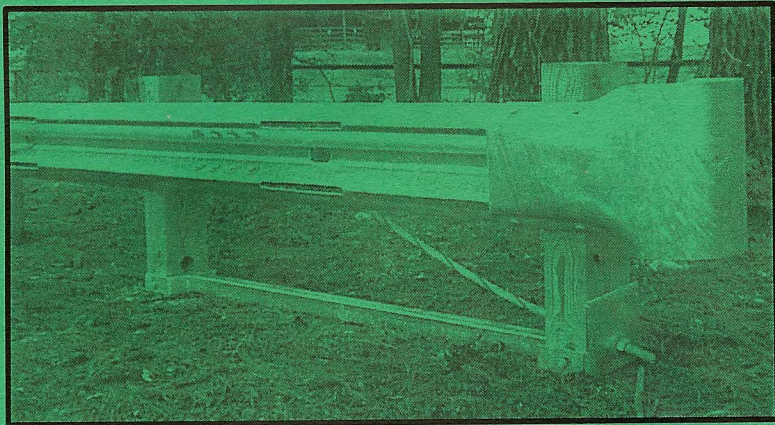


REGENT-C

CABLE OPTION



**INSTALLATION MANUAL FOR
7-POST SYSTEM**



Bryson Products, Inc.

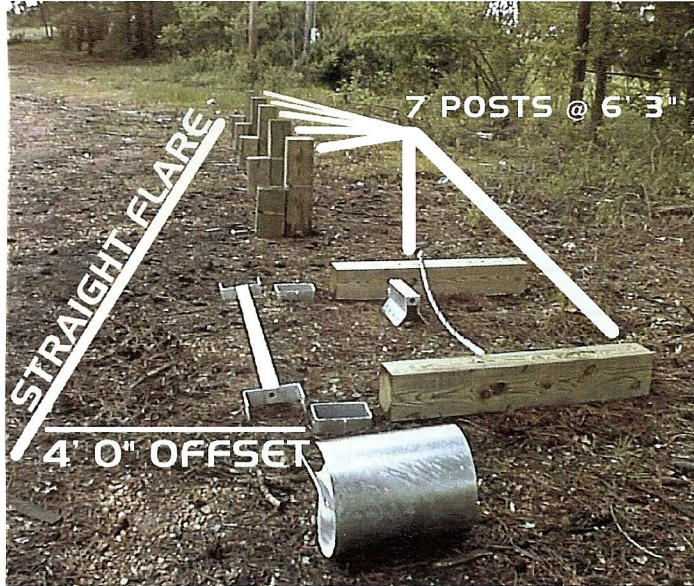
224 Nazareth Pike, Suite 22, Bethlehem, PA 18020

Phone: 800-482-4559 Fax: 610-614-1375

www.guardrails.com

**NOTE: READ THE ENTIRE MANUAL PRIOR TO
INSTALLATION**

The REGENT-C is a seven post cable assisted terminal system. The layout of the system is a 4' 0" straight flared offset with each post at a 6' 3" spacing.



