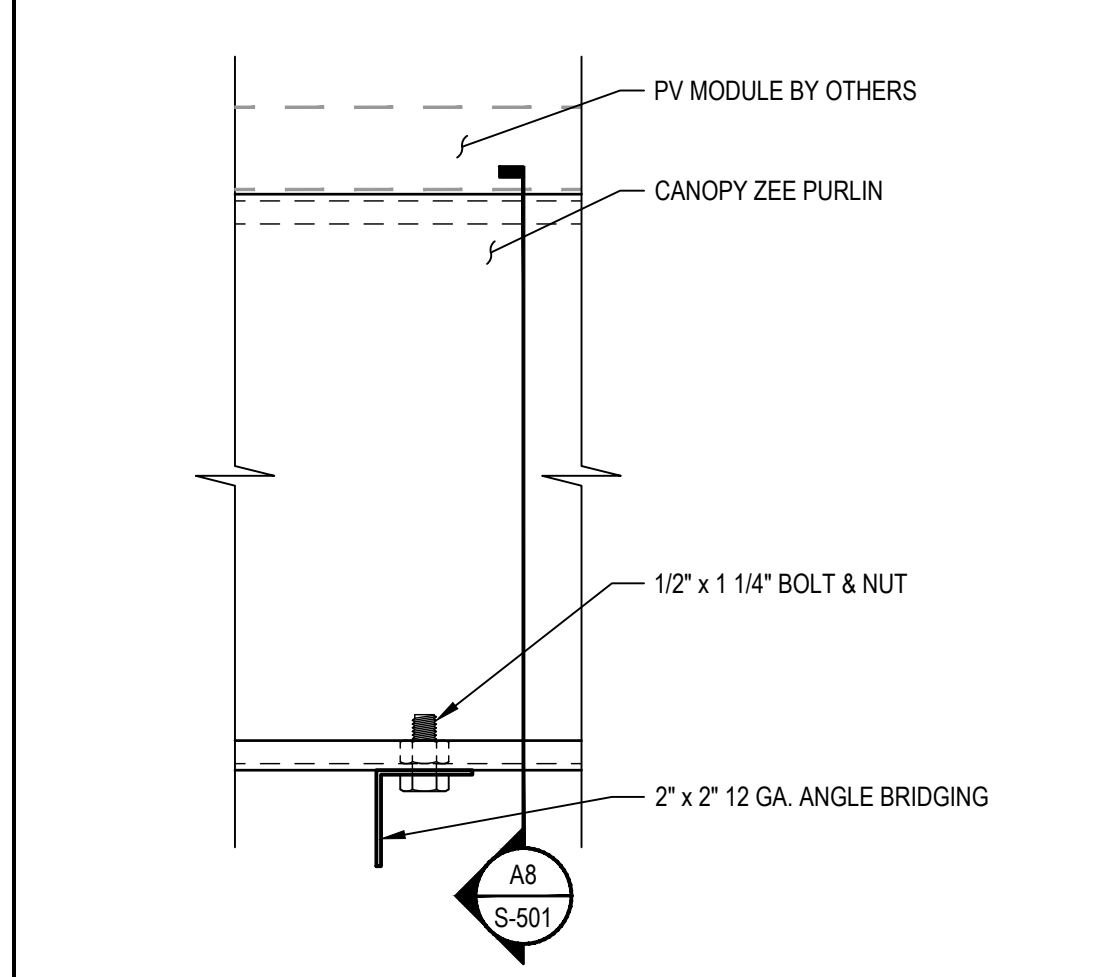
C8
SCALE: 3" = 1'-0"
Top Beam Flange Brace Connection Section



