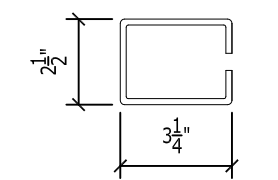
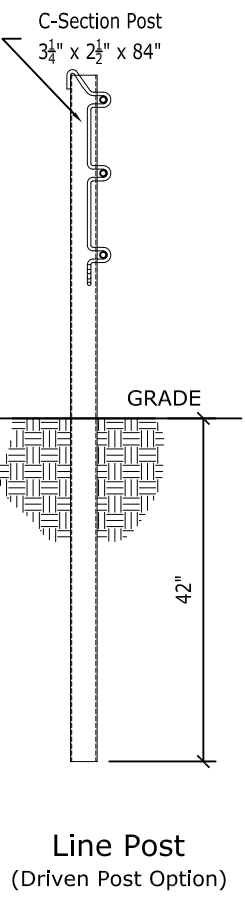
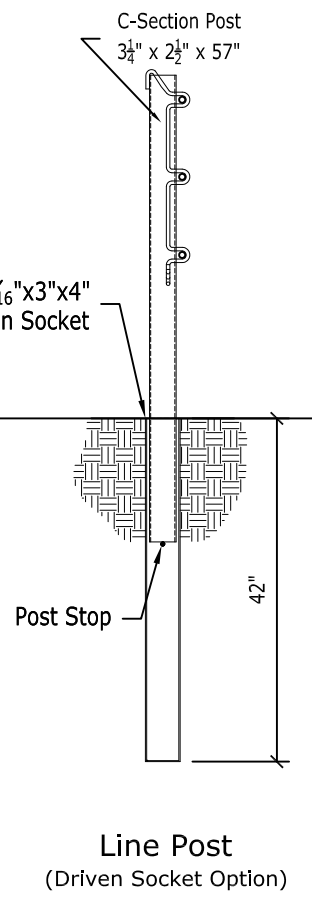
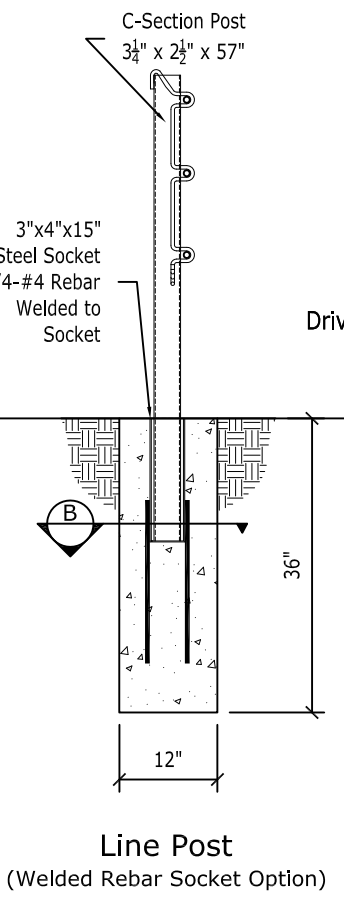
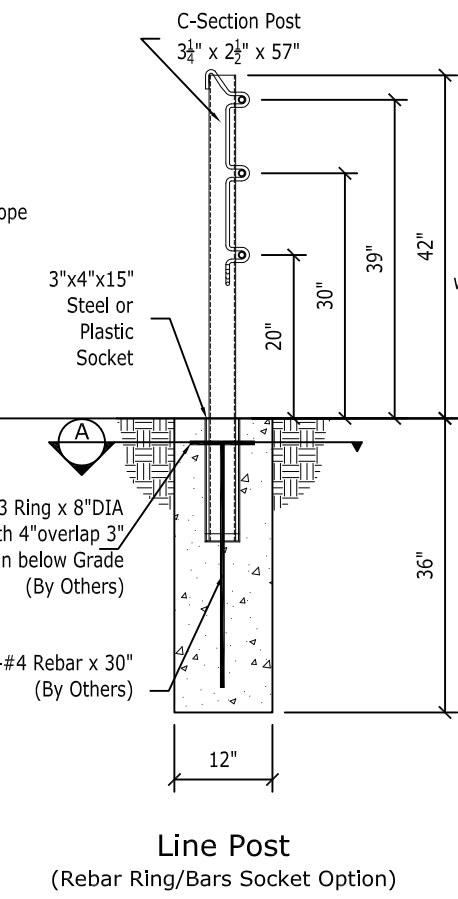
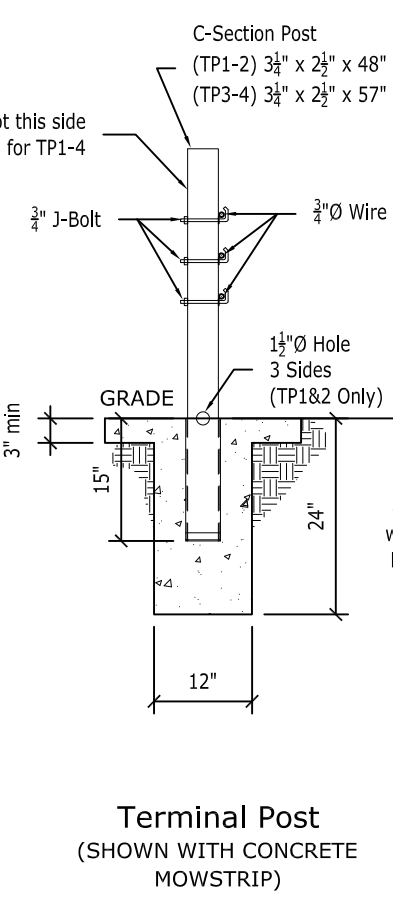
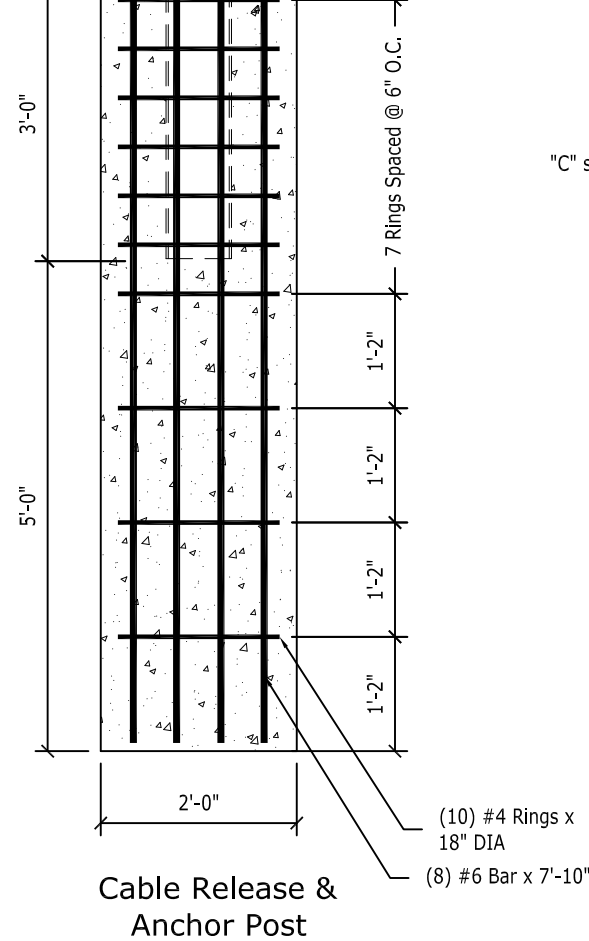
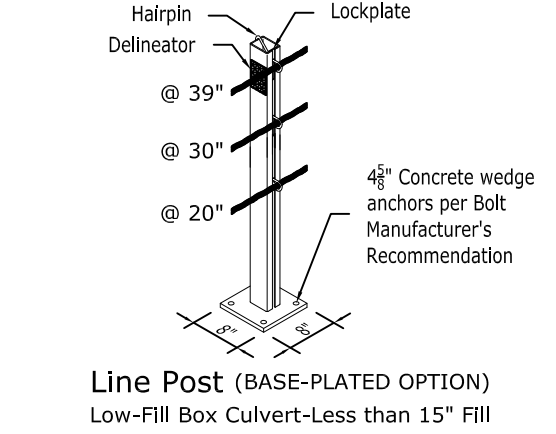
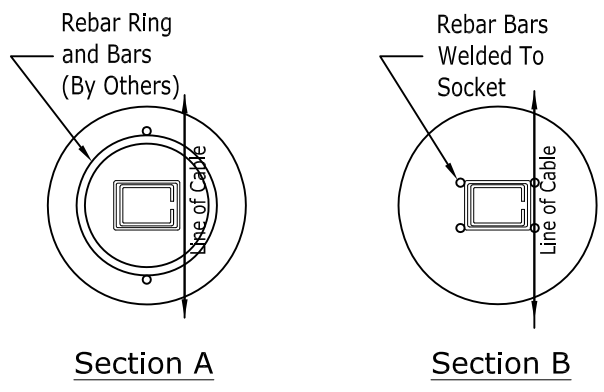
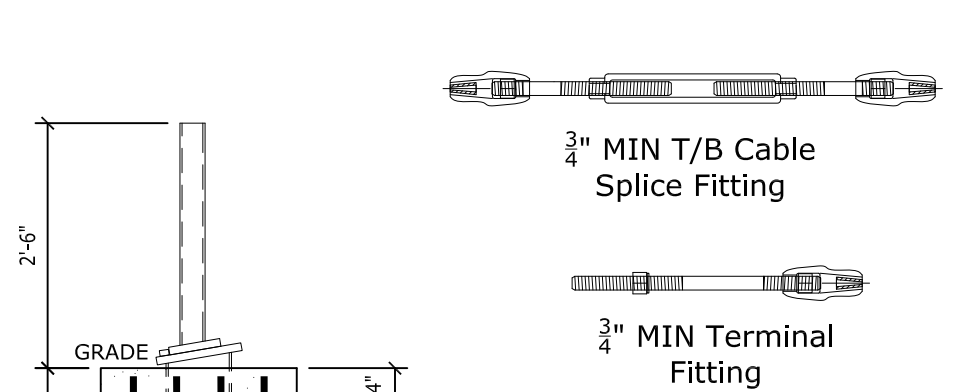