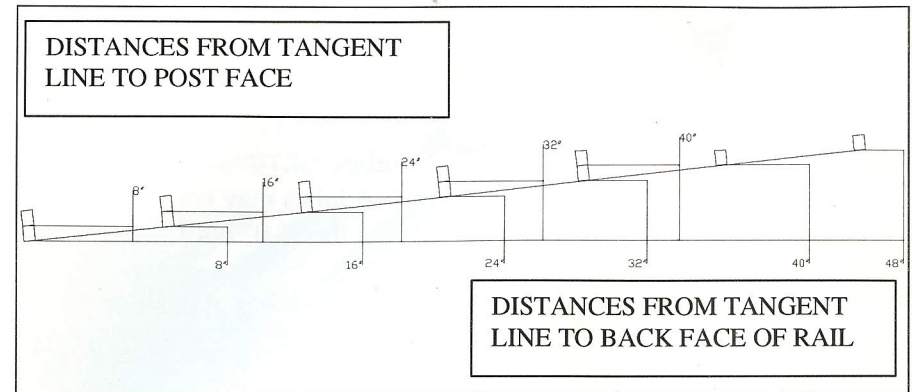
**REGENT-C 350
SEVEN POST OPTION**

PART #	DESCRIPTION	PCS
REGENT-C COMPONENTS		
SR12	12' 6" X 6' 3" W-BEAM - REGENT-C ANCHOR PANEL (GALV)	3
SR22	REGENT-C DOUBLE CABLE ANCHOR BOX (GALV)	1
SR32	33' 8" OAL REGENT-C SYSTEM CABLE (GALV)	1
SR42	REGENT-C CABLE SUPPORT WASHER (GALV)	2
STANDARD BCT COMPONENTS		
AP12	2" X 6" PIPE SLEEVE (GALV)	1
AP22	6' 6" DOUBLE STUD CABLE (GALV)	1
AP282	8" X 8" X 5/8" MELT BEARING PLATE (GALV)	1
AP32	ANCHOR PLATE (GALV)	1
ET82	HALF ROUND BUFFER (GALV)	1
SBST5	GROUND LINE STRUT	1
SKT4	6' 0" STEEL TUBE (GALV)	2
WOOD COMPONENTS		
WP-MA-B	6" X 8" X 14" WOOD BLOCK	5
WP-MA-CRT	6" X 8" X 6' 0" WOOD POST - CRT - AL/MS	5
WP-TX-P1	5 1/2" X 7 1/2" X 45" WOOD POST	2
HARDWARE		
HH-A307-1	1" HEX NUT	4
HW1603	5/8" DOUBLE RECESSED NUT	52
HW1604	5/8" ROUND WASHER	24
HW1641B	5/8" X 10" HEX HEAD BOLT	2
HW207B	5/8" X 1 1/4" SPLICE BOLT	28
HW2180B	5/8" X 1 1/2" BLOCK BOLT	16
HW225B	5/8" X 10" POST BOLT	1
HW231B	5/8" X 18" POST BOLT	5
HW-A307-1	1" ROUND WASHER	4

POST INSTALLATION

Place a string line from the center of the front face of the block at post seven (the last wood line post) to the point which is 37' 6" upstream and 4' 0" back from the roadside. Mark at every 6' 3" from post seven.

You may also consult the diagram below for more detail.



Offsets measured from tangent line of blockout face at post #7, to the face of each post.

Post	Spacing	Offset	Post	Spacing	Offset
1	6' 3"	48"	4	6' 3"	32"
2	6' 3"	40"	5	6' 3"	24"
3	6' 3"	40"	6	6' 3"	16"

The seventh wood CRT post substitutes for the last post normally found at the end of the guardrail run.

Remember, posts #1 and 2 do not have a blockout attached.



Layout the system with all components as listed.

Insert five (5) 6' 0" CRT posts "WP-MA-CRT" into the ground at positions #7,6,5,4, and 3.

The bolt hole should be at 21" above the ground line.

Insert two (2) 6' 0" foundation tubes "SKT4" into the ground at positions #2 and 1. (The top of the foundation tubes may not rise more than 4" above the ground line measured using the 5' 0" cord method)

Insert two (2) 45" BCT posts "WP-TX-P1" into the tubes at position #2 and #1.

Attach the ground strut "SBST5" to the foundation tubes and posts #1 and #2 using the 5/8" x 10" bolts & 5/8" nut.



RAIL INSTALLATION



All three panels "SR12" are the same, however, make sure that they are all aligned in the appropriate direction.

The slotted regions **MUST BE** to the right (UPSTREAM) of the punched section **as shown**.

Attach the rail and blocks to the posts starting at post #7 and working towards the last post at position #1.

*******DO NOT ATTACH THE RAIL TO POST #2*******

Attach the two cable clip washers at posts #3 and 5 in the front valley of the rail.