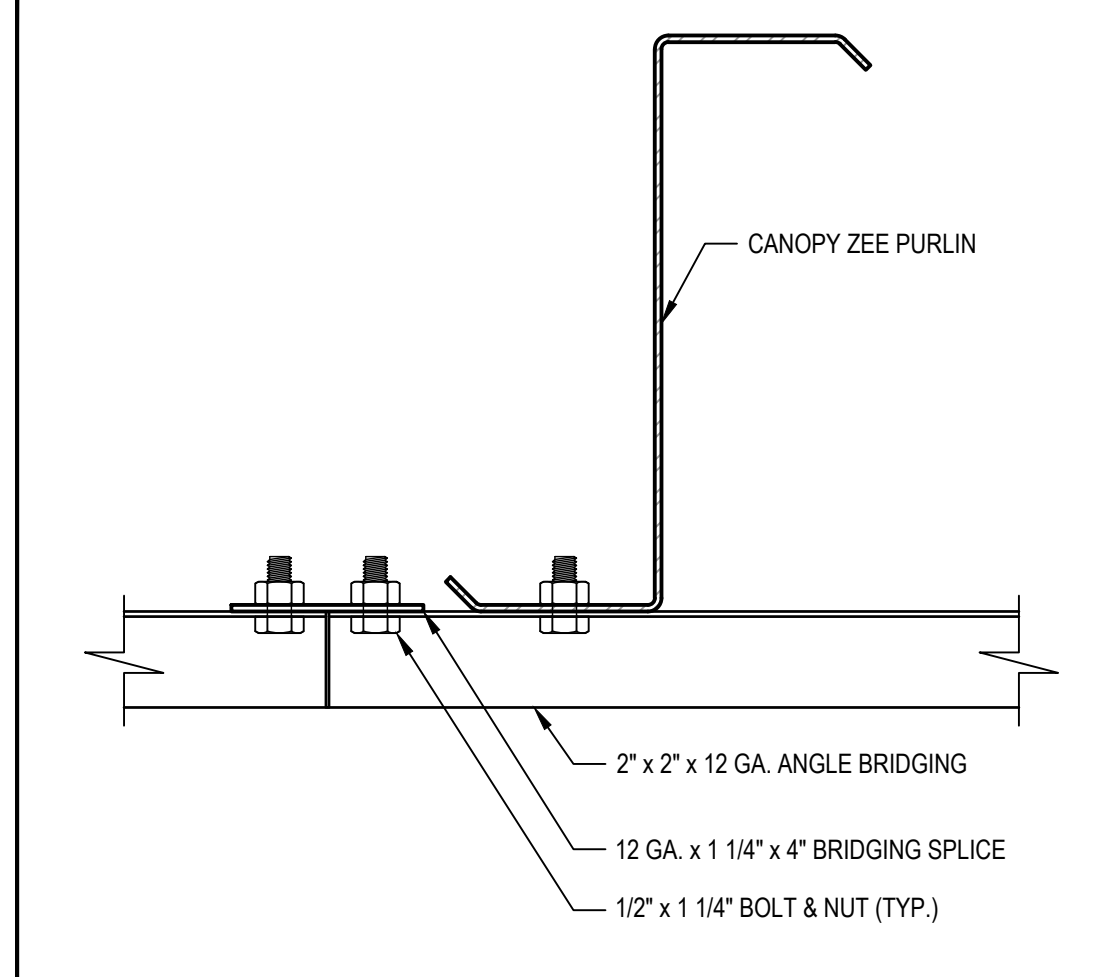
A1
SCALE: 3" = 1'-0"
Canopy Zee Purlin Splice Connection