- ### GENERAL NOTES:
- For additional information contact Gibraltar, Inc. at 1-833-715-0810 or see the manufacturer's product manual.
 - All concrete shall be per specification; minimum 2500 PSI.
 - The Cable Barrier System shall be installed on shoulders or on medians with slopes of 6:1 or flatter. If installed on slopes steeper than 6:1 up to 4:1 the TL-4 system performs as a TL-3 and Gibraltar must be contacted for various guidelines related to placement.
 - The Cable Barrier System is accepted by the FHWA Test Level - 4.
 - See the specification for delineation.
 - Rock Clause: Where solid rock is encountered:
 - For socketed post, continue digging 12" diameter, 15" deep into rock or the required plan depth, whichever comes first.
 - For driven post, core drill a 4" diameter hole 18" deep into rock or the required plan depth, whichever comes first.
 - For Anchor post, continue digging 24" diameter, 30" deep into rock or the required plan depth, whichever comes first.
 - Tolerances:
 - Linepost = 3" (max) out of plumb, at top
 - Cable height = ± 1"
 - Anchor Post ± 5" off of Cable Reference Line
 - The Gibraltar cable barrier system shall be installed in NCHRP Report 350 standard compacted soil. Soil must be well drained.
 - All non-welded rebar by others.
 - Minimum recommended line post foundation.
 - Without mowstrip, 36" Deep x 12" diameter foundations with #3 rebar ring x 8" diameter with two #4 rebar vertical bars 30" long or 30" welded rebar socket.
 - With 4" minimum depth hot mix asphalt, 30" deep x 12" diameter foundations with #3 rebar ring x 8" diameter with two #4 rebar vertical bars 30" long or 30" welded rebar socket.
 - With 3" minimum depth concrete mowstrip, 24" deep x 12" diameter foundations. (No rebar required).
 - Direct drive driven post and driven socket 42" deep.