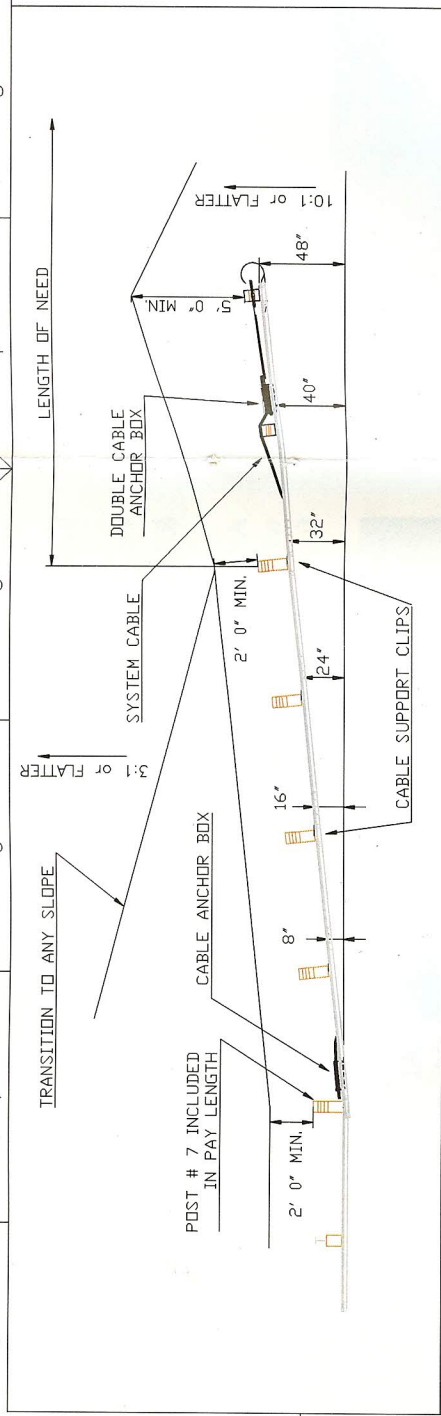
At each post requiring a blockout, use a 5/8" x 18" Bolt "HW231B", with 5/8" Nut and Washer

Be sure to tighten the bolts.

Note: Posts #1 and 2 do not have an offset block attached.

At Post #1 use the 5/8" x 10" Bolt "HW225B", with 5/8" Nut and Washer

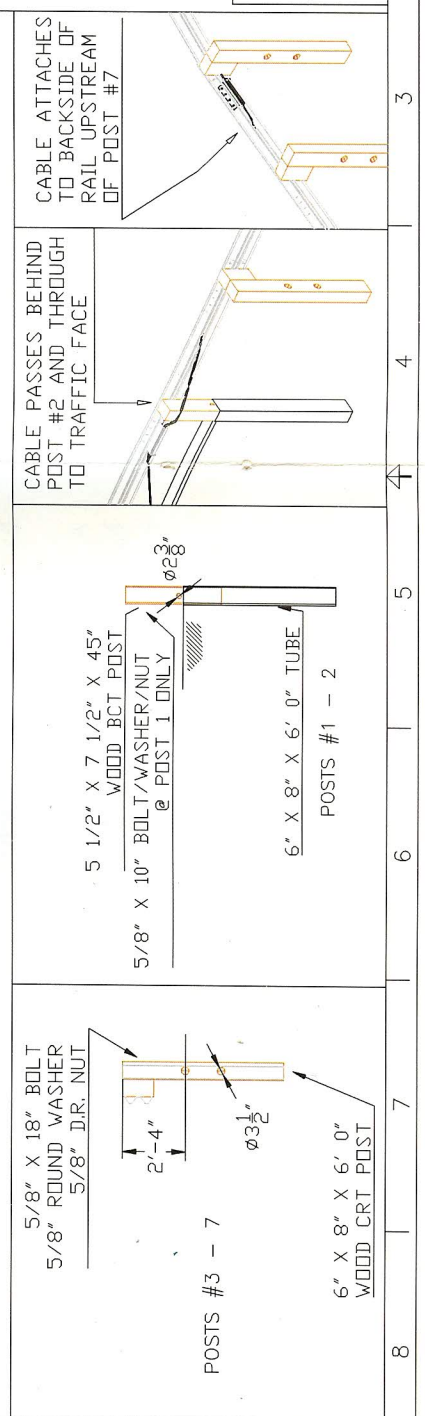
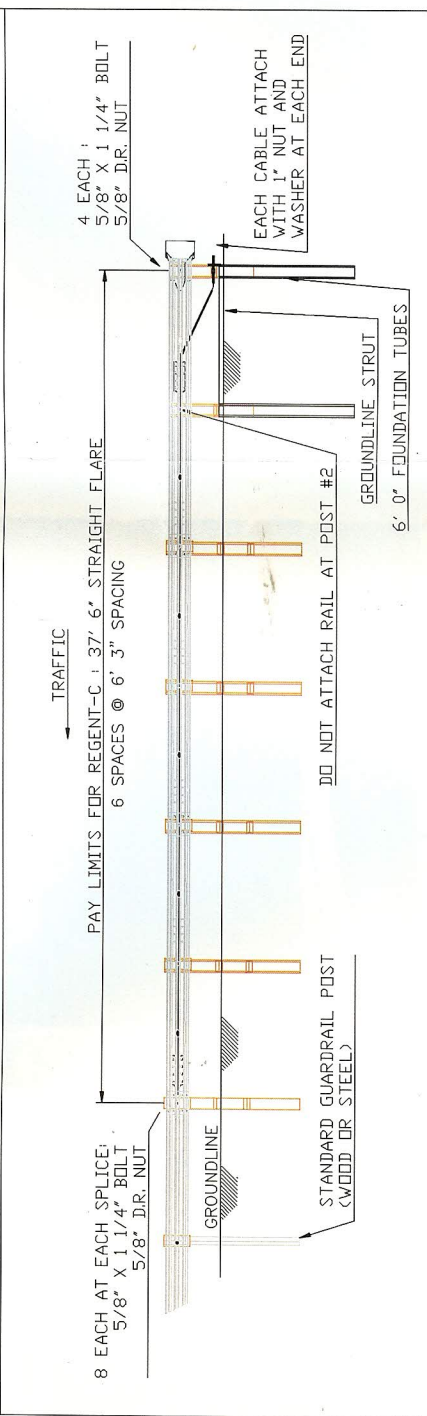