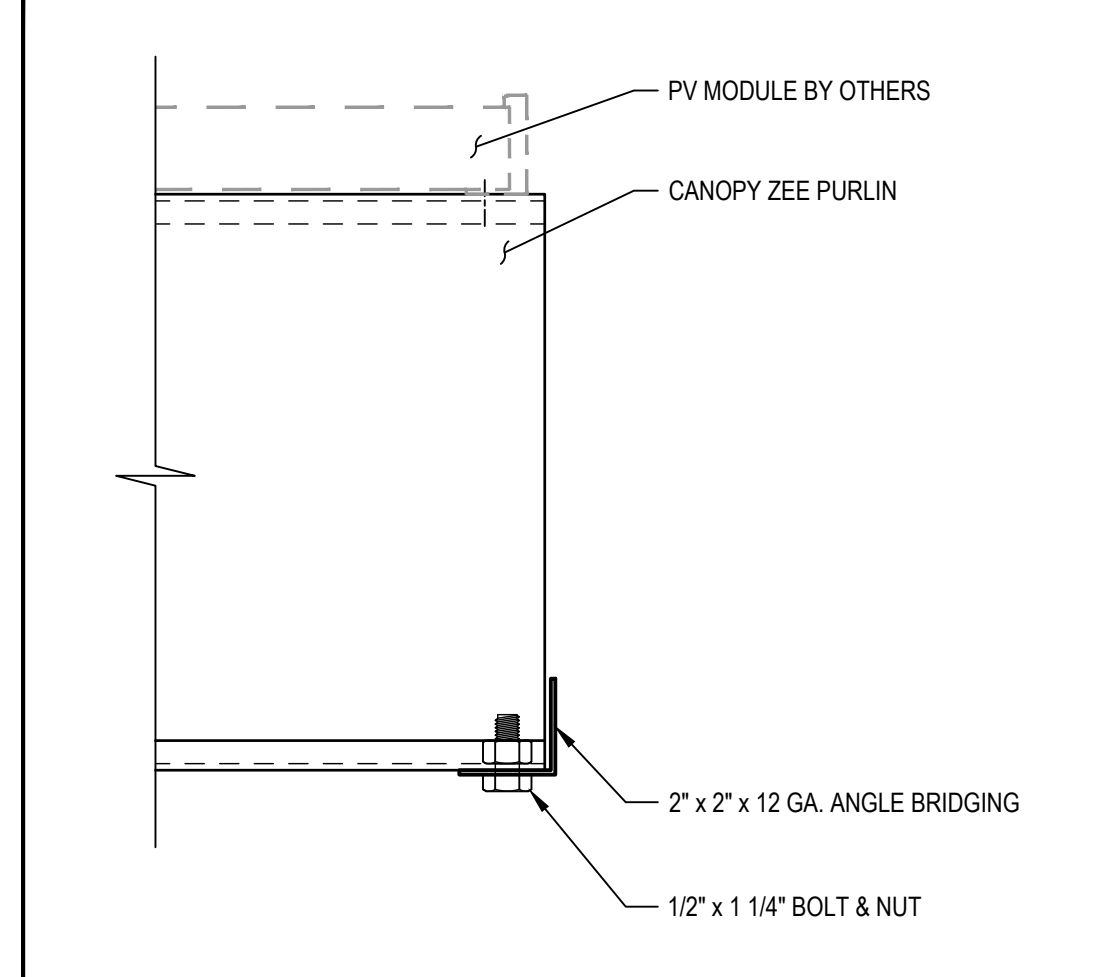
A4
SCALE: 3" = 1'-0"
Canopy Zee Purlin Splice Connection



A6
SCALE: 3" = 1'-0"
Canopy Zee Purlin Bridging Intermediate Condition



A8
SCALE: 3" = 1'-0"
Canopy Zee Purlin Bridging Splice Connection



A10
SCALE: 3" = 1'-0"
Canopy Zee Purlin Bridging End Condition

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SOLAR CANOPY FOR INDUSTRIAL ENGINEERING