Cable Tension Chart*

-10 °F	8000
0 °F	7600
10 °F	7200
20 °F	6800
30 °F	6400
40 °F	6000
50 °F	5600
60 °F	5200
70 °F	4800
80 °F	4400
90 °F	4000
100 °F	3600
110 °F	3200

Deflection	
Deflection	Post Spacing
9'-3"	30 FT
9'-0"	28 FT
8'-0"	20 FT
7'-0"	12 FT
6'-8"	10 FT

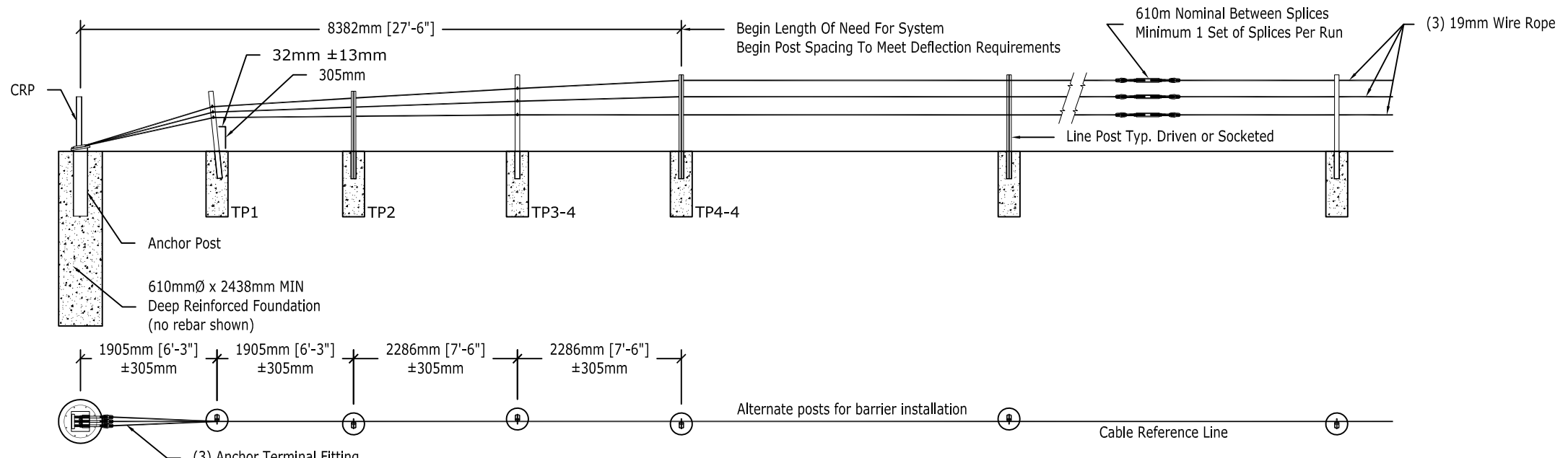
PROPRIETARY TO GIBRALTAR

TL-4 Cable System Layout

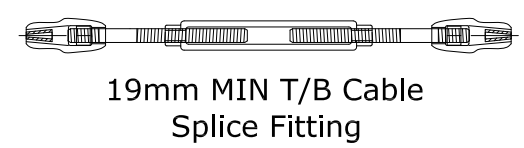
Gibraltar Cable Barrier Systems

Scale: **NTS** Date: **10-18-17**

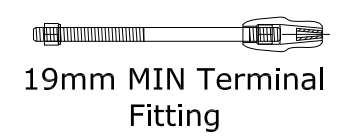
Layout: **ANSI B** Drafter: **BH**



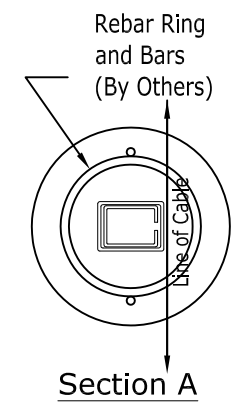
- GENERAL NOTES:**
- For additional information contact Gibraltar, Inc. at 1-833-715-0810 or see the manufacturer's product manual.
 - All concrete shall be per specification; minimum 17.2MPa (2500psi).
 - The Cable Barrier System shall be installed on shoulders or on medians with slopes of 6:1 or flatter. If installed on slopes steeper than 6:1 up to 4:1 the TL-4 system performs as a TL-3 and Gibraltar must be contacted for various guidelines related to placement.
 - The Cable Barrier System is accepted by the FHWA Test Level - 4.
 - See the specification for delineation.
 - Rock Clause: Where solid rock is encountered:
 - For socketed post, continue digging 305mmØ, 381mm deep into rock or the required plan depth, whichever comes first.
 - For driven post, core drill a 102mmØ hole 457mm deep into rock or the required plan depth, whichever comes first.
 - For Anchor post, continue digging 610mmØ, 762mm deep into rock or the required plan depth, whichever comes first.
 - Tolerances:
 - Linepost = 76mm(max) out of plumb, at top
 - Cable height = ±25.4mm
 - Anchor Post ± 127mm off of Cable Reference Line
 - The Gibraltar cable barrier system shall be installed in NCHRP Report 350 standard compacted soil. Soil must be well drained.
 - All non-welded rebar by others.
 - Minimum recommended line post foundation.
 - Without mowstrip, 914mm deep x 305mmØ foundations with 10M rebar ring x 203mmØ with 2-15M rebar vertical bars 762mm long or 762mm welded rebar socket.
 - With 102mm minimum depth hot mix asphalt, 762mm deep x 305mmØ foundations with 10M rebar ring x 203mmØ with 2-15M rebar vertical bars 762mm long or 762mm welded rebar socket.
 - With 76mm minimum depth concrete mowstrip, 610mm deep x 305mmØ foundations. (No rebar required).
 - Direct drive driven post and driven socket 1067mm deep.



