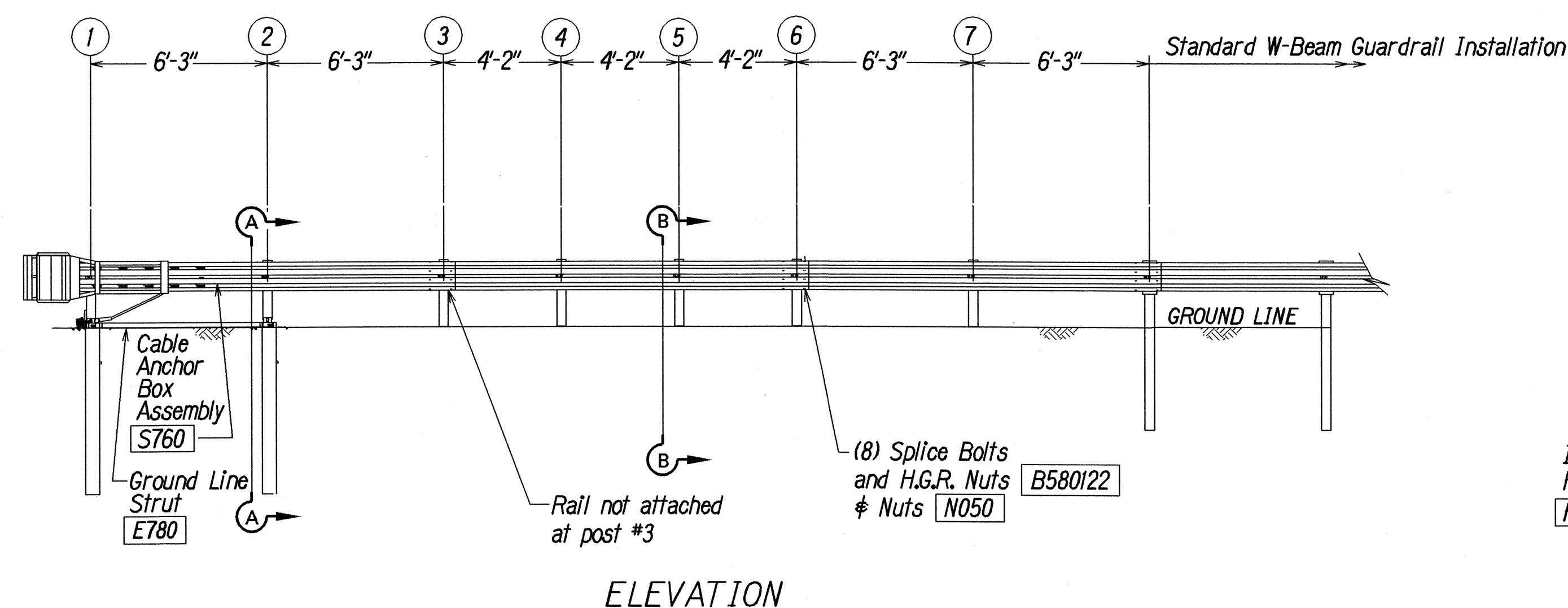
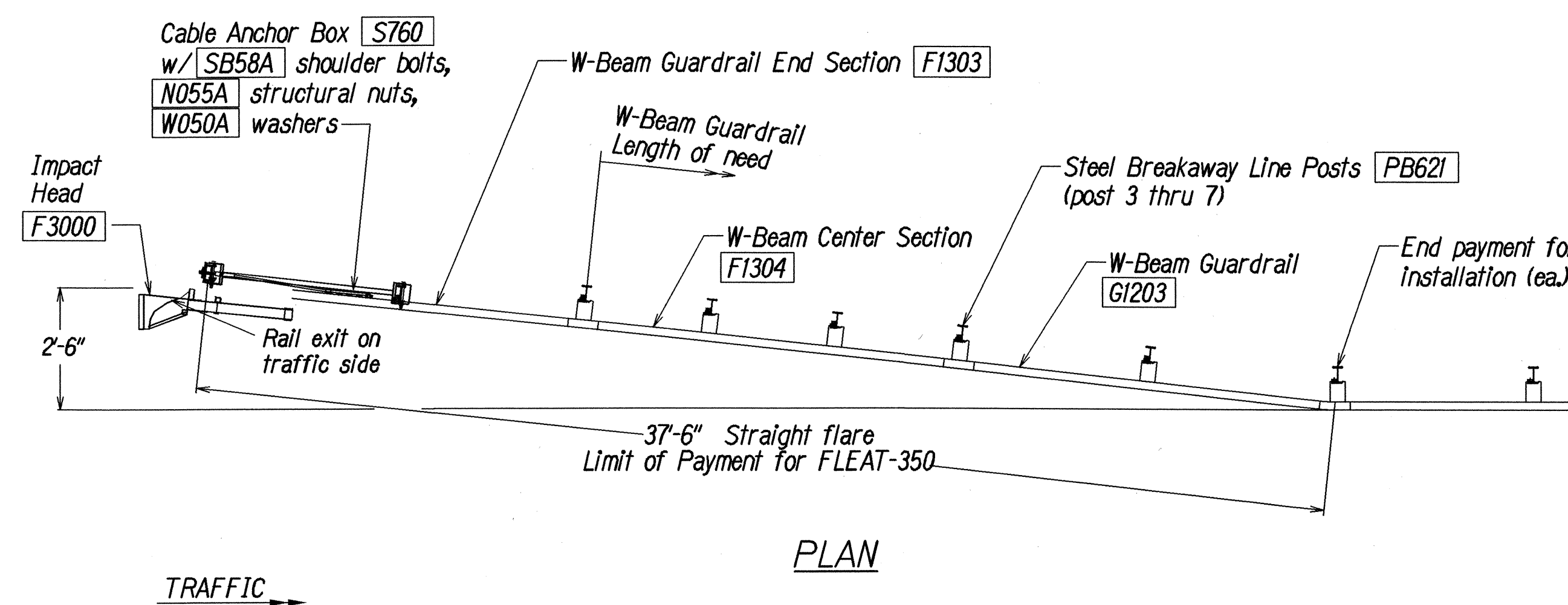
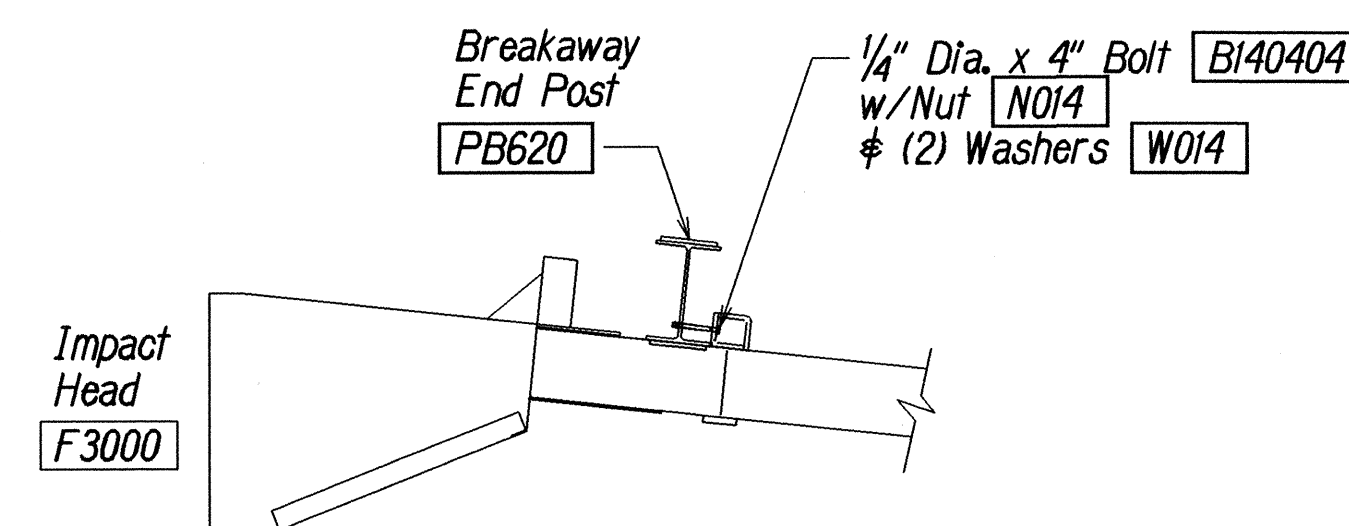


| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII | HAW. | 550A-01-01M | 2002 | 11 | 20 |

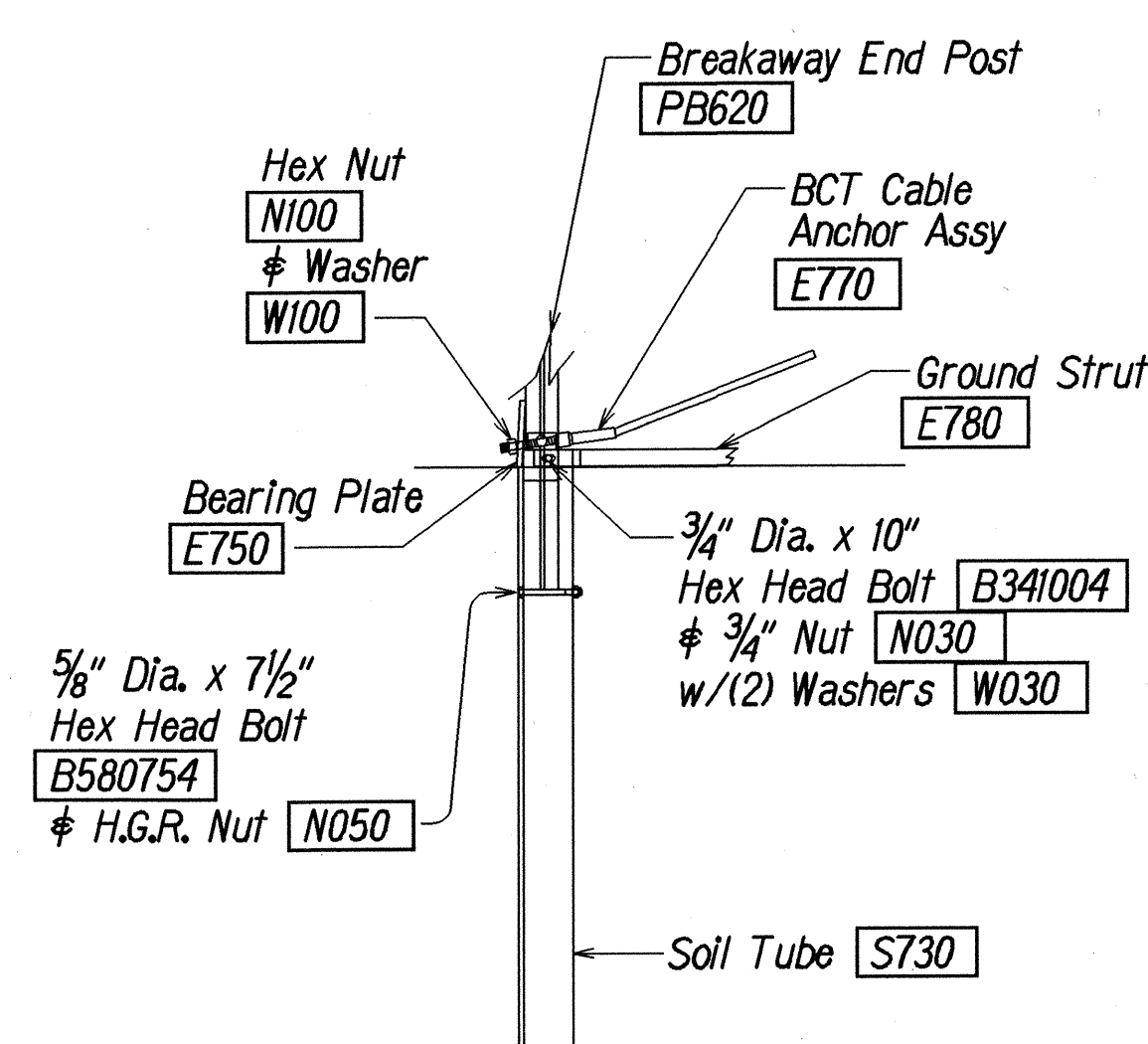


GENERAL NOTES

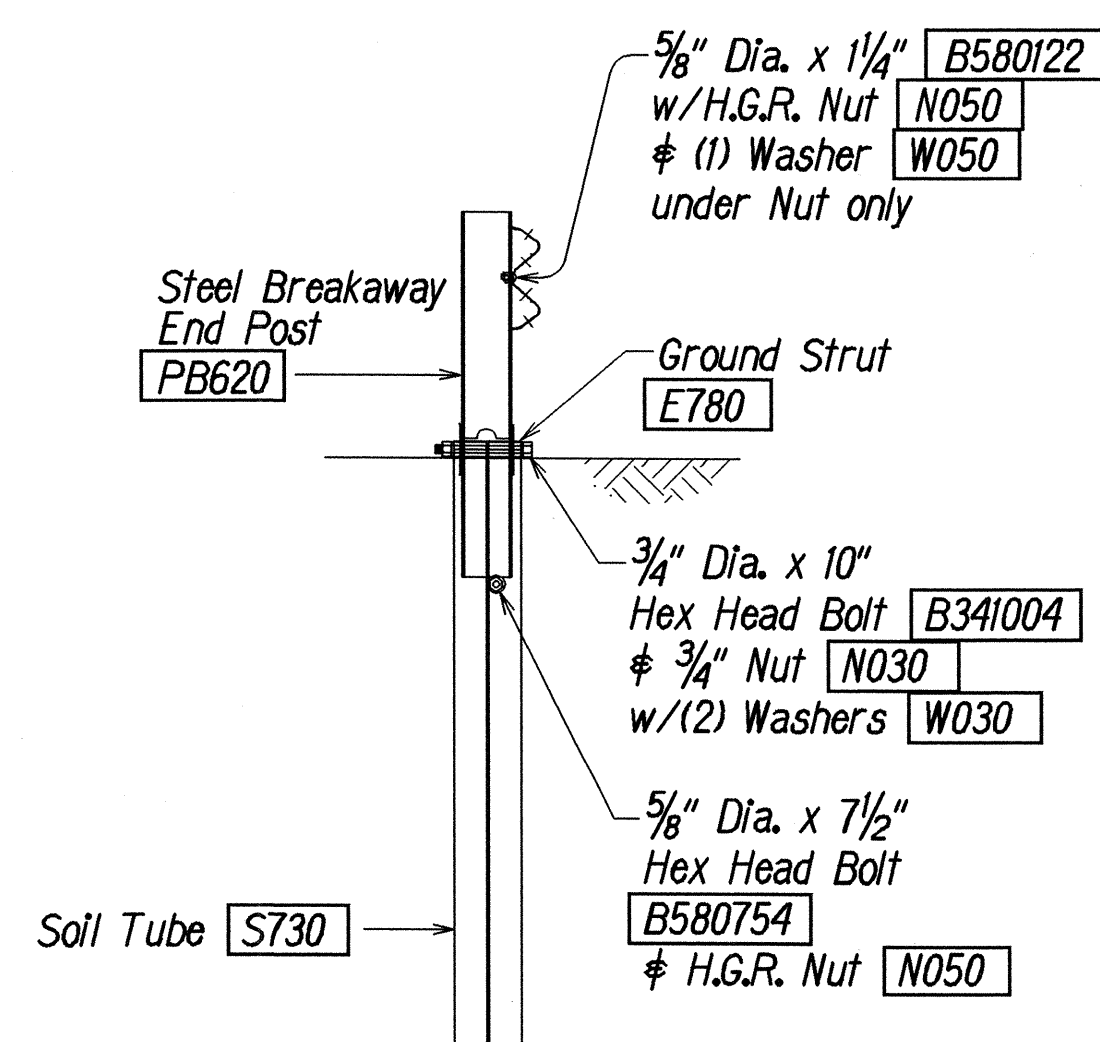
- Breakaway posts are required with the FLEAT Terminal.
- All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
- The soil tubes shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
- The soil tubes may be driven with an approved driving head. Soil tubes shall not be driven with the post in the tube. If the 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 approx. 2 1/2" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
- The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
- (R) or (L) indicates right or left Impact Head Reflector Marker (IHRM).
- The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.



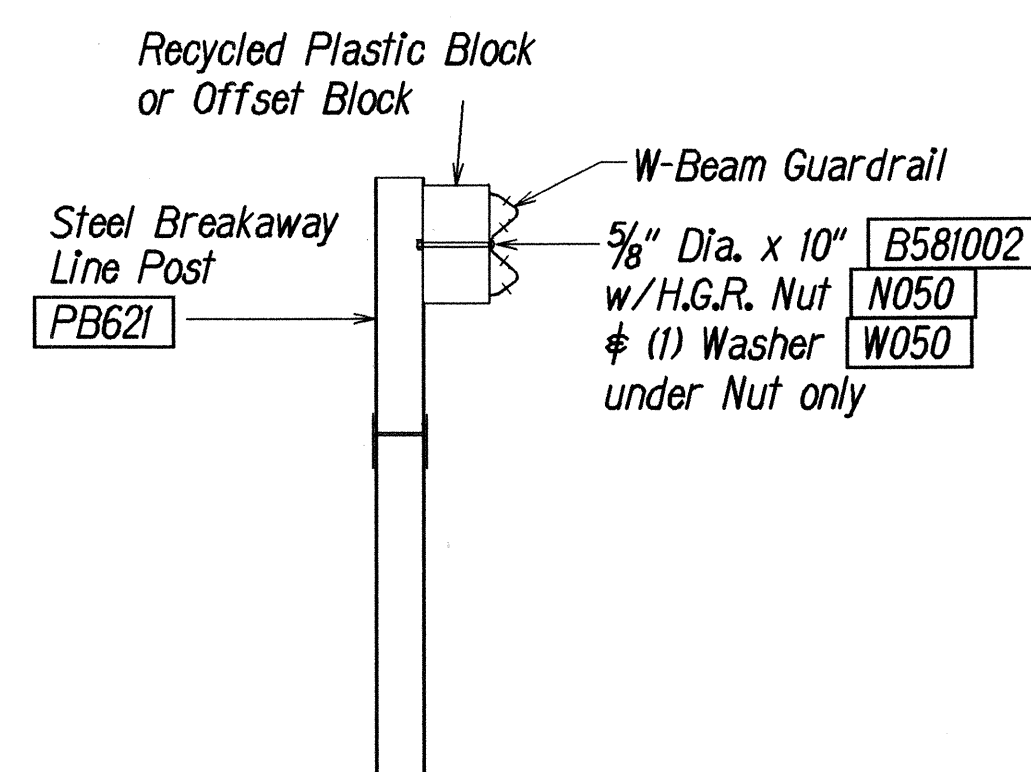
IMPACT HEAD CONNECTING DETAIL



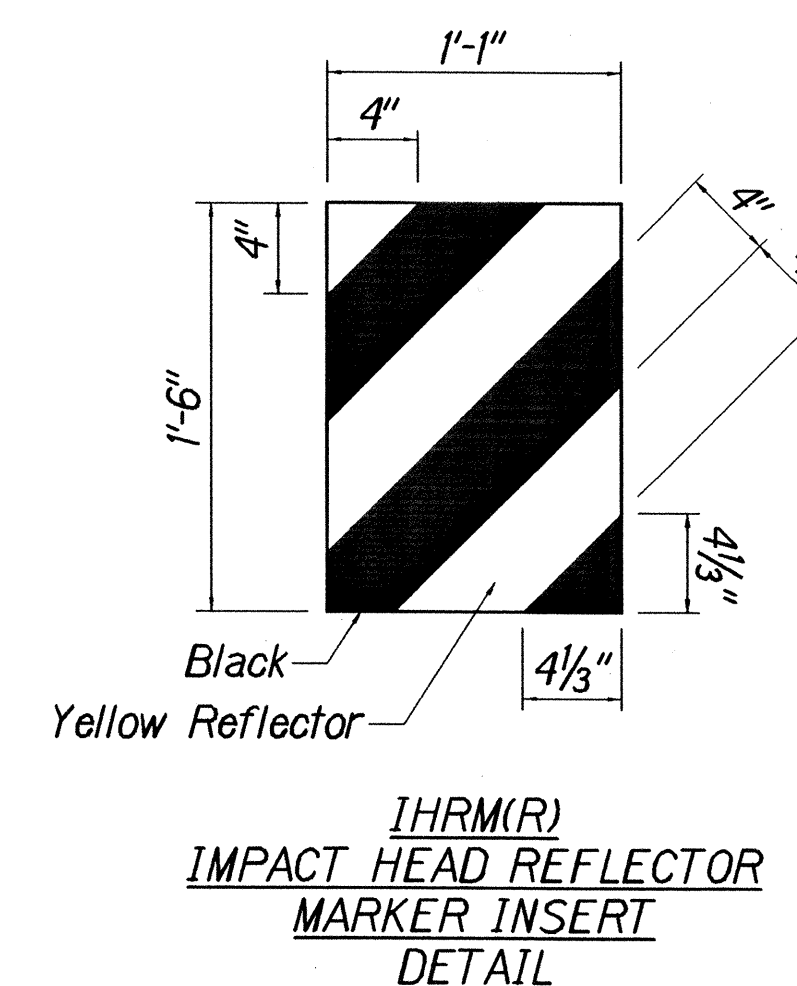
PARTIAL VIEW OF POST 1



SECTION A-A
(at Post #2)



SECTION B-B
(Typical at Post 3 - 7)
NOTE: RAIL NOT BOLTED @ POST #3



| ITEM NO. | QTY. | BILL OF MATERIALS |
|----------|------|--|
| F3000 | 1 | IMPACT HEAD |
| F1303 | 1 | W-BEAM GUARDRAIL END SECTION, 12 GA. |
| F1304 | 1 | W-BEAM GUARDRAIL CENTER SECTION, 12 GA. |
| G1203 | 1 | W-BEAM GUARDRAIL, 12 GA. |
| S730 | 2 | *FOUNDATION SOIL TUBE, 6" x 8" x 72" |
| E750 | 1 | BEARING PLATE |
| S760 | 1 | CABLE ANCHOR BOX |
| E770 | 1 | BCT CABLE ANCHOR ASSEMBLY |
| E780 | 1 | GROUND STRUT |
| PB620 | 2 | STEEL BREAKAWAY END POST |
| PB621 | 5 | STEEL BREAKAWAY LINE POST |
| | 5 | RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK |
| | 1 | IMPACT HEAD REFLECTOR MARKER - IHRM(R) OR (L) |
| HARDWARE | | |
| B580122 | 25 | 5/8" Dia. x 1 1/4" SPLICE BOLT, POST #2 |
| B580754 | 2 | 5/8" Dia. x 7 1/2" HEX BOLT |
| B341004 | 2 | 3/4" Dia. x 10" HEX BOLT |
| B581002 | 5 | 5/8" Dia. x 10" H.G.R. BOLT (POST 3 THRU 7) |
| N050 | 32 | 5/8" Dia. H.G.R. NUT (SPLICE 24, SOIL TUBES 2, POST 2 THRU 7, 6) |
| N030 | 2 | 3/4" Dia. HEX NUT |
| W050 | 6 | H.G.R. WASHER |
| W030 | 4 | 3/4" ID WASHER |
| N100 | 2 | 1" ANCHOR CABLE HEX NUT |
| W100 | 2 | 1" ANCHOR CABLE WASHER |
| B140404 | 2 | 1/4" x 4" HEX BOLT |
| N014 | 2 | 1/4" HEX NUT |
| W014 | 4 | 1/4" WASHER |
| SB58A | 8 | CABLE ANCHOR BOX SHOULDER BOLT |
| N055A | 8 | 1/2" A325 STRUCTURAL NUT |
| W050A | 16 | 1 1/16" OD x 9/16" ID A325 STR. WASHER |

Foundation Tube Options For Posts 1 & 2
 *6'-0" Split Foundation Tubes S730
 *6'-0" Solid Foundation Tubes E731
 *5'-0" Foundation Tubes S735 W/Soil Plates SP600
 *4'-6" Foundation Tubes E735 W/Soil Plates SP600

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
FLEAT-350
FLARED ENERGY ABSORBING TERMINAL
WAIMEA CANYON DRIVE RESURFACING
Vicinity of Kokee Road Intersection
Project No. 550A-01-01M
 Not to Scale Date: June 2001
 SHEET No. 3 OF 3 SHEETS