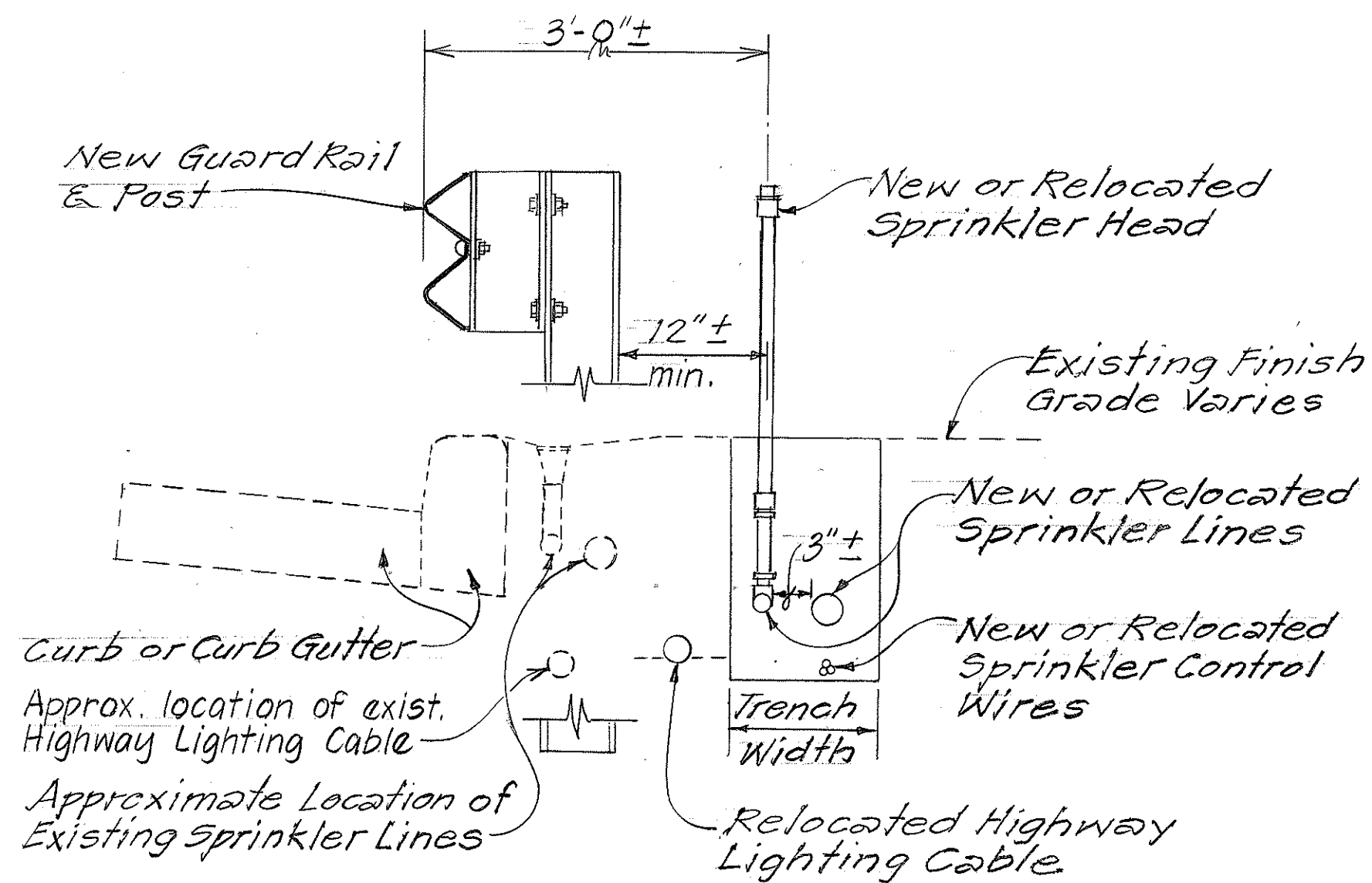
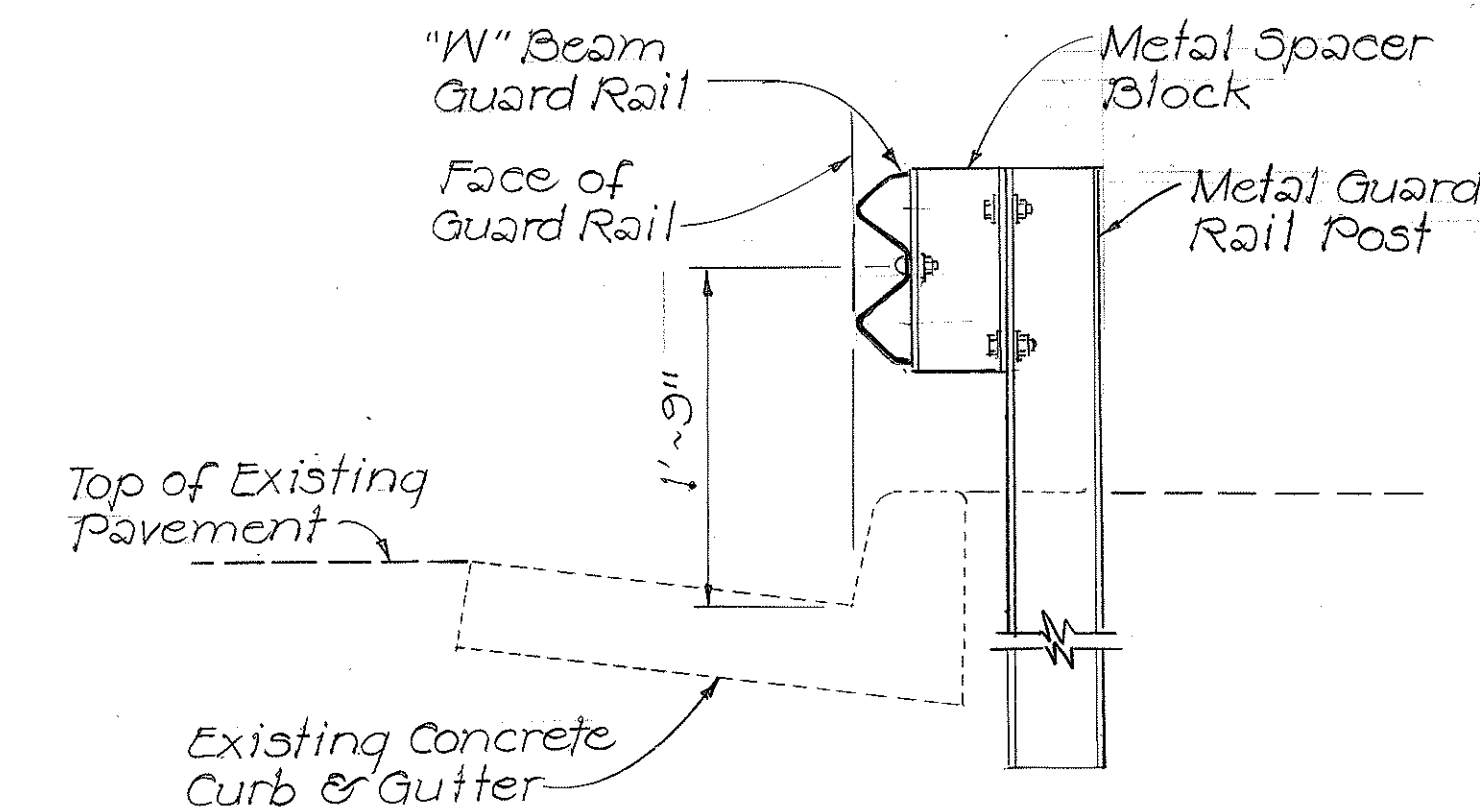


GENERAL NOTES

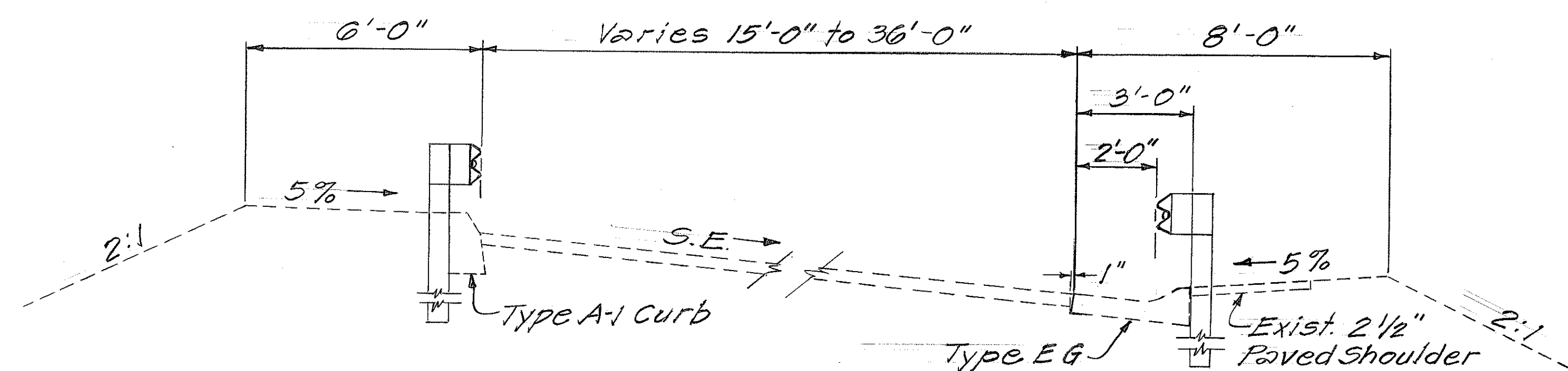
1. Improvements consist of installing new Metal Guard Rails and Posts, removing existing Guard Rails and Posts, relocating and/or replacement of Sprinkler Systems, relocating Highway Lighting Cables, constructing End Posts and other Miscellaneous work.
2. The Contractor shall be responsible for verifying under-ground facilities, ducts, cables, pipes, etc., in locations where metal guard rail posts are to be driven or where excavation is required. Cost of repairs to the facilities damaged by these posts or by excavation will not be paid for by the State but shall be borne by the Contractor.
3. The existing highway lighting systems shall remain operational during hours of darkness. The Contractor shall schedule his work accordingly and shall provide temporary wiring and connections as necessary to keep the project area illuminated during hours of darkness.