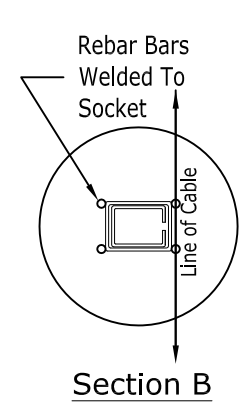
19mm MIN T/B Cable Splice Fitting



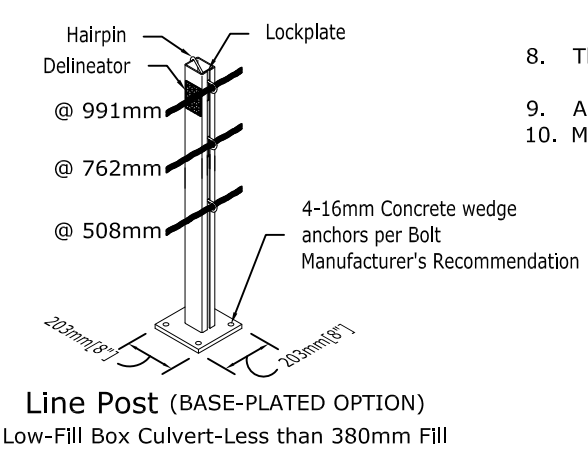
19mm MIN Terminal Fitting



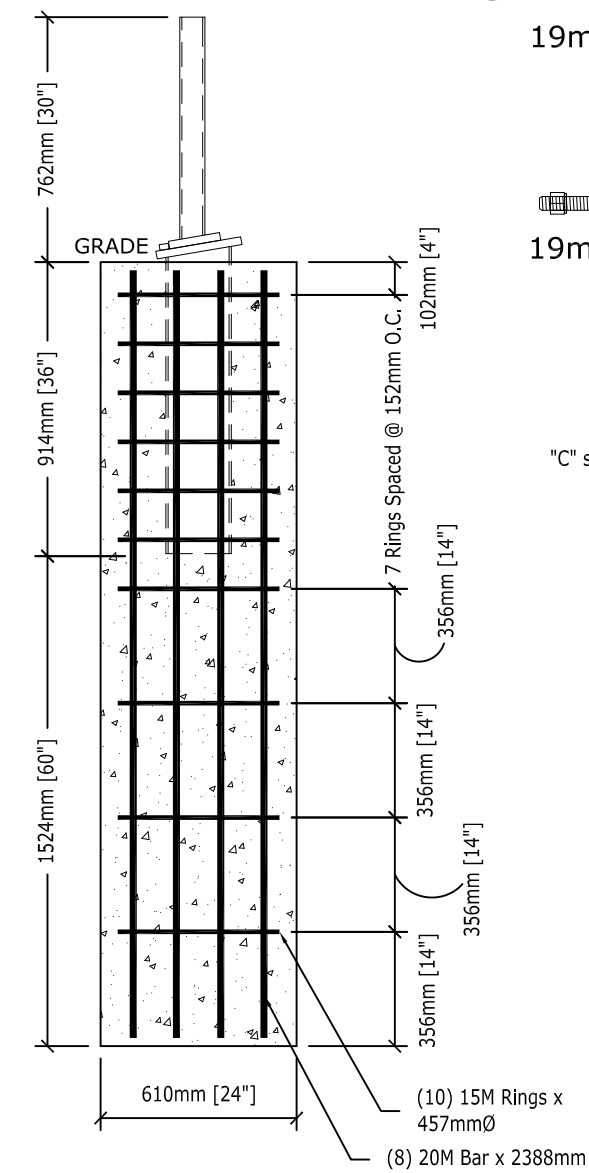
Section A



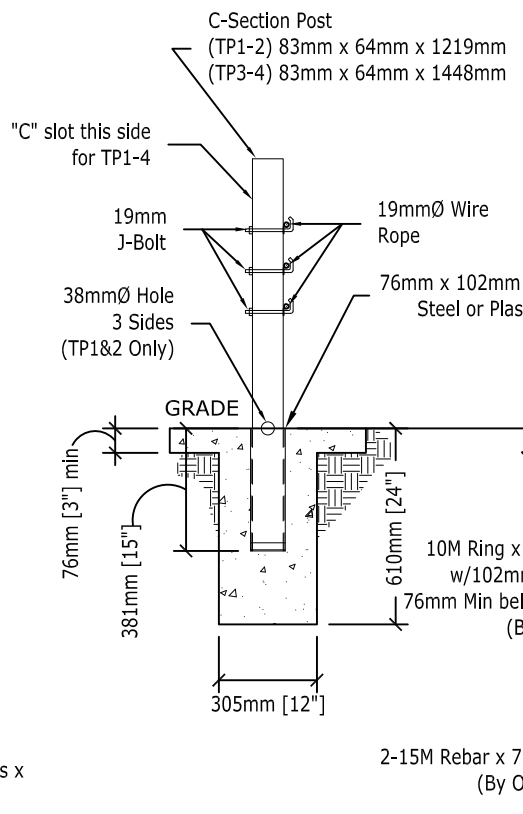
Section B



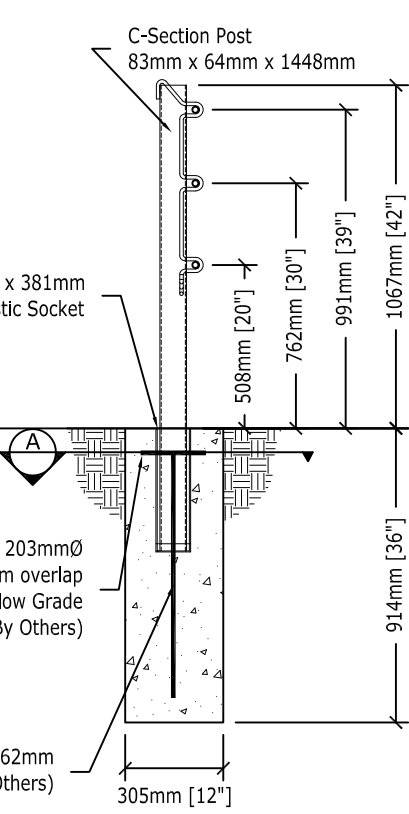
Line Post (BASE-PLATED OPTION)
Low-Fill Box Culvert-Less than 380mm Fill