ZONE	NO.	DESCRIPTION	DATE	APPROVED
		DESIGNED RAIL	10/30/03	CGH
		CORRECTED HDV	02/26/03	CGH
		CORRECTED BCT LENGTH	04/17/03	CGH

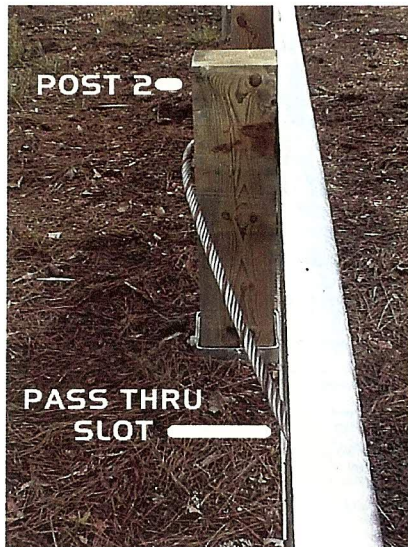
GENERAL NOTES
 End Anchor shall be installed in accordance with instructions and recommendations of the manufacturer: Bryson Products, Inc., 224 Nazareth Pike, Suite 22, Bethlehem, PA 18020, 1800-482-4559

- The rail is not connected to post #2.
- The rail shall be oriented so that the engineered slots are located upstream of the adjacent anchor box hole pattern.
- The post offset dimensions are given to the back face of the rail from the tangent line face of blockouts of downstream rail.
- All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- All timber shall receive a preservation treatment in accordance with AASHTO M133 after all holes are drilled and end cuts are made.
- The soil tubes shall not protrude more than 4" above the groundline (measured along a 5' cord). Site grading may be necessary.
- The soil tubes may be driven with an approved driving head. They shall not be driven with the end post in the hole. If the soil tubes are driven, the bearing material must be satisfactorily compacted to prevent settlement.
- When rock is encountered during excavation, a 12" dia. post hole, 20" deep may be used if approved by the engineer. Granular material will be placed in the bottom of the hole and backfilled with adequately compacted material excavated from the hole.
- The breakaway cable assembly and the system cable must be taut. A locking device, vice grips or channel lock pliers should be used to prevent the cable from twisting when tightening nuts.
- The system cable should pass behind post #2, through to the traffic face of the rail. The cable should travel downstream in the valley and rest in the cable clips at posts on the backside of the rail after post #6 and attaches at the cable box upstream of post #7.
- The wood blockouts shall be "ice-nailed" to the rectangular wood posts to prevent them from turning.
- A 4:1 slope is desirable. If the length of need begins on a traversable embankment, the cable shall be installed on the embankment. The cable shall be oriented back 100 ft or less to provide a 4:1 slope; the guardrail should be extended.
- Steeper slopes consistent with the approach side slopes may be used if Right-Of-Way constraints exist.
- 16d nails through 5/8" dia. holes and bent on bearing plate to eliminate rotation.
- Apply yellow and black object safety marker (12" X 12" Type III Reflective Sheeting) to nose after curving included in cost of anchor.