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100 VALLEY PARKWAY
WHITINSVILLE, MA 01588
WORCESTER COUNTY

RBI SOLAR PROJECT No.:
177012

DRAWN BY: RJS
REVIEWED BY: LN/MES

SHEET TITLE:
COMPONENT DETAILS

SHEET No.:
S-501

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FOR
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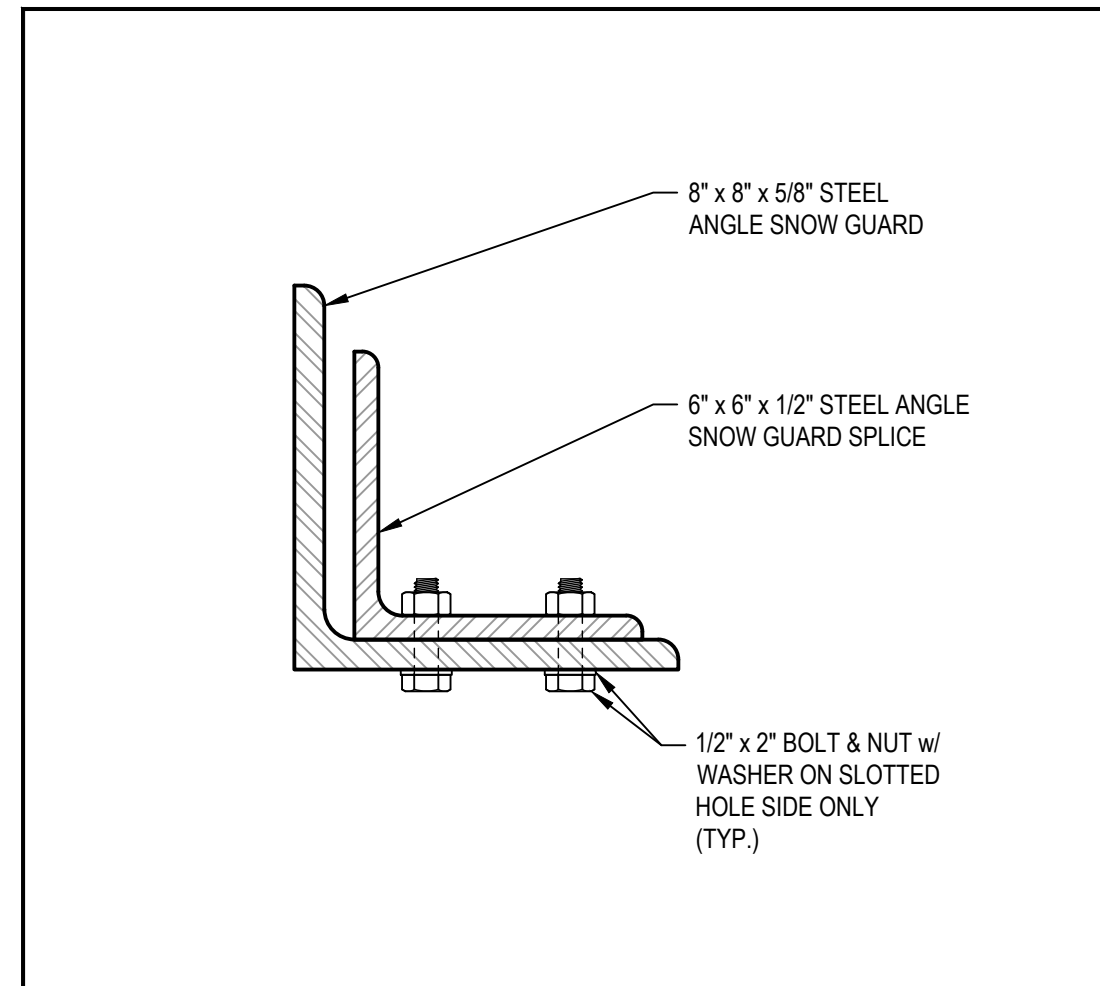
DRAWN BY: RJS
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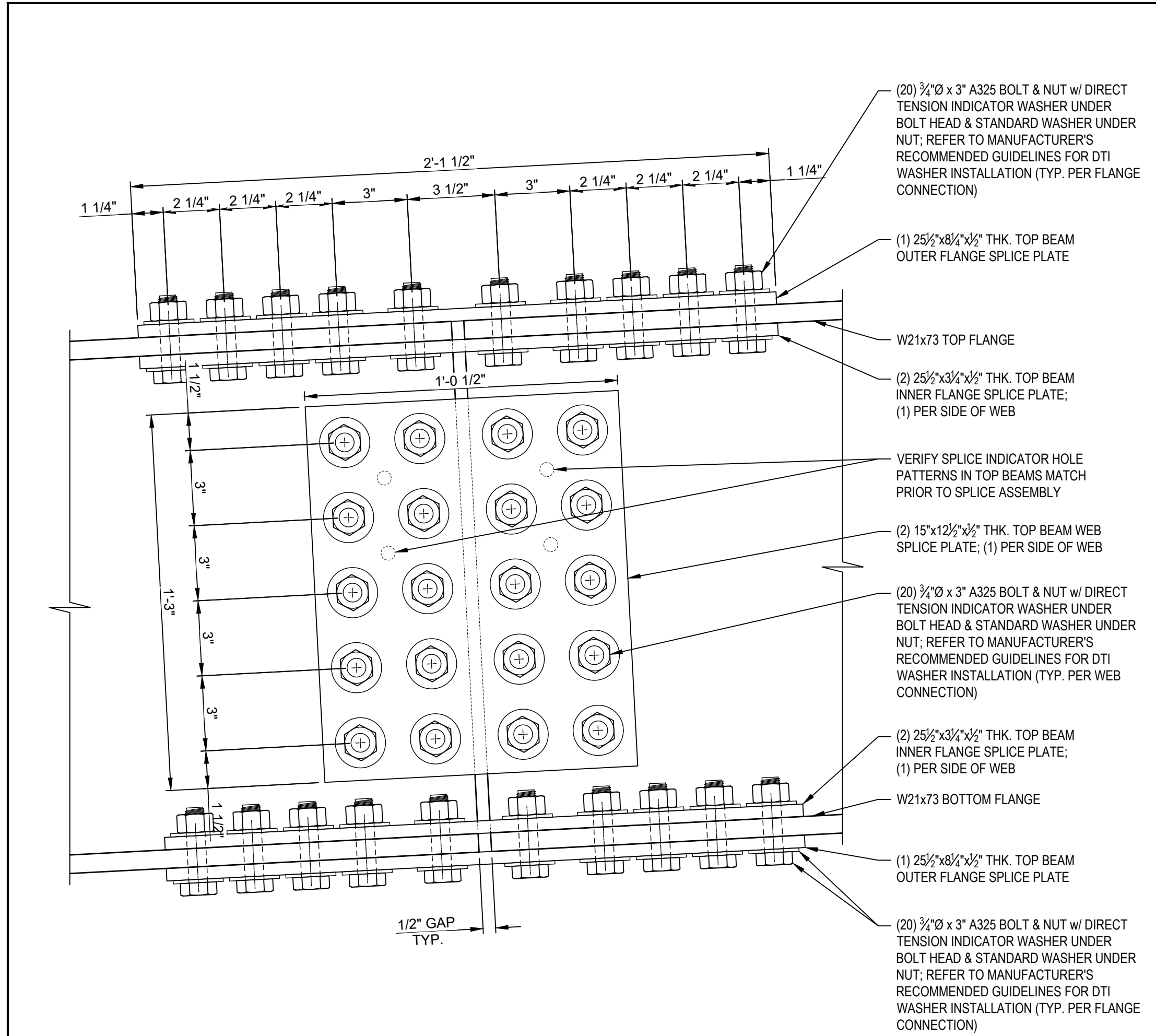
CONNECTION DETAILS

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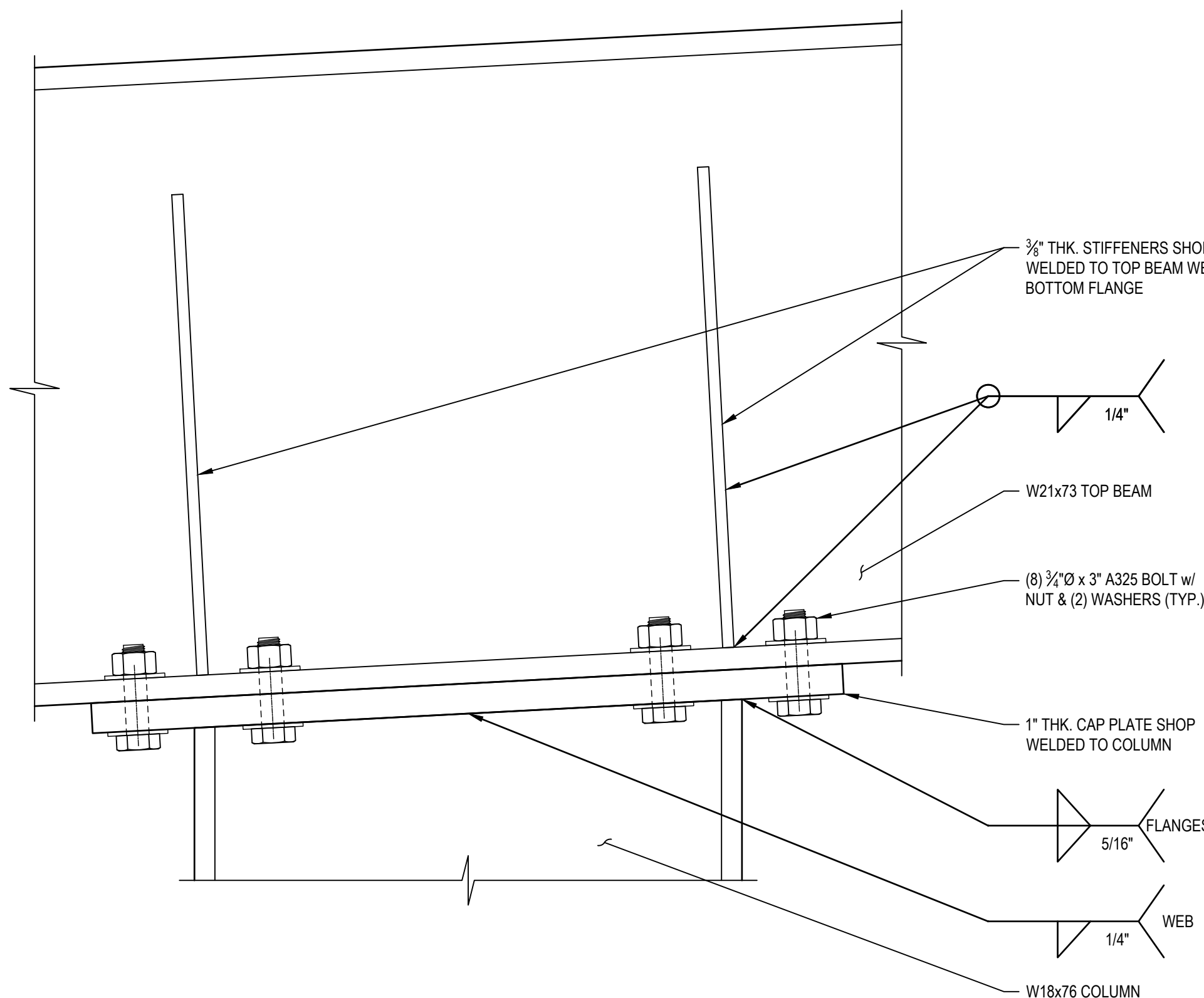
S-502



E10
Snow Guard
Splice Connection
SCALE:
3" = 1'-0"



A4
Long-Span Top Beam
Splice Connection Detail
SCALE:
3" = 1'-0"



A8
Column & Long-Span Top Beam
Connection Detail
SCALE:
3" = 1'-0"

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USER: RSTOLL PLOTTED: 8/2/2022 8:27 AM \\nrg\share1\com\dfs\RBI\88 SolarDesign\2017 Jobs\177012 - Industria Engineering - NEDC - Northridge MAD\Drawings\177012.dwg LAYOUT: S-502