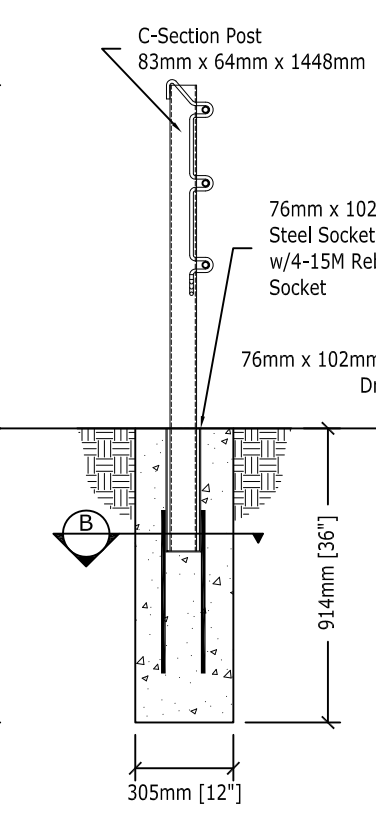
Cable Release & Anchor Post



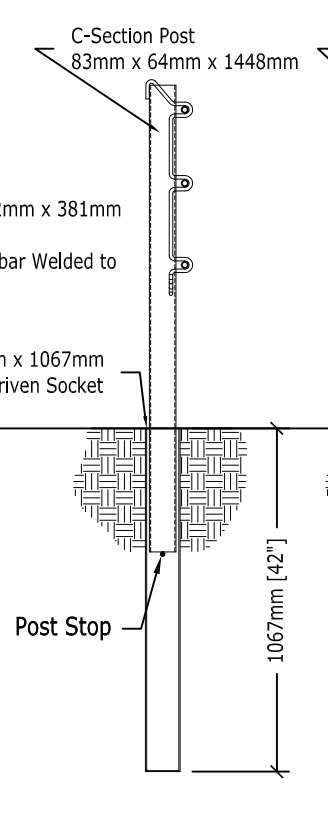
Terminal Post
(Shown with Concrete Mowstrip)



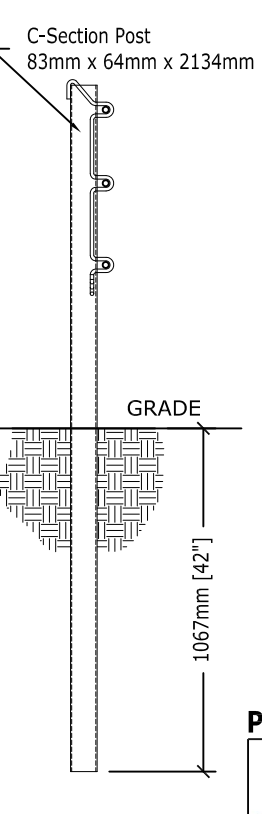
Line Post
(Rebar Ring/Bars Socket Option)



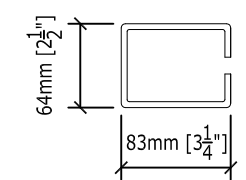
Line Post
(Welded Rebar Socket Option)



Line Post
(Driven Socket Option)



Line Post
(Driven Post Option)



C-Section Post

Deflection	
Deflection	Post Spacing
2.82M	9.14M
2.44M	6.10M
2.03M	3.05M

Cable Tension Chart*	
°C	kg of Force
-23.3 °C	3629
-17.8 °C	3447
-12.2 °C	3266
-6.6 °C	3084
-1.1 °C	2903
4.4 °C	2722
10 °C	2540
15.6 °C	2359
21.1 °C	2177
26.7 °C	1996
32.2 °C	1814
37.7 °C	1633
43.3°C	1452

*Allowable Deviation from Chart +/- 10%

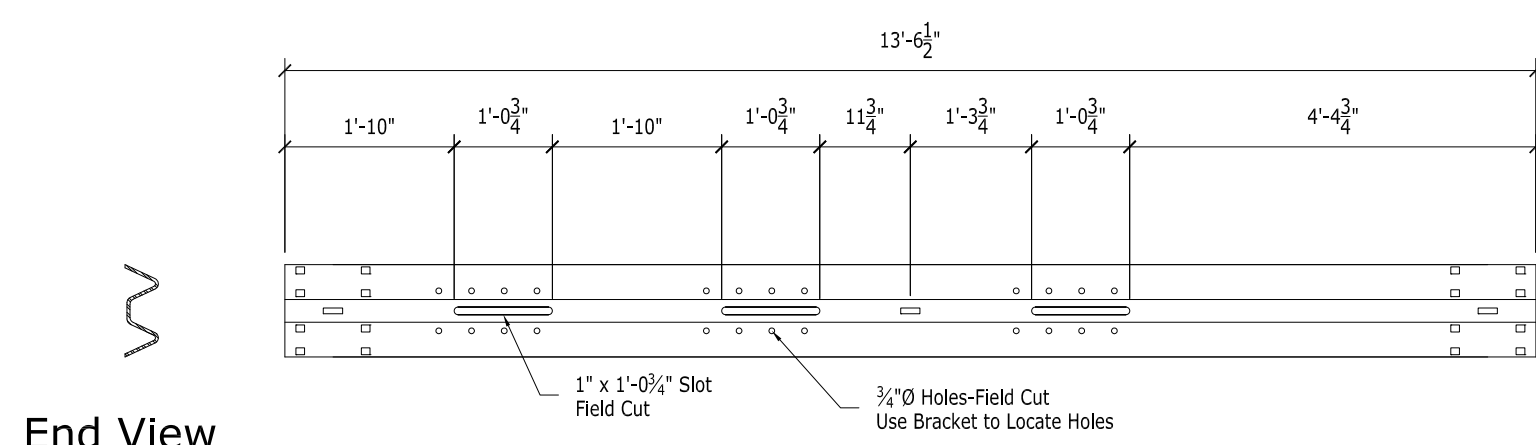
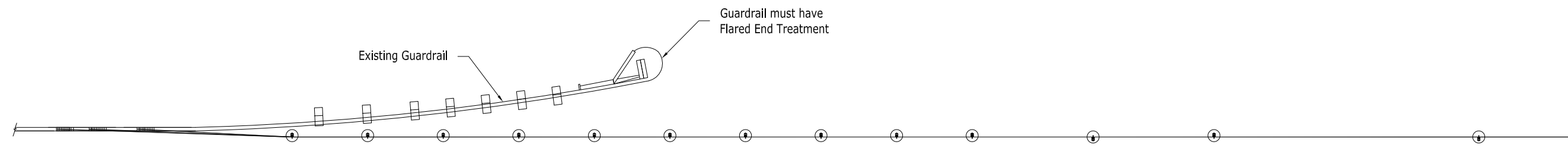
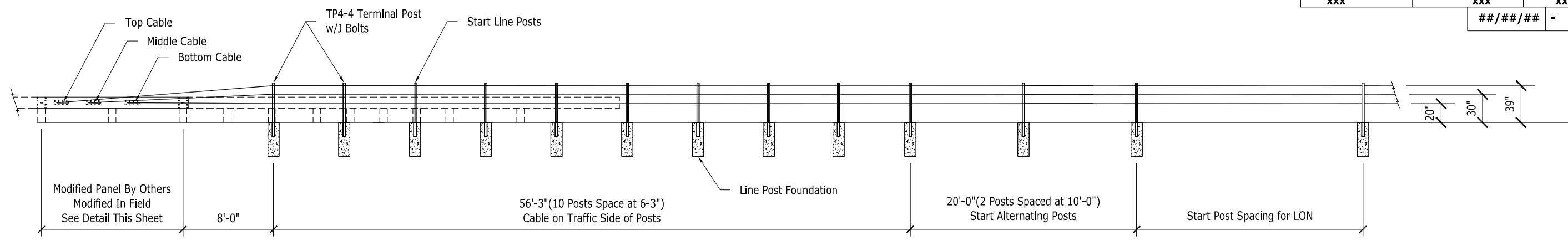
PROPRIETARY TO GIBRALTAR