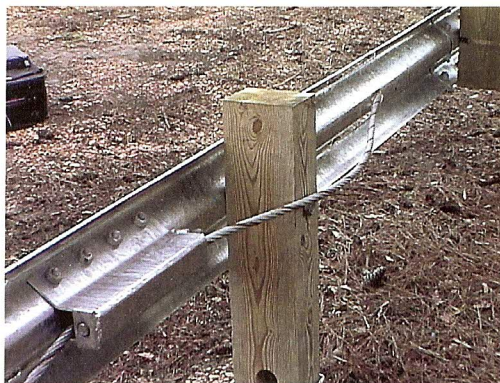
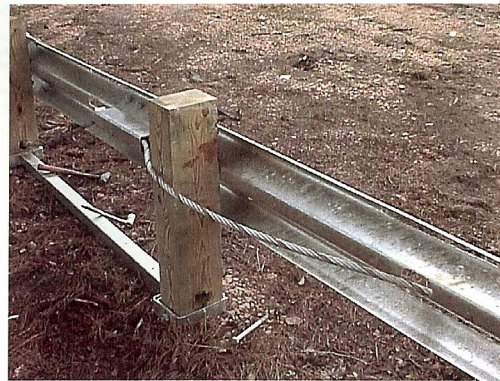
	BRYSON PRODUCTS, INC.
	REGENT-C
	GUARDRAIL TERMINAL SYSTEM
	DWG. BY: C. HEIMBECKER

CABLE INSTALLATION



Pass the long cable, "SR32", through the first panel from the front side to the backside, then behind and around post #2 towards post #1.

Insert the cable end into and through the double cable anchor box (plate) "SR22". Be sure the cable box is installed as shown, with the short cable anchored between the rail and the long cable.



Attach the double cable anchor box (plate) to the rail, and connect the cable using the 1" Nut & Washer.

NOTE: Do not over-tighten cable. Make sure to leave enough slack to be able to attach to the anchor box (plate) "AP32" at post 7.

Pull the long cable "SR32" downstream in the traffic face valley of the rail and pass the remaining free stud through the third panel to the backside between post #6 and 7.



Insert the cable into and through the standard anchor box (plate) "AP32".

Attach the anchor box (plate) to the rail, and anchor with the 1" Nut and Washer

Use a wrench on the other end of the cable to prevent twisting. Tighten both ends to remove any slack.

NOTE: At this point, check to make sure the cable rests inside the hook washers located in the front side valley of the rail at post #3 and 5.





Insert the 6' 6" cable "AP22" into the anchor box (plate) as shown.

Pass the other end of the 6' 6" cable through the base of post 1 and attach on the other side of the bearing plate "AP282". Both ends need a 1" Nut and Washer.

Tighten both ends of the cable, being sure that the cable does not twist.



Attach the buffer end with (4) splice bolts and nuts.

Check to be sure that all bolts are tightened and both cables are taut.

Congratulations on a successful installation of the REGENT-C!

INSTALLATION NOTES/CHECKLIST

- ❑ The rail is not connected to post #2.
- ❑ The rail shall be oriented so that the engineered slots are located upstream of the adjacent anchor box hole pattern.
- ❑ The post offset dimensions are given to the back face of the rail from the tangent line (face of blockouts of downstream rail).
- ❑ All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- ❑ All timber shall receive a preservation treatment in accordance with AASHTO M133 after all holes are drilled and end cuts are made.
- ❑ The soil tubes shall not protrude more than 4" above the groundline (measured along a 5' 0" cord). Site grading may be necessary.
- ❑ The soil tubes may be driven with an approved driving head. They shall not be driven with the wood post in the tube. If the soil tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
- ❑ When rock is encountered during excavation, a 12" Dia. post hole, 20" deep may be used if approved by the engineer. Granular material will be placed in the bottom of the hole and backfilled with adequately compacted material excavated from the hole.
- ❑ The breakaway cable assembly, and the system cable must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
- ❑ The system cable should pass behind post #2, through to the traffic face of the rail. The cable should travel downstream in the valley and be resting in the cable clips at posts # 3 and 5. The cable

passes to the backside of the rail after post #6 and attaches at the cable box upstream of post #7.

- The wood blockouts shall be "toe-nailed" to the rectangular wood posts to prevent them from turning.
- A 4:1 slope is desirable. If the Length of Need begins on a traversable embankment slope (3:1 or flatter) but less than a 4:1, and the guardrail can be extended back 100 ft. or less to provide a 4:1 slope, the guardrail should be extended.
- Steeper slopes consistent with the approach side slopes may be used if Right-Of-Way constraints exist.
- 16d nails through 5/8" Dia. holes and bent on bearing plate to eliminate rotation.
- Apply yellow and black object safety marker (12" X 12" Type III Reflective Sheeting) to nose after curving.

USER NOTES