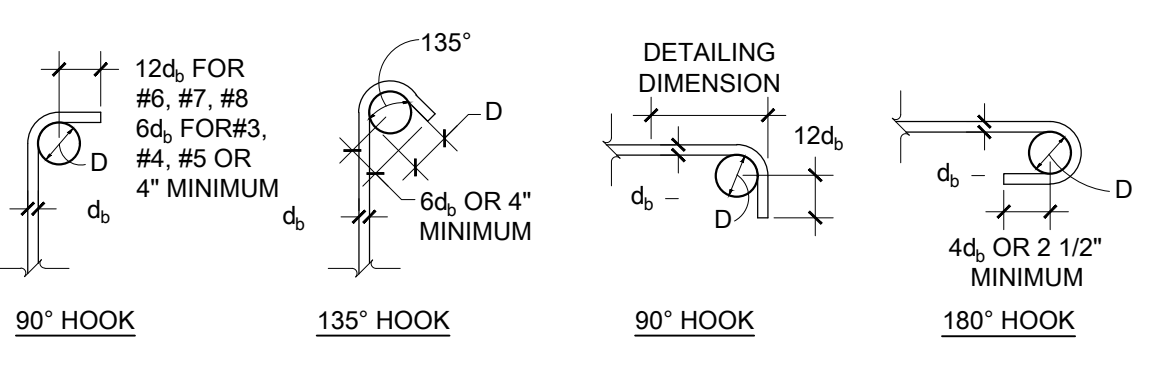


BAR SIZE	BEND DIA "D" (INSIDE OF BAR)
#3 THRU #5	4d _b
#6 THRU #8	6d _b

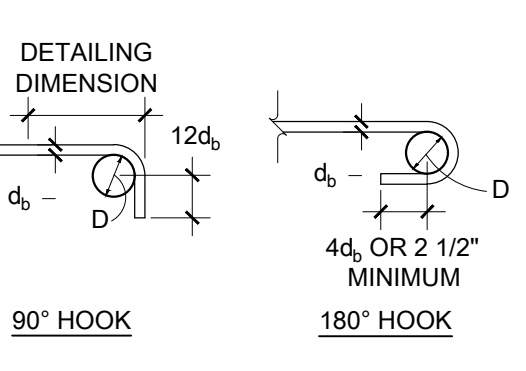


NOTE: ALL REINFORCING SHALL BE BENT COLD - TYPICAL

STANDARD HOOKS FOR STIRRUPS AND TIE REINFORCING

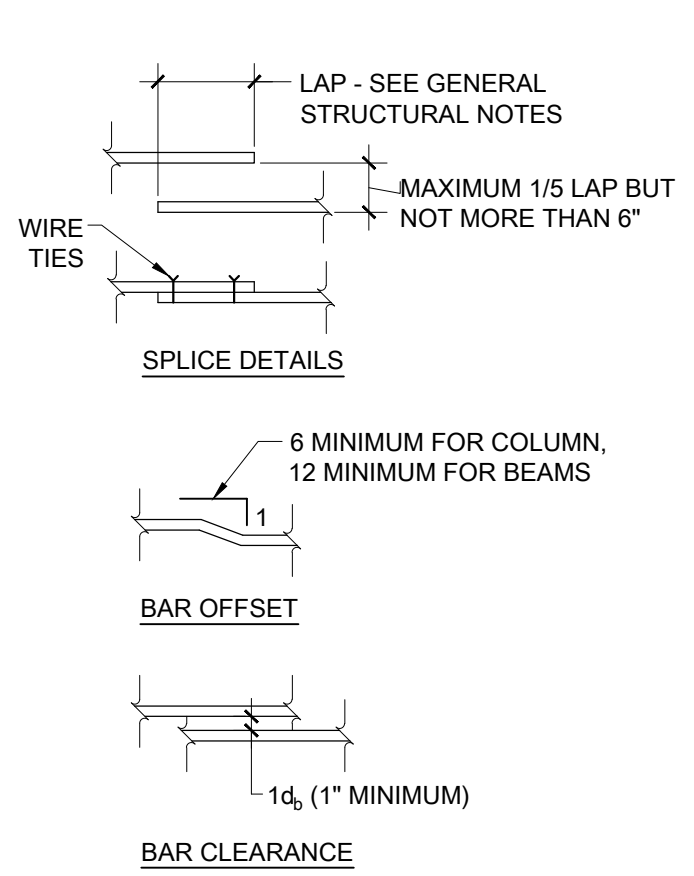
01 TYPICAL REINFORCING BAR DETAILS NOT TO SCALE

BAR SIZE	BEND DIA "D" (INSIDE OF BAR)
#3 THRU #8	6d _b
#9, #10, #11	8d _b
#14 AND #18	10d _b



NOTE: ALL REINFORCING SHALL BE BENT COLD - TYPICAL

STANDARD HOOKS FOR PRIMARY REINFORCING



02 ADHESIVE ANCHOR SCHEDULE NOT TO SCALE

ANCHOR DIAMETER	GROUT FILLED CMU EMBEDMENT LENGTH	CONCRETE EMBEDMENT LENGTH
1/2"	5"	4 1/4"
5/8"	6"	5"
3/4"	6 5/8"	6 3/4"
7/8"	--	7 7/8"
1"	--	9"

PROVIDE ADHESIVE ANCHORS PER THIS SCHEDULE UNLESS NOTED OTHERWISE ON PLANS OR DETAILS.

ADHESIVE ANCHORS SHALL BE USED ONLY WHERE SPECIFICALLY SHOWN ON THE DRAWINGS OR WHEN APPLICATION IS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

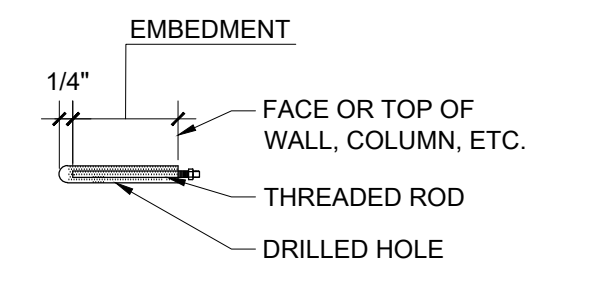
ADHESIVE ANCHORS IN GROUT-FILLED CMU AND CONCRETE SHALL BE 1/2", 5/8", 3/4", 7/8 OR 1" DIA. THREADED RODS ANCHORED WITH:

- HILTI HIT HY200 (ICC ESR NO. 3187) (CONCRETE ONLY)
- SIMPSON SET-XP EPOXY (ICC ESR NO. 2508/IANPO UES ER-265) ANCHORS IN GROUTED CMU SHALL BE LOCATED A MINIMUM OF 4" FROM ANY FREE EDGE OF WALL AND MAY BE LOCATED IN THE GROUTED CELL, BED JOINT, CROSS WEB OR ANY COMBINATION OF THE ABOVE. NO INSTALLATION WITHIN 1 1/2" OF HEAD JOINT.

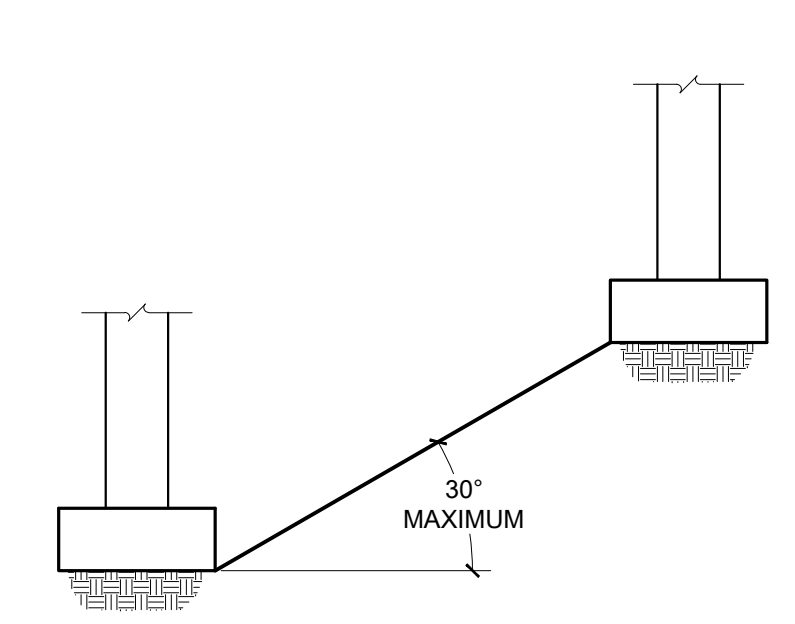
ADHESIVE ANCHORS IN MULTI-WYTHE BRICK MASONRY, HOLLOW CMU, BRICK WITH HOLES, OR CLAY TILE SHALL BE 1/2", 5/8" OR 3/4" DIA. THREADED RODS IN A SCREEN TUBE FILLED WITH:

- HILTI HIT HY200 (ICC ESR NO. 3187) (CONCRETE ONLY)
- SIMPSON SET-XP EPOXY (ICC ESR NO. 2508/IANPO UES ER-265) ANCHORS IN GROUTED CMU SHALL BE LOCATED A MINIMUM OF 4" FROM ANY FREE EDGE OF WALL AND MAY BE LOCATED IN THE GROUTED CELL, BED JOINT, CROSS WEB OR ANY COMBINATION OF THE ABOVE. NO INSTALLATION WITHIN 1 1/2" OF HEAD JOINT.
- SIMPSON SET EPOXY (ICC ESR NO. 1772) (UNREINFORCED BRICK ONLY)

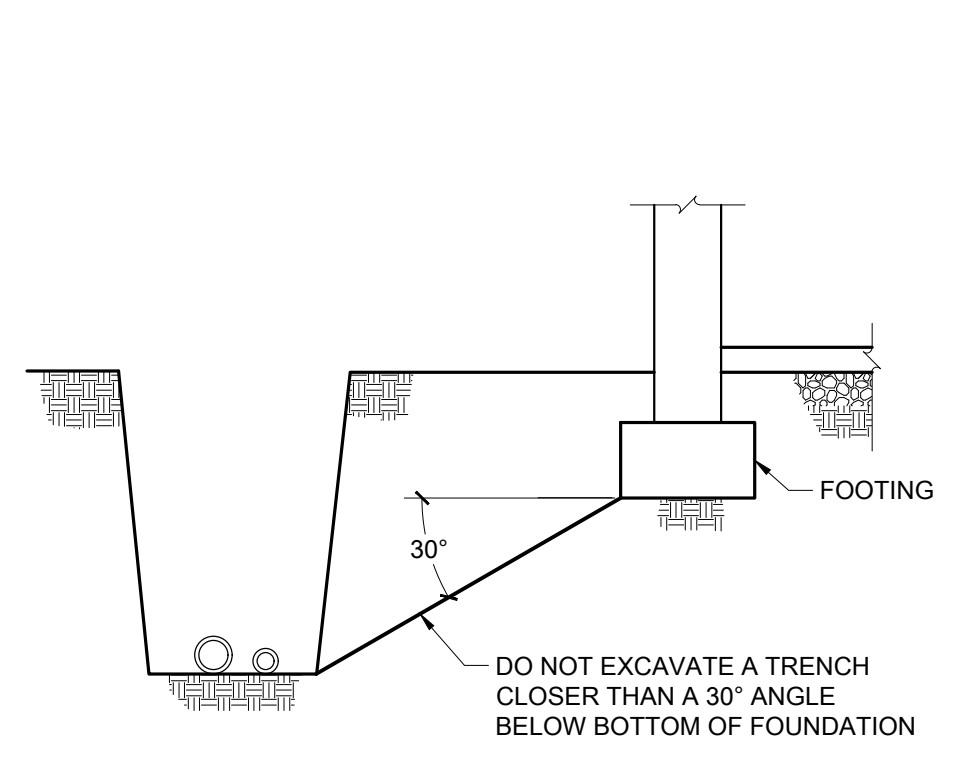
ANCHORS SHALL BE LOCATED A MINIMUM OF 12" FROM ANY FREE EDGE OF WALL AND 4 5/8" FROM HEAD JOINT AND SHALL BE LIMITED TO ONE ANCHOR PER CELL.



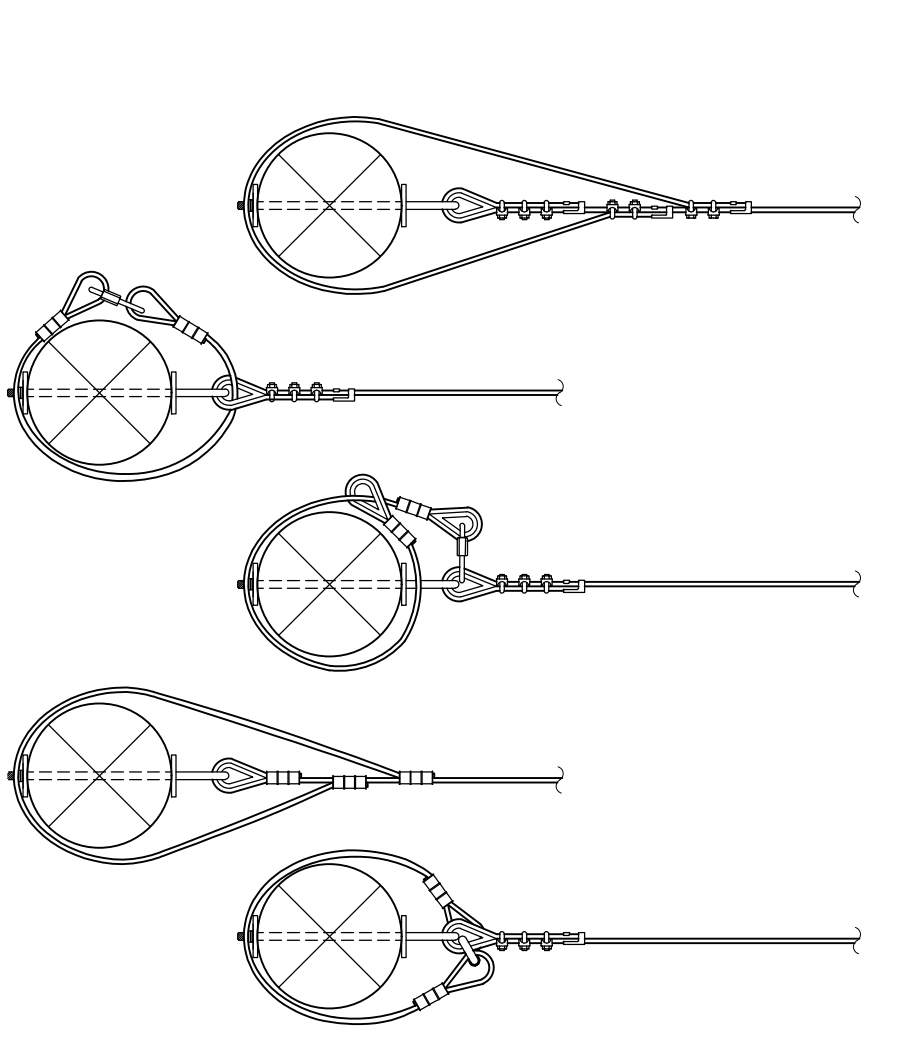
ADHESIVE ANCHOR



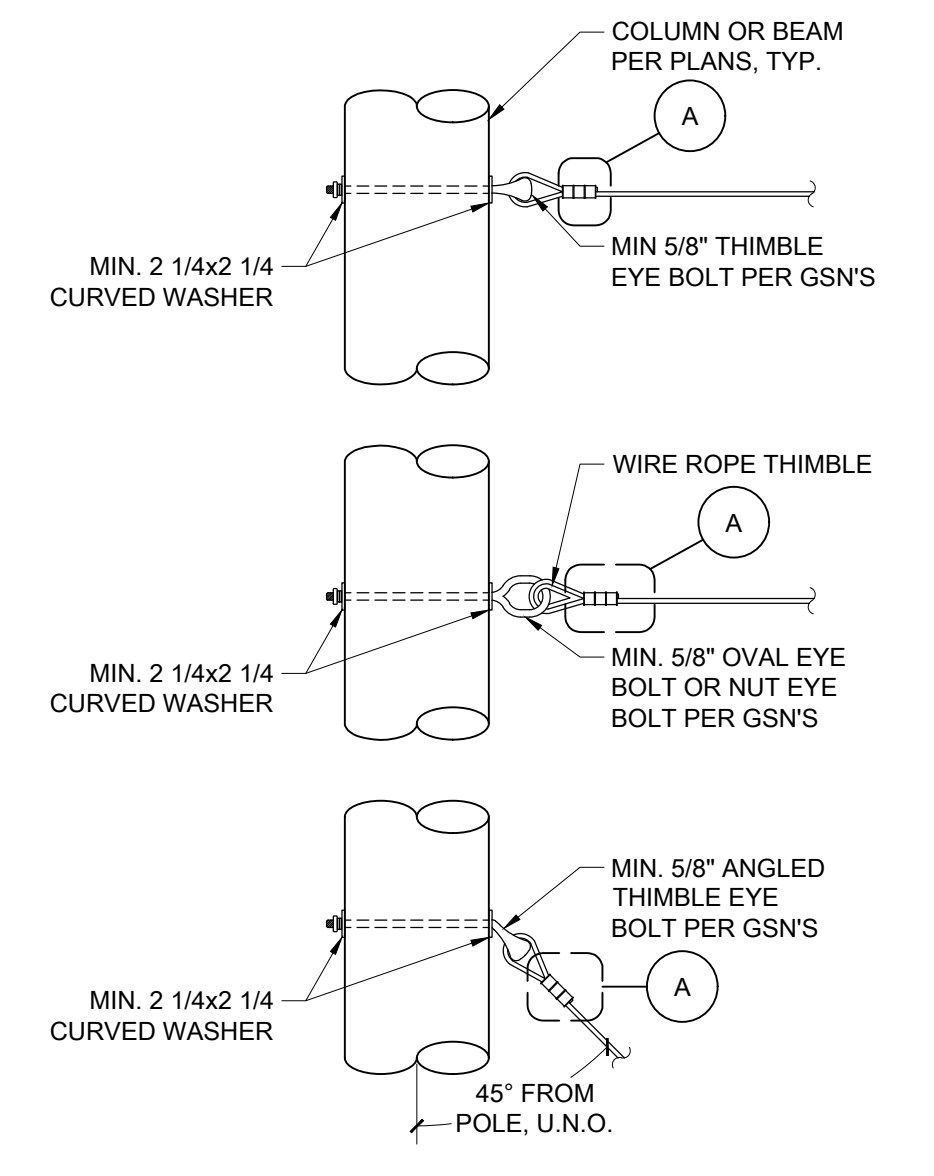
03 MAXIMUM SLOPE BETWEEN ADJACENT FOOTINGS NOT TO SCALE



04 TRENCH DETAIL NOT TO SCALE

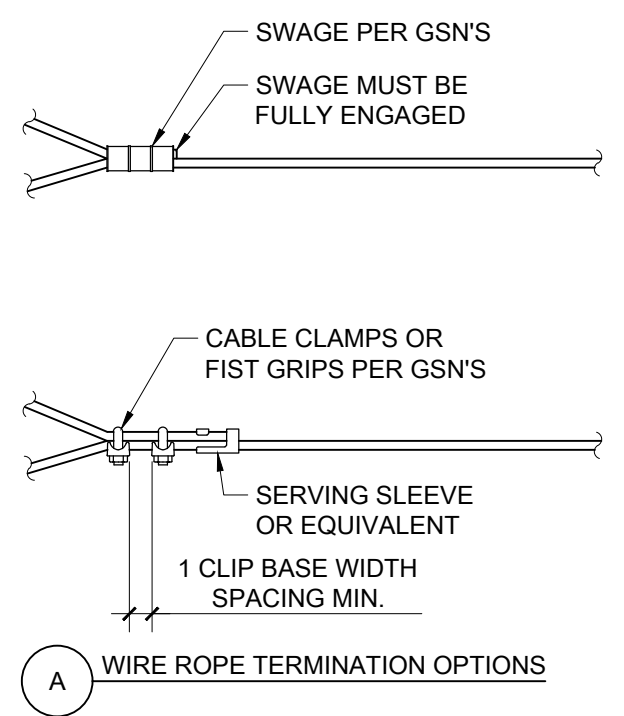


06 BACKUP LOOP OPTIONS FOR CRITICAL LIFE SAFETY APPLICATIONS NOT TO SCALE

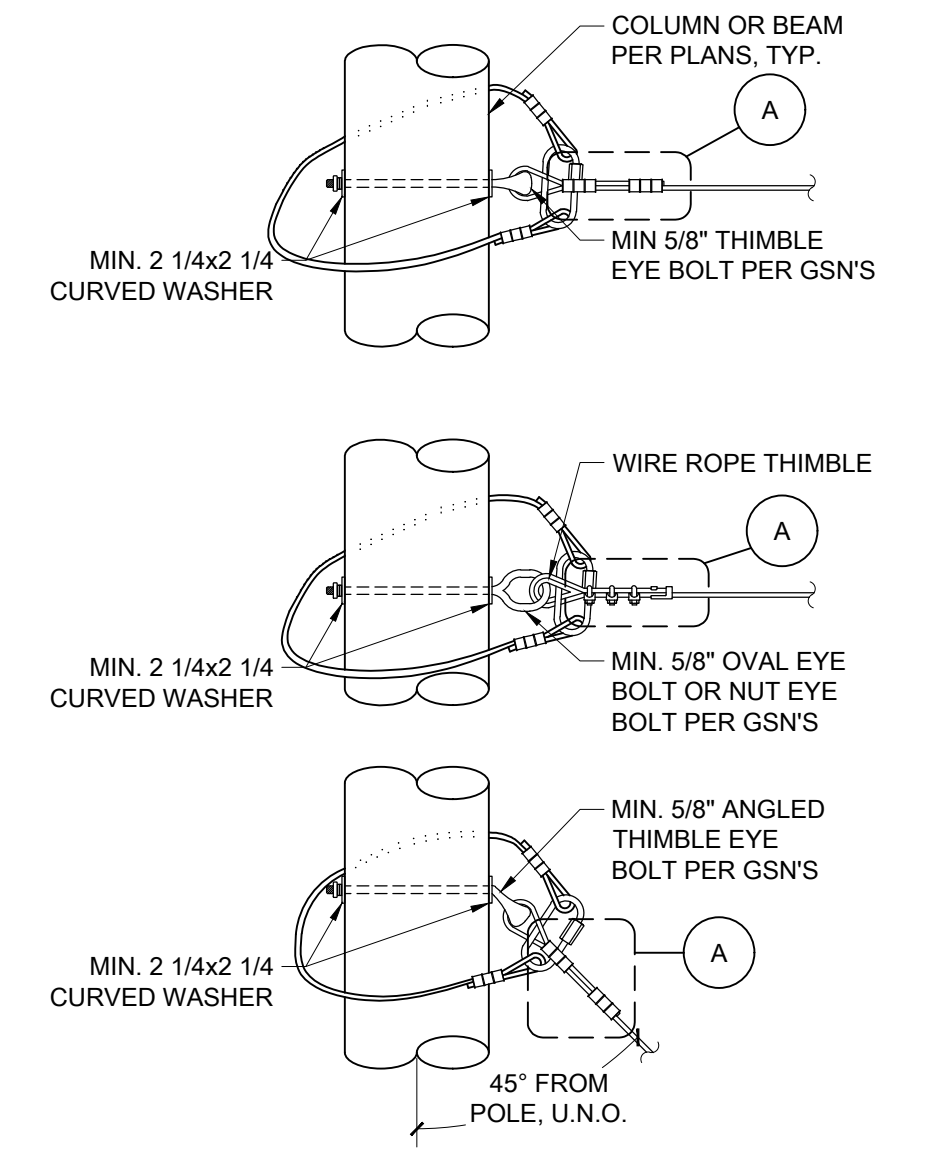


07 ACTIVITY SUPPORT SYSTEMS CONNECTION OPTIONS NOT TO SCALE

NOTE: 3/8" WIRE ROPE OPTIONS SHOWN FOR LARGER DIAMETERS, SEE GSN'S AND MANUFACTURER RECOMMENDATIONS.

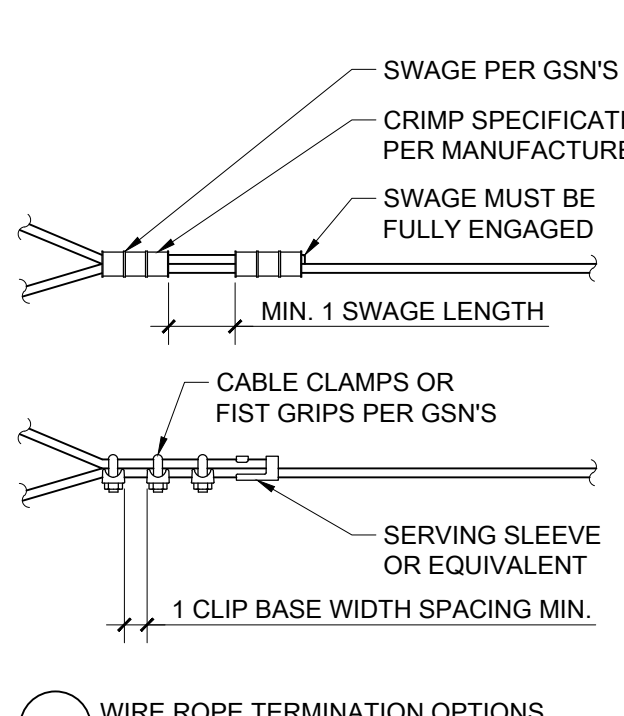


08 WIRE ROPE TERMINATION OPTIONS

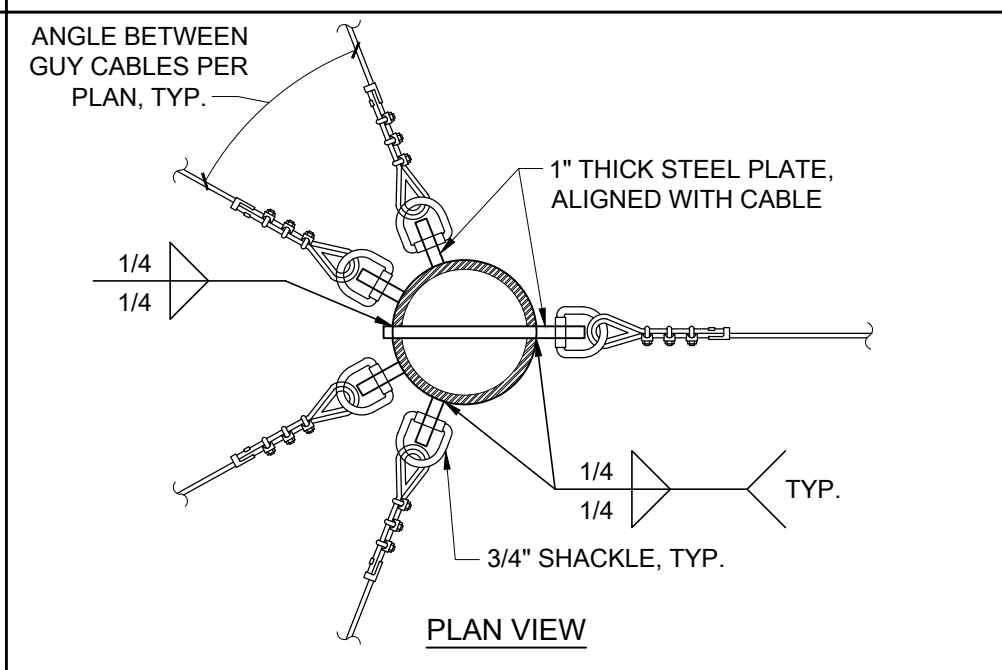


08 CRITICAL LIFE SAFETY SYSTEMS CONNECTION OPTIONS NOT TO SCALE

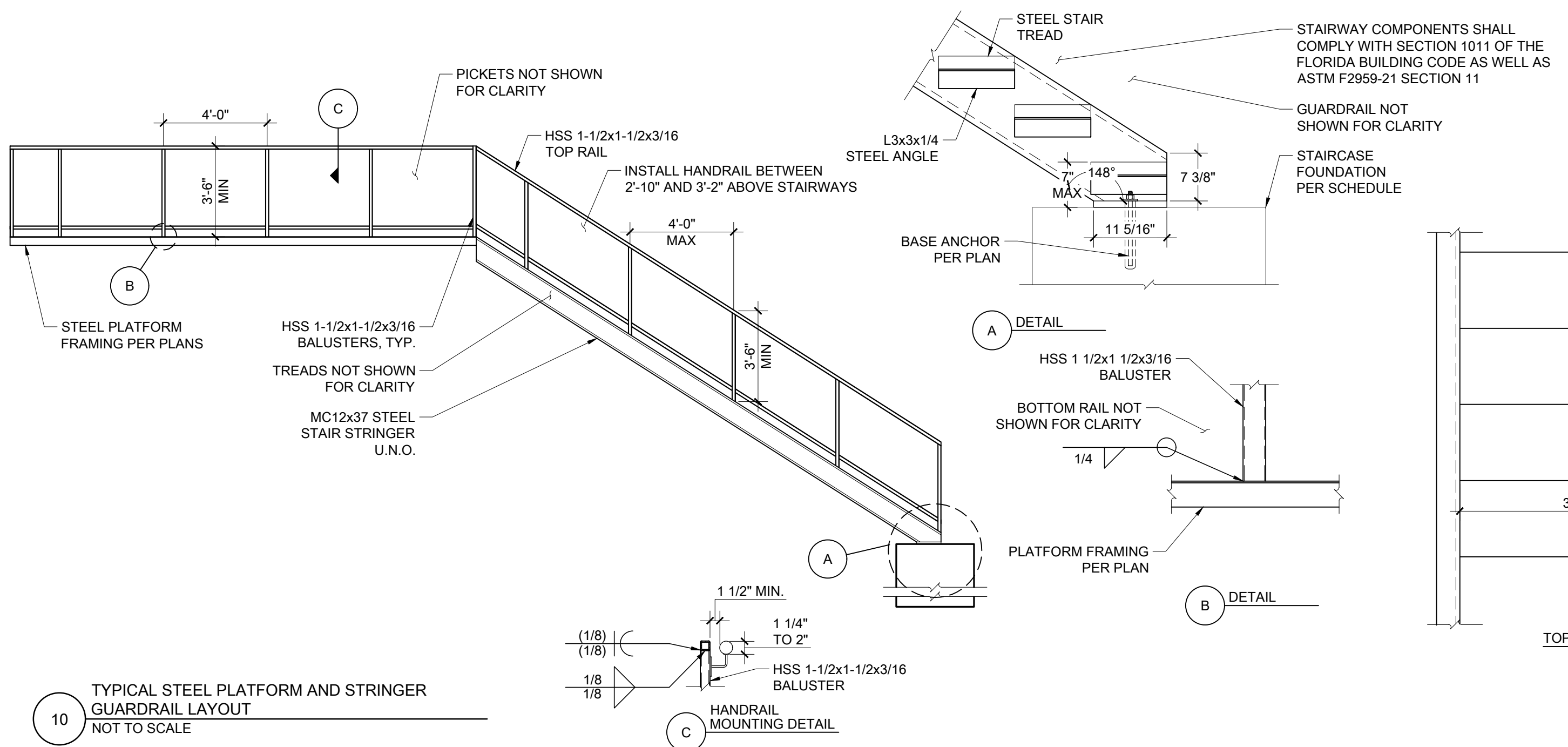
NOTE: 3/8" WIRE ROPE OPTIONS SHOWN FOR LARGER DIAMETERS, SEE GSN'S AND MANUFACTURER RECOMMENDATIONS.