TL-4 Cable System Layout

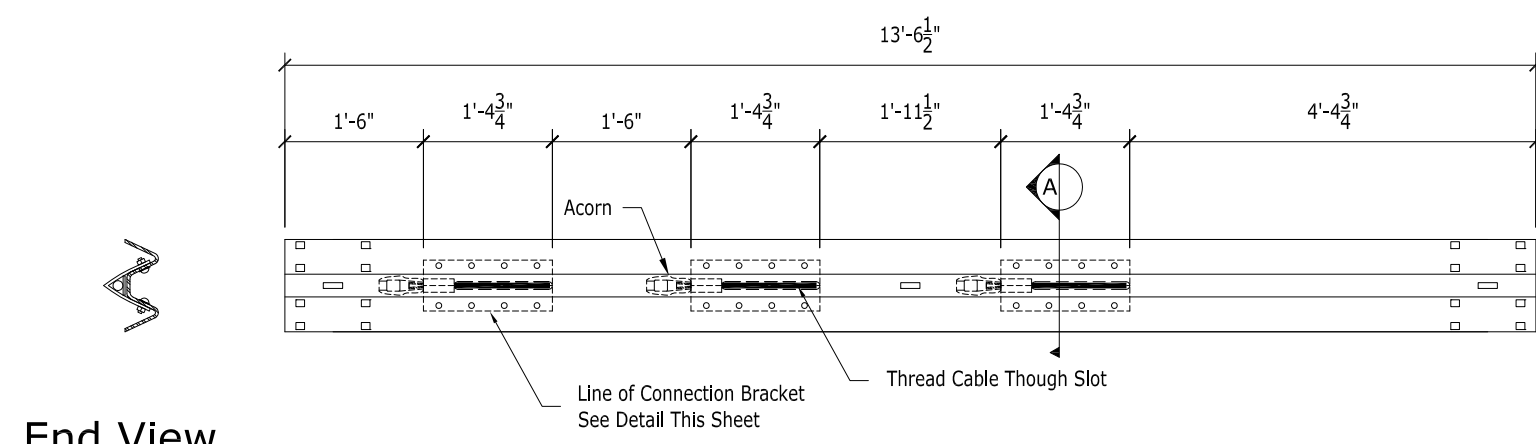
Gibraltar Cable Barrier Systems

Scale: NTS	Date: 10-18-17
Layout: ANSI B	Drafter: BH

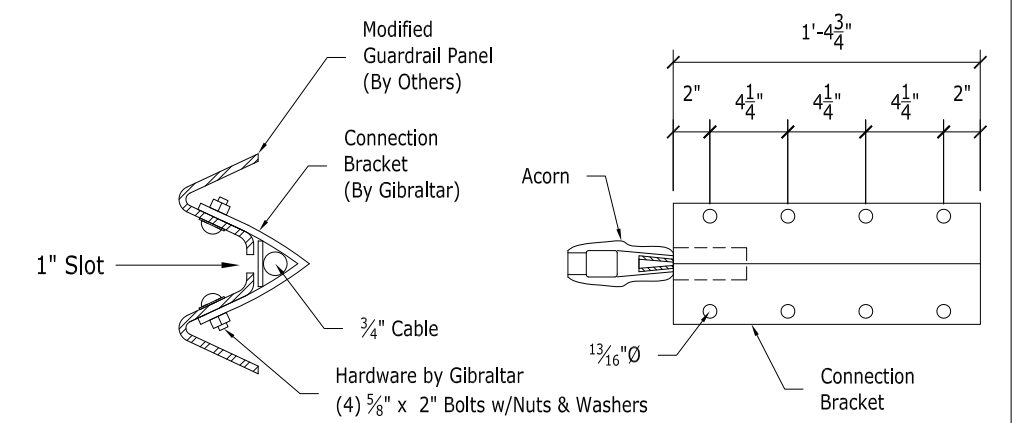
Sheet: 01 OF 01	Rev: 11	Rev Date: 10-18-17	Approver: BH
Job # XXX	Gibraltar Job # XXX	County: XXX	##/##/## -



Modified Guardrail Panel

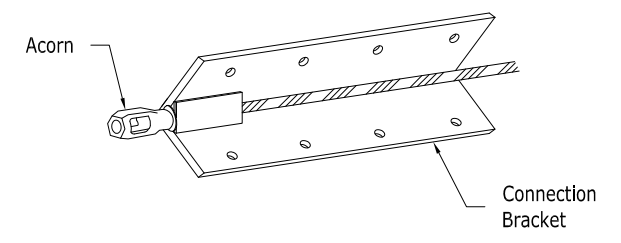


Modified Guardrail Panel w/Connection Bracket Shown



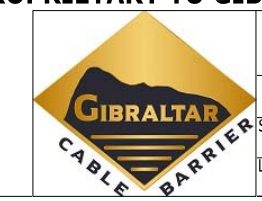
Section A

Connection Bracket



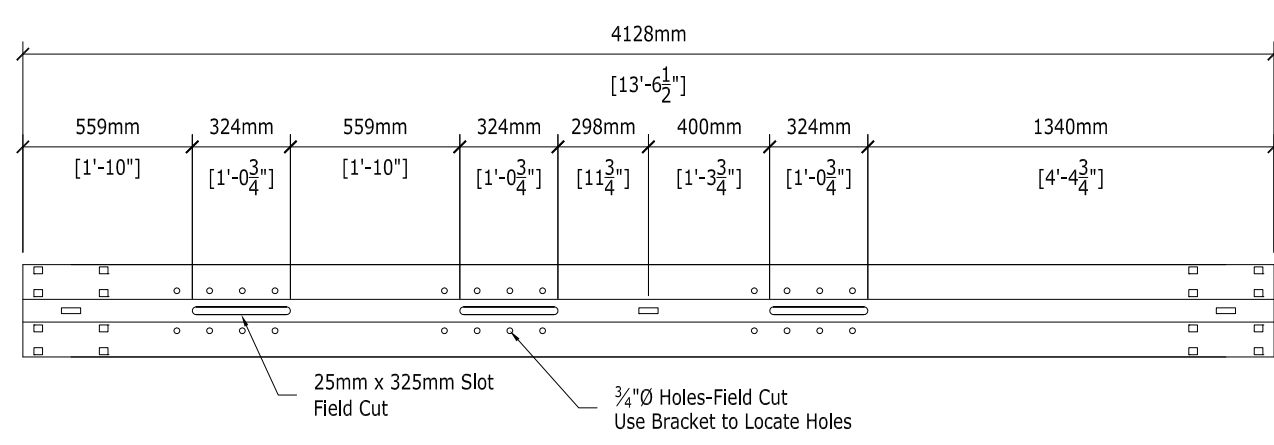
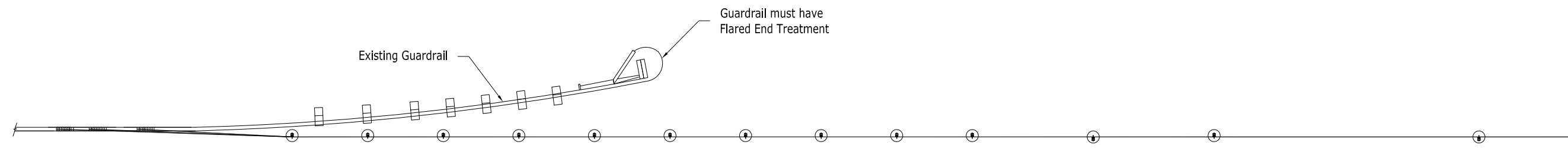
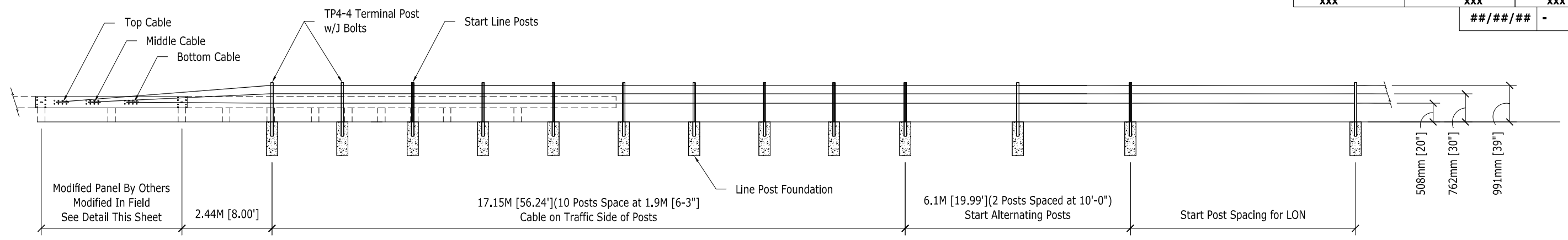
Connection Bracket

PROPRIETARY TO GIBRALTAR



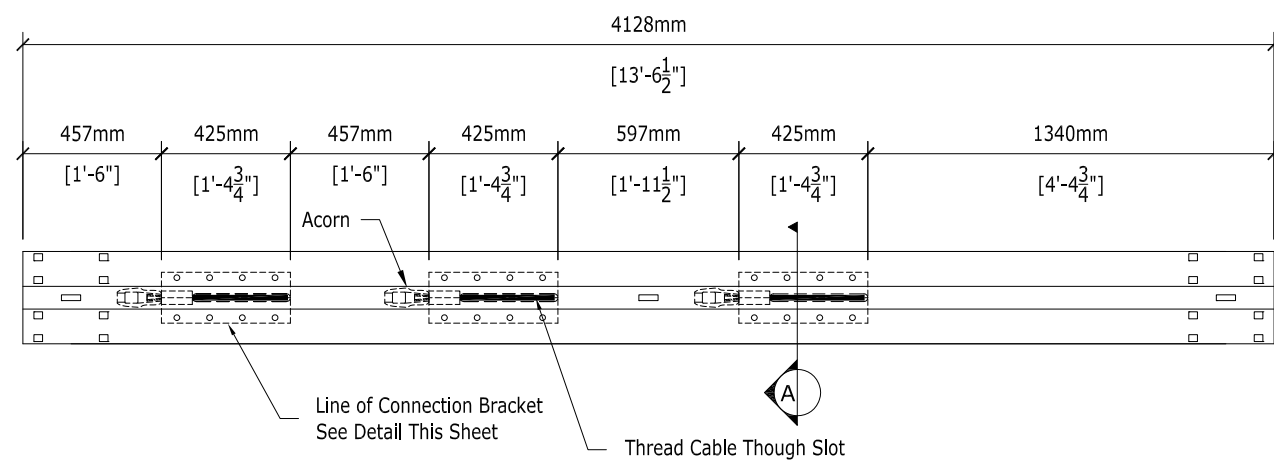
TL4 Guardrail Transition	
Gibraltar Cable Barrier Systems	
Scale: NTS	Date: XX-XX-XX
Layout: ANSI B	Drafter: BH

Sheet: 01 OF 01	Rev: 10	Rev Date: 10-18-17	Approver: BH
Job # XXX	Gibraltar Job # XXX	County: XXX	##/##/## -