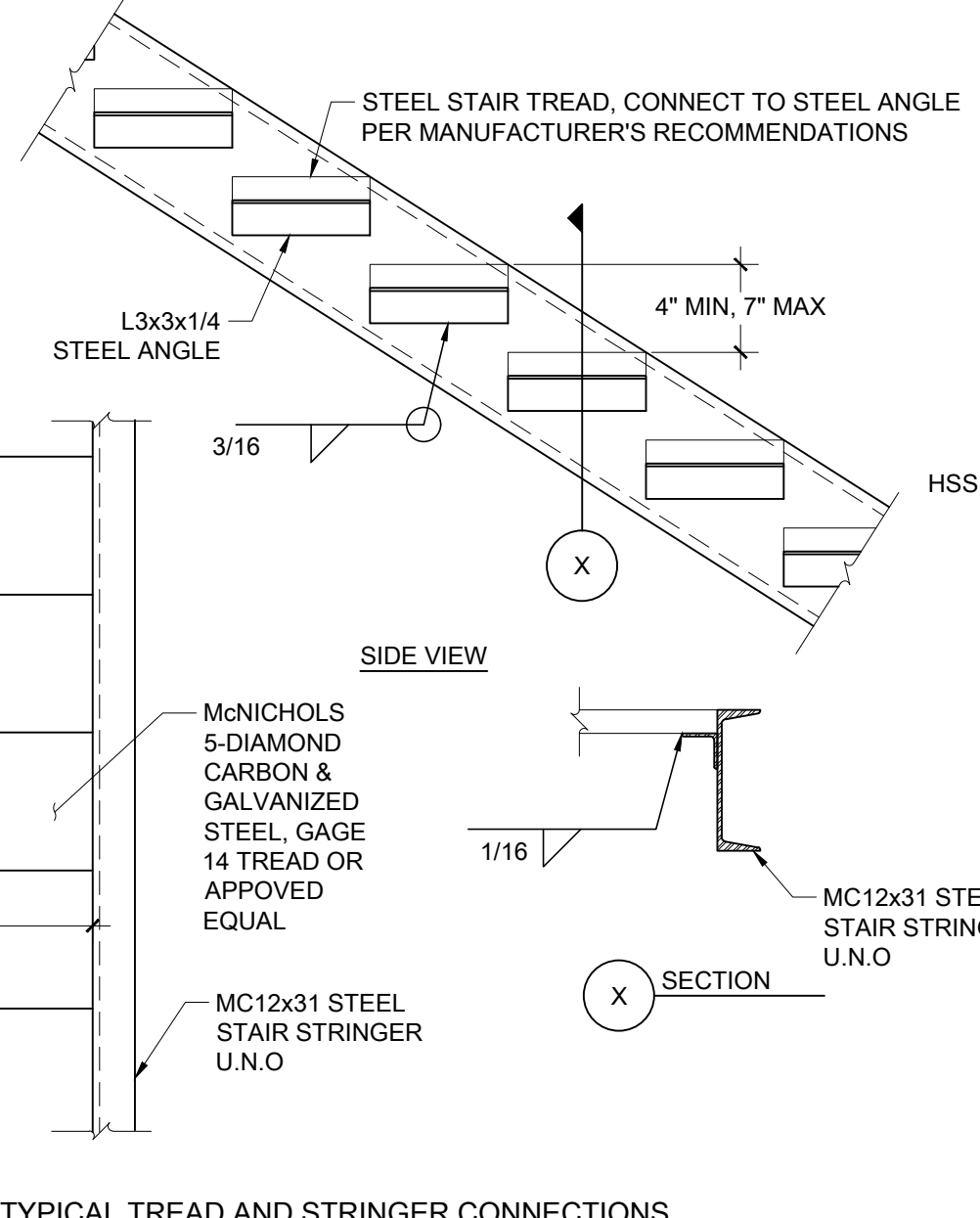
08 WIRE ROPE TERMINATION OPTIONS



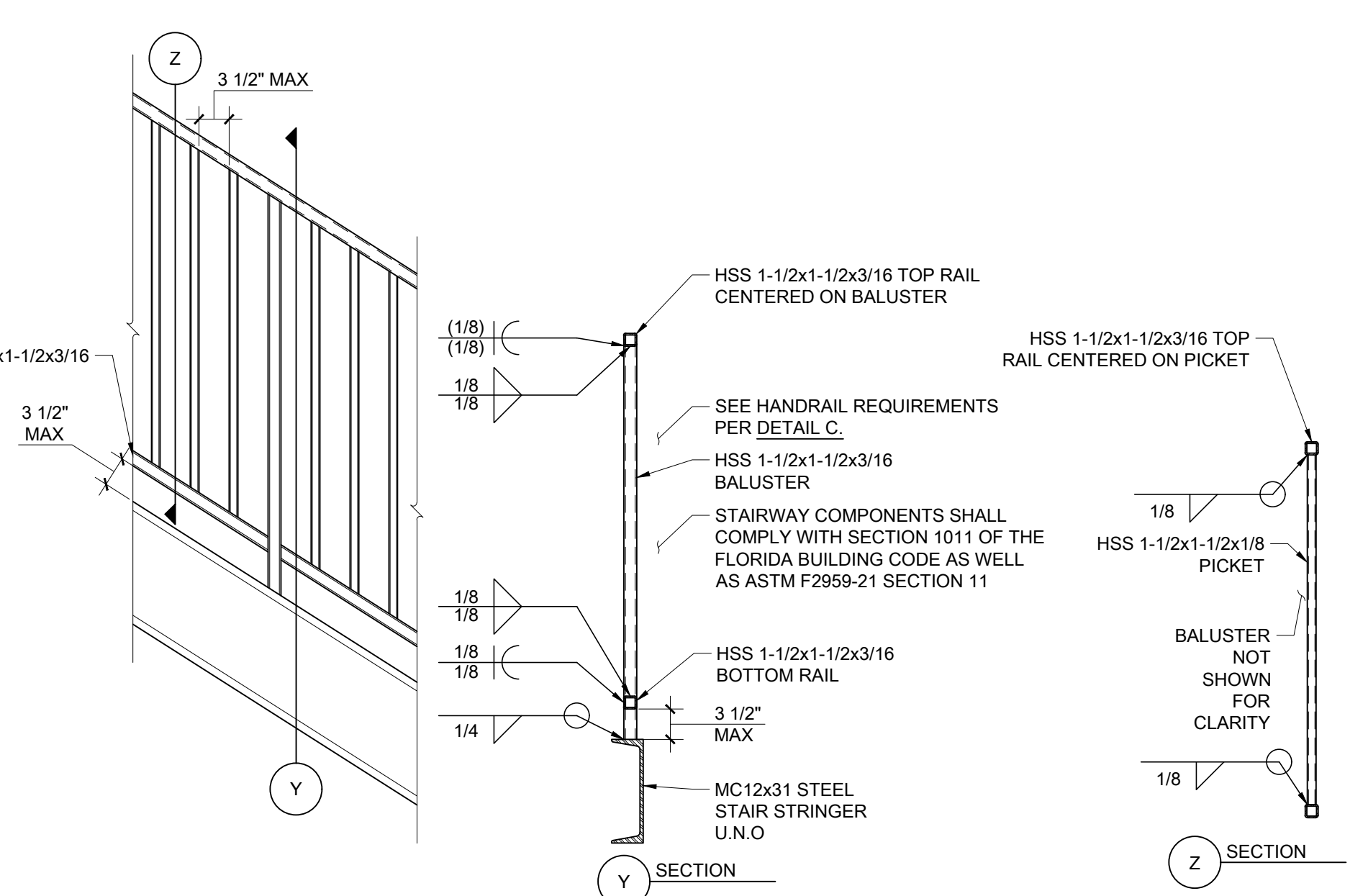
09 TYPICAL ZIP, BREAK AND CABLE ATTACHMENT NOT TO SCALE



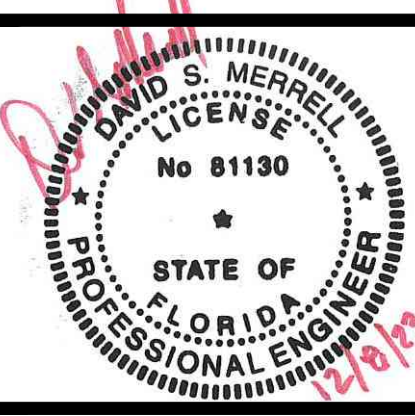
10 TYPICAL STEEL PLATFORM AND STRINGER GUARDRAIL LAYOUT NOT TO SCALE



TYPICAL TREAD AND STRINGER CONNECTIONS



TYPICAL PICKET CONNECTIONS



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HME PROJECT ENGINEER: SABRINA BALLARD
DRAWN BY: VICTOR WING
JOB ORDER #: 22704

DATE: 12/08/2023
SCALE: AS NOTED
REVISION:

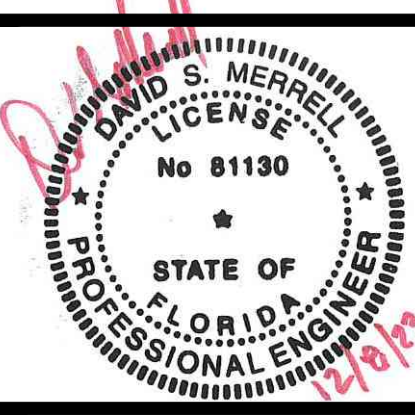
SHEET NUMBER:

PLAN NOTES
1 1/2" DIA. SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.
2 BRIDGE ELEMENT BETWEEN TOWERS PER DETAIL A/ S7.2.
3 1/2" DIA. SUPER SWAGED BRAKE ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2'-0" ABOVE ZIP CABLE
4 PHASE 2 - FUTURE CONSTRUCTION

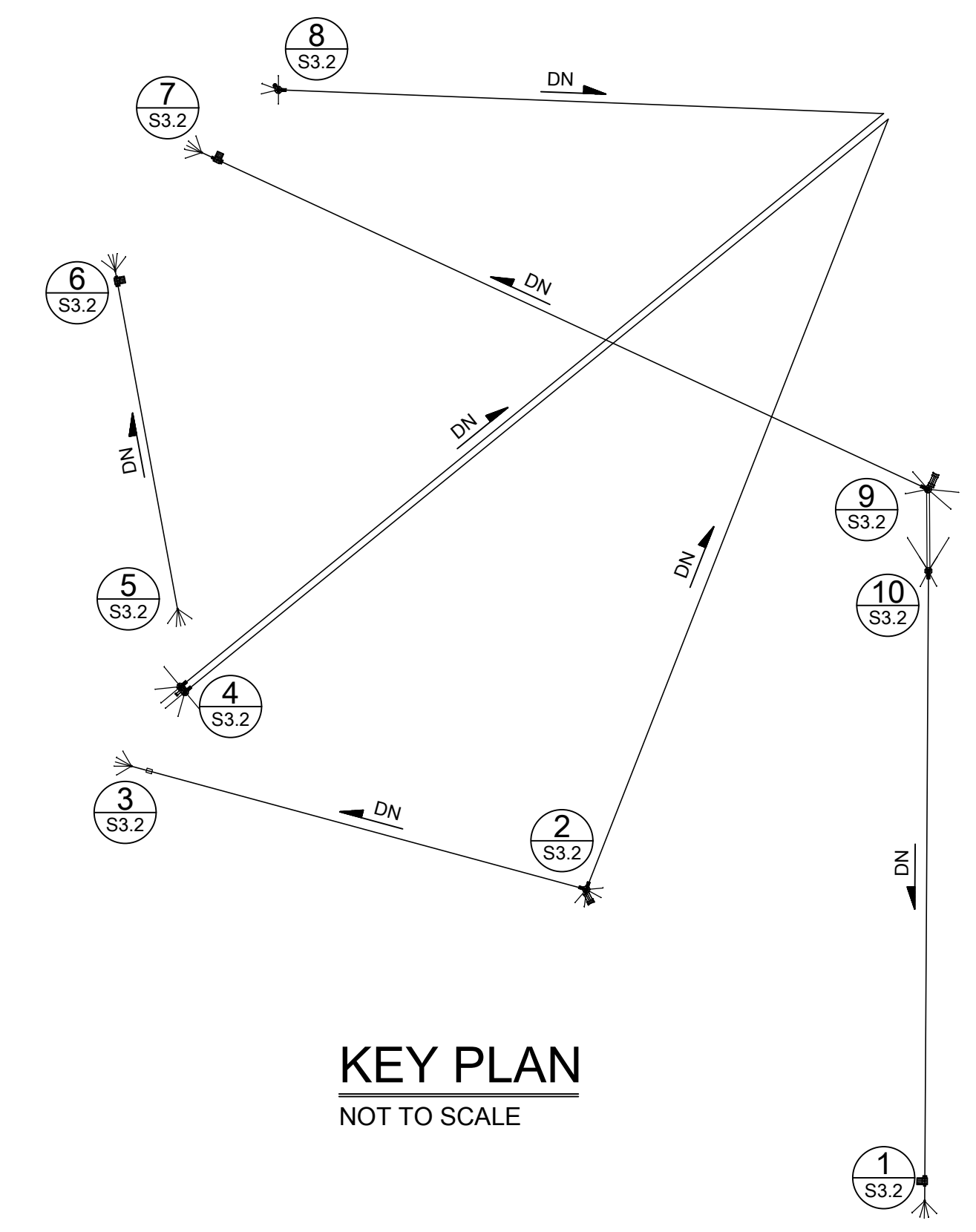
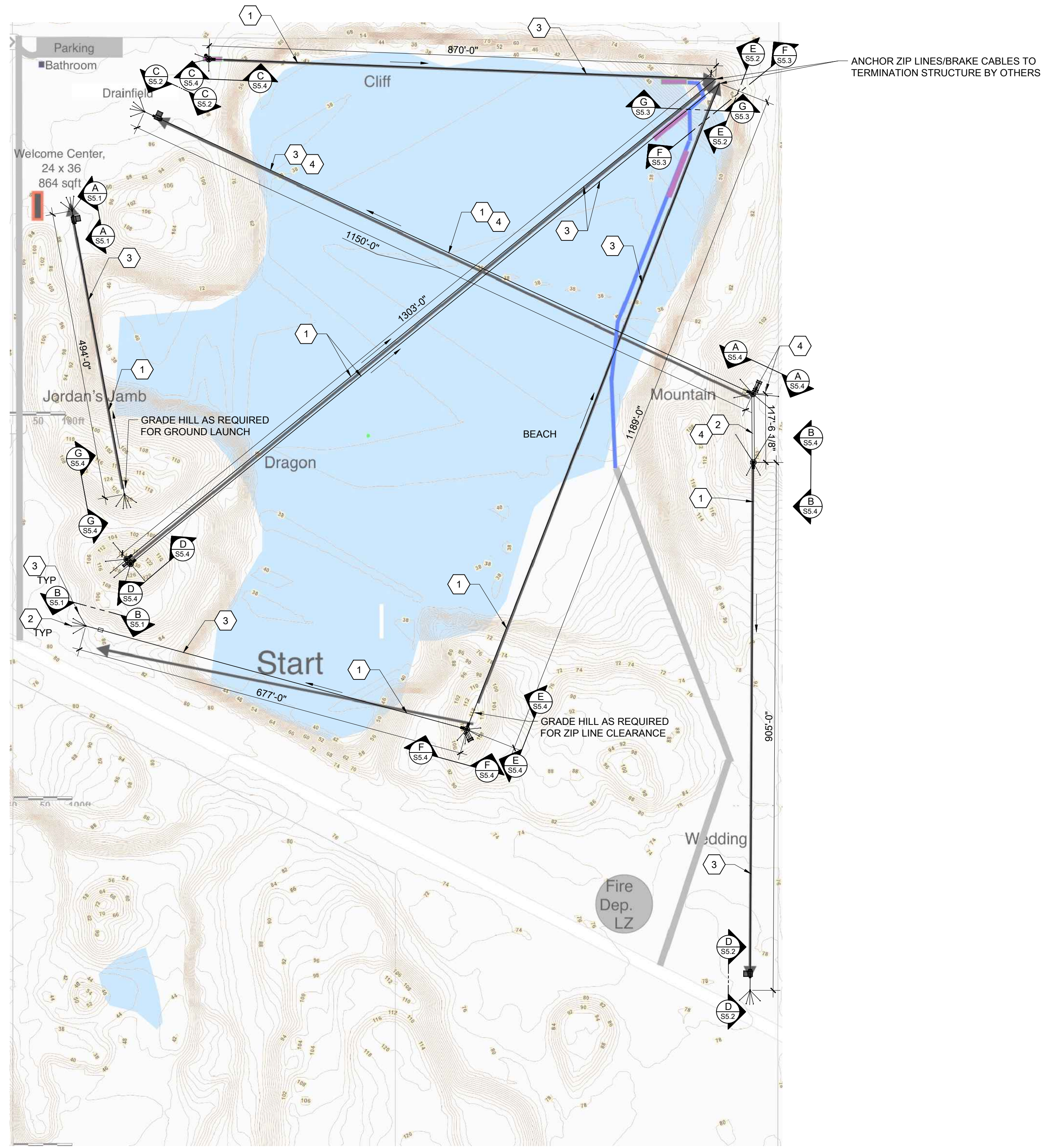
TYPICAL DIMENSION NOTE
CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

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HAILE QUARRY ZIPLINES ALACHUA COUNTY, FL



ZIP LINE LAYOUT
SCALE: 1/128" = 1'-0"
NORTH

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DAVE MERRELL

HME PROJECT ENGINEER:
SABRINA BALLARD

DRAWN BY:
VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023
SCALE: AS NOTED
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SHEET NUMBER:
S3.1
ZIP LAYOUT

TYPICAL DIMENSION NOTE
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NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

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 DAVE MERRELL

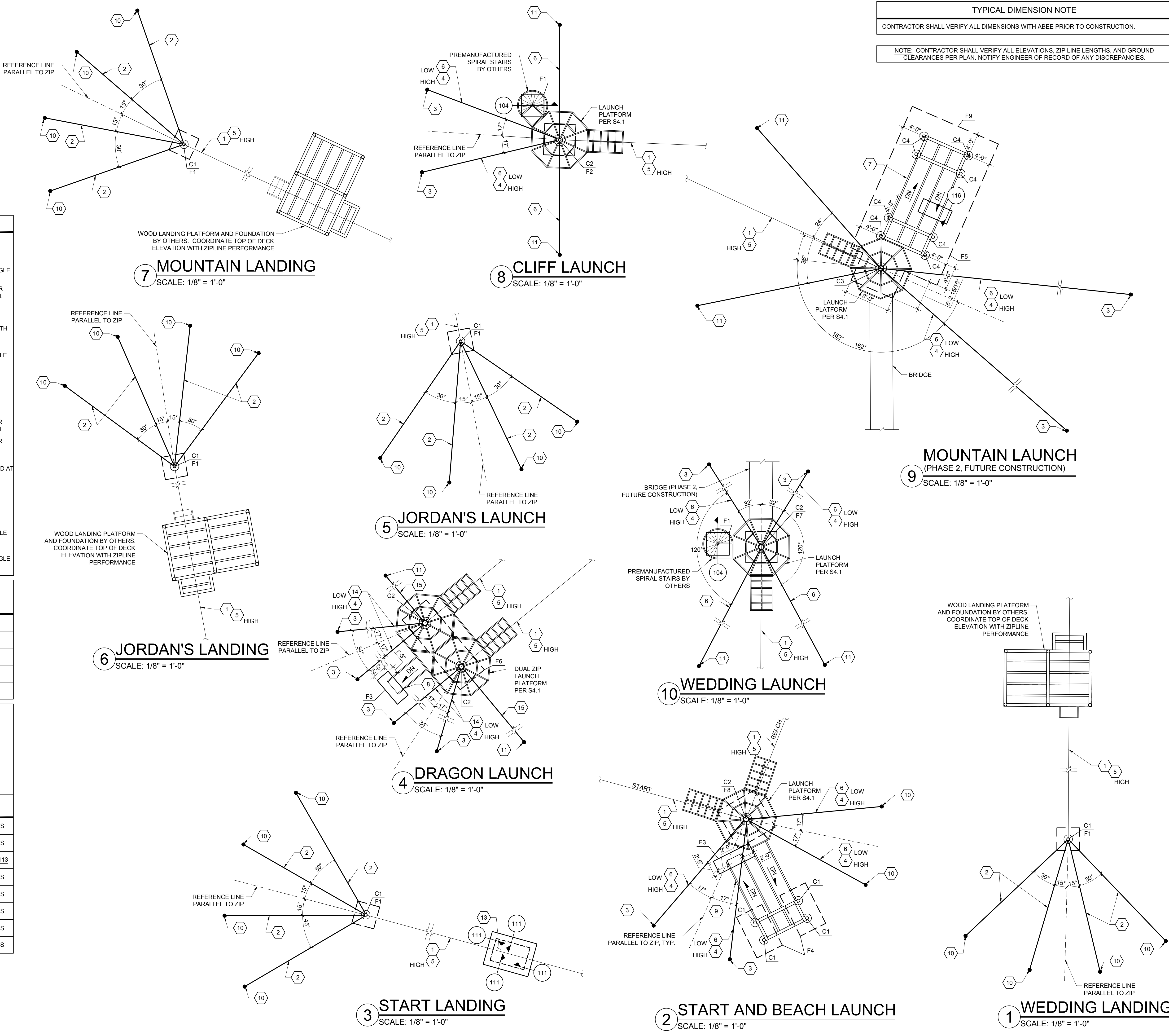
HME PROJECT ENGINEER:
 SABRINA BALLARD

DRAWN BY:
 VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023
 SCALE: AS NOTED
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SHEET NUMBER:
S3.2
 CABLE LAYOUT/
 FOUNDATION PLAN



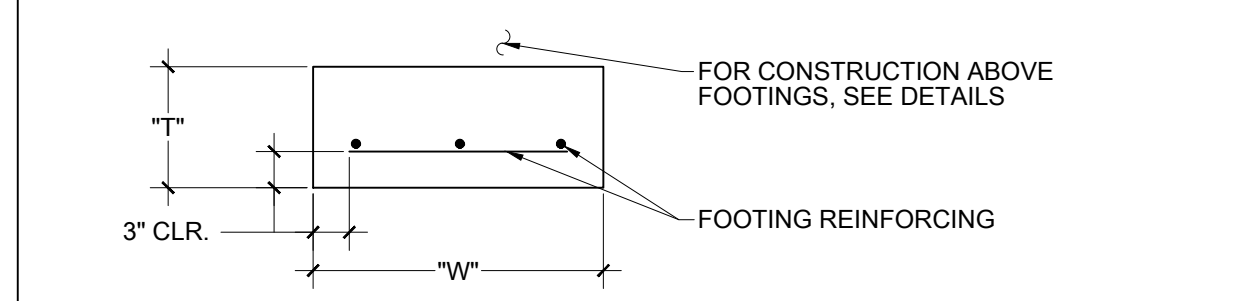
PLAN NOTES

- 1 1/2" DIA. SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.
- 2 1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 45° ANGLE TO POLE.
- 3 DEAD MAN ANCHOR PER DETAIL 101. AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 109 AND PULL TEST TO 28,000 LBS. SEE GSNs FOR PULL TEST INFORMATION.
- 4 1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL ALL WITHIN 6" OF BRAKE CABLE.
- 5 1/2" DIA. SUPER SWAGED BRAKE CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2'-0" ABOVE ZIP CABLE
- 6 1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 45° ANGLE TO POLE.
- 7 STAIRS / STAIR LANDINGS PER DETAIL 4/S5.6 AND DETAIL 5/S5.7.
- 8 STAIRS PER DETAIL 1/S5.5.
- 9 STAIRS / STAIR LANDINGS PER DETAIL 2/S5.5.
- 10 DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION. PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION
- 11 DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION. PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION
- 12 1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2'-0" OF BRIDGE BELAY CABLE AND AT 45° ANGLE TO POLE.
- 13 6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS WITH OWNER. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF JOINTS. SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER DETAIL 111.
- 14 1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.
- 15 1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.

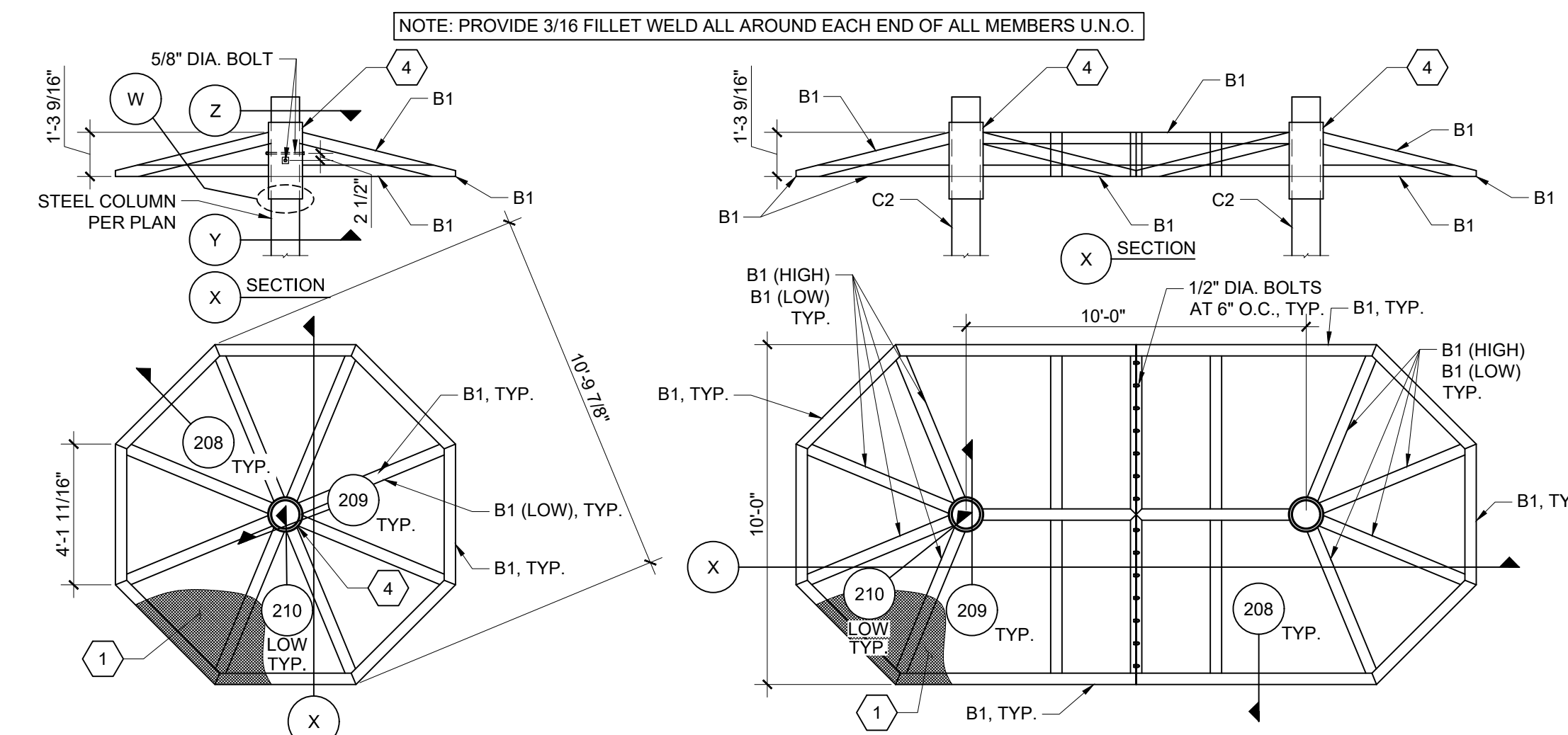
COLUMN (C) SCHEDULE

MARK	TYPE & SIZE	BASE CONNECTION	REMARKS
C1	PIPE 6, SCH. 40	SEE DETAIL 107	NONE
C2	PIPE 10, SCH. 40	SEE DETAIL 114	NONE
C3	PIPE 10, SCH. 80	SEE DETAIL 105	NONE
C4	PIPE 6, SCH. 80	SEE DETAIL 106	NONE
C5	PIPE 6, SCH. 40	SEE DETAIL 104	NONE

FOOTING (F) SCHEDULE

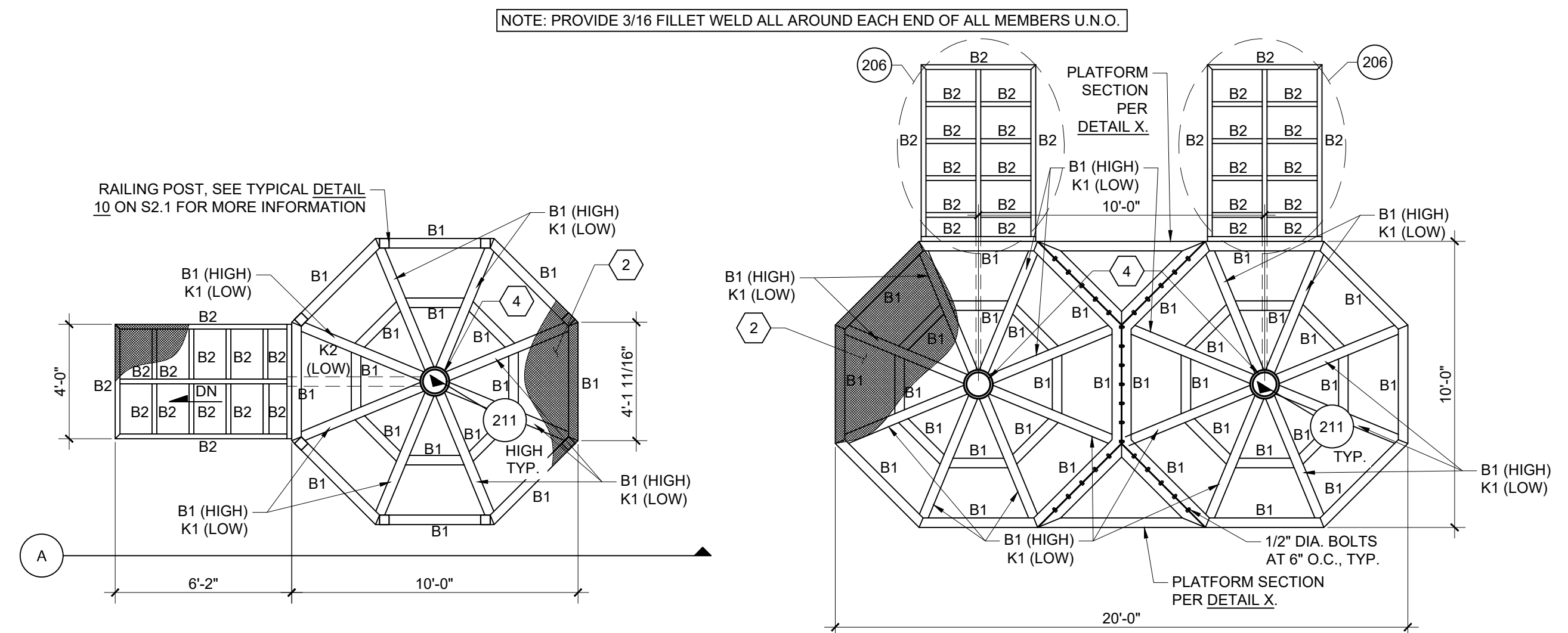


MARK	DIMENSIONS		FOOTING REINFORCING	REMARKS
	"W"	"T"		
F1	4'-0" x 4'-0"	18"	(4) #5 BARS EACH WAY TOP AND BOTTOM	SEE DETAILS
F2	5'-0" x 5'-0"	18"	#5 BARS @ 9" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS
F3	2'-6" x CONTI.	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAIL 113
F4	8'-0" x 5'-0"	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS
F5	PER PLAN	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS
F6	4'-6" x 15'-0"	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS
F7	6'-0" x 6'-0"	18"	#5 BARS @ 9" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS
F8	5'-6" x 5'-6"	18"	#5 BARS @ 9" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS



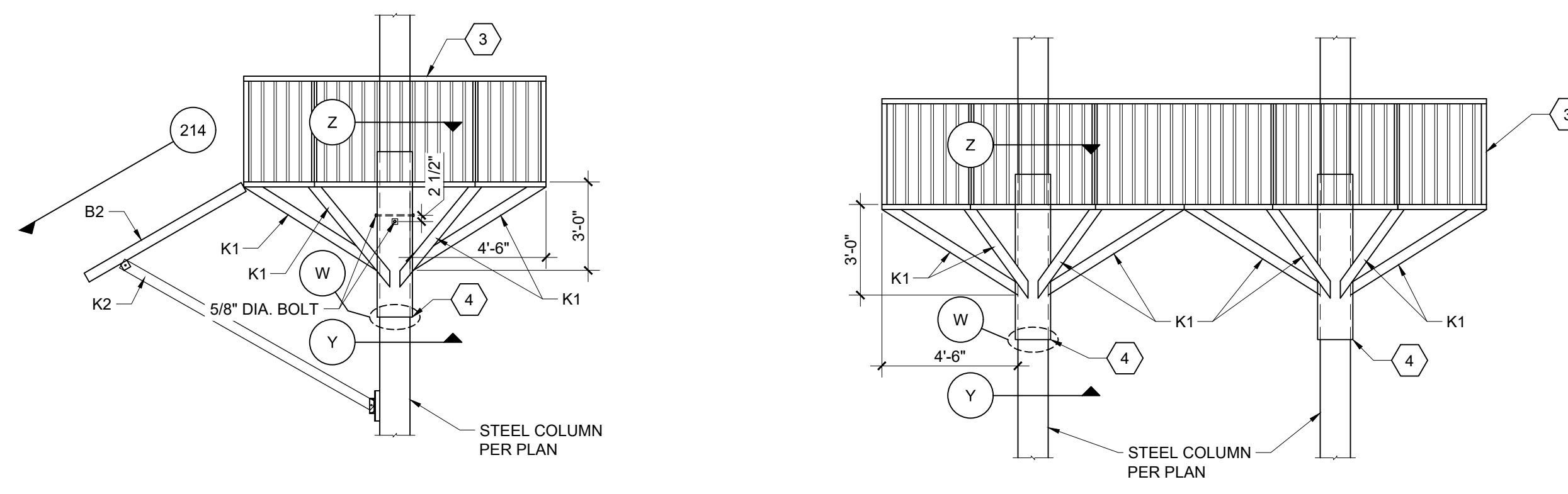
ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

DUAL ZIP LAUNCH ROOF FRAMING
SCALE: 1/4" = 1'-0"



LAUNCH PLATFORM PLAN
SCALE: 1/4" = 1'-0"

DUAL ZIP LAUNCH PLATFORM PLAN
SCALE: 1/4" = 1'-0"



LAUNCH PLATFORM ELEVATION
SCALE: 1/4" = 1'-0"

DUAL ZIP LAUNCH PLATFORM ELEVATION
SCALE: 1/4" = 1'-0"

PLAN NOTES

- METAL ROOFING PER GSN'S.
- MEZZANINE DECKING BY OTHERS. WELD TO SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS.
- RAILING PER TYPICAL DETAIL.
- PIPE COLLAR PER SCHEDULE.

TYPICAL DIMENSION NOTE
CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ABBE. PRIOR TO CONSTRUCTION.

BEAM (B) SCHEDULE

MARK	SIZE / TYPE	CAMBER AT MIDSPAN	END CONNECTION	REMARKS
B1	L4x4x1/4	NONE	SEE DETAILS	NONE
B2	HSS4x2x1/4	NONE	SEE DETAILS	NONE

COLUMN (C) SCHEDULE

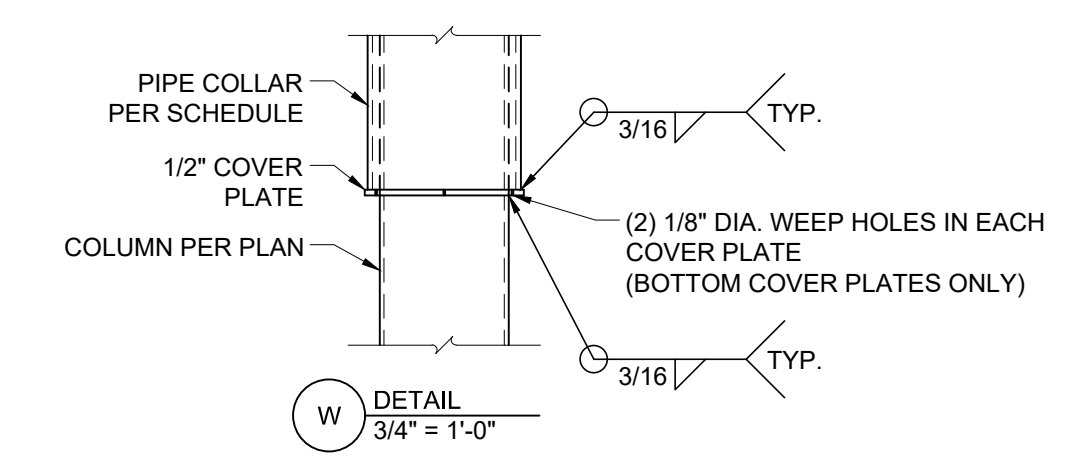
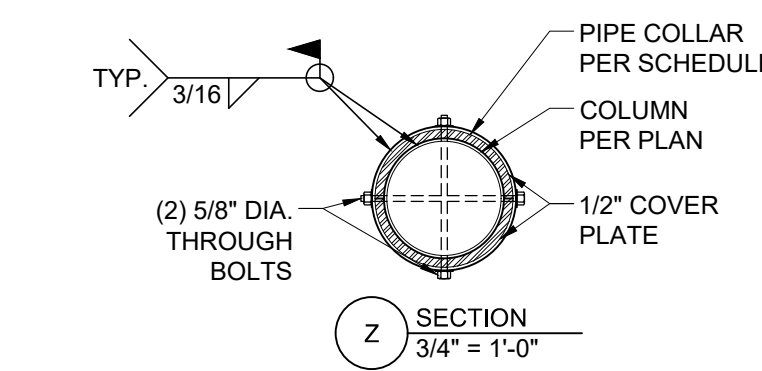
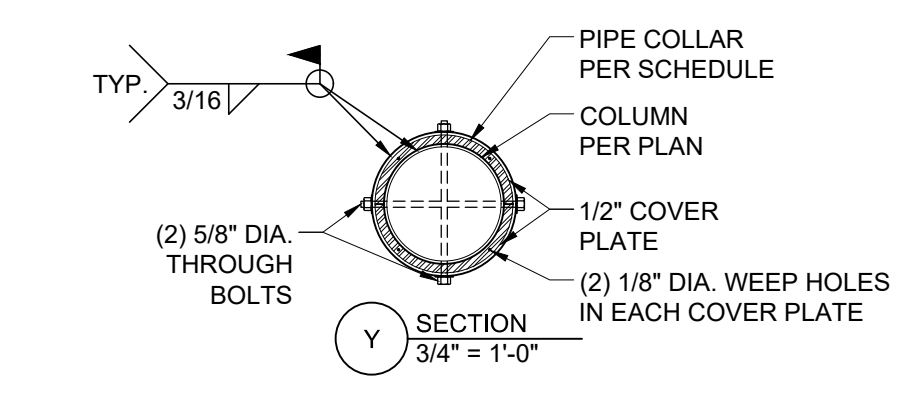
MARK	TYPE & SIZE	BASE CONNECTION	REMARKS
C1	PIPE 6, SCHEDULE 40	SEE DETAILS	NONE

KICKER (K) SCHEDULE

MARK	SIZE / TYPE	CAMBER AT MID SPAN	END CONNECTION	REMARKS
K1	L4x4x1/4	NONE	SEE DETAILS	NONE
K2	HSS 4x2x1/4, LSV	NONE	SEE DETAILS	NONE

PIPE COLLAR SCHEDULE

ZIPLINE	SIZE / TYPE
WEDDING	PIPE 12 SCHEDULE 40
CLIFF	PIPE 12 SCHEDULE 40
BEACH/START	PIPE 12 SCHEDULE 40
DRAGON	PIPE 12 SCHEDULE 40
MOUNTAIN	PIPE 12 SCHEDULE 40



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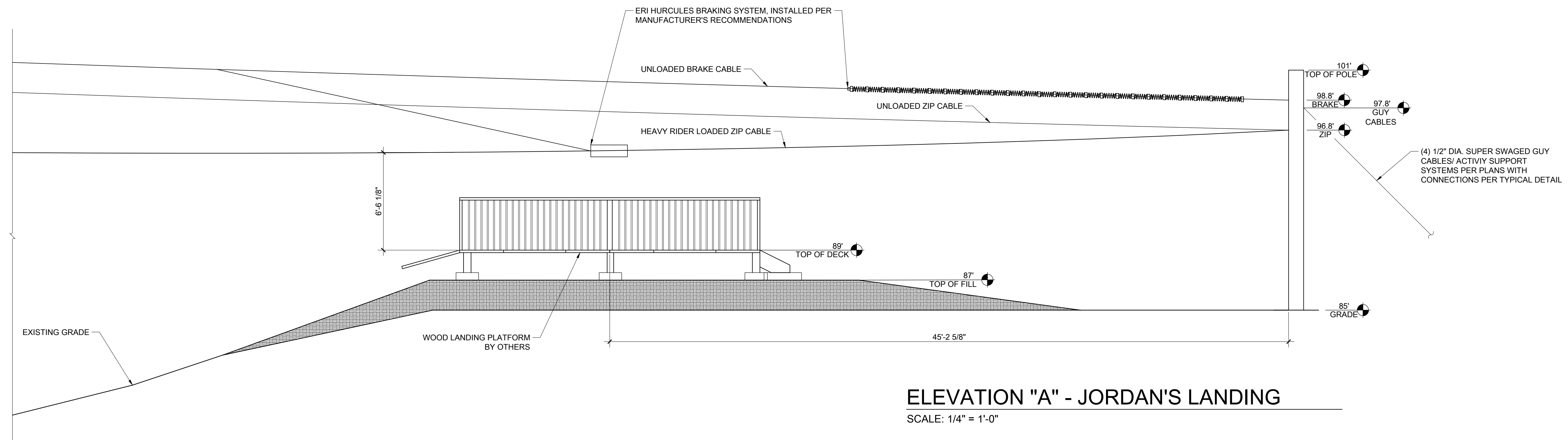
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DRAWN BY: VICTOR WING
JOB ORDER #: 22704

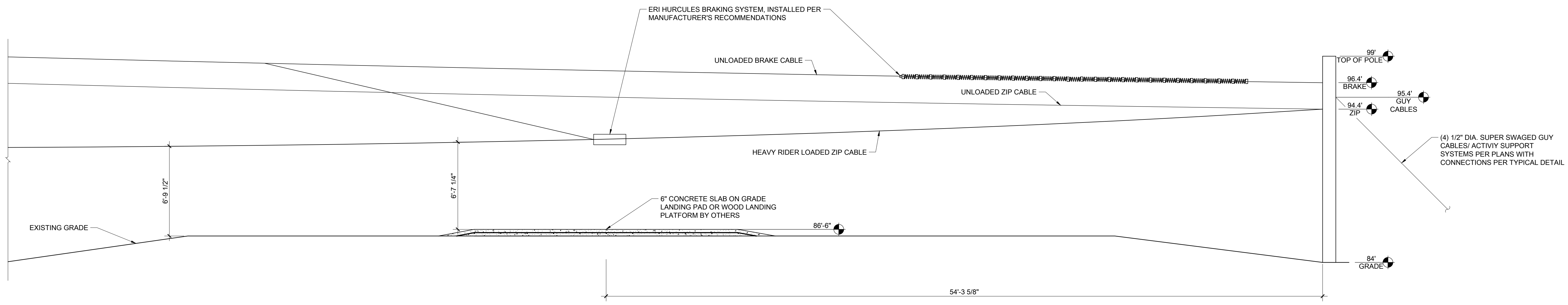
DATE: 12/08/2023
SCALE: AS NOTED
REVISION:

SHEET NUMBER:
S4.1
PLATFORM PLANS/
ELEVATIONS

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

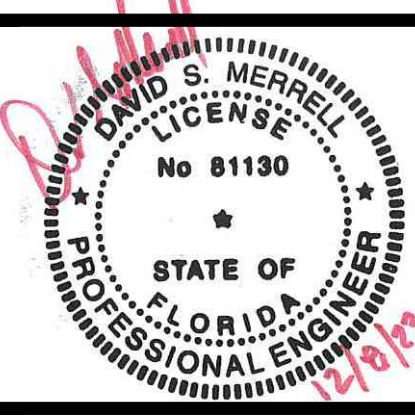


ELEVATION "A" - JORDAN'S LANDING
SCALE: 1/4" = 1'-0"



ELEVATION "B" - START LANDING
SCALE: 1/4" = 1'-0"

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HME PROJECT ENGINEER:
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DRAWN BY:
VICTOR WING

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SCALE: AS NOTED

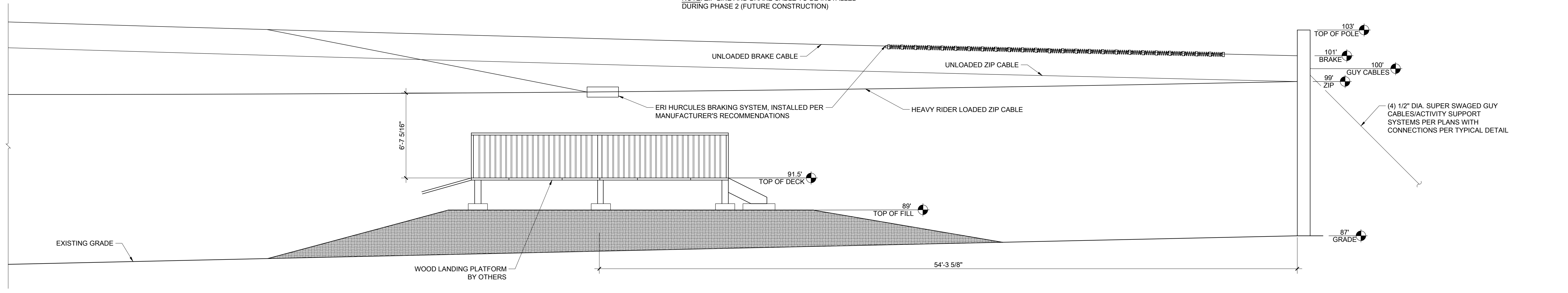
REVISION:

SHEET NUMBER:

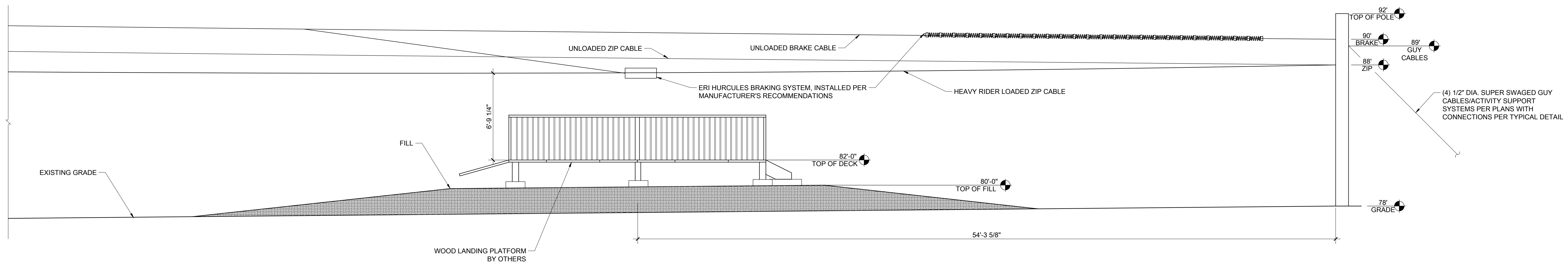
S5.1
ELEVATIONS

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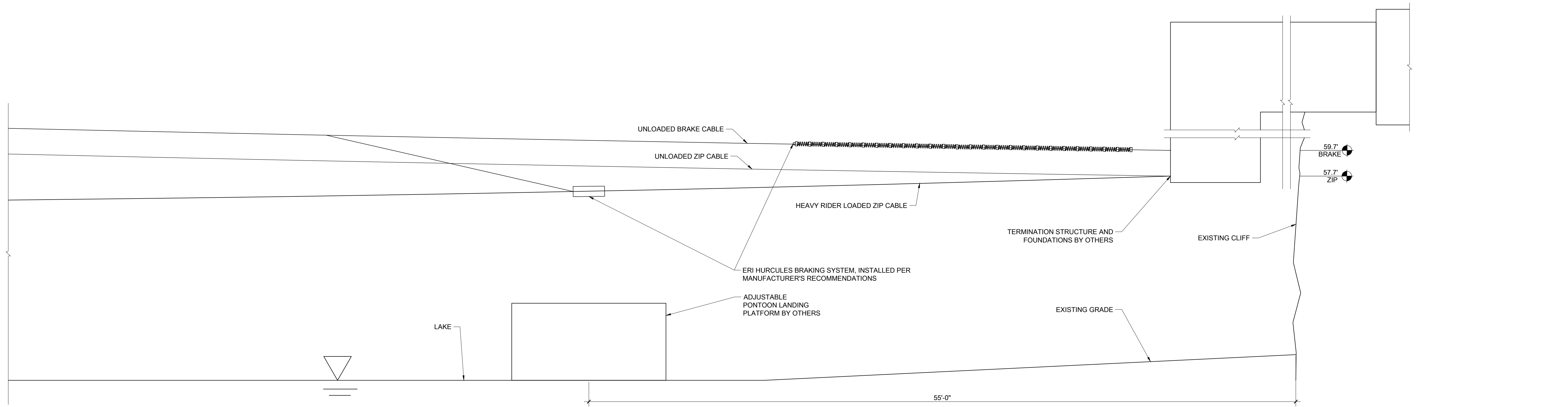
NOTE: ZIP LINE AND BRAKE CABLE TO BE INSTALLED DURING PHASE 2 (FUTURE CONSTRUCTION)



ELEVATION "C" - MOUNTAIN LANDING
SCALE: 1/4" = 1'-0"

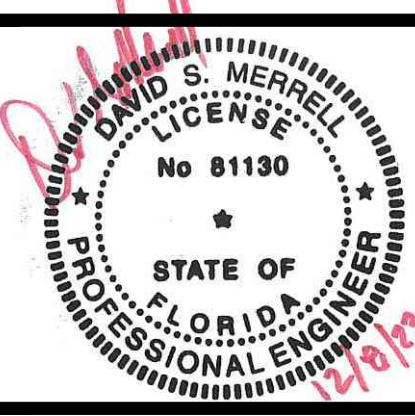


ELEVATION "D" - WEDDING LANDING
SCALE: 1/4" = 1'-0"



ELEVATION "E" - BEACH LANDING
SCALE: 1/4" = 1'-0"

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DRAWN BY:
VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023

SCALE: AS NOTED

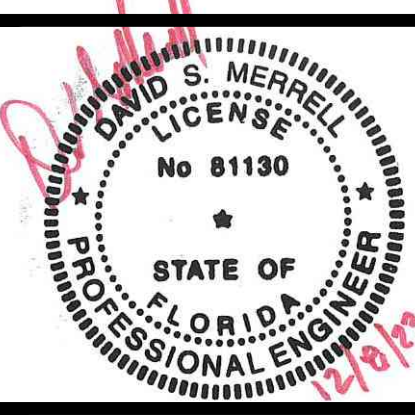
REVISION:

SHEET NUMBER:

S5.2
ELEVATIONS

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

**HUBBARD
MERRELL
ENGINEERING**
1623 N. FIRST ST., STE. 201
FLAGSTAFF, ARIZONA 86004-5028
Phone: (928) 526-6174



**HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL**

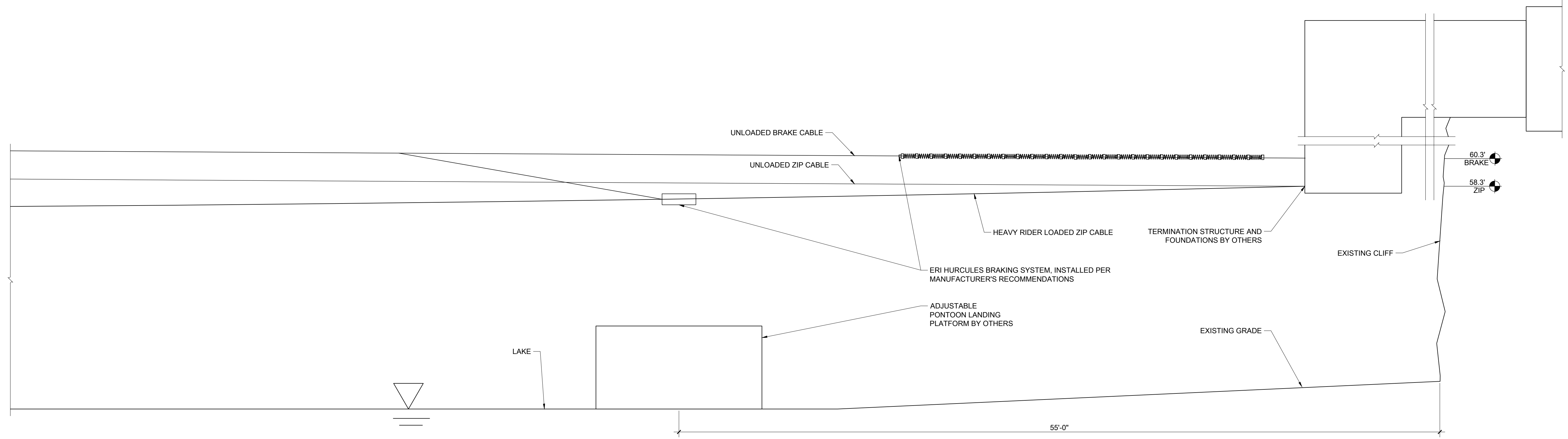
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HME PROJECT MANAGER:
DAVE MERRELL
HME PROJECT ENGINEER:
SABRINA BALLARD
DRAWN BY:
VICTOR WING
JOB ORDER #: 22704

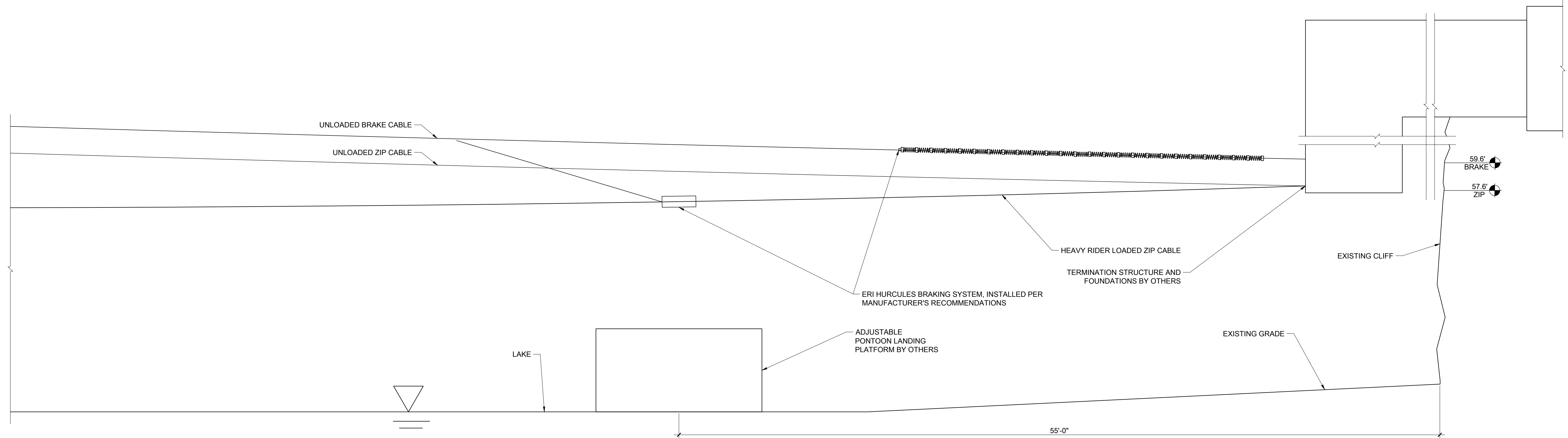
DATE: 12/08/2023
SCALE: AS NOTED
REVISION:

SHEET NUMBER:

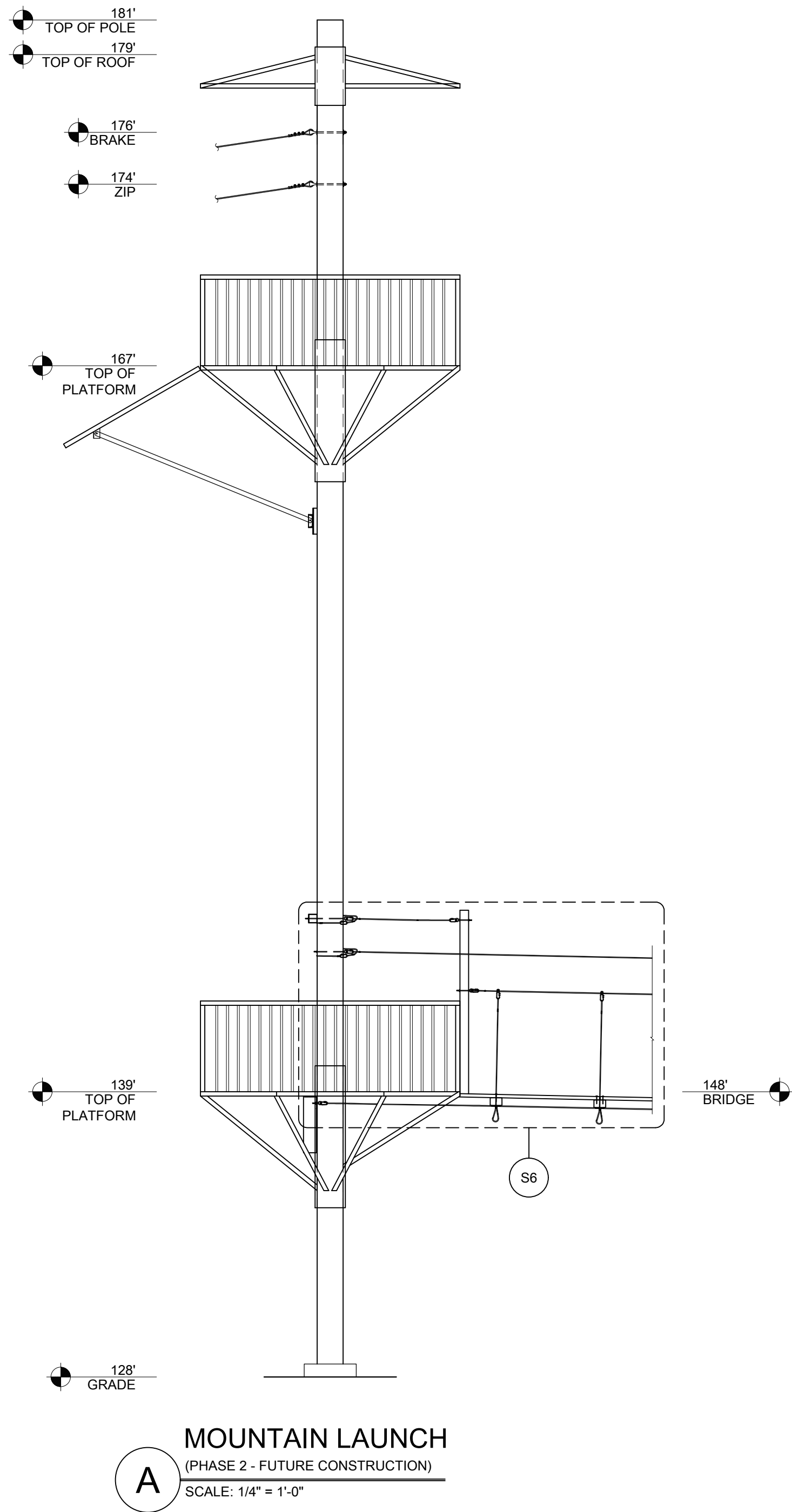
S5.3
ELEVATIONS



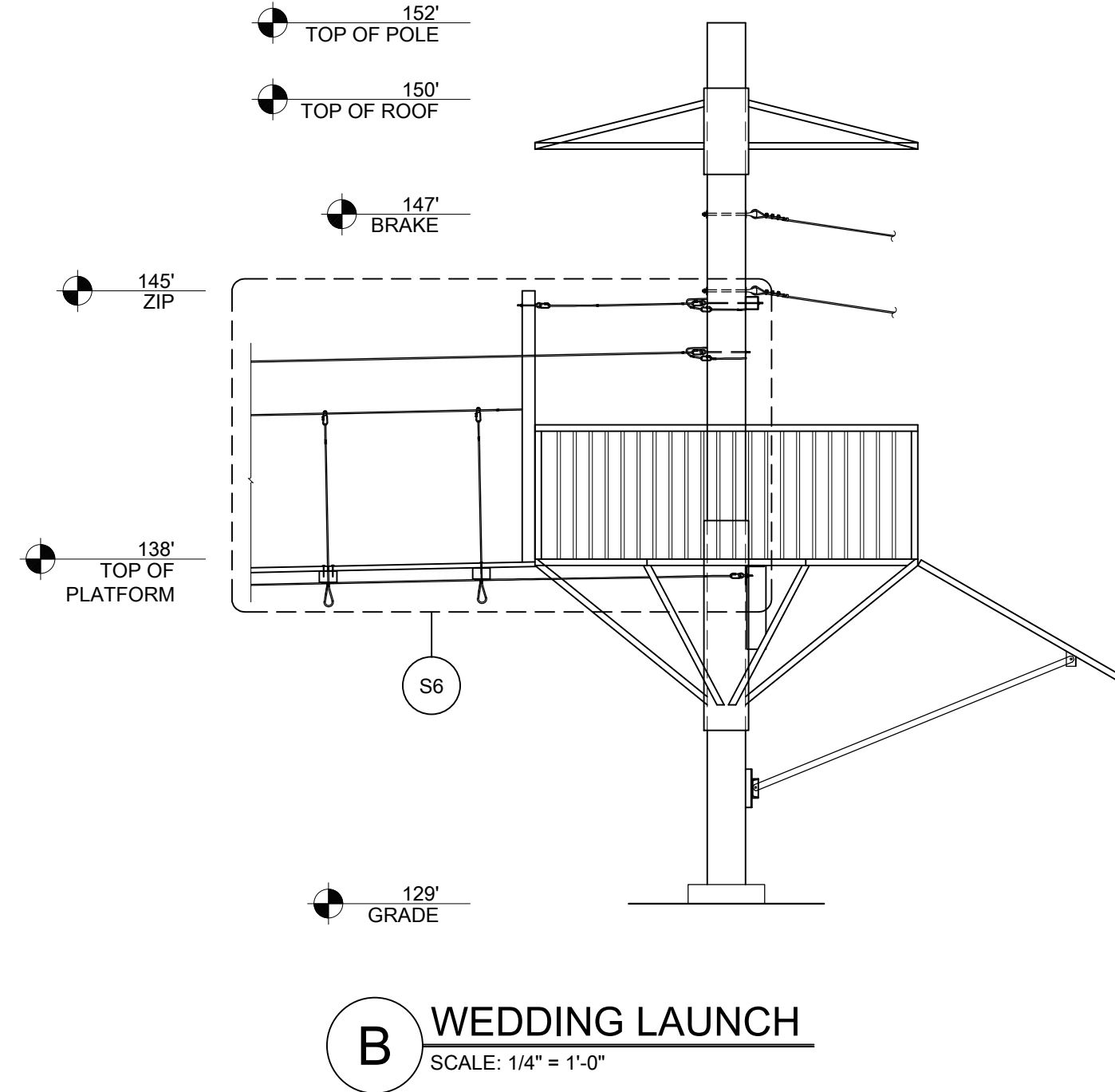
ELEVATION "F" - DRAGON LANDING
SCALE: 1/4" = 1'-0"



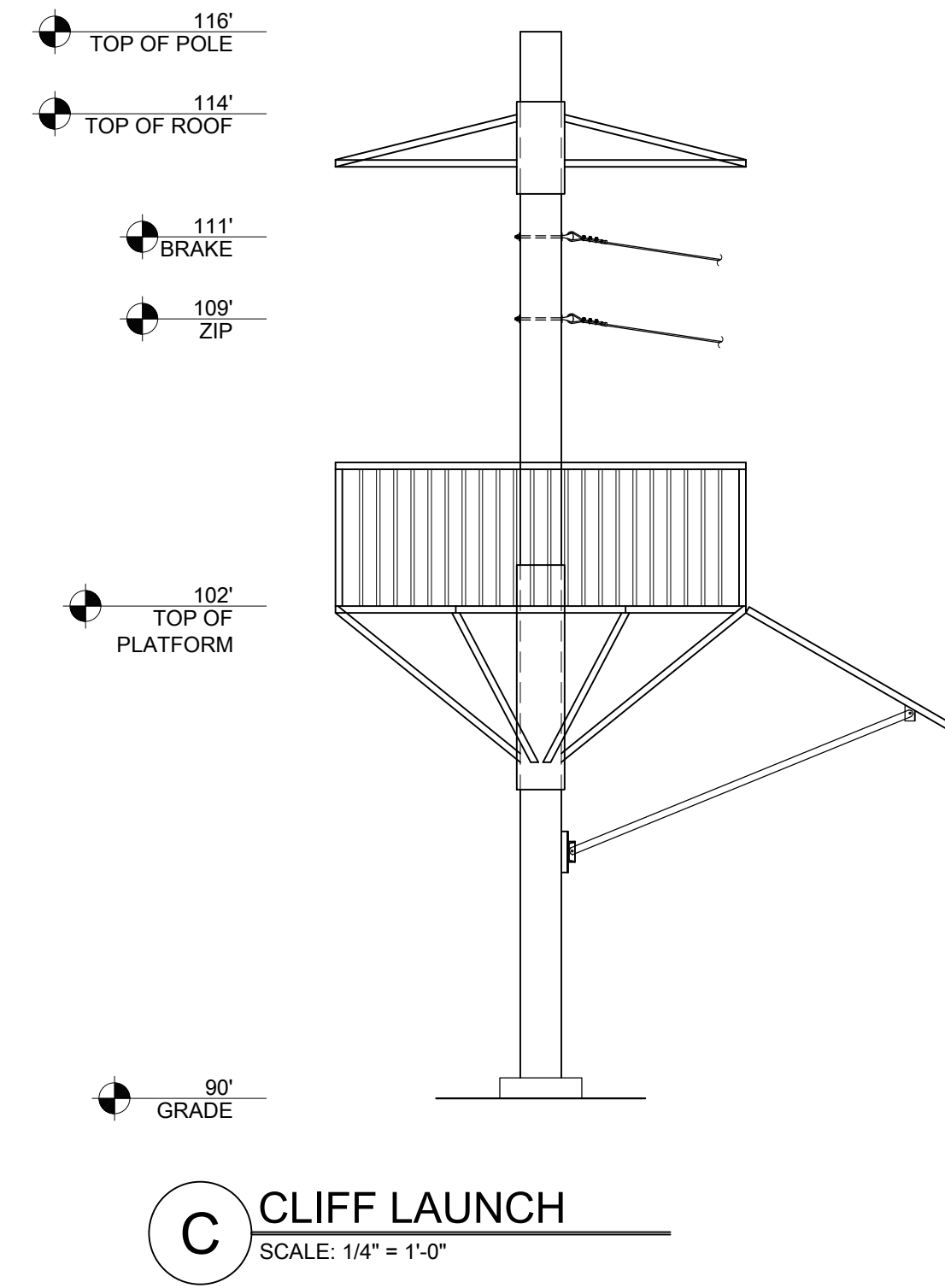
ELEVATION "G" - CLIFF LANDING
SCALE: 1/4" = 1'-0"



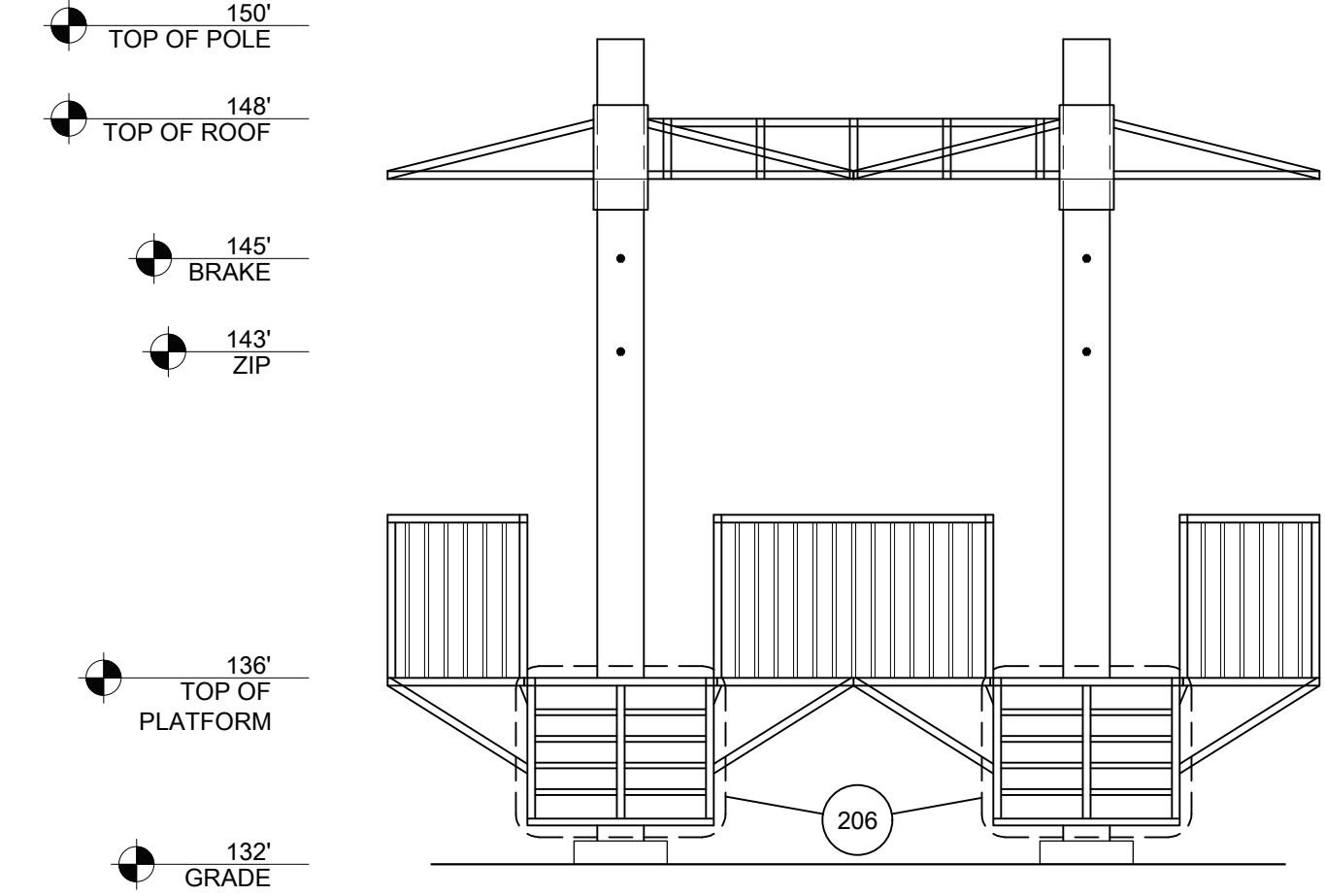
A MOUNTAIN LAUNCH
(PHASE 2 - FUTURE CONSTRUCTION)
SCALE: 1/4" = 1'-0"



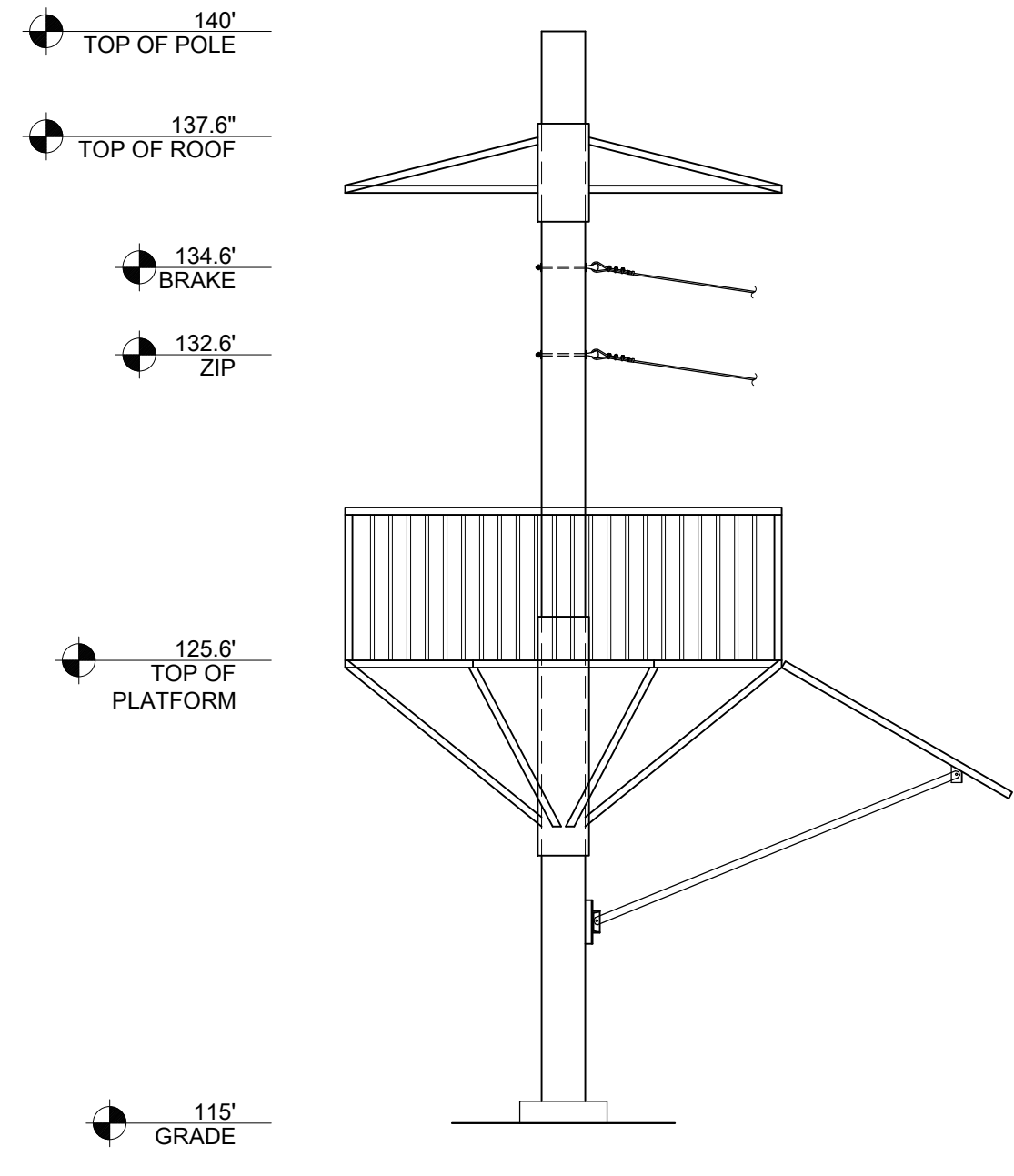
B WEDDING LAUNCH
SCALE: 1/4" = 1'-0"



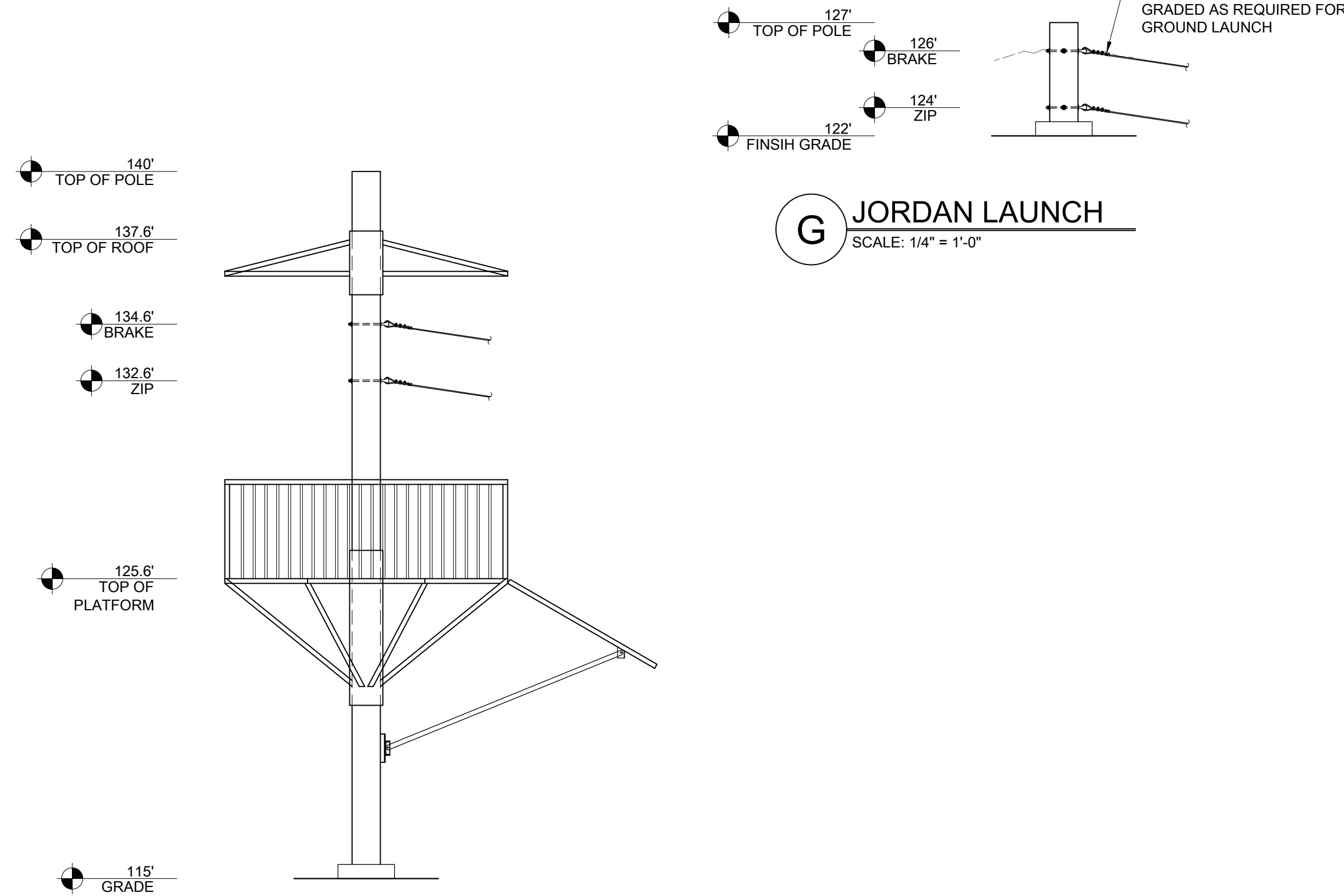
C CLIFF LAUNCH
SCALE: 1/4" = 1'-0"



D DRAGON LAUNCH
SCALE: 1/4" = 1'-0"

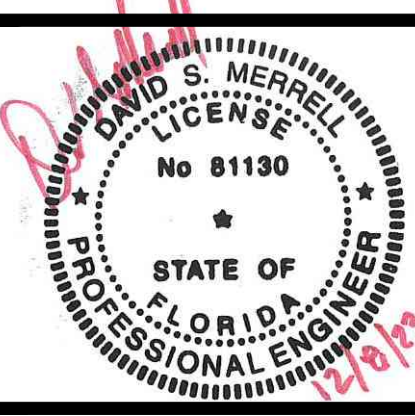


E BEACH LAUNCH
SCALE: 1/4" = 1'-0"



G JORDAN LAUNCH
SCALE: 1/4" = 1'-0"

F START LAUNCH
SCALE: 1/4" = 1'-0"



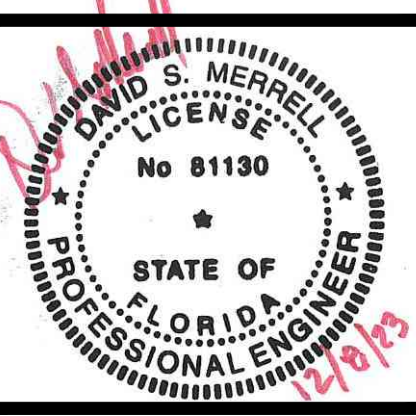
HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL

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SCALE: AS NOTED
REVISION:

SHEET NUMBER:
S5.4
ELEVATIONS



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ALACHUA COUNTY, FL**

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HME PROJECT ENGINEER:
SABRINA BALLARD

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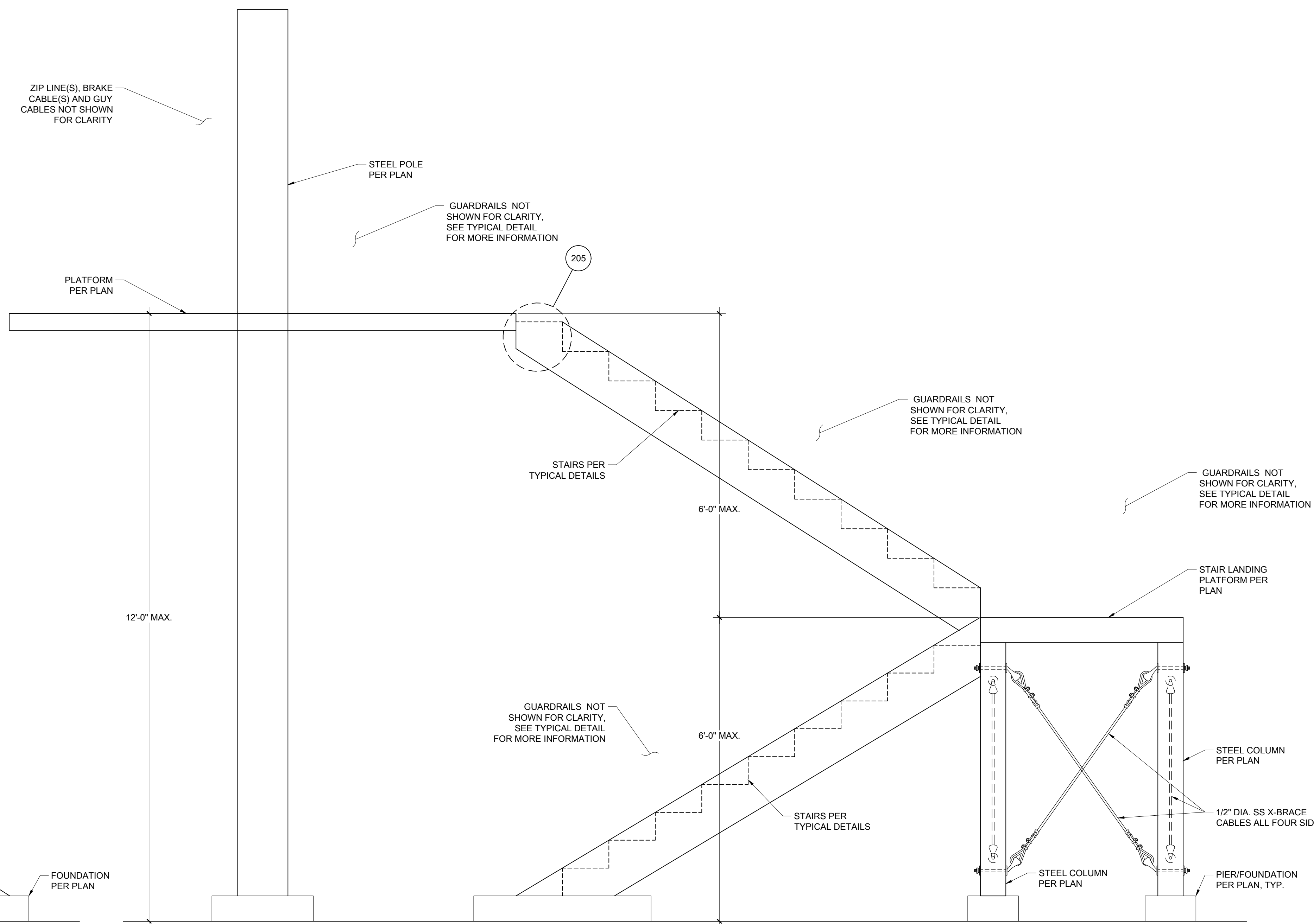
SCALE: AS NOTED

REVISION:

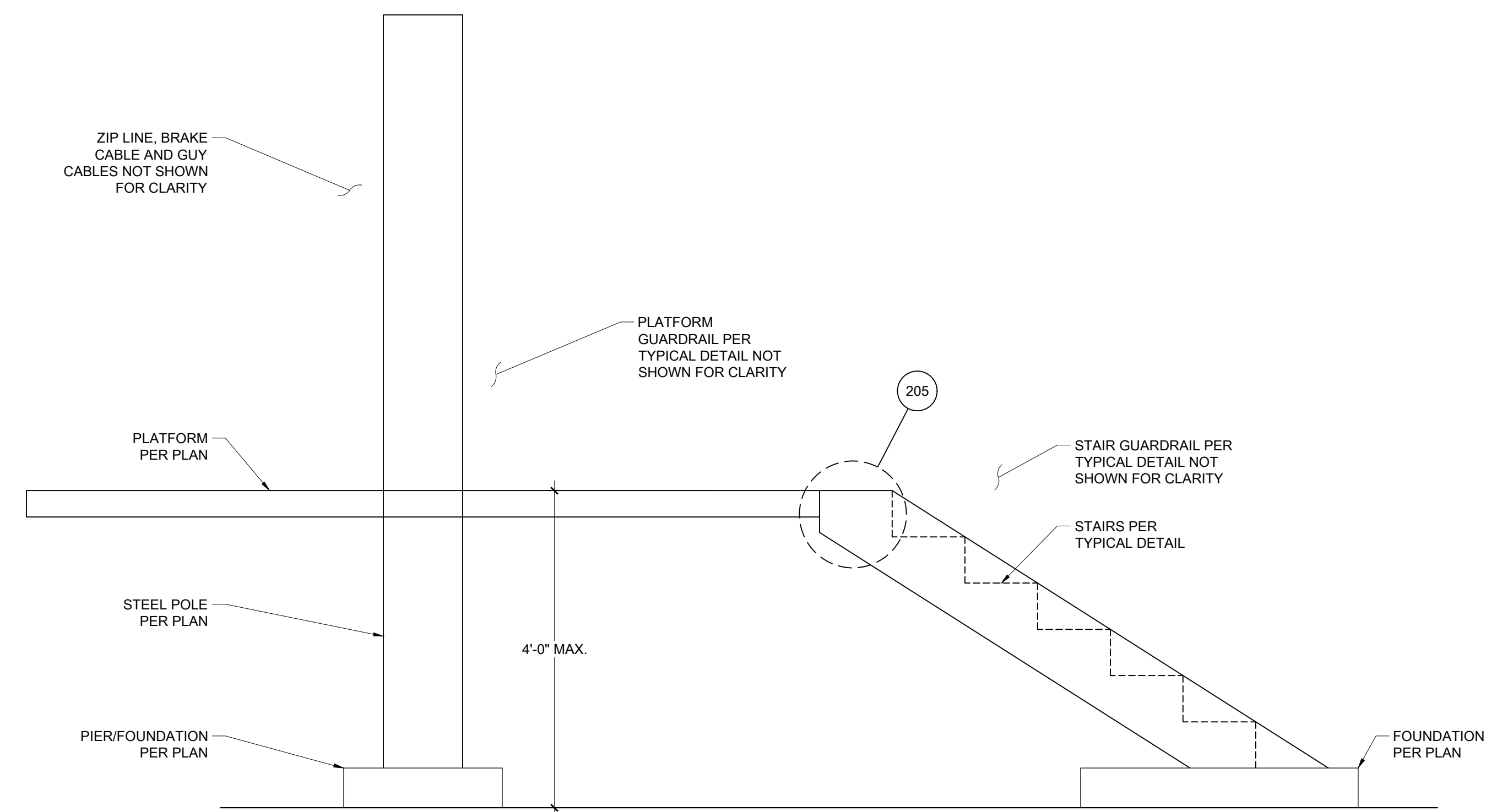
SHEET NUMBER:

S5.5
ELEVATIONS

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



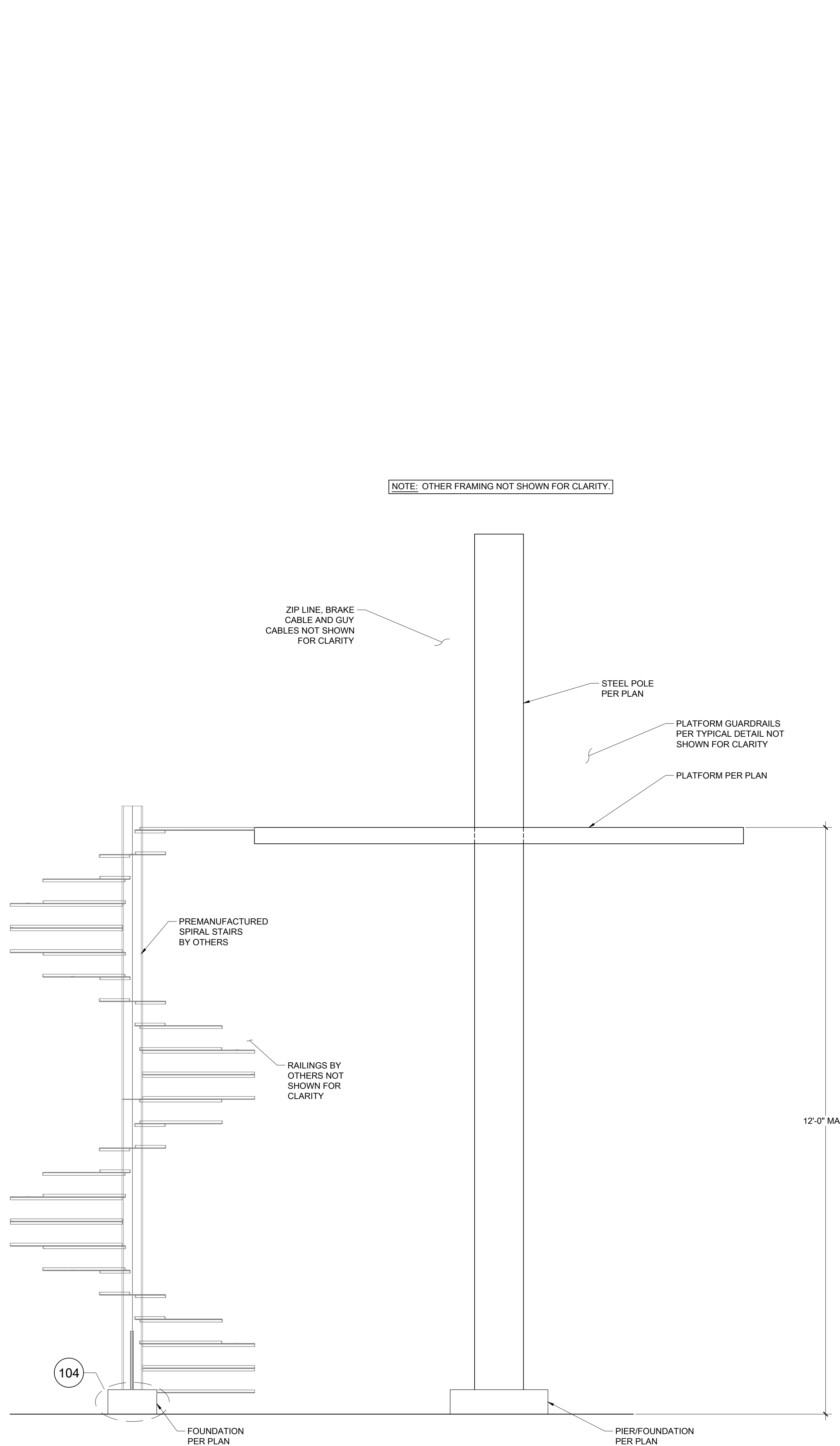
NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



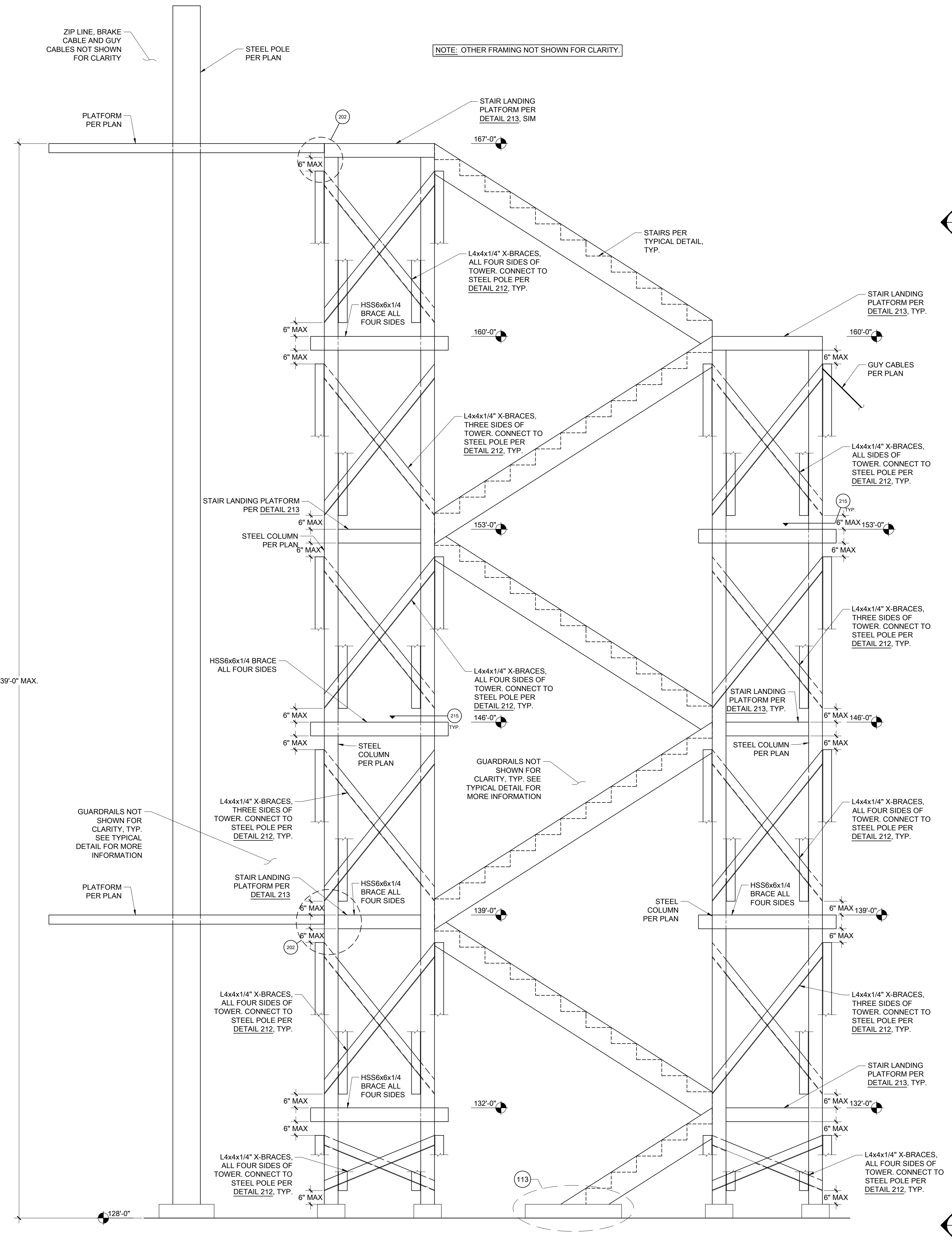
1 DRAGON ZIP
3/4" = 1'-0"

2 DUAL RISE STAIRS - START/BEACH ZIP
3/4" = 1'-0"

ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS



3 SPIRAL STAIR AT TOWER - CLIFF ZIP
3/4" = 1'-0"



4 STAIR TOWERS - MOUNTAIN ZIP
1/2" = 1'-0"



**HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL**

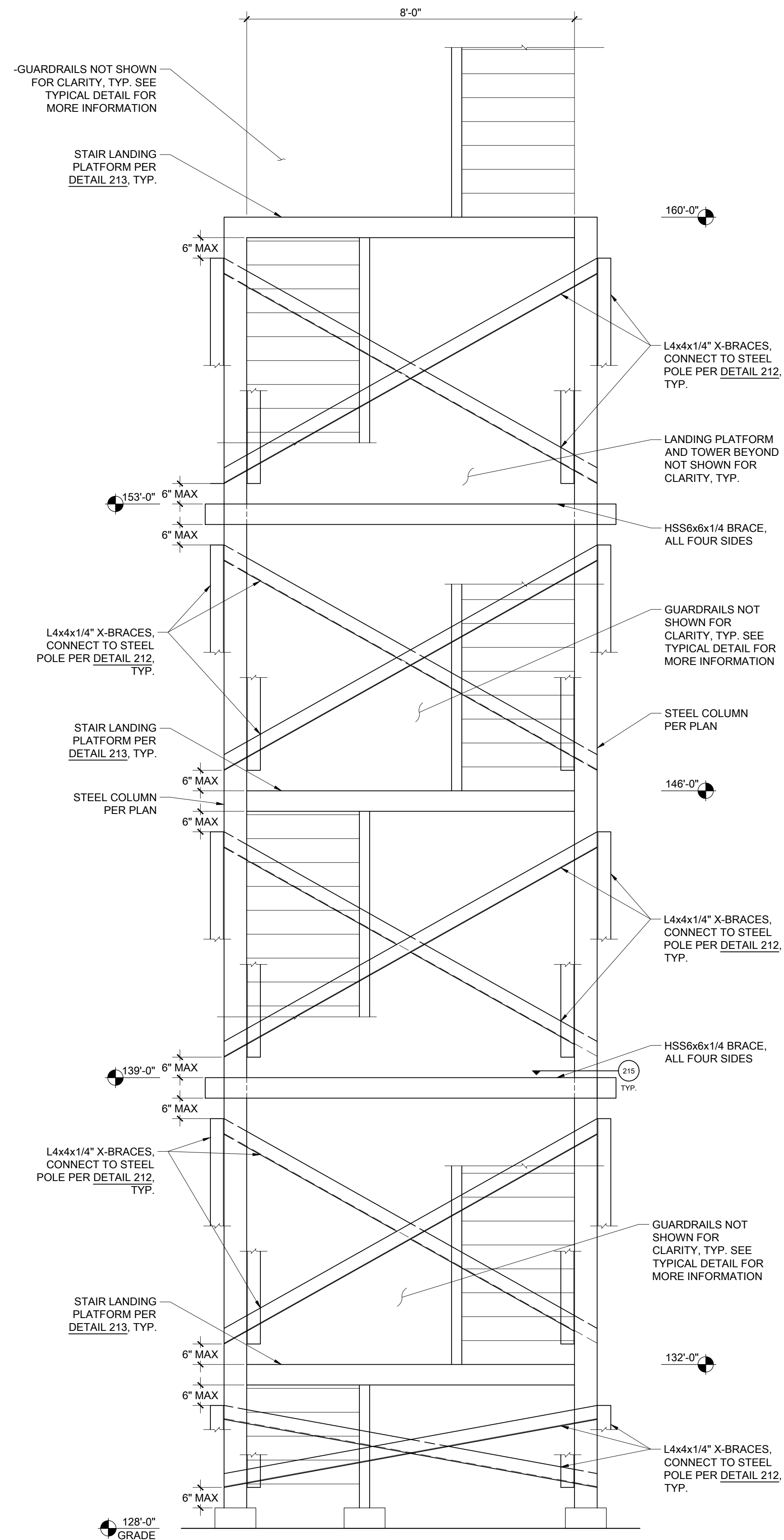
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REVISION:

SHEET NUMBER:

S5.6
ELEVATIONS



5 STAIR TOWERS - MOUNTAIN ZIP
1/2" = 1'-0"



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ALACHUA COUNTY, FL**

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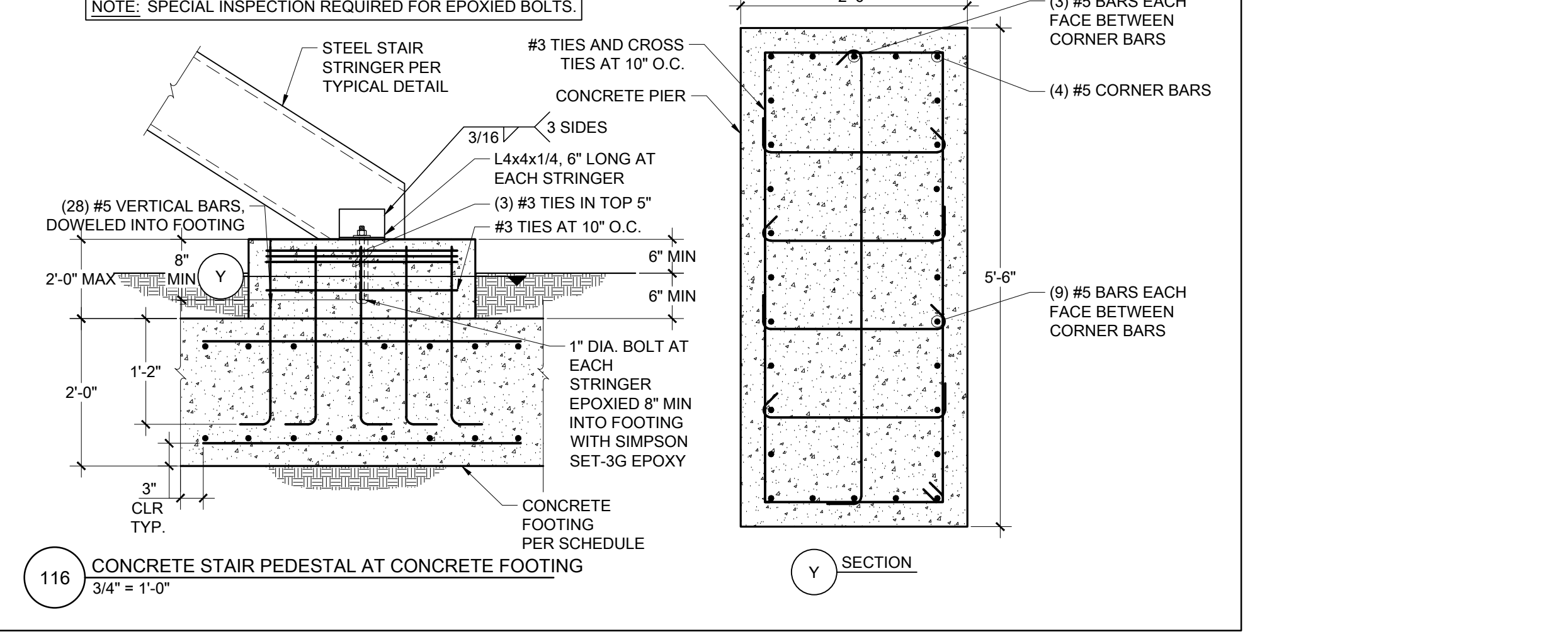
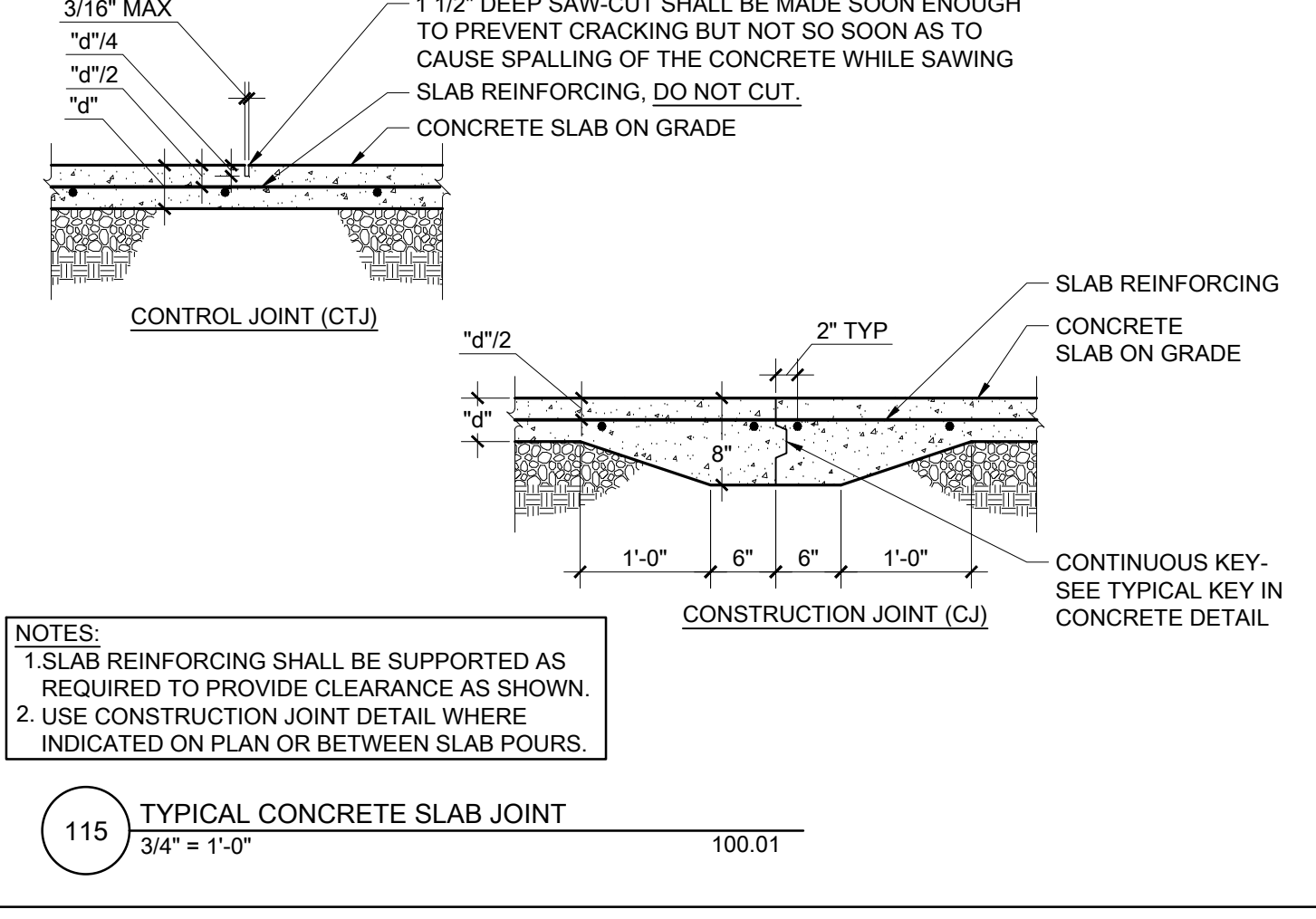
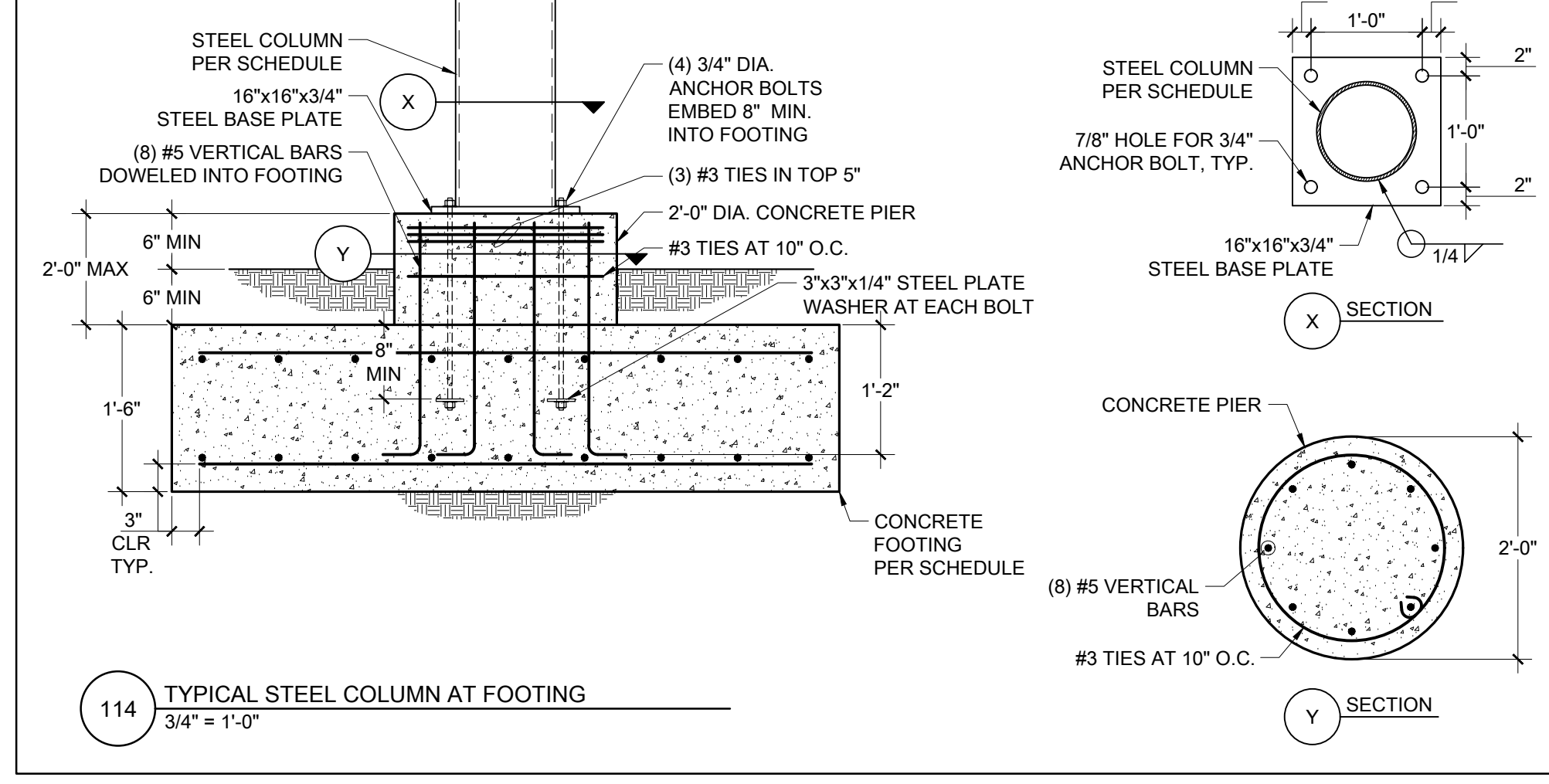
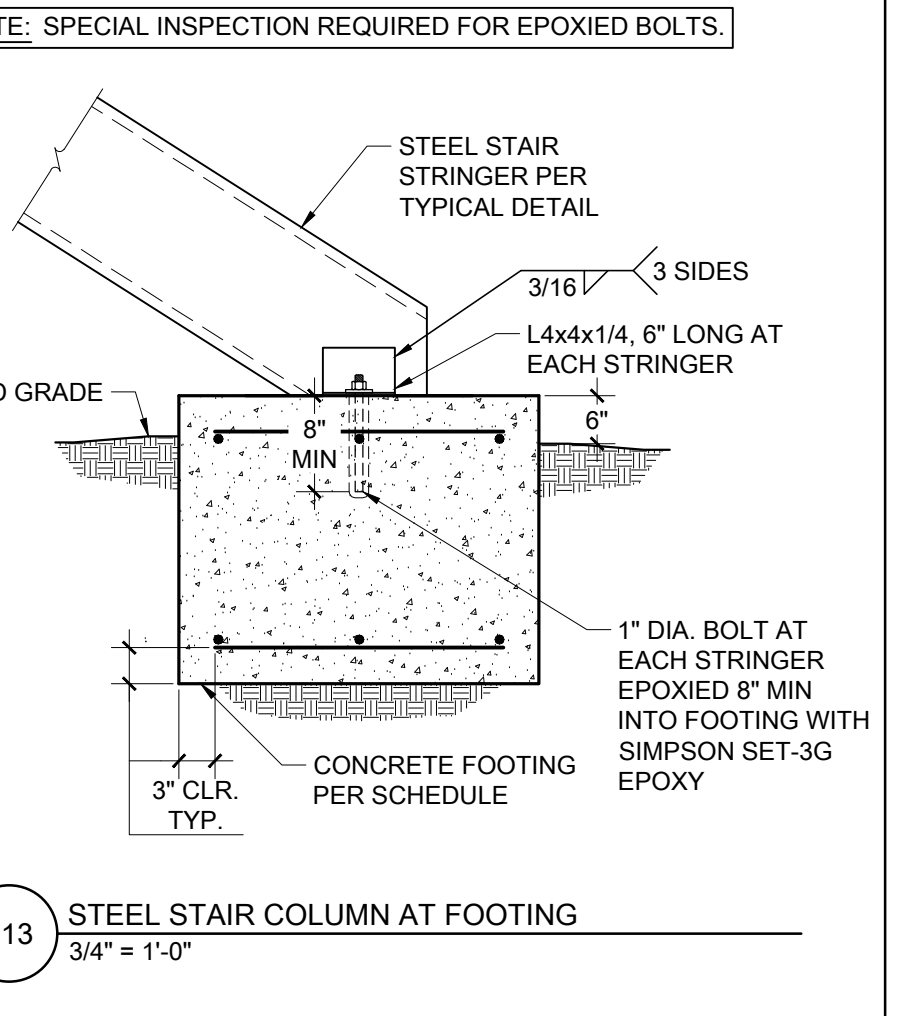
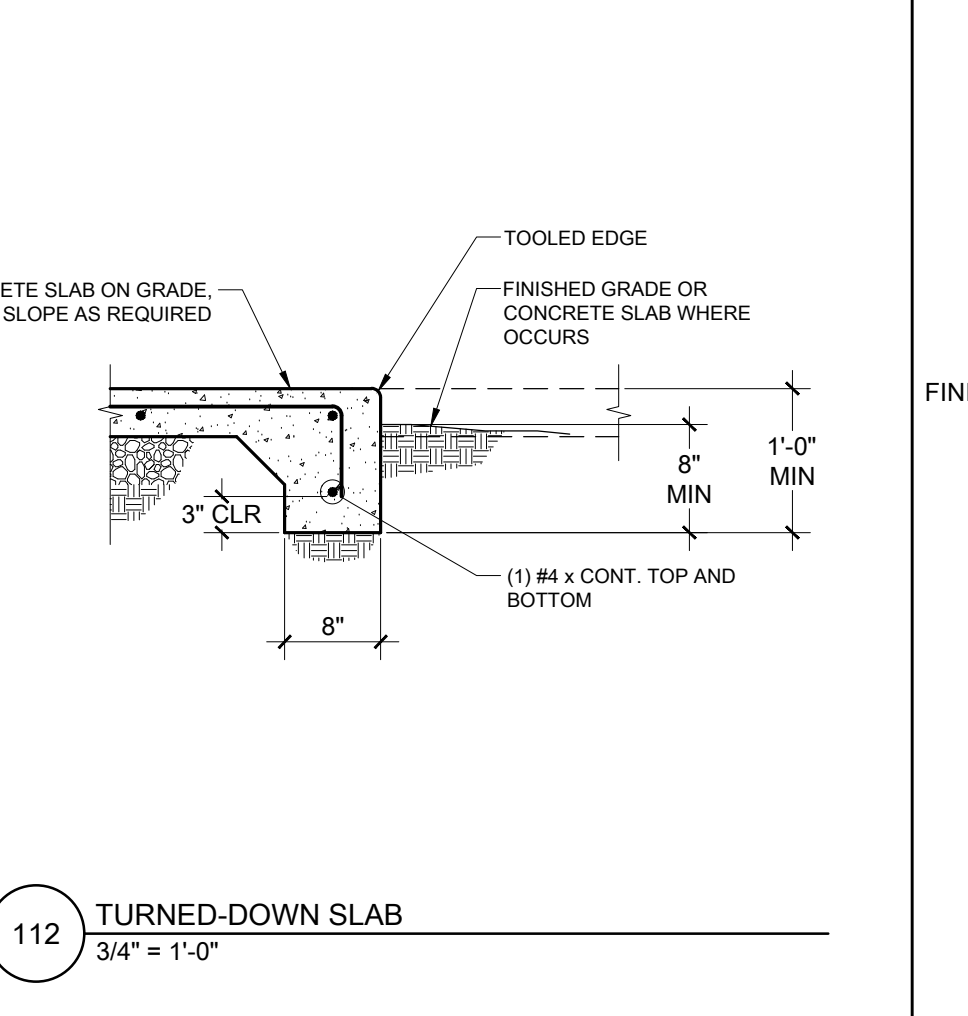
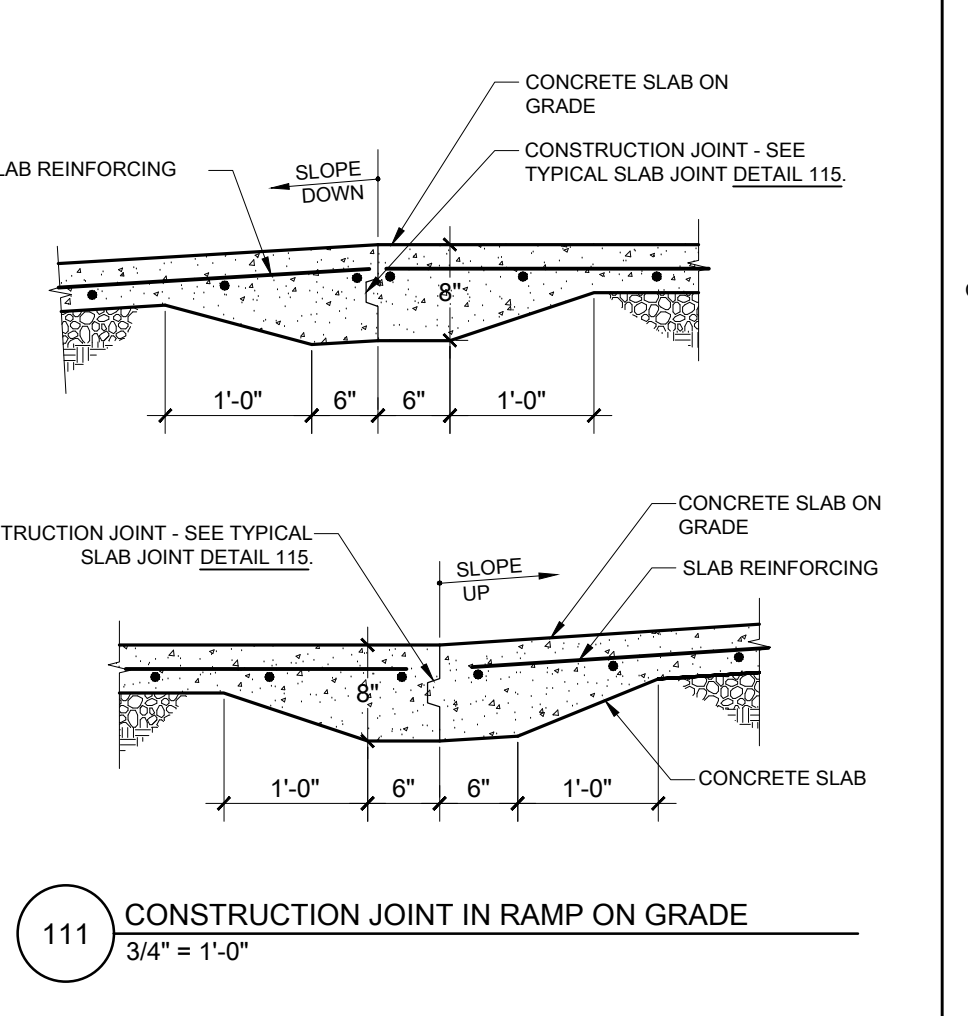
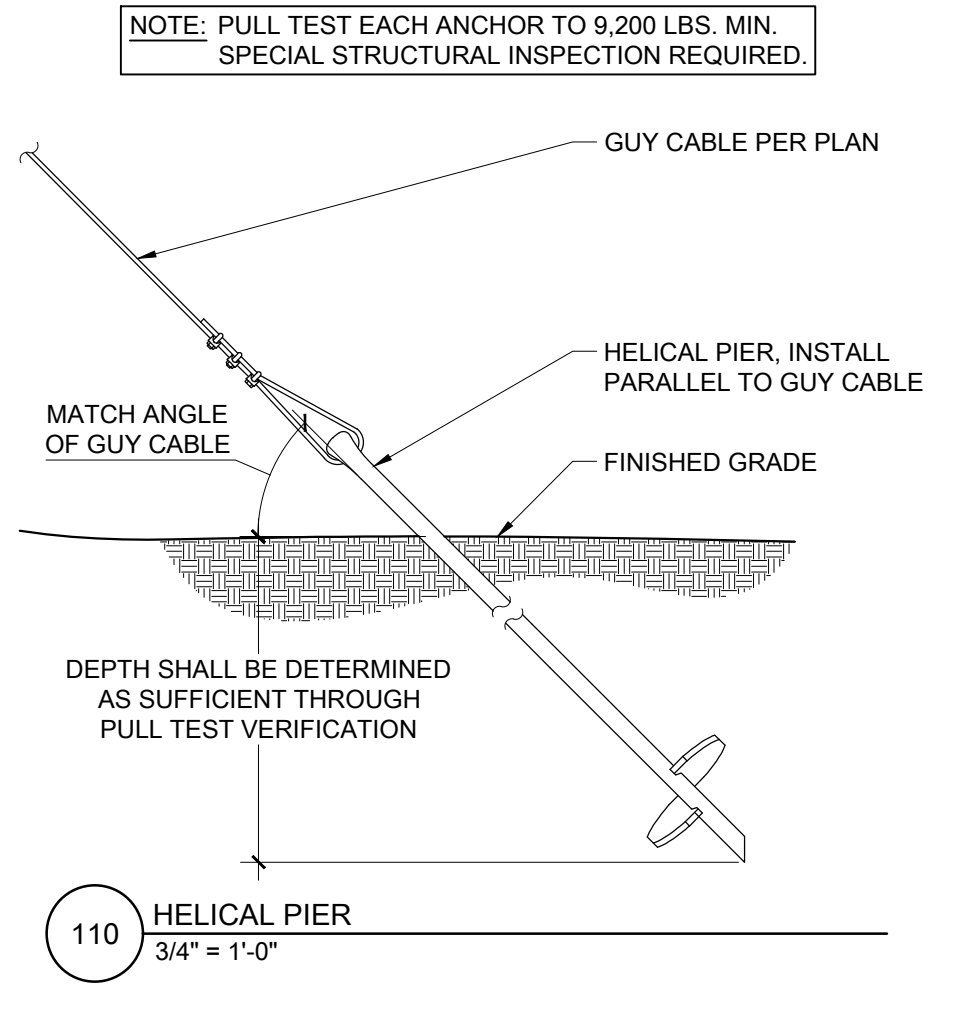
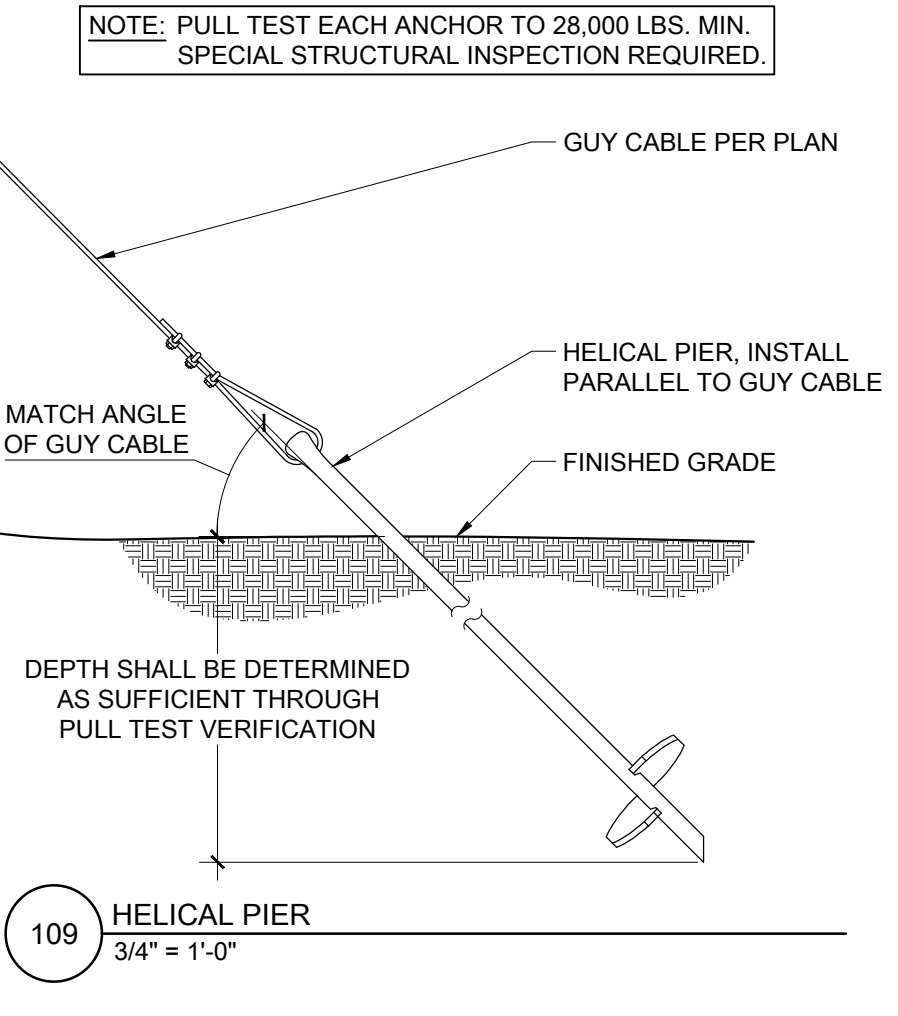
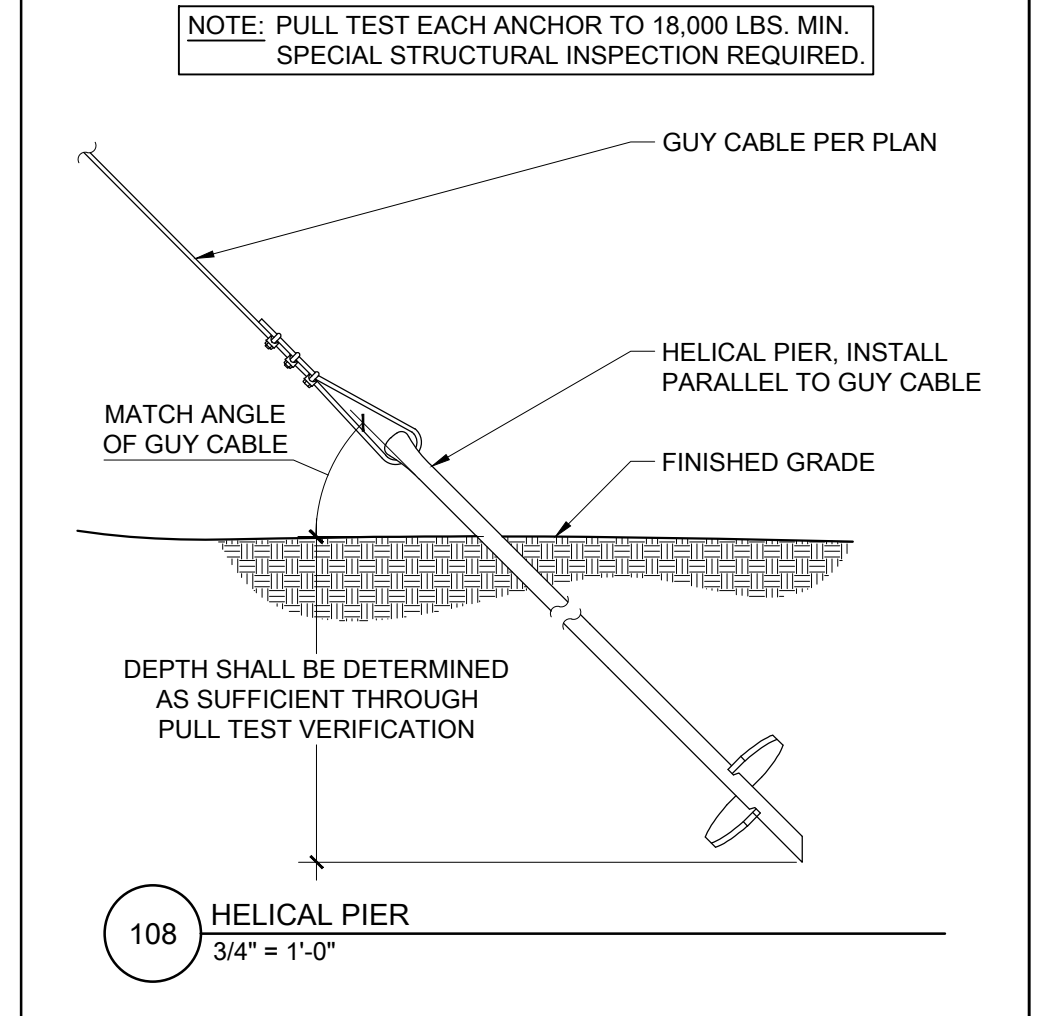
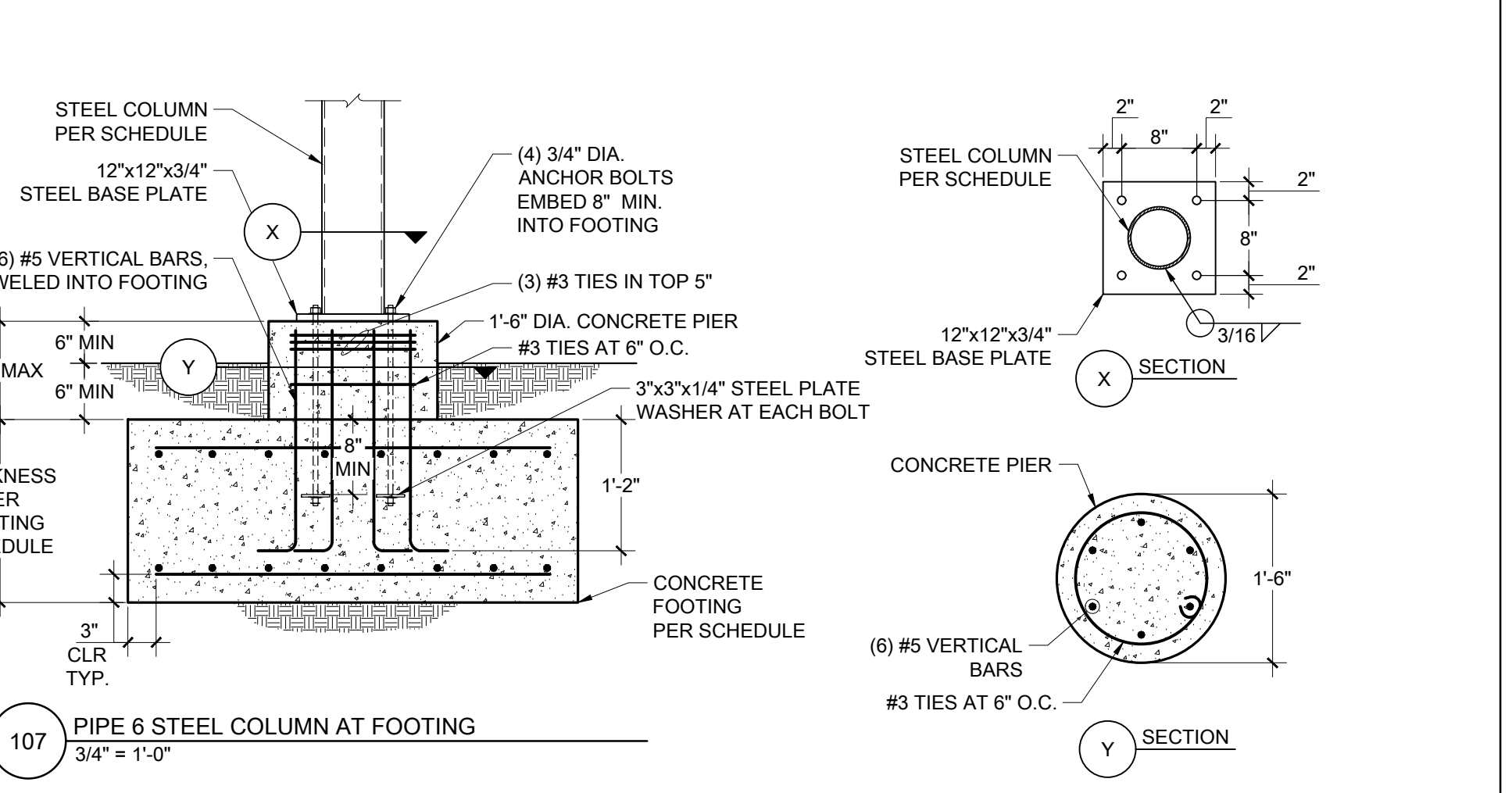
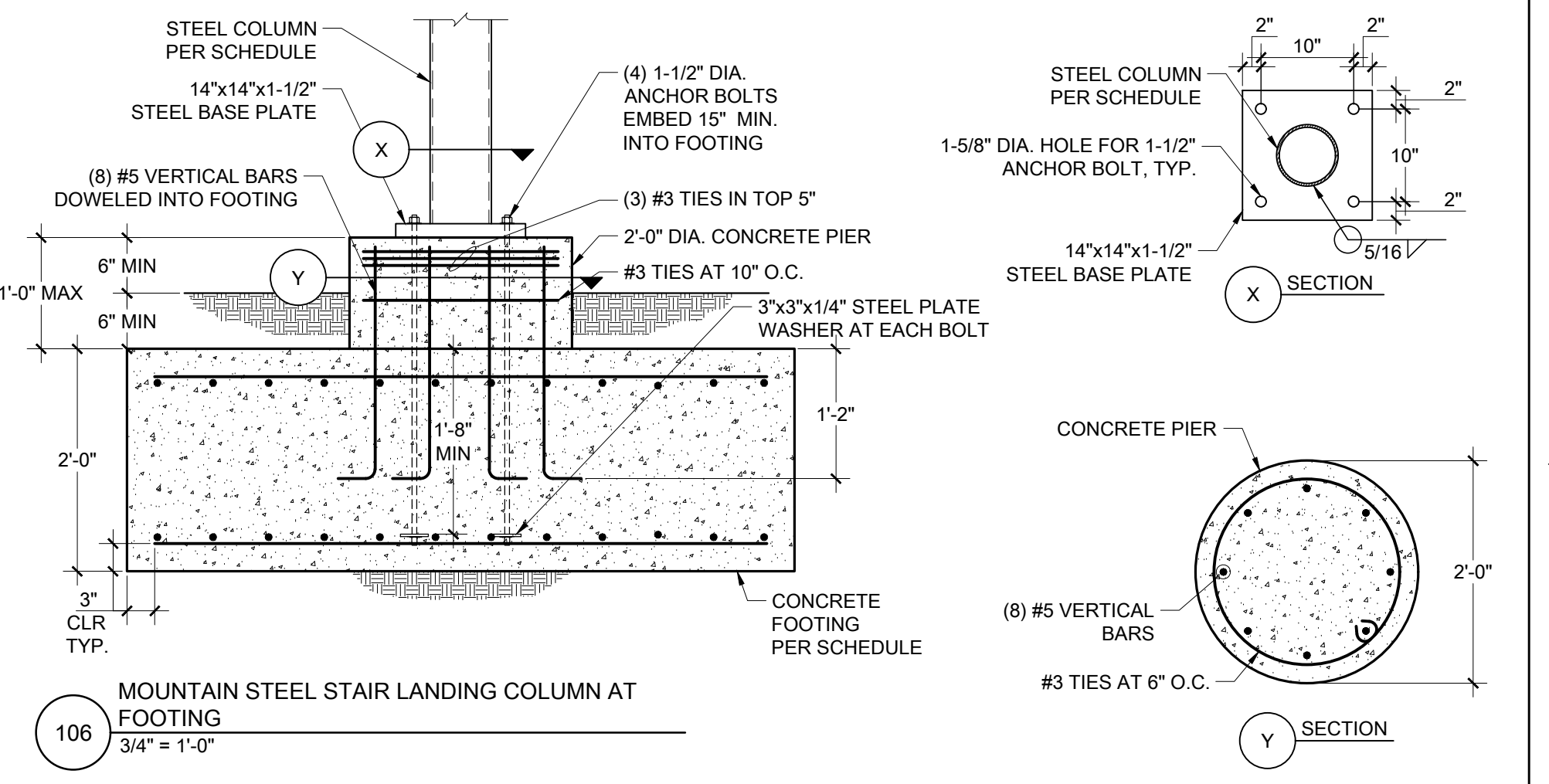
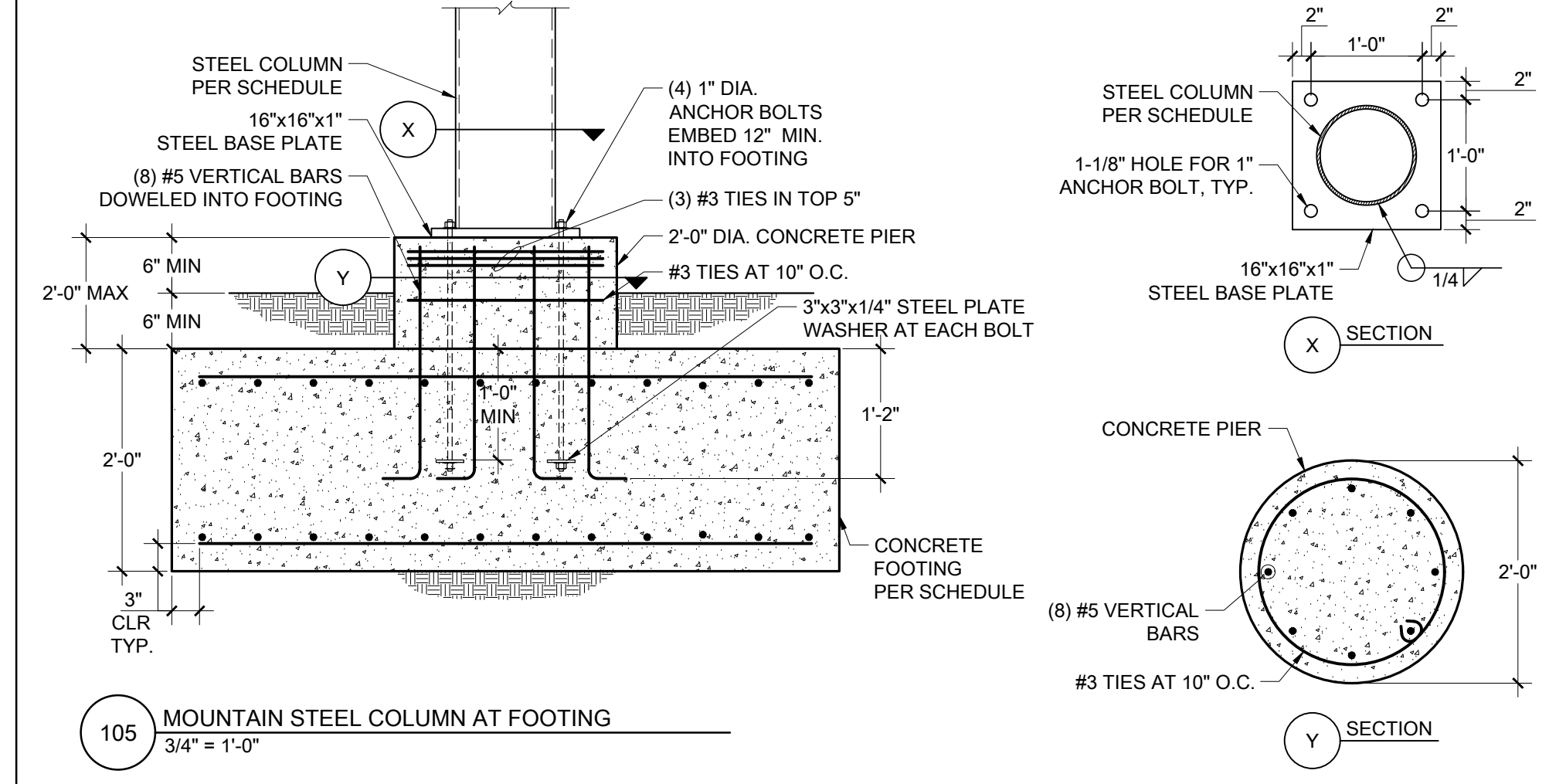
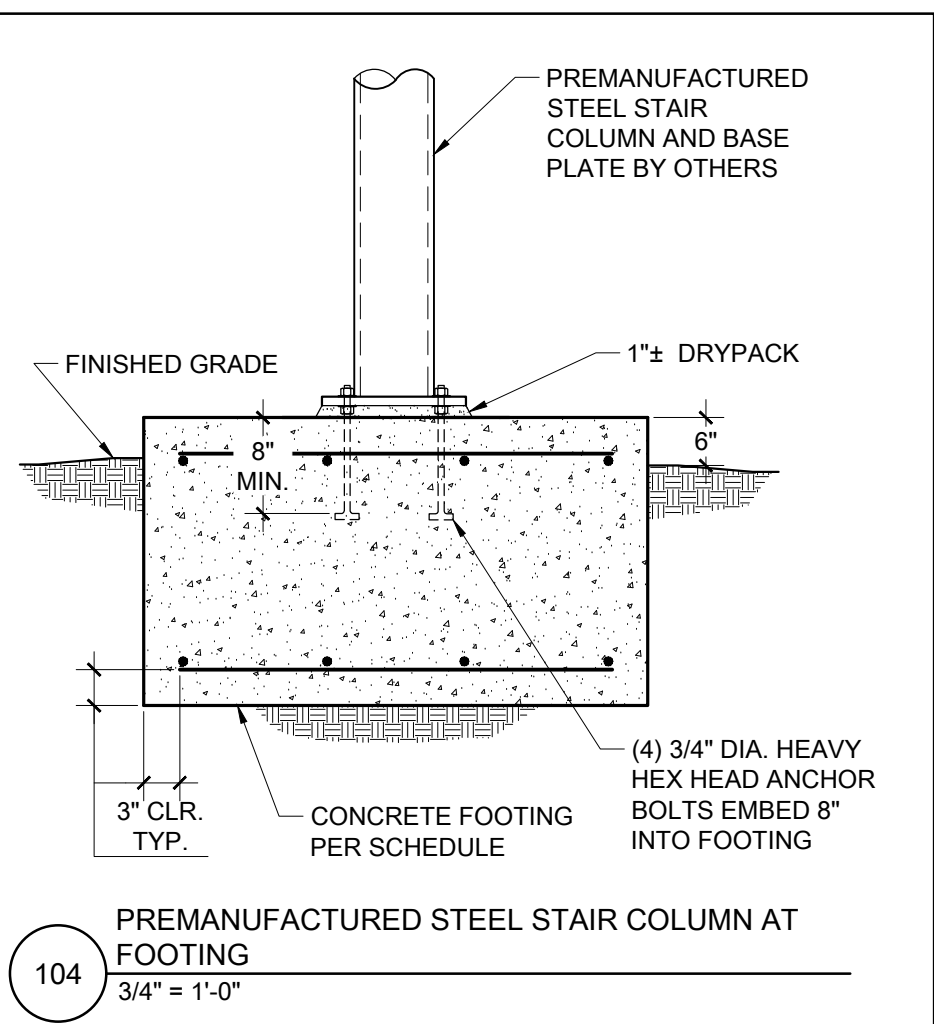
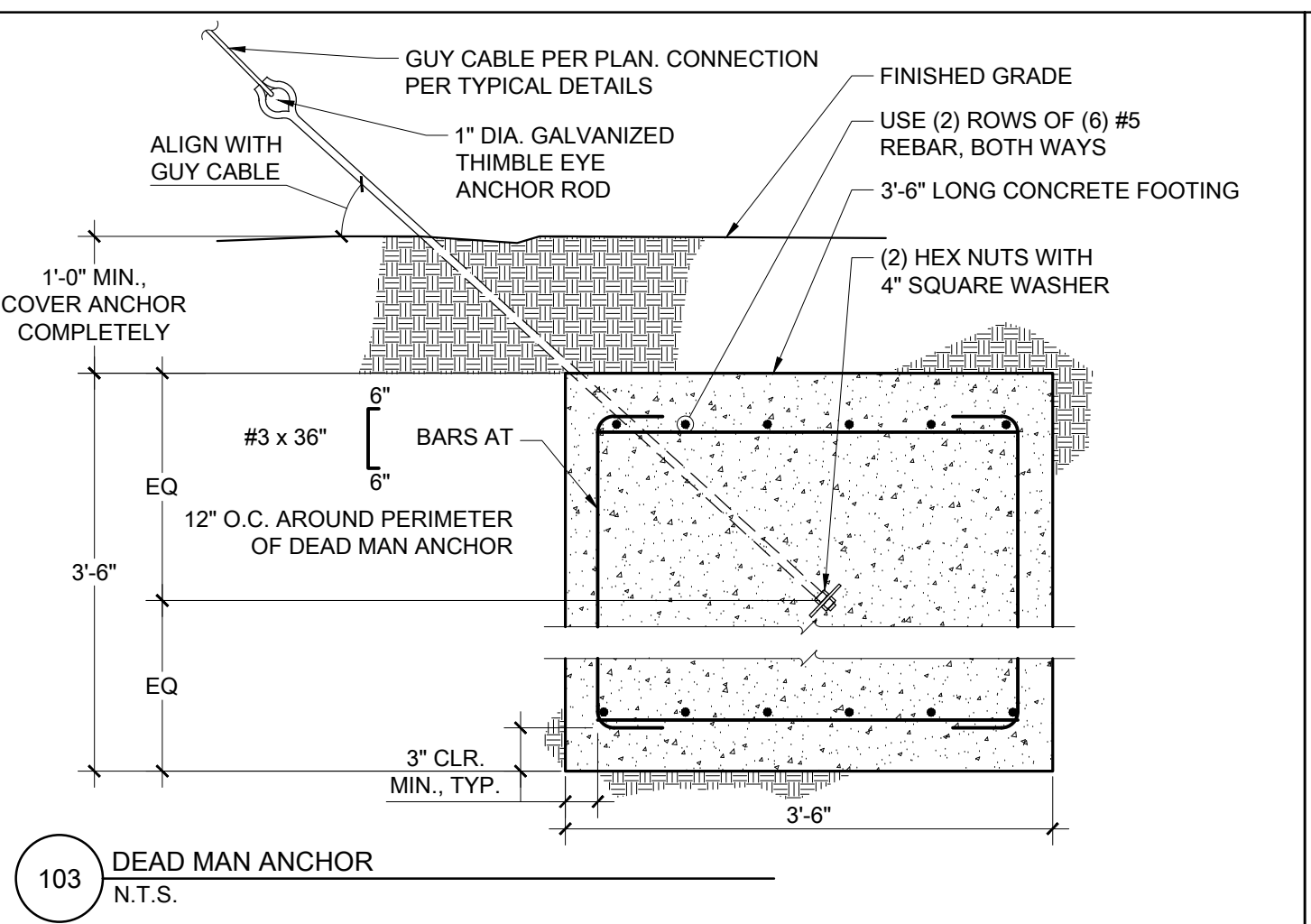
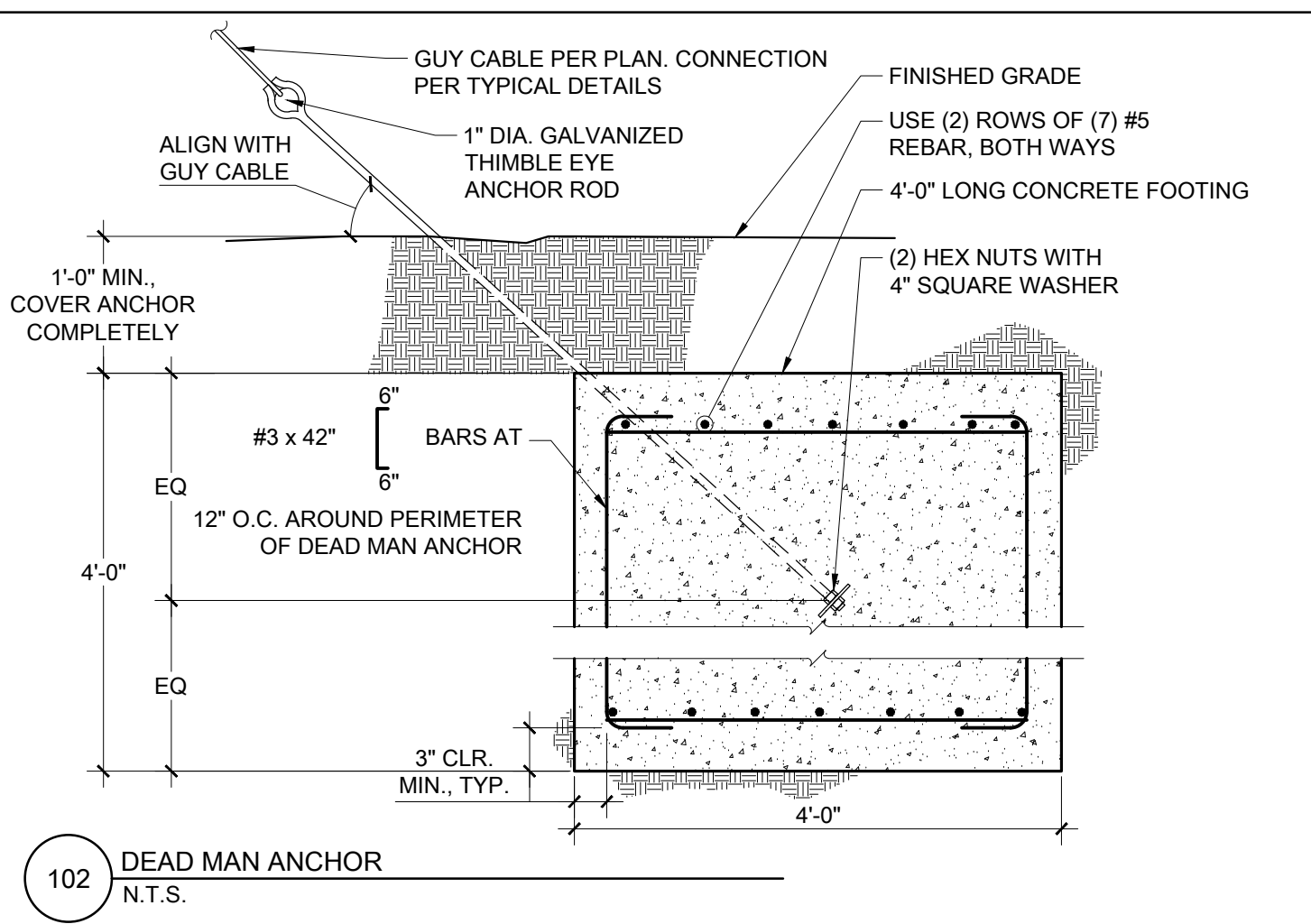
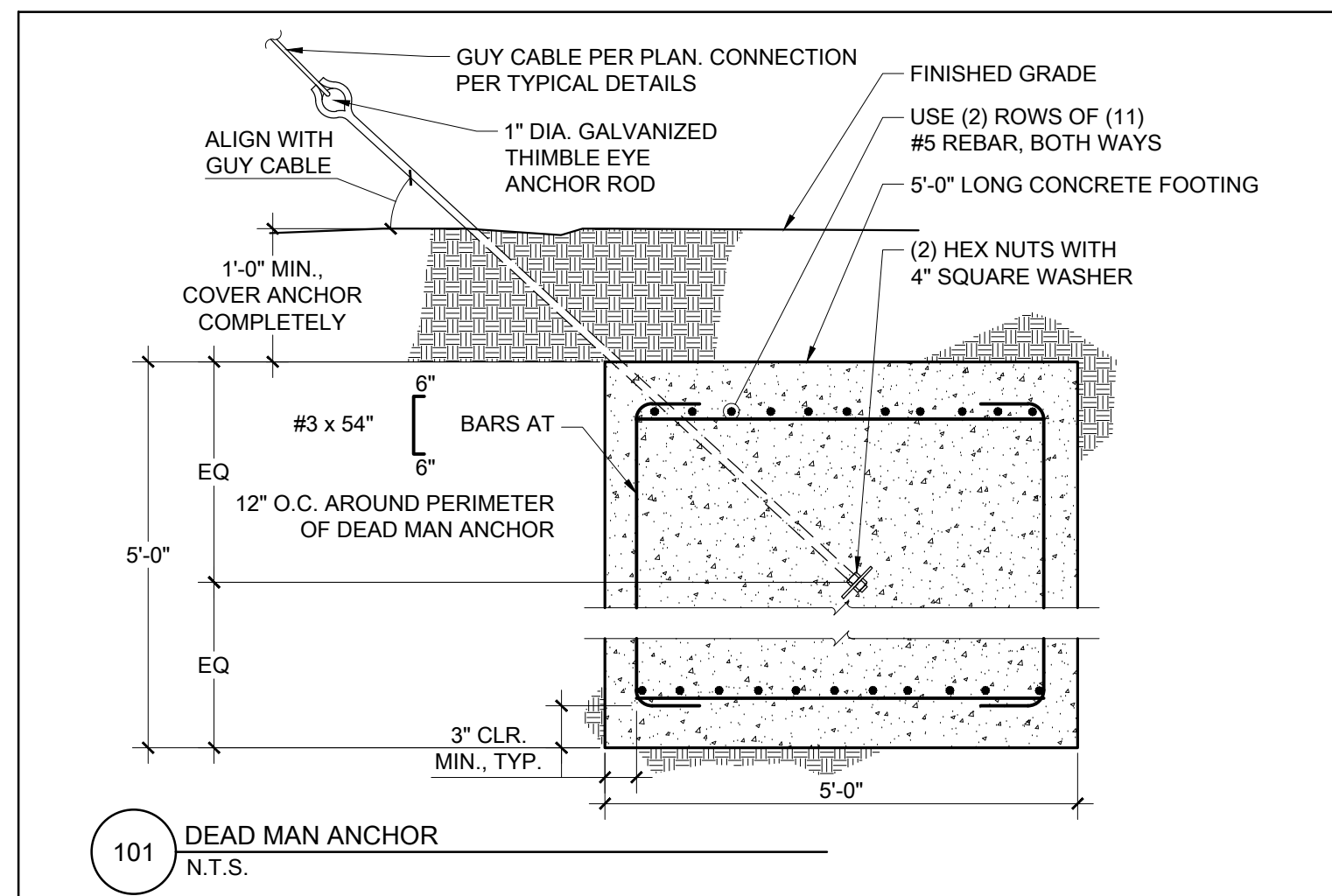
DATE: 12/08/2023

SCALE: AS NOTED

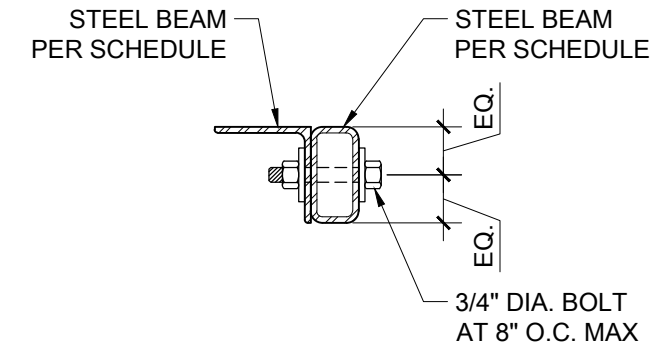
REVISION:

SHEET NUMBER:

S5.7
ELEVATIONS

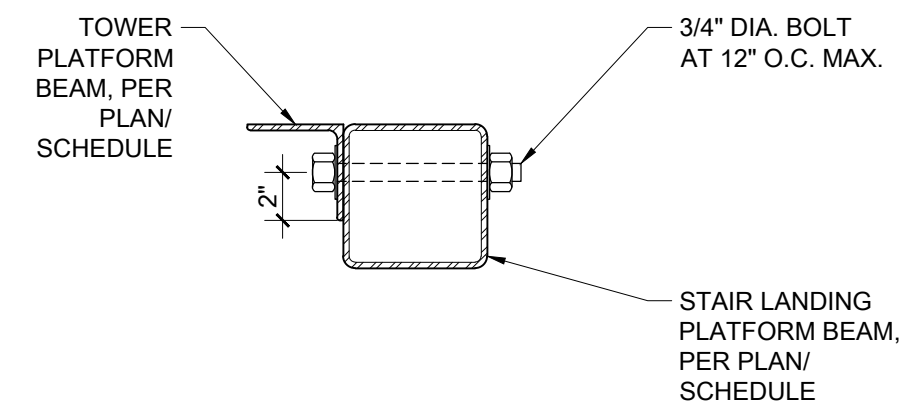


NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



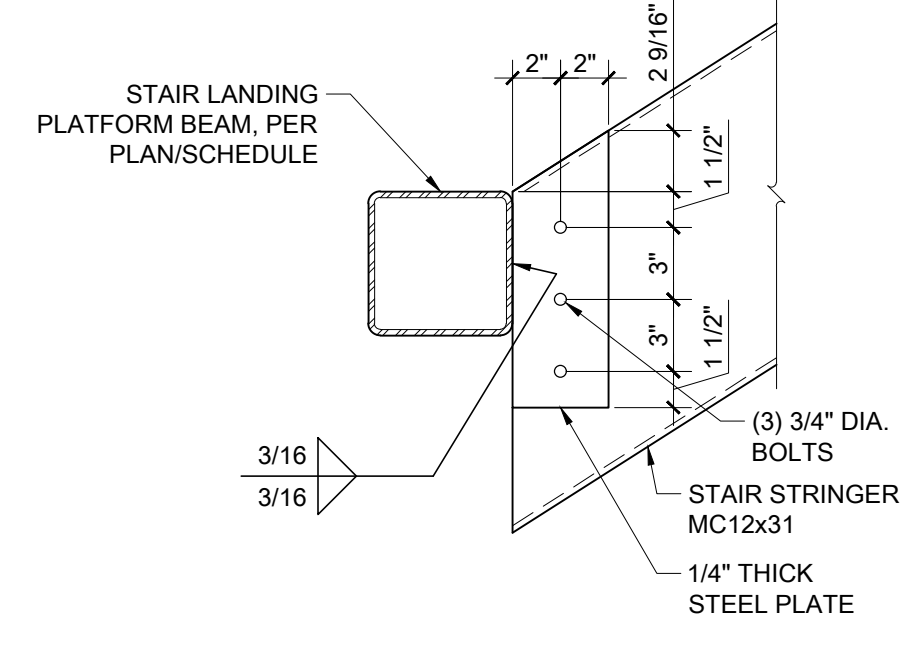
201 STEEL BEAM AT STEEL BEAM
1 1/2" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



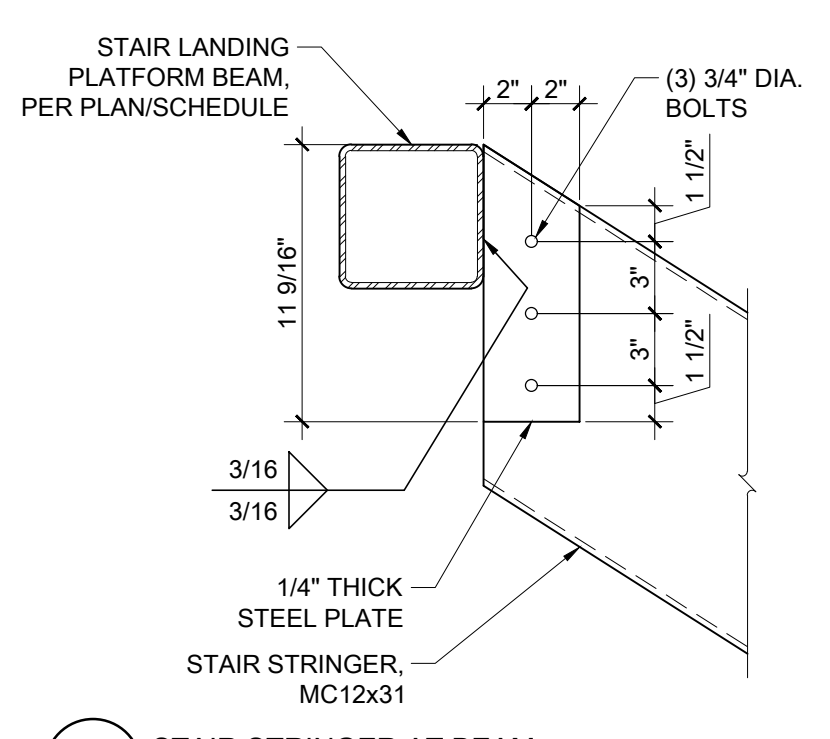
202 STAIR LANDING PLATFORM AT TOWER PLATFORM
1 1/2" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



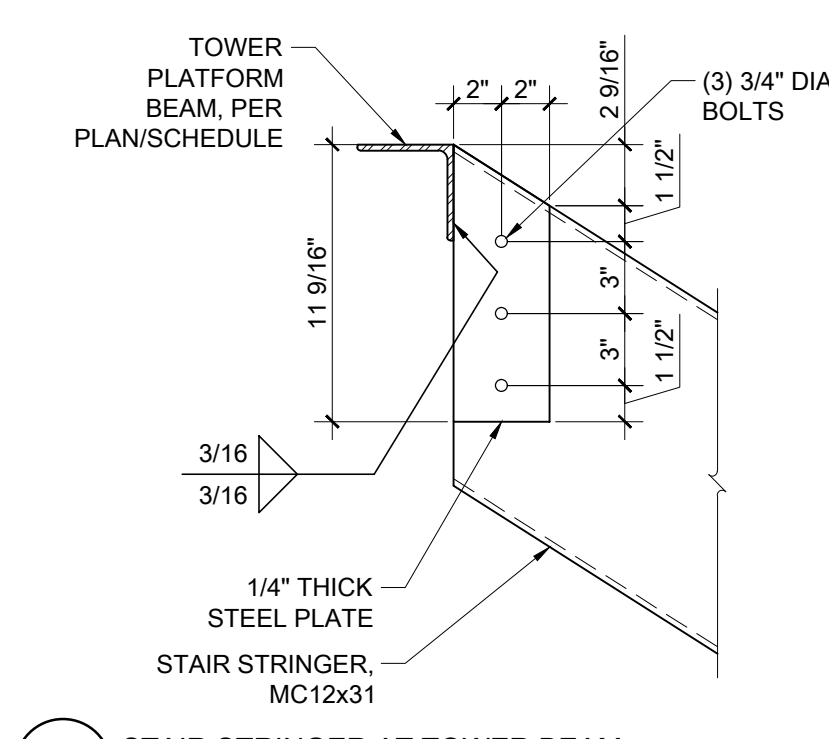
203 STAIR STRINGER AT BEAM
1 1/2" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



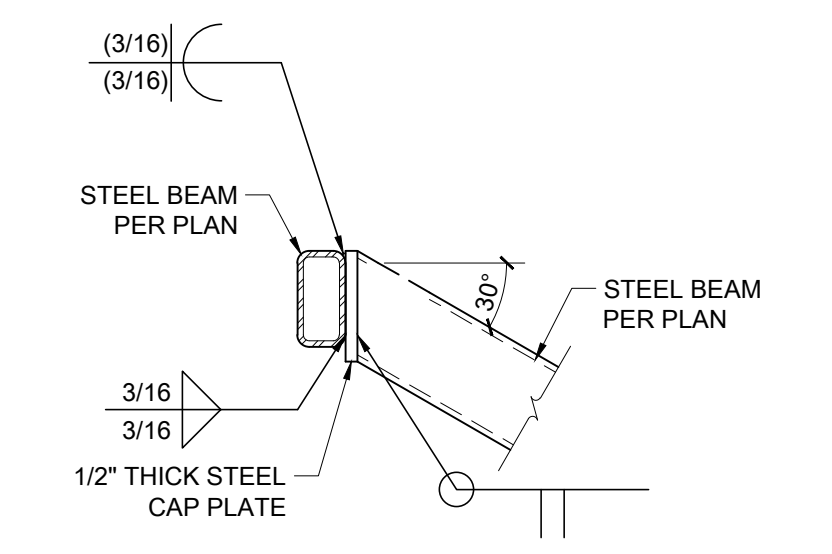
204 STAIR STRINGER AT BEAM
1 1/2" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



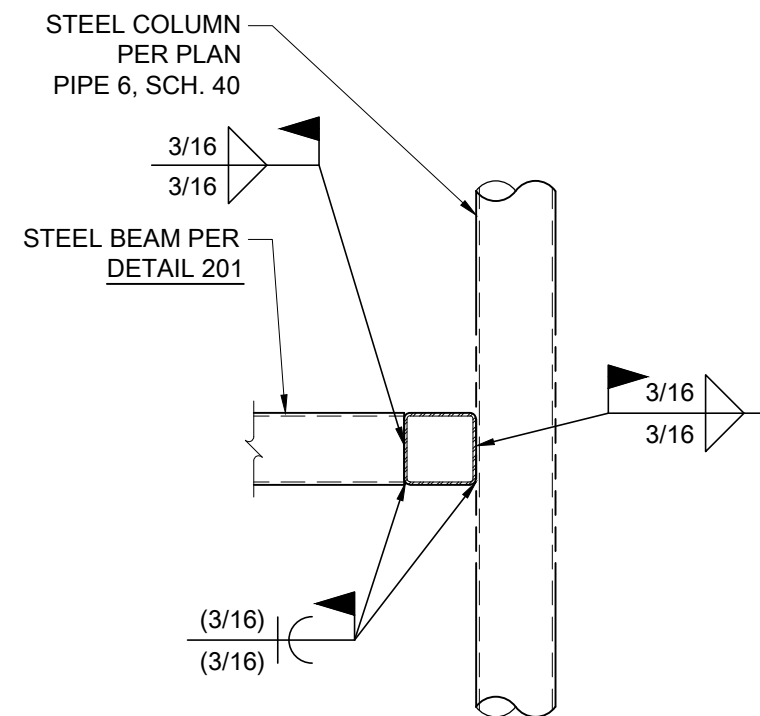
205 STAIR STRINGER AT TOWER BEAM
1 1/2" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



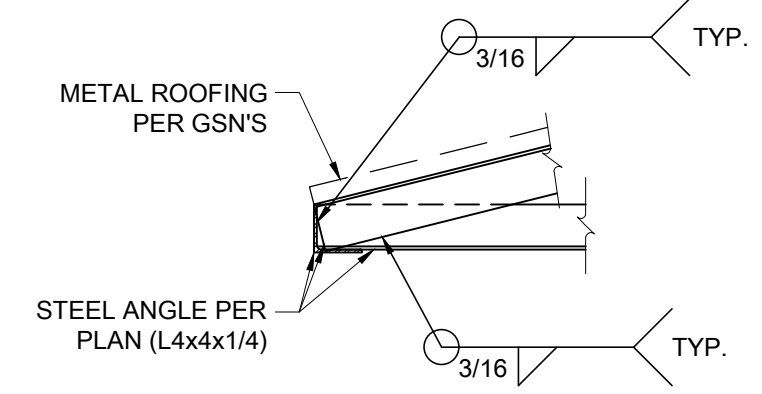
206 STEEL BEAM AT STEEL BEAM
1 1/2" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



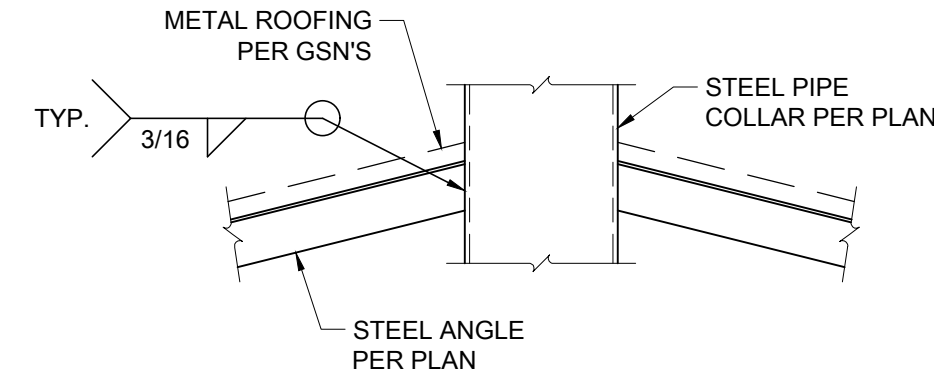
207 STEEL LANDING PLATFORM AT STEEL COLUMN
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



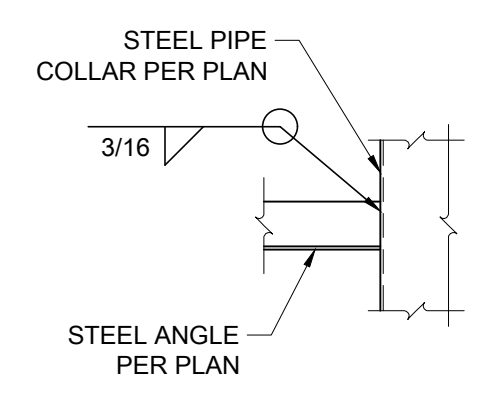
208 TYPICAL ROOF CONNECTION
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



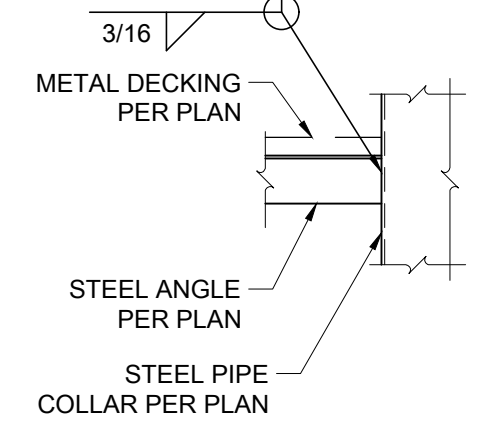
209 ROOF BEAM AT COLLAR
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



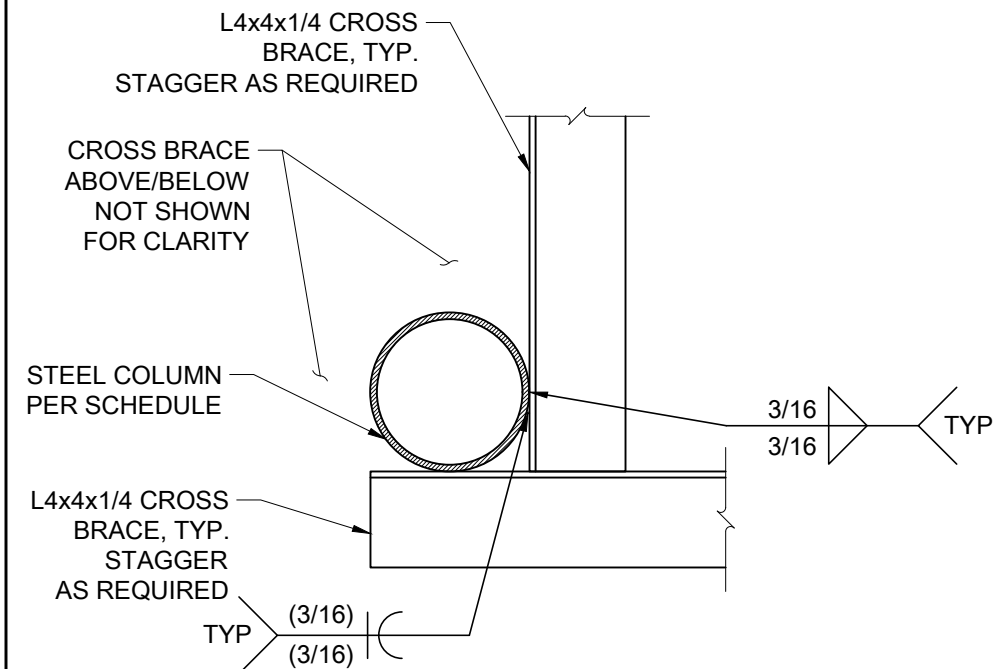
210 LOW ROOF BEAM AT COLLAR
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



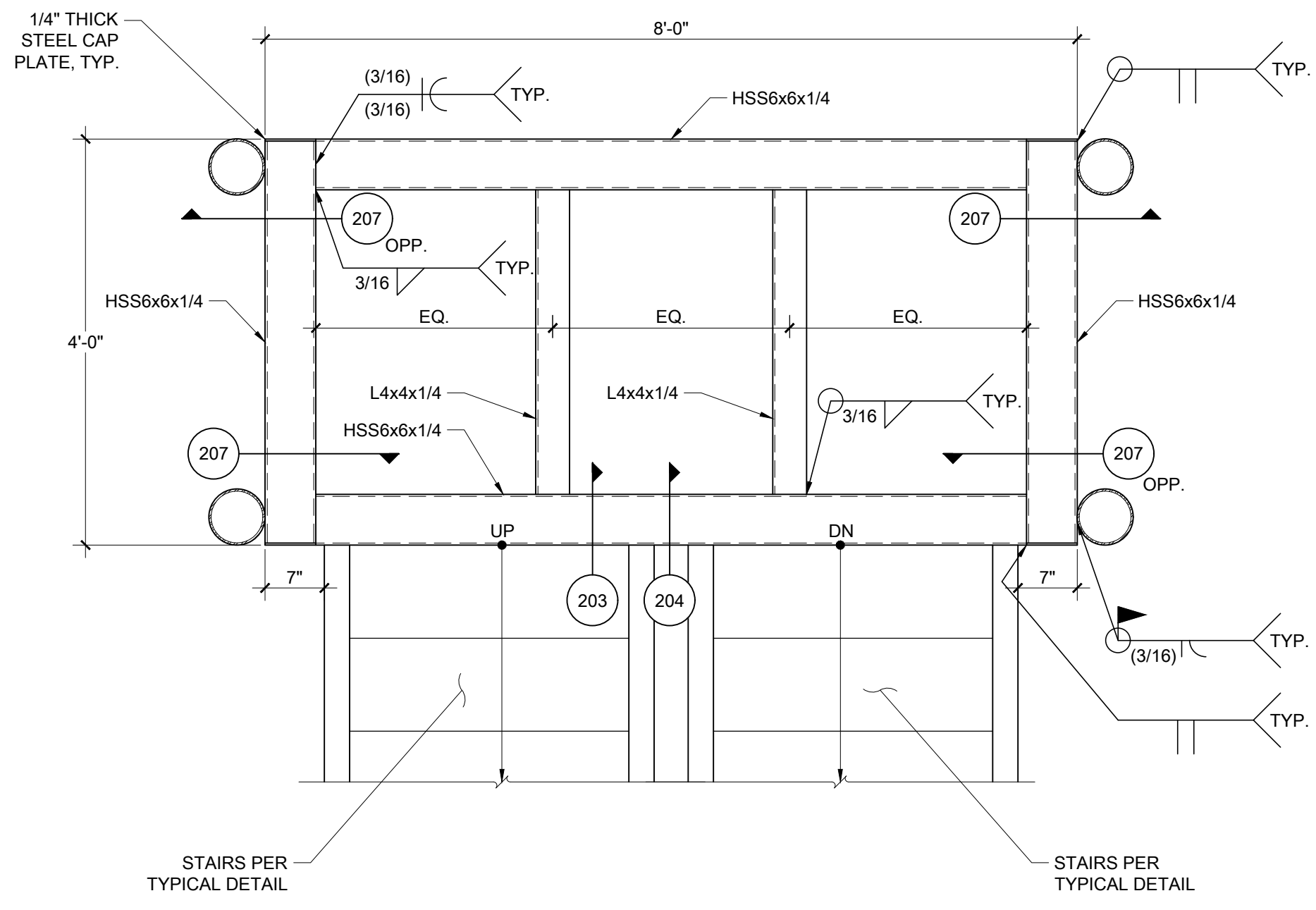
211 PLATFORM BEAM AT COLLAR
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



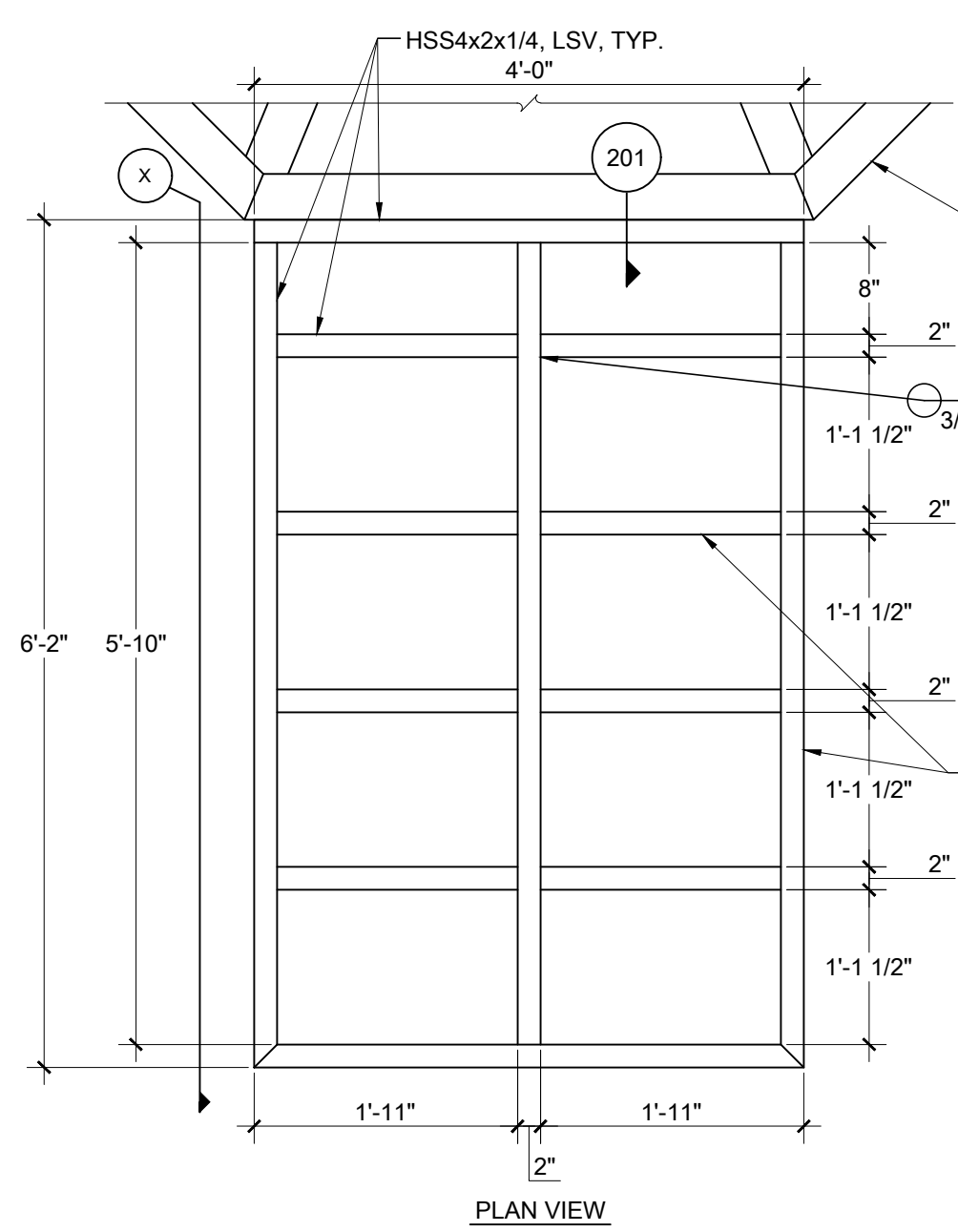
212 STEEL CROSS BRACES AT STEEL COLUMN
1 1/2" = 1'-0"

NOTE: GUARDRAILS NOT SHOWN FOR CLARITY, SEE TYPICAL DETAIL FOR MORE INFORMATION.



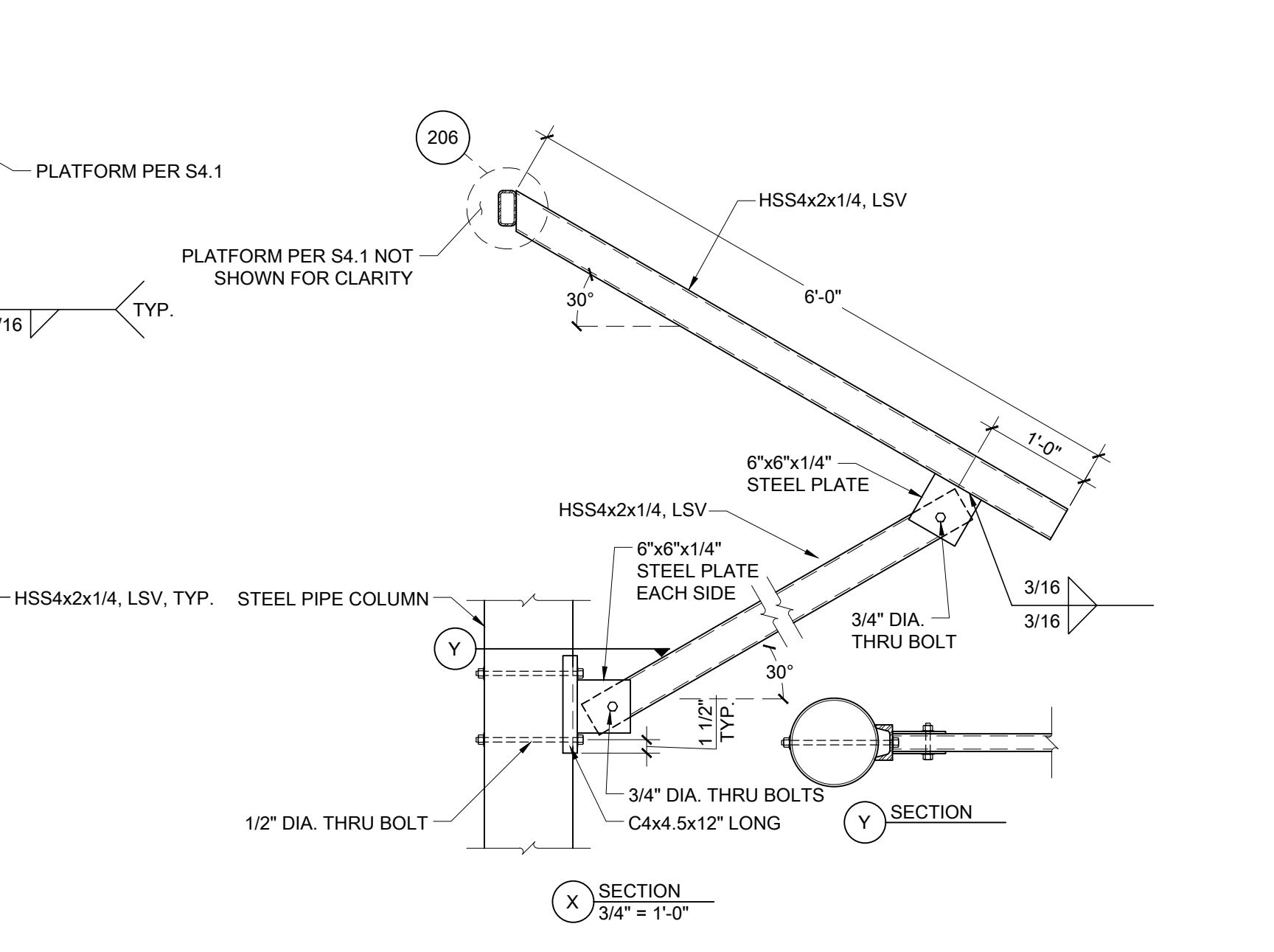
213 TYPICAL STAIR LANDING
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.

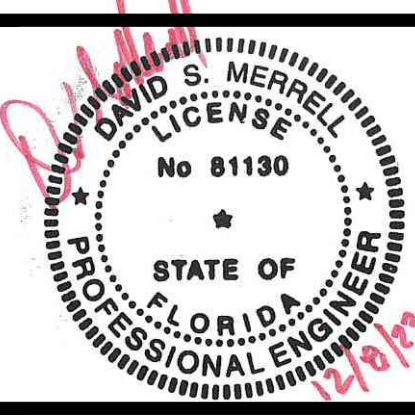


214 RAMP DETAIL
3/4" = 1'-0"

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.



215 STAIR TOWER BRACES AT STEEL COLUMN
1-1/2" = 1'-0"



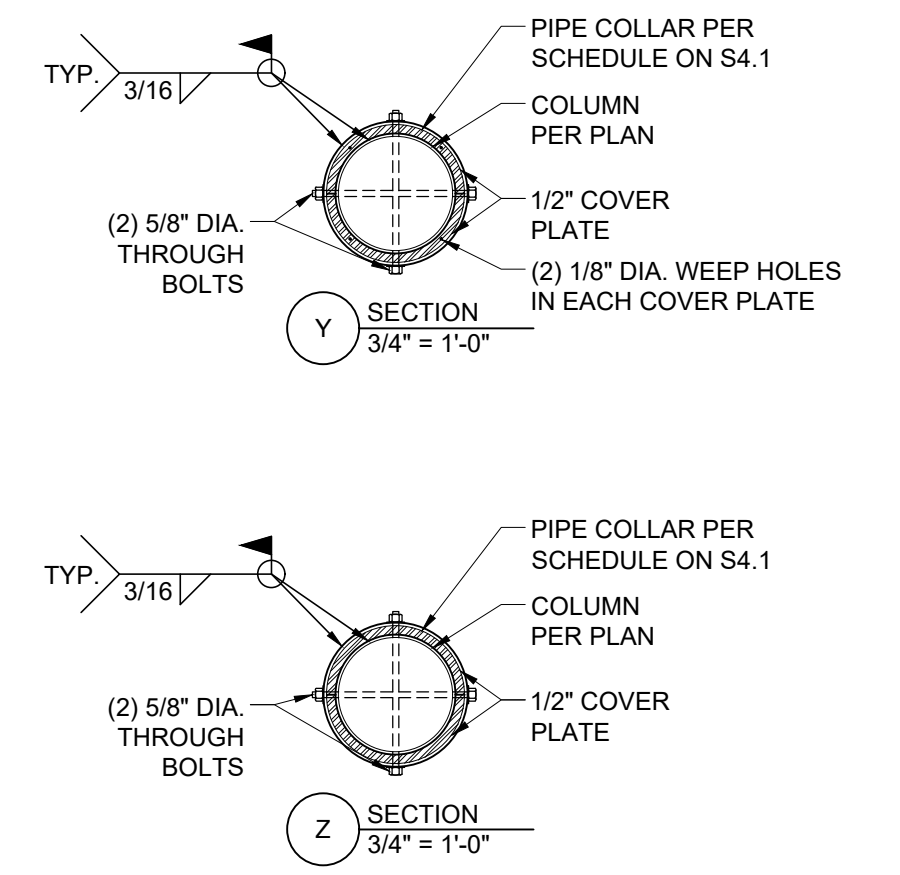
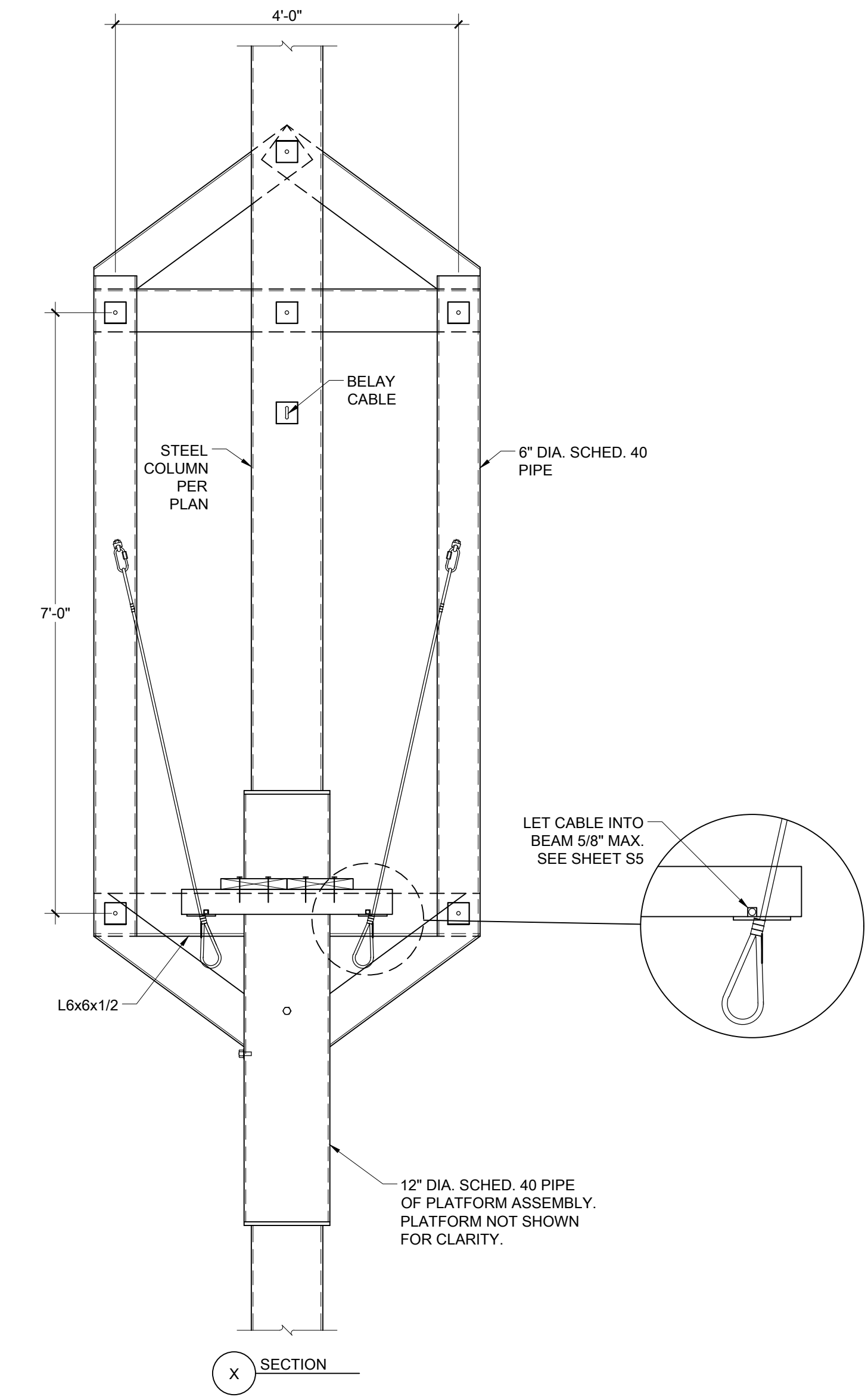
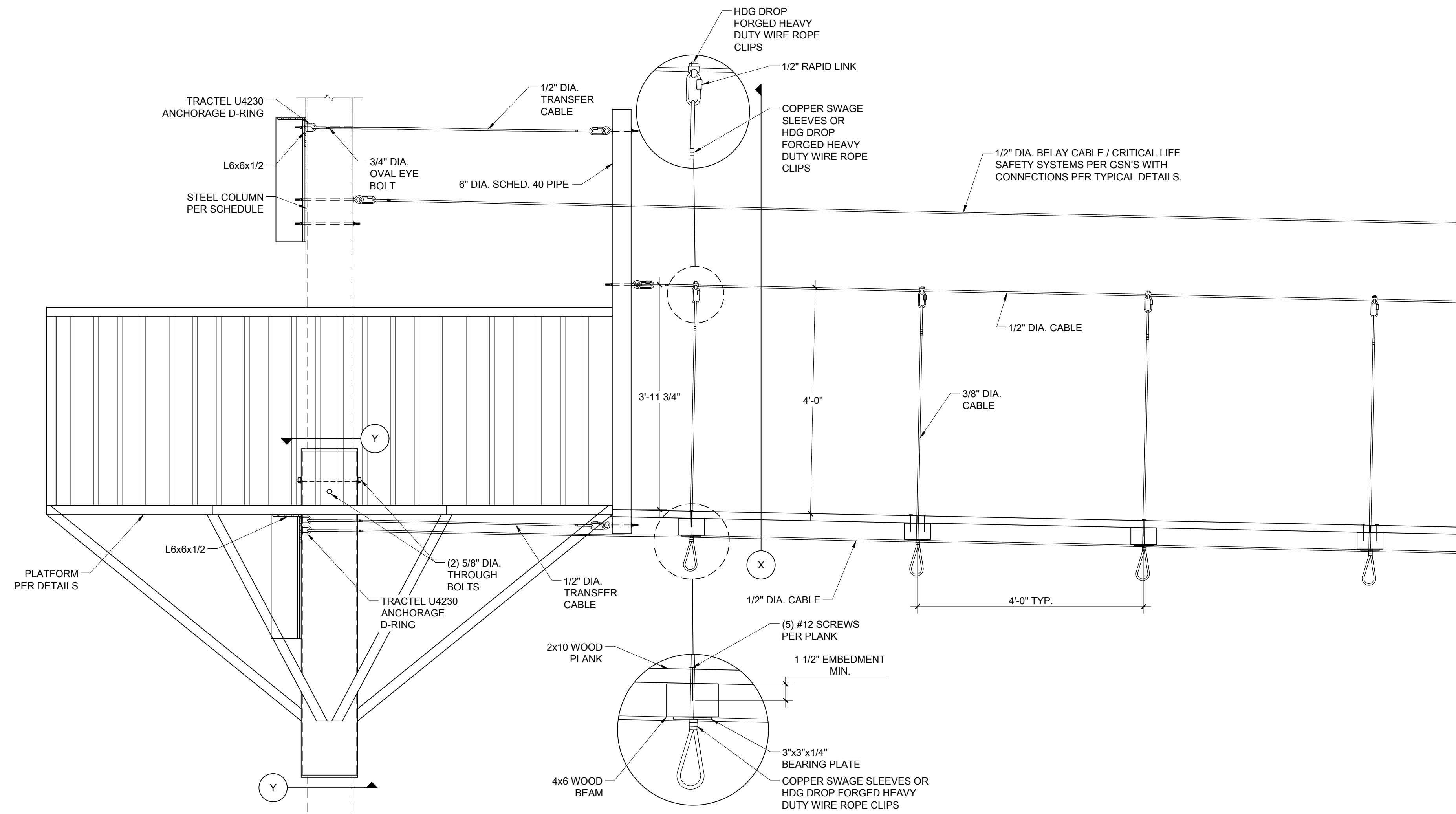
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HME PROJECT ENGINEER: SABRINA BALLARD
DRAWN BY: VICTOR WING
JOB ORDER #: 22704

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SCALE: AS NOTED
REVISION:

SHEET NUMBER:
S7.1
FRAMING DETAILS



A BRIDGE ELEVATION
 (PHASE 2 - FUTURE CONSTRUCTION)
 SCALE: 3/4" = 1'-0"

NOTE: SECTION Y IS TYPICAL OF ALL PLATFORM CONNECTIONS TO POLES.



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 ALACHUA COUNTY, FL**

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S7.2
 FRAMING DETAILS

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ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 26.88 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 23.41 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 7.62 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	7298 - 8066 lbf	7265 - 8030 lbf
37°F	7205 - 7963 lbf	7172 - 7927 lbf
44°F	7112 - 7861 lbf	7079 - 7825 lbf
51°F	7020 - 7759 lbf	6987 - 7723 lbf
58°F	6928 - 7657 lbf	6895 - 7621 lbf
65°F	6837 - 7556 lbf	6804 - 7520 lbf
72°F	6746 - 7456 lbf	6713 - 7420 lbf
79°F	6655 - 7356 lbf	6623 - 7320 lbf
86°F	6565 - 7257 lbf	6533 - 7221 lbf
93°F	6476 - 7158 lbf	6444 - 7122 lbf
100°F	6388 - 7060 lbf	6355 - 7024 lbf

HUBBARD MERRELL ENGINEERING
 1623 N. FIRST ST., STE. 201
 FLAGSTAFF, ARIZONA 86004-5028
 Phone: (928) 526-6174



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HME PROJECT ENGINEER:
SABRINA BALLARD

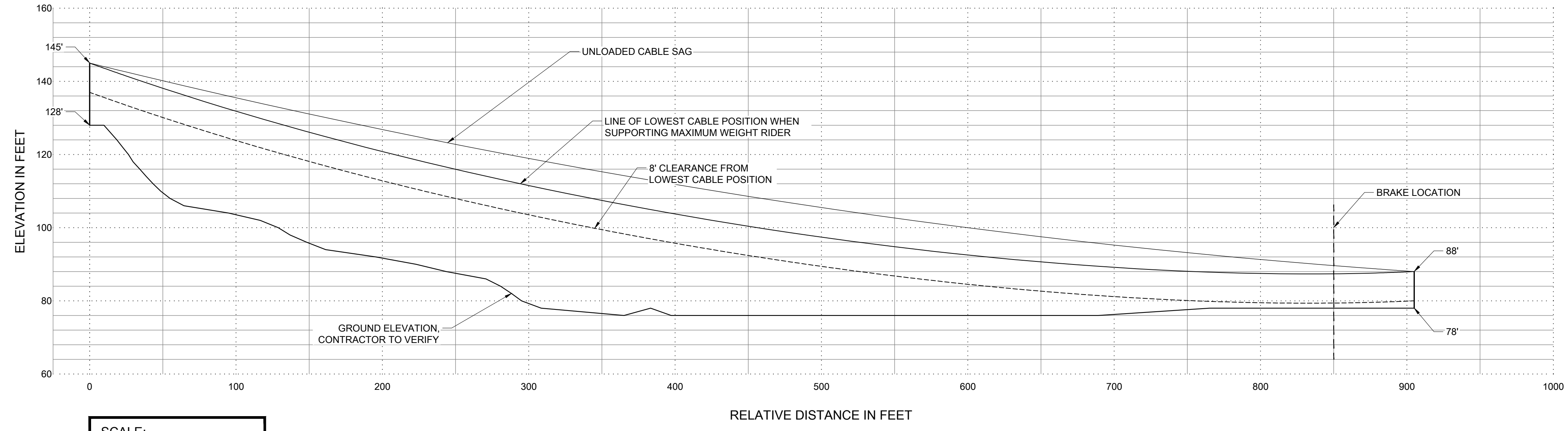
DRAWN BY:
VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023
 SCALE: AS NOTED
 REVISION:

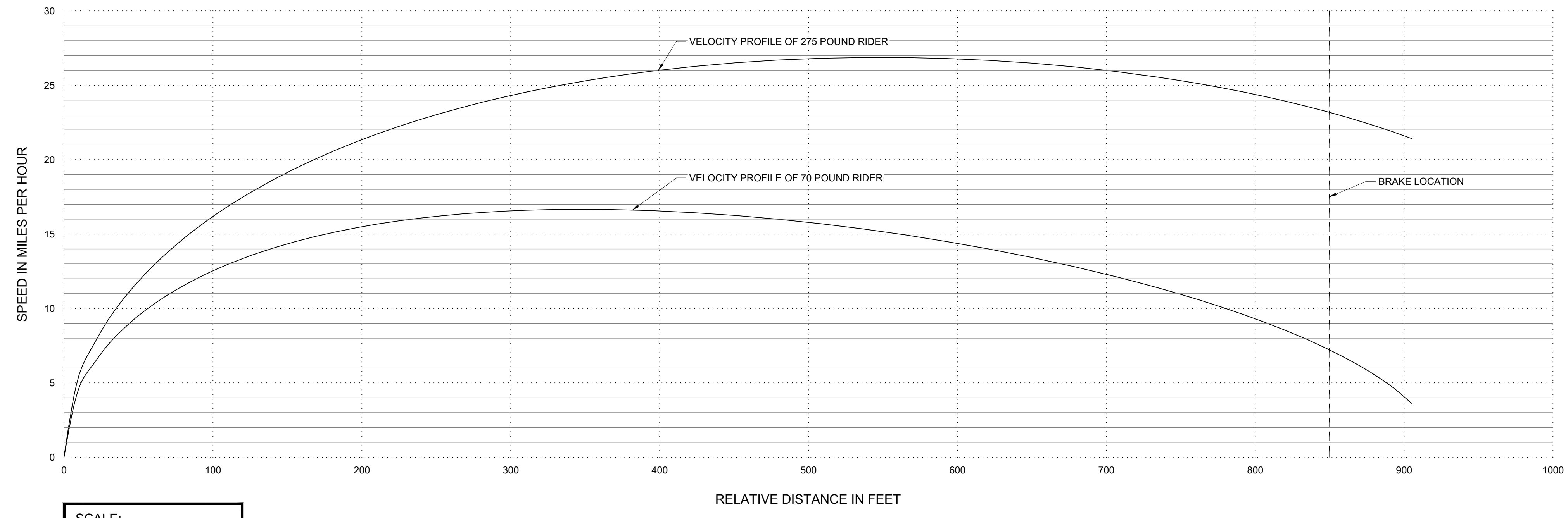
SHEET NUMBER:
S8.1
 WEDDING
 ZIP LINE PROFILE

ZIP LINE ESTIMATED CABLE POSITION



SCALE:
 HORIZONTAL: 1" = 50'-0"
 VERTICAL: 1" = 20'-0"

ZIP LINE ESTIMATED SPEED ENVELOPE



SCALE:
 HORIZONTAL: 1" = 50'-0"
 VERTICAL: 1" = 5 MPH

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 19.84 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 17.85 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 8.07 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

Installation Tension:

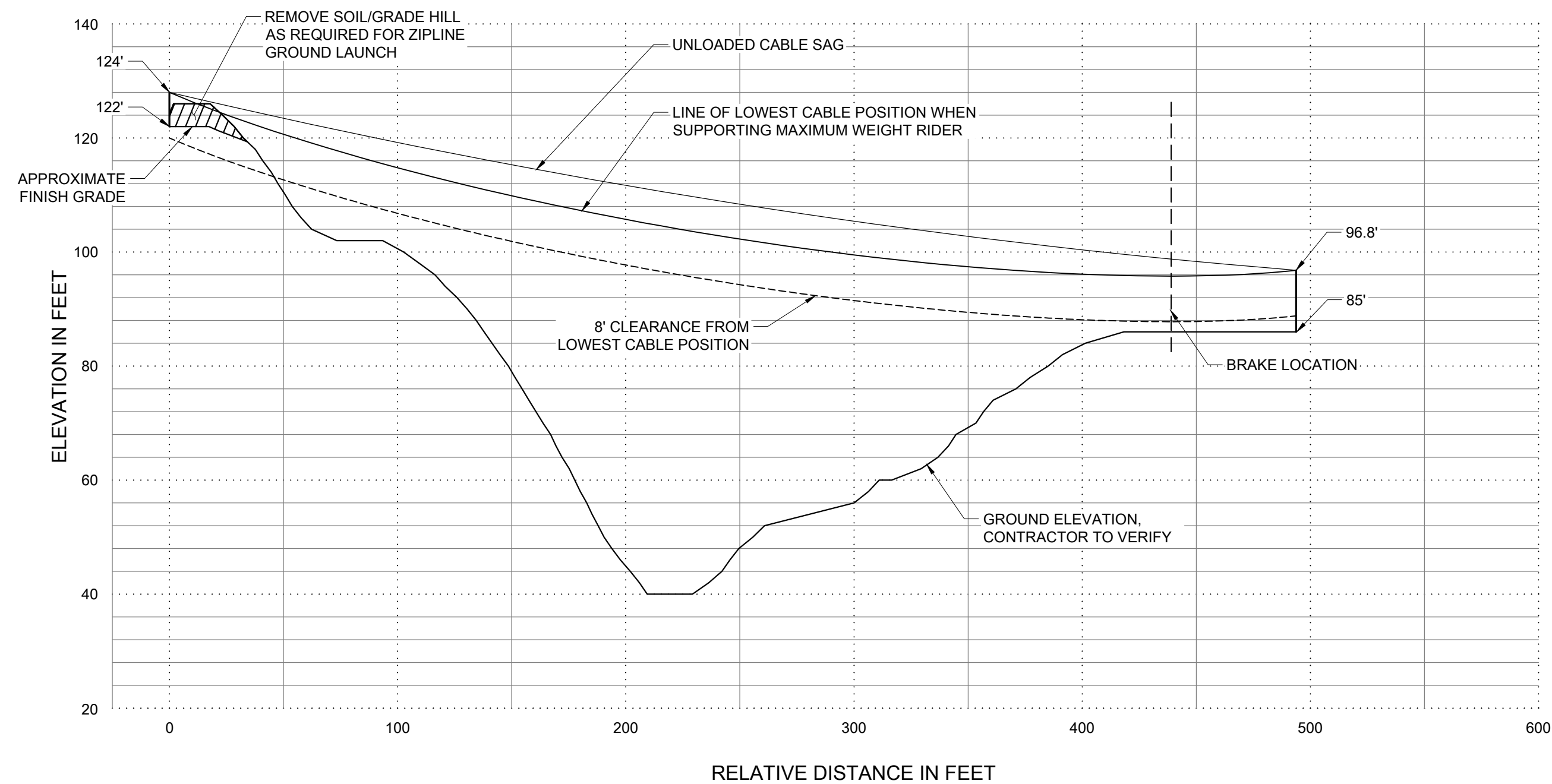
To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	4618 - 5104 lbf	4603 - 5087 lbf
37°F	4527 - 5004 lbf	4512 - 4986 lbf
44°F	4437 - 4904 lbf	4421 - 4887 lbf
51°F	4347 - 4805 lbf	4332 - 4788 lbf
58°F	4258 - 4707 lbf	4243 - 4690 lbf
65°F	4171 - 4610 lbf	4155 - 4592 lbf
72°F	4084 - 4514 lbf	4068 - 4496 lbf
79°F	3998 - 4419 lbf	3982 - 4401 lbf
86°F	3913 - 4325 lbf	3897 - 4308 lbf
93°F	3829 - 4232 lbf	3813 - 4215 lbf
100°F	3746 - 4141 lbf	3731 - 4123 lbf



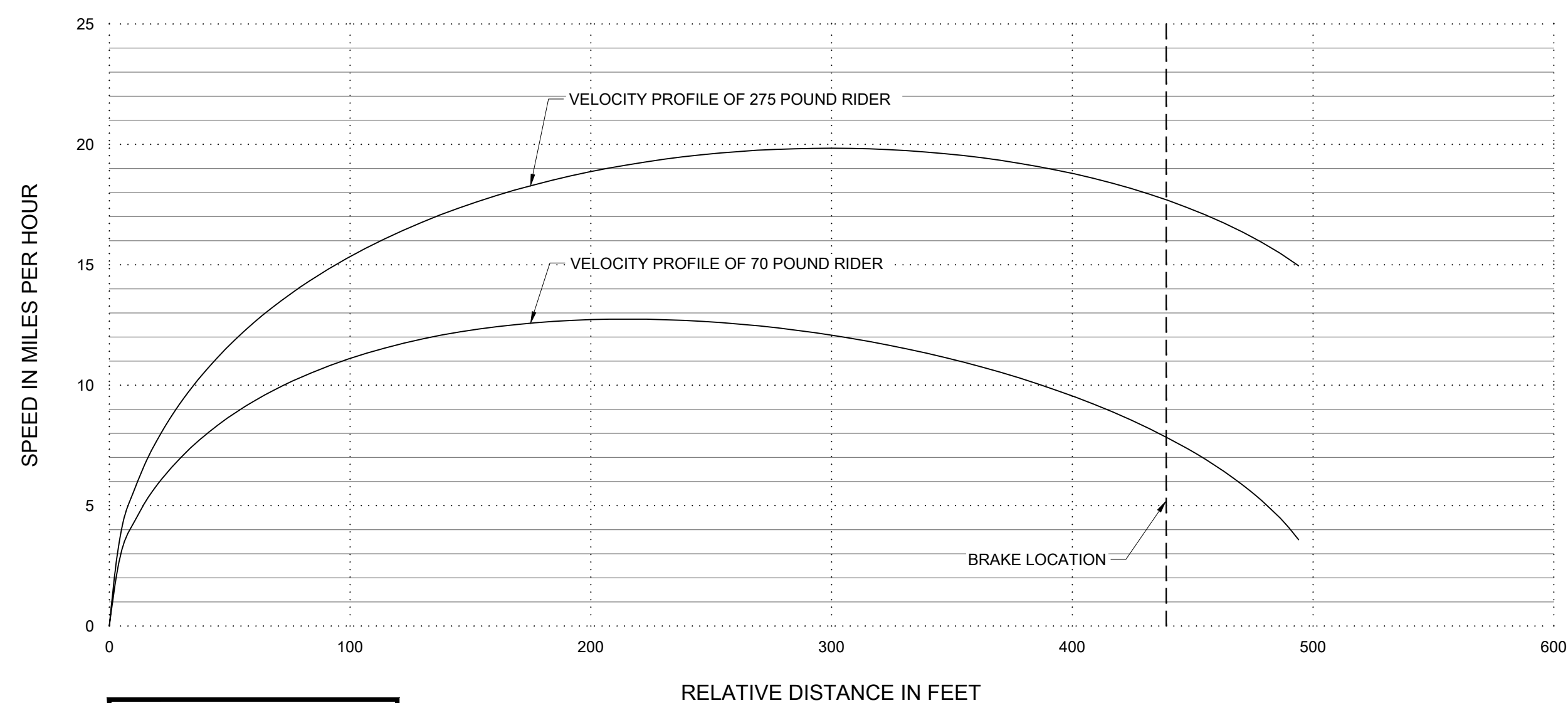
HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL

ZIP LINE ESTIMATED CABLE POSITION



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 20'-0"

ZIP LINE ESTIMATED SPEED ENVELOPE



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 5 MPH

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HME PROJECT MANAGER:
DAVE MERRELL

HME PROJECT ENGINEER:
SABRINA BALLARD

DRAWN BY:
VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023

SCALE: AS NOTED

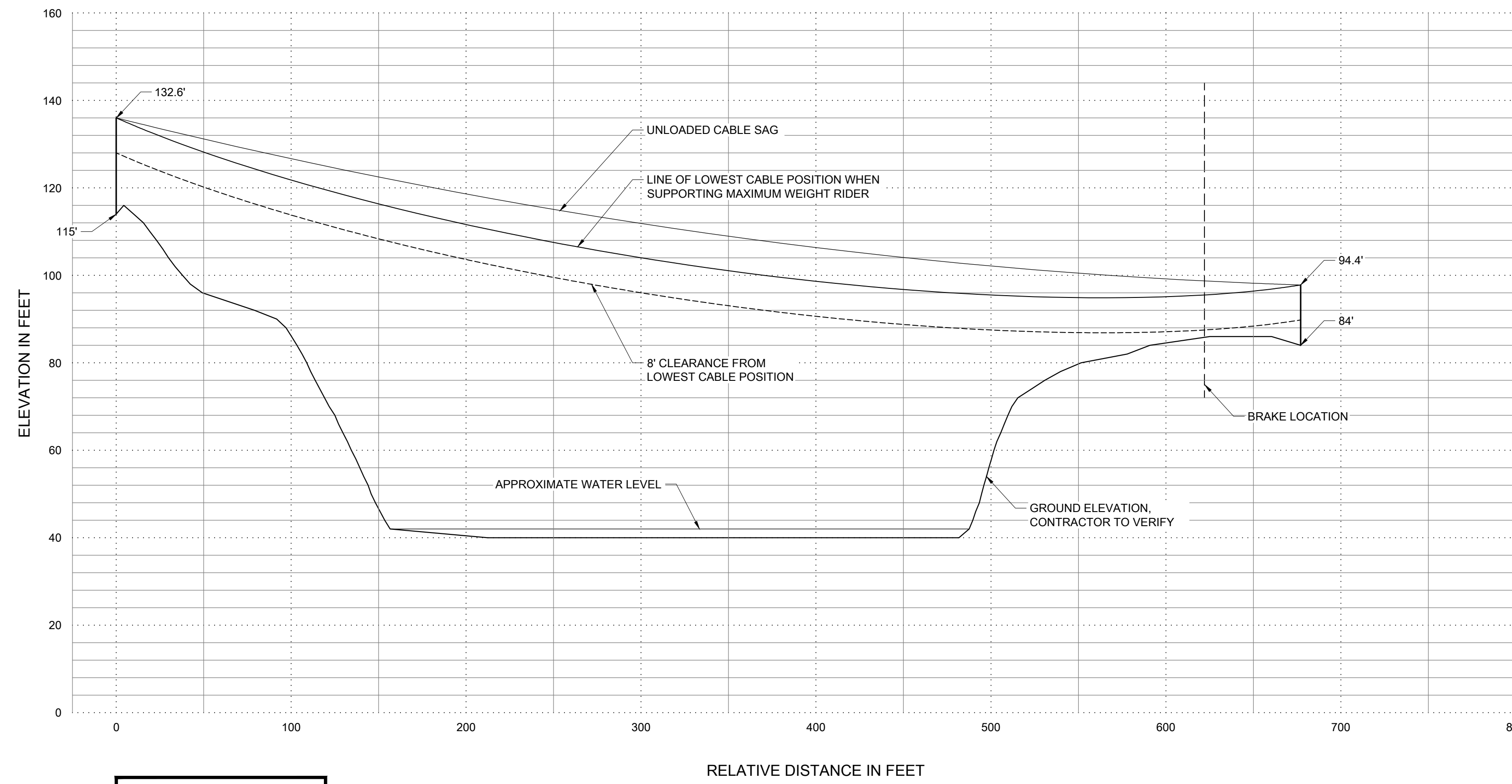
REVISION:

SHEET NUMBER:

S8.2

JORDAN
ZIP LINE PROFILE

ZIP LINE ESTIMATED CABLE POSITION



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 20'-0"

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 23.79 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 19.91 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 5.24 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

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Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	4518 - 4993 lbf	4496 - 4969 lbf
37°F	4437 - 4904 lbf	4415 - 4880 lbf
44°F	4358 - 4817 lbf	4336 - 4792 lbf
51°F	4280 - 4730 lbf	4258 - 4706 lbf
58°F	4203 - 4645 lbf	4181 - 4621 lbf
65°F	4127 - 4561 lbf	4105 - 4537 lbf
72°F	4052 - 4478 lbf	4030 - 4454 lbf
79°F	3978 - 4397 lbf	3956 - 4373 lbf
86°F	3906 - 4317 lbf	3884 - 4293 lbf
93°F	3835 - 4238 lbf	3813 - 4214 lbf
100°F	3765 - 4161 lbf	3743 - 4137 lbf

HUBBARD MERRELL ENGINEERING
1623 N. FIRST ST., STE. 201
FLAGSTAFF, ARIZONA 86004-5028
Phone: (928) 526-6174



HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL

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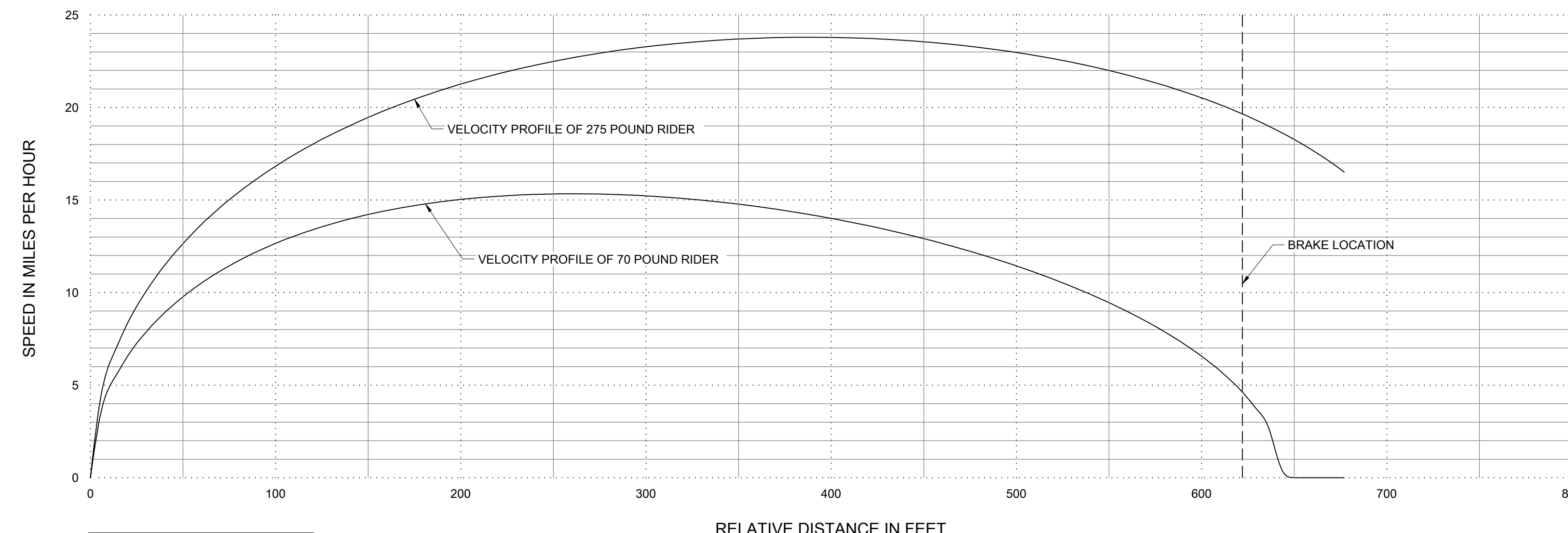
HME PROJECT MANAGER:
DAVE MERRELL
HME PROJECT ENGINEER:
SABRINA BALLARD
DRAWN BY:
VICTOR WING
JOB ORDER #: 22704

DATE: 12/08/2023
SCALE: AS NOTED
REVISION:

SHEET NUMBER:

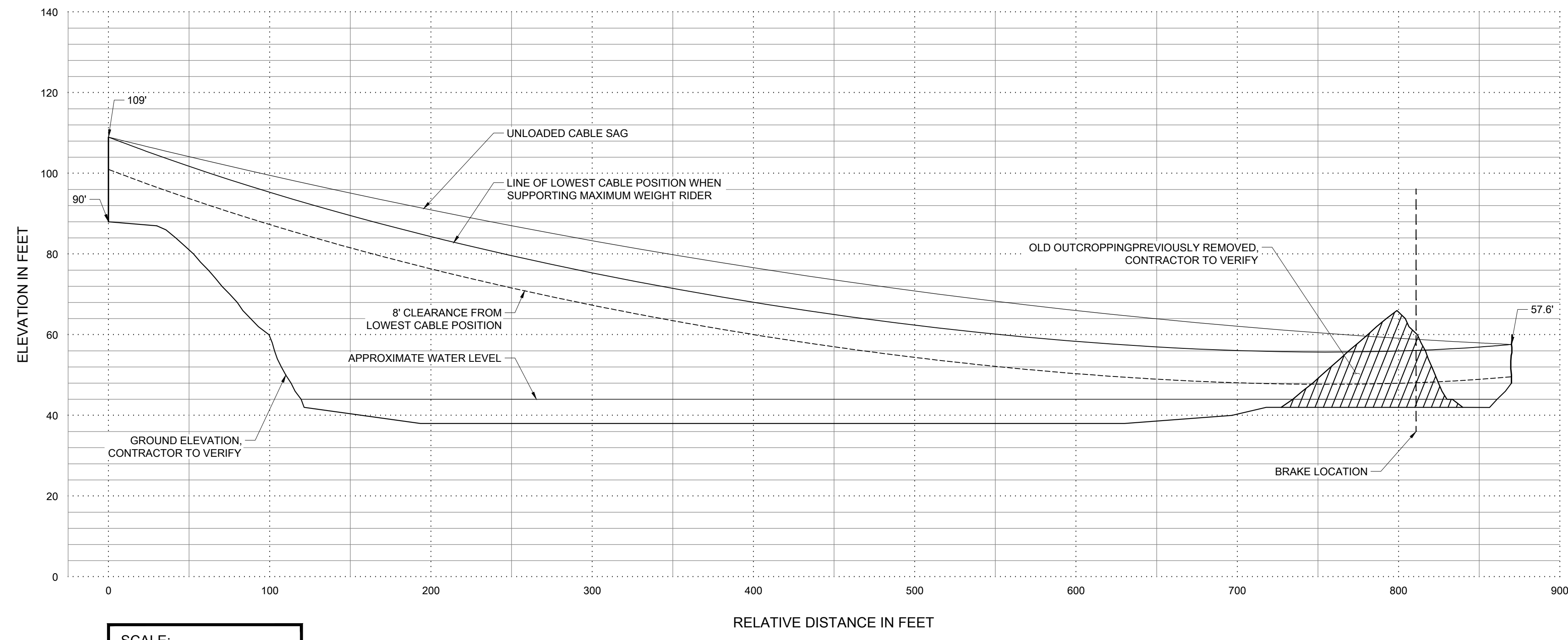
S8.3
START
ZIP LINE PROFILE

ZIP LINE ESTIMATED SPEED ENVELOPE



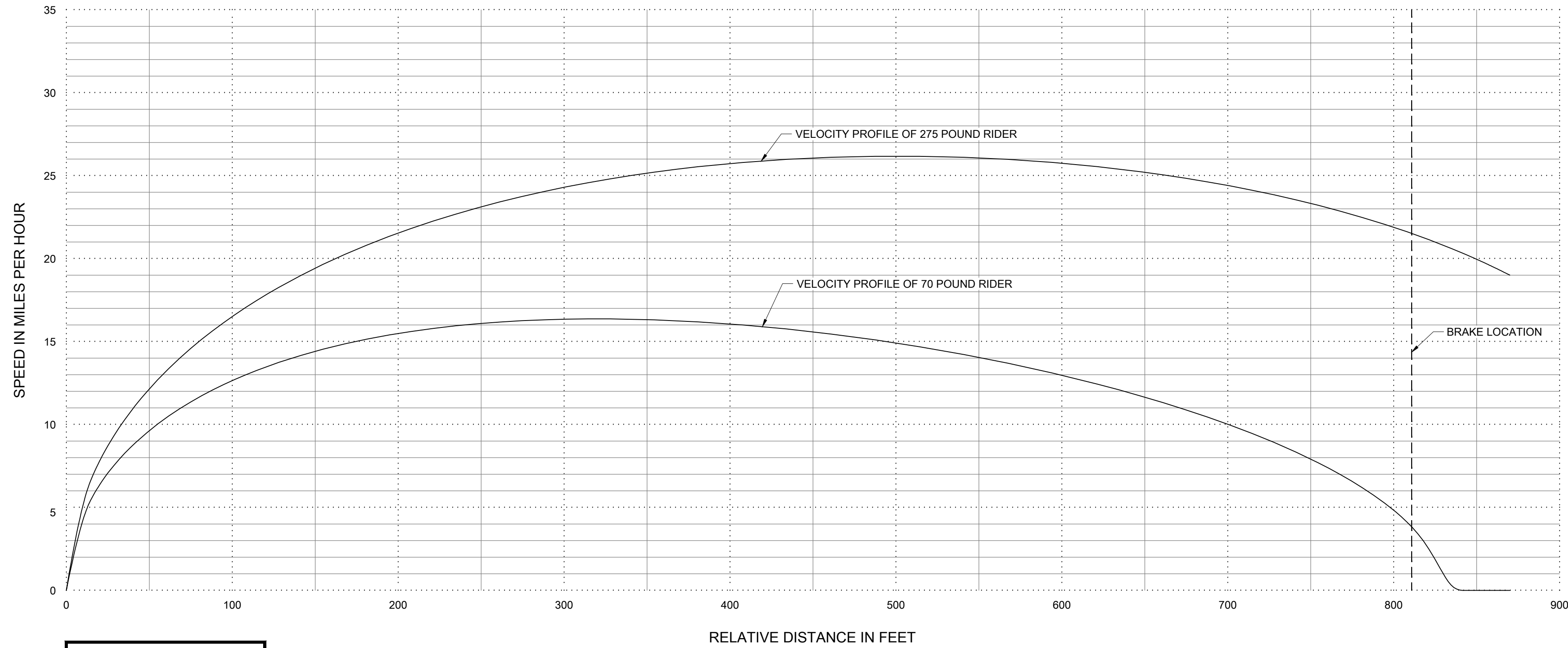
SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 5 MPH

ZIP LINE ESTIMATED CABLE POSITION



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 20'-0"

ZIP LINE ESTIMATED SPEED ENVELOPE



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 5 MPH

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 26.18 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 22.49 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 6.21 MPH

NOTES:
- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

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Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	6194 - 6846 lbf	6164 - 6813 lbf
37°F	6106 - 6748 lbf	6076 - 6716 lbf
44°F	6018 - 6652 lbf	5989 - 6619 lbf
51°F	5932 - 6556 lbf	5902 - 6524 lbf
58°F	5846 - 6461 lbf	5816 - 6429 lbf
65°F	5761 - 6367 lbf	5731 - 6334 lbf
72°F	5676 - 6274 lbf	5647 - 6241 lbf
79°F	5592 - 6181 lbf	5563 - 6148 lbf
86°F	5509 - 6089 lbf	5480 - 6057 lbf
93°F	5427 - 5999 lbf	5398 - 5966 lbf
100°F	5346 - 5909 lbf	5317 - 5876 lbf

HUBBARD MERRELL ENGINEERING
1623 N. FIRST ST., STE. 201
FLAGSTAFF, ARIZONA 86004-5028
Phone: (928) 526-6174



HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL

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HME PROJECT MANAGER:
DAVE MERRELL

HME PROJECT ENGINEER:
SABRINA BALLARD

DRAWN BY:
VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023

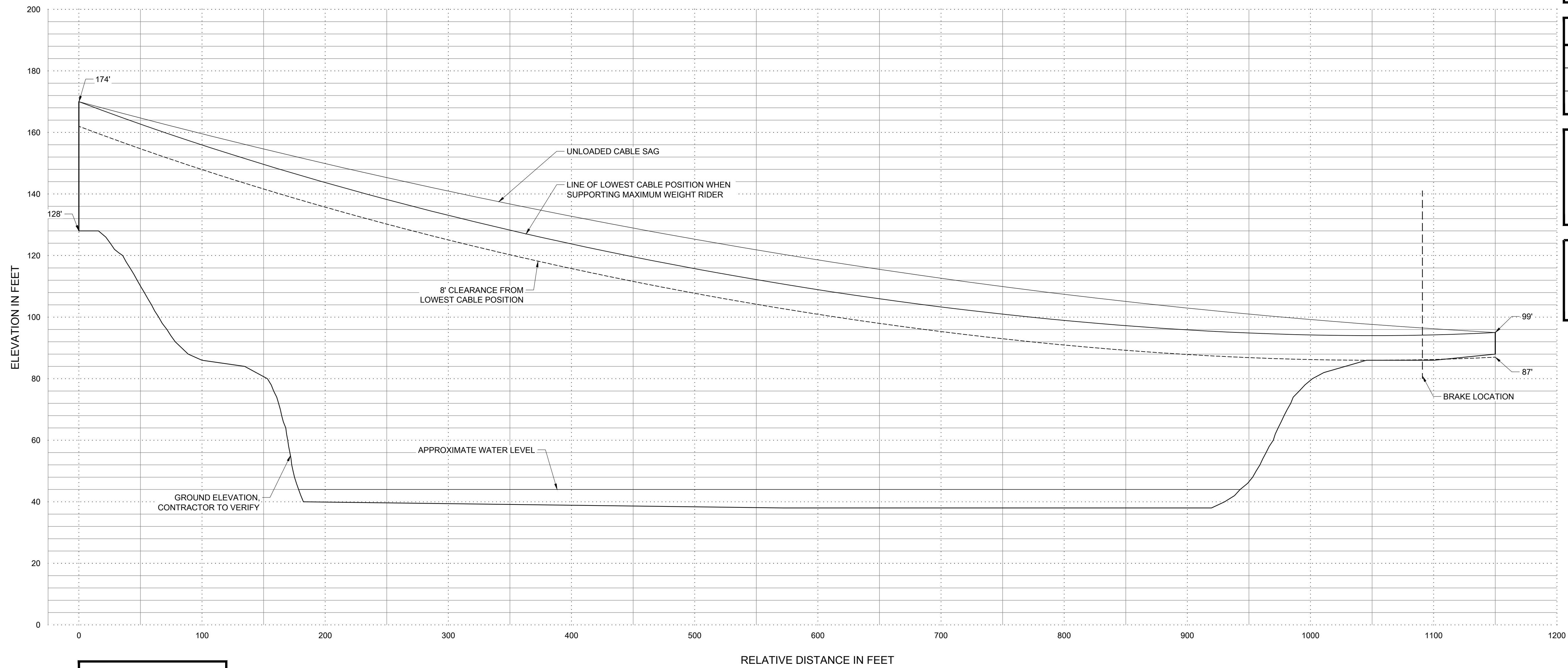
SCALE: AS NOTED

REVISION:

SHEET NUMBER:

S8.4
CLIFF
ZIP LINE PROFILE

ZIP LINE ESTIMATED CABLE POSITION



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 20'-0"

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 30.39 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 24.85 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 3.75 MPH

NOTES:

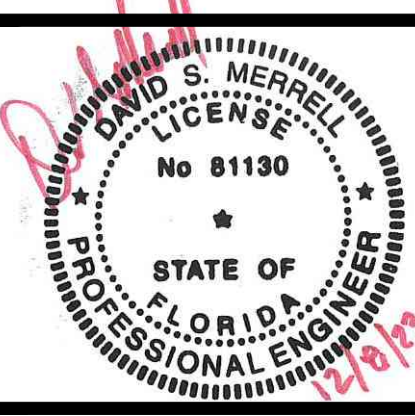
- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
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- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

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Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	7758 - 8575 lbf	7715 - 8527 lbf
37°F	7668 - 8476 lbf	7625 - 8428 lbf
44°F	7579 - 8377 lbf	7536 - 8330 lbf
51°F	7491 - 8279 lbf	7448 - 8232 lbf
58°F	7402 - 8182 lbf	7360 - 8134 lbf
65°F	7315 - 8085 lbf	7272 - 8037 lbf
72°F	7228 - 7989 lbf	7185 - 7941 lbf
79°F	7141 - 7893 lbf	7098 - 7845 lbf
86°F	7055 - 7798 lbf	7012 - 7750 lbf
93°F	6970 - 7704 lbf	6927 - 7656 lbf
100°F	6885 - 7610 lbf	6842 - 7562 lbf



**HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL**

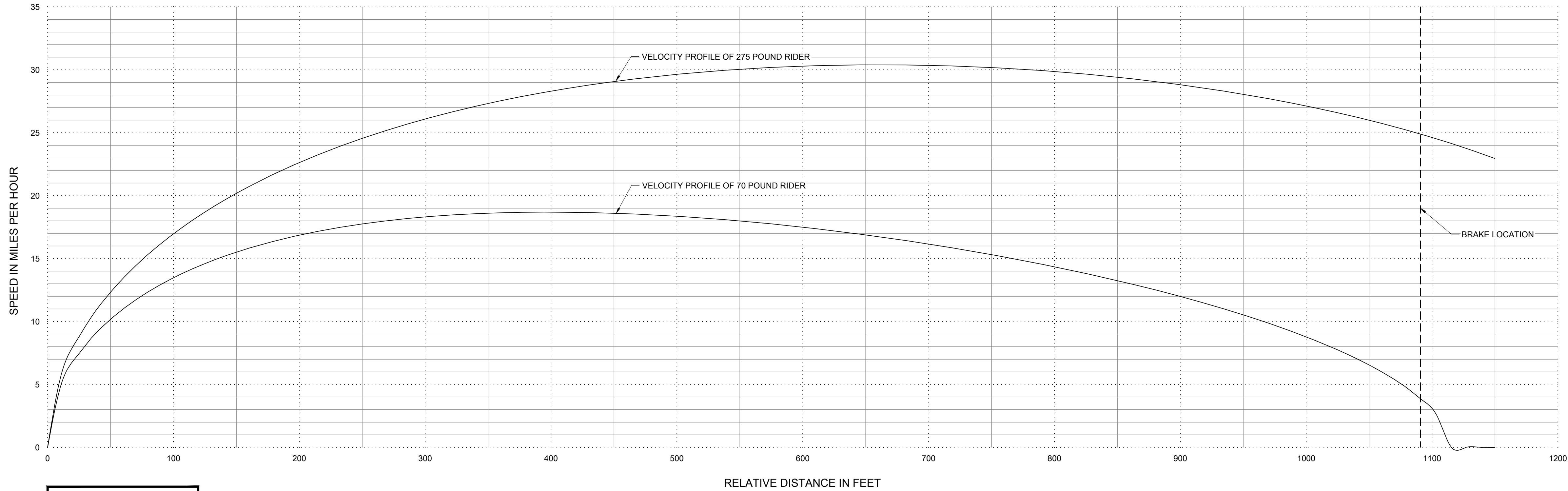
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HME PROJECT MANAGER:
DAVE MERRELL
HME PROJECT ENGINEER:
SABRINA BALLARD
DRAWN BY:
VICTOR WING
JOB ORDER #: 22704

DATE: 12/08/2023
SCALE: AS NOTED
REVISION:

SHEET NUMBER:
S8.5
MOUNTAIN
ZIP LINE PROFILE

ZIP LINE ESTIMATED SPEED ENVELOPE



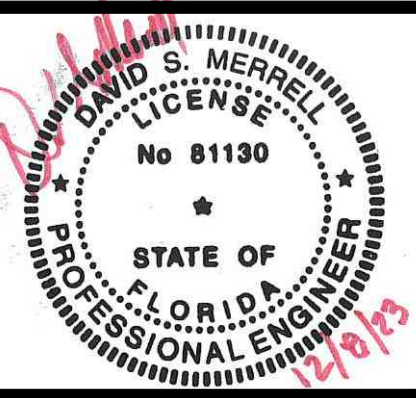
SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 5 MPH

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

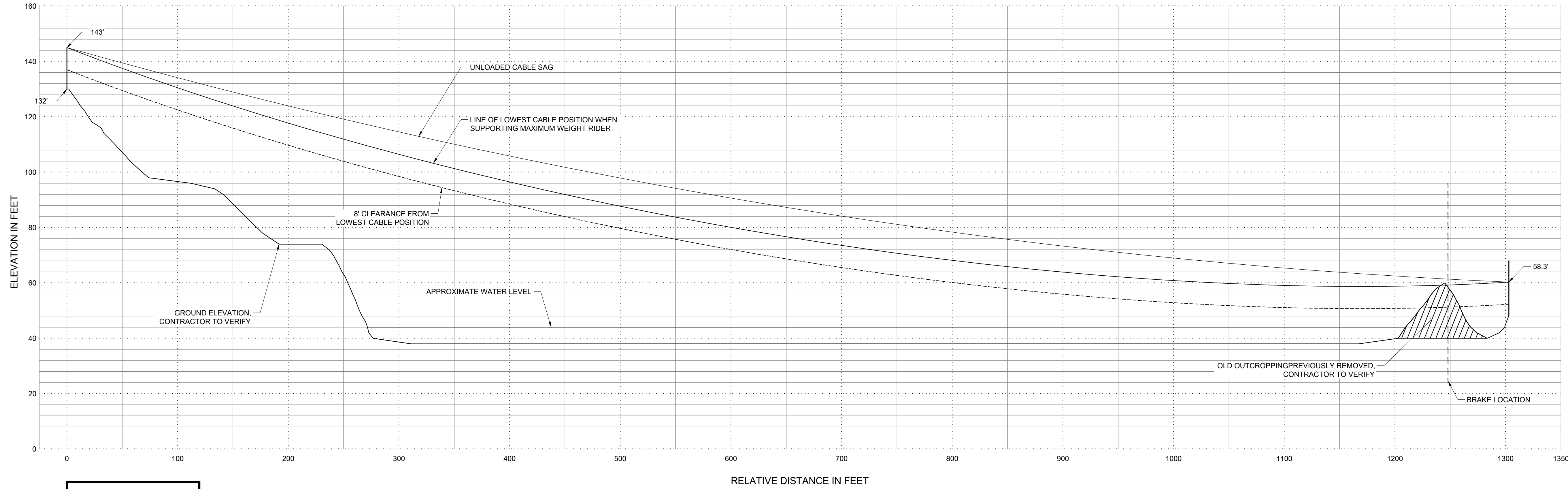
ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 31.7 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 24.27 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 0.81 MPH

NOTES:
 - SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
 - SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLER'S OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
 - VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

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ZIP LINE ESTIMATED CABLE POSITION

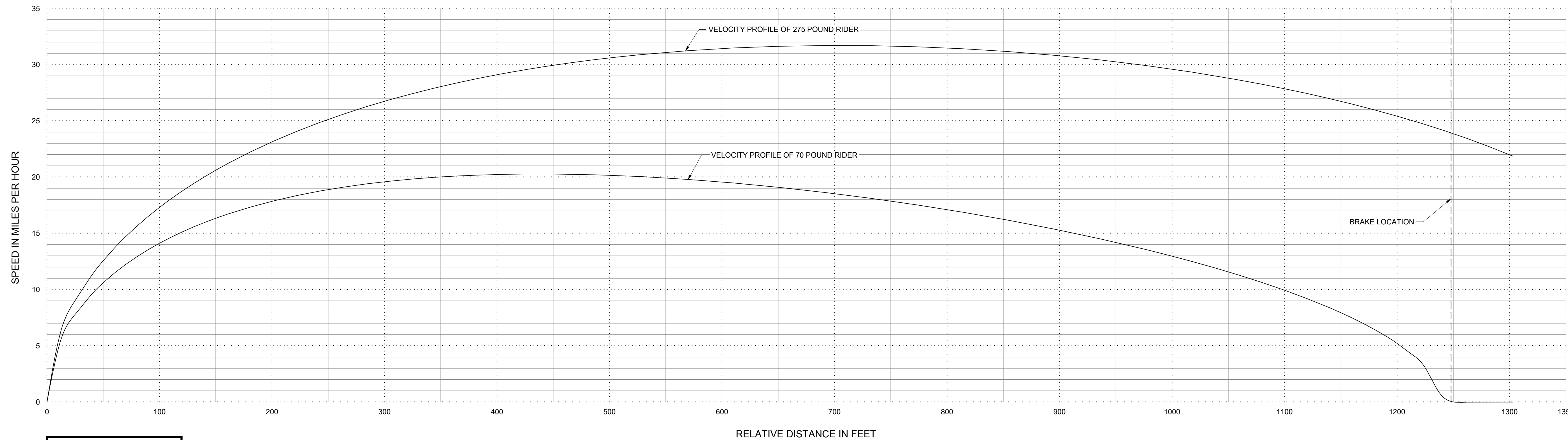


SCALE:
 HORIZONTAL: 1" = 50'-0"
 VERTICAL: 1" = 20'-0"

Installation Tension:
 To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	7930 - 8765 lbf	7882 - 8711 lbf
37°F	7843 - 8669 lbf	7795 - 8615 lbf
44°F	7757 - 8573 lbf	7708 - 8520 lbf
51°F	7671 - 8478 lbf	7622 - 8425 lbf
58°F	7585 - 8384 lbf	7537 - 8330 lbf
65°F	7500 - 8290 lbf	7452 - 8236 lbf
72°F	7416 - 8197 lbf	7368 - 8143 lbf
79°F	7332 - 8104 lbf	7284 - 8051 lbf
86°F	7249 - 8012 lbf	7201 - 7959 lbf
93°F	7167 - 7921 lbf	7118 - 7868 lbf
100°F	7085 - 7831 lbf	7036 - 7777 lbf

ZIP LINE ESTIMATED SPEED ENVELOPE



SCALE:
 HORIZONTAL: 1" = 50'-0"
 VERTICAL: 1" = 5 MPH

HAILE QUARRY ZIPLINES ALACHUA COUNTY, FL

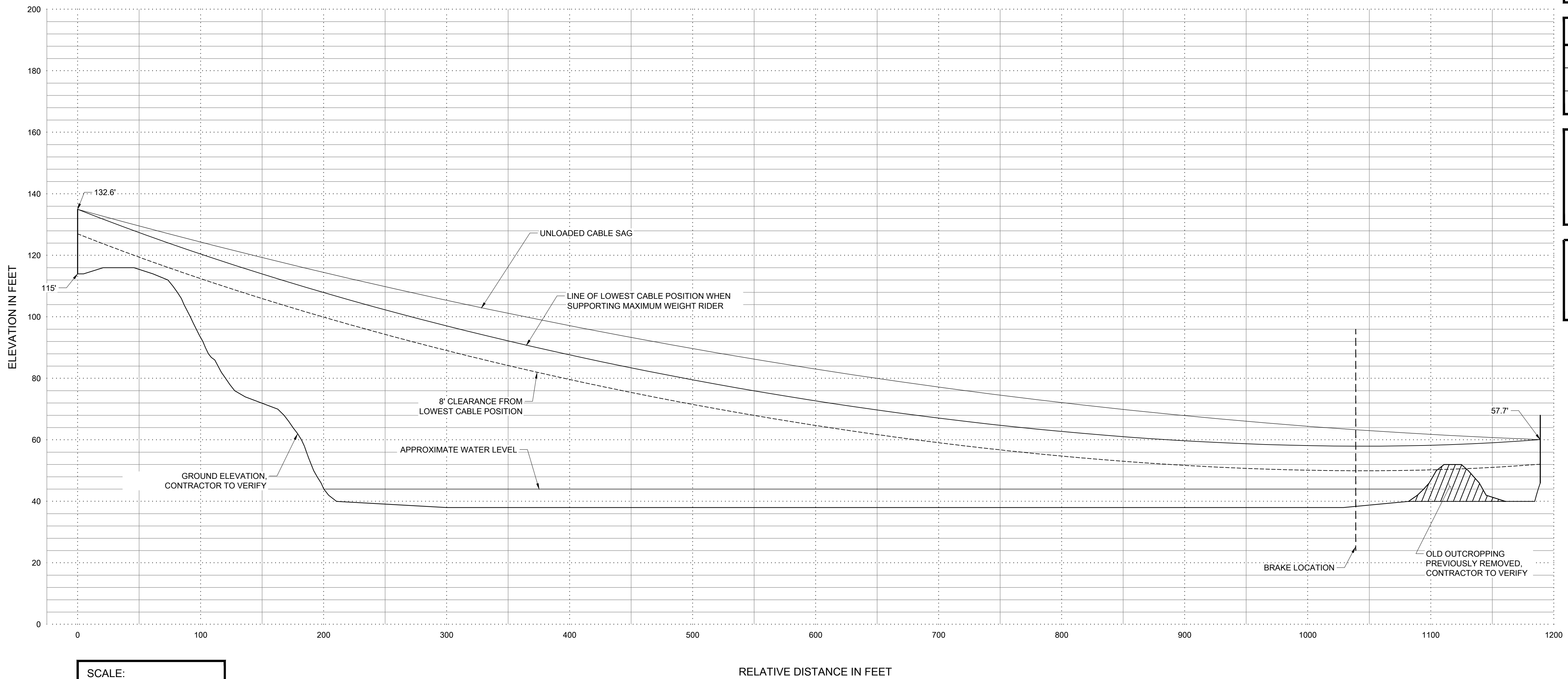
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HME PROJECT MANAGER:
 DAVE MERRELL
 HME PROJECT ENGINEER:
 SABRINA BALLARD
 DRAWN BY:
 VICTOR WING
 JOB ORDER #: 22704

DATE: 12/08/2023
 SCALE: AS NOTED
 REVISION:

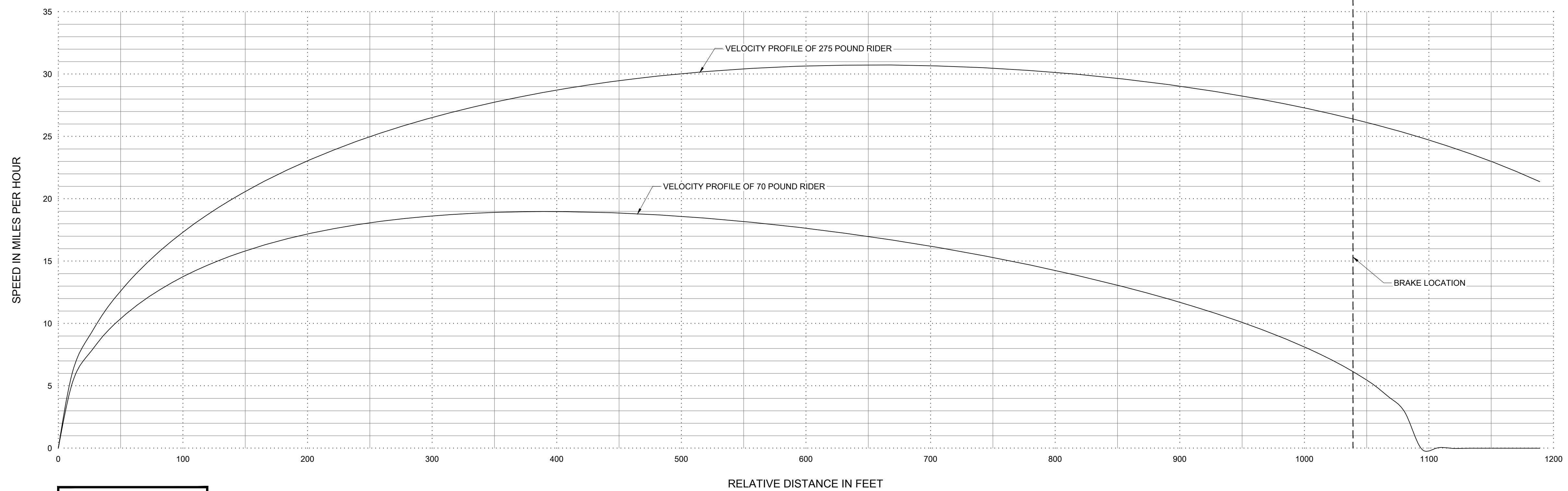
SHEET NUMBER:
S8.6
 DRAGON
 ZIP LINE PROFILE

ZIP LINE ESTIMATED CABLE POSITION



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 20'-0"

ZIP LINE ESTIMATED SPEED ENVELOPE



SCALE:
HORIZONTAL: 1" = 50'-0"
VERTICAL: 1" = 5 MPH

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

ESTIMATED RIDER VELOCITY PARAMETERS	
MAXIMUM SPEED	= 30.73 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER	= 25.26 MPH
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER	= 2.68 MPH

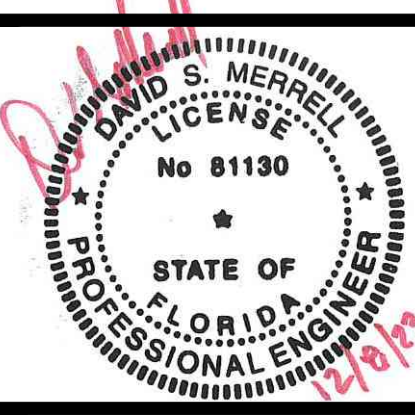
NOTES:
- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

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Installation Tension:
To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	7200 - 7958 lbf	7157 - 7911 lbf
37°F	7115 - 7864 lbf	7072 - 7816 lbf
44°F	7030 - 7770 lbf	6987 - 7723 lbf
51°F	6946 - 7677 lbf	6903 - 7630 lbf
58°F	6863 - 7585 lbf	6820 - 7538 lbf
65°F	6780 - 7493 lbf	6737 - 7446 lbf
72°F	6698 - 7403 lbf	6655 - 7355 lbf
79°F	6616 - 7313 lbf	6573 - 7265 lbf
86°F	6535 - 7223 lbf	6492 - 7176 lbf
93°F	6455 - 7135 lbf	6412 - 7087 lbf
100°F	6376 - 7047 lbf	6333 - 6999 lbf

HUBBARD MERRELL ENGINEERING
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HAILE QUARRY ZIPLINES
ALACHUA COUNTY, FL

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