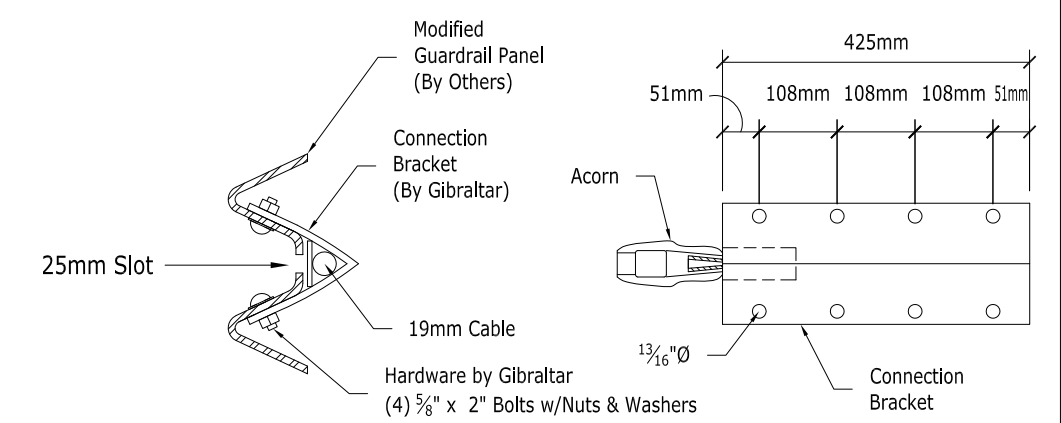
End View

Modified Guardrail Panel



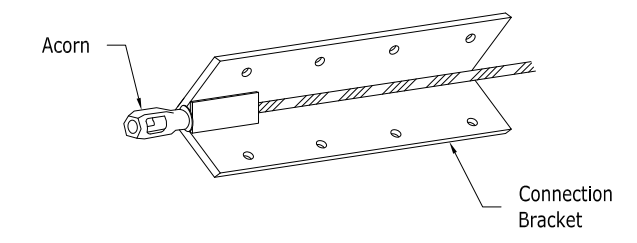
End View

Modified Guardrail Panel w/Connection Bracket Shown



Section A

Connection Bracket

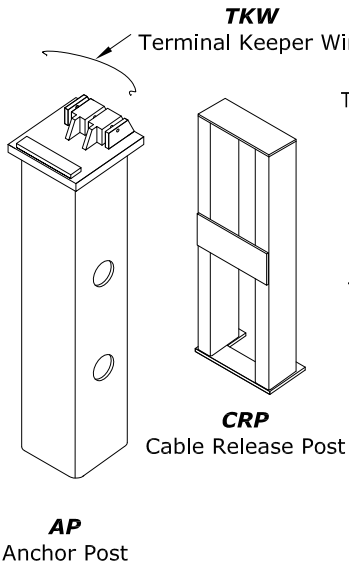


Connection Bracket

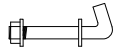
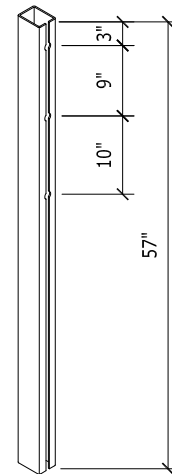
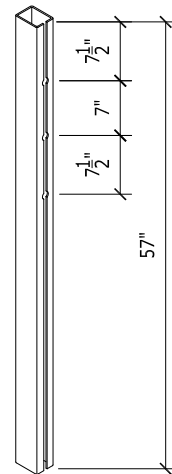
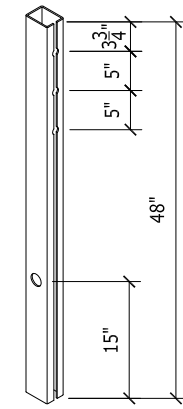
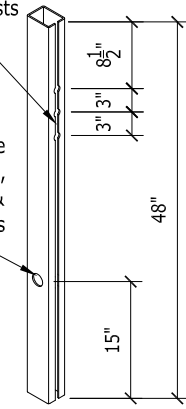
PROPRIETARY TO GIBRALTAR



TL4 Guardrail Transition	
Gibraltar Cable Barrier Systems	
Scale: NTS	Date: XX-XX-XX
Layout: ANSI B	Drafter: BH



1-1/2"Ø Hole
Two Sides,
Typ. All TP1 &
TP2 Posts



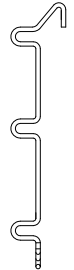
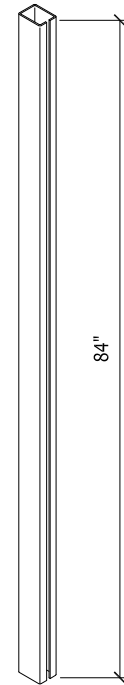
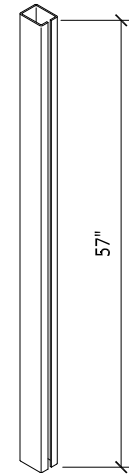
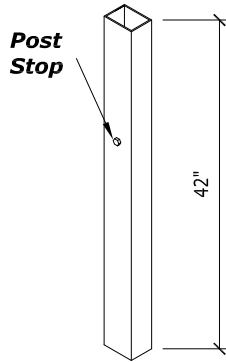
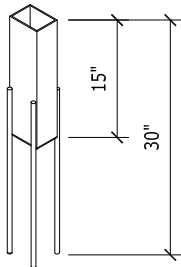
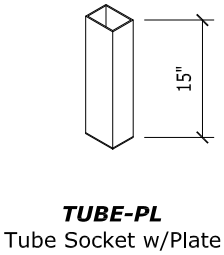
J-BLT
J-Bolt



ATF-END
Terminal Section Only
Anchor Terminal Fitting End



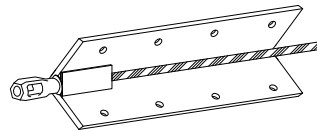
ATF
Terminal Section ONLY
Anchor Terminal Fitting



4-HPIN
TL4 Hairpin



CSTB
LON Only (Open Body Shown)
Cable Splice Turnbuckle



GR-CCB
Terminal Section ONLY
Guardrail Bracket



WEDGE
W-1 Wedge



ACORN
Acorn w/ Wedge



TORP
Longitudinal Section ONLY
Torpedo Cable Splice

PROPRIETARY TO GIBRALTAR



TL4 System Parts

Gibraltar Cable Barrier Systems	
Scale: NTS	Date: 10-18-17
Layout: ANSI B	Drafter: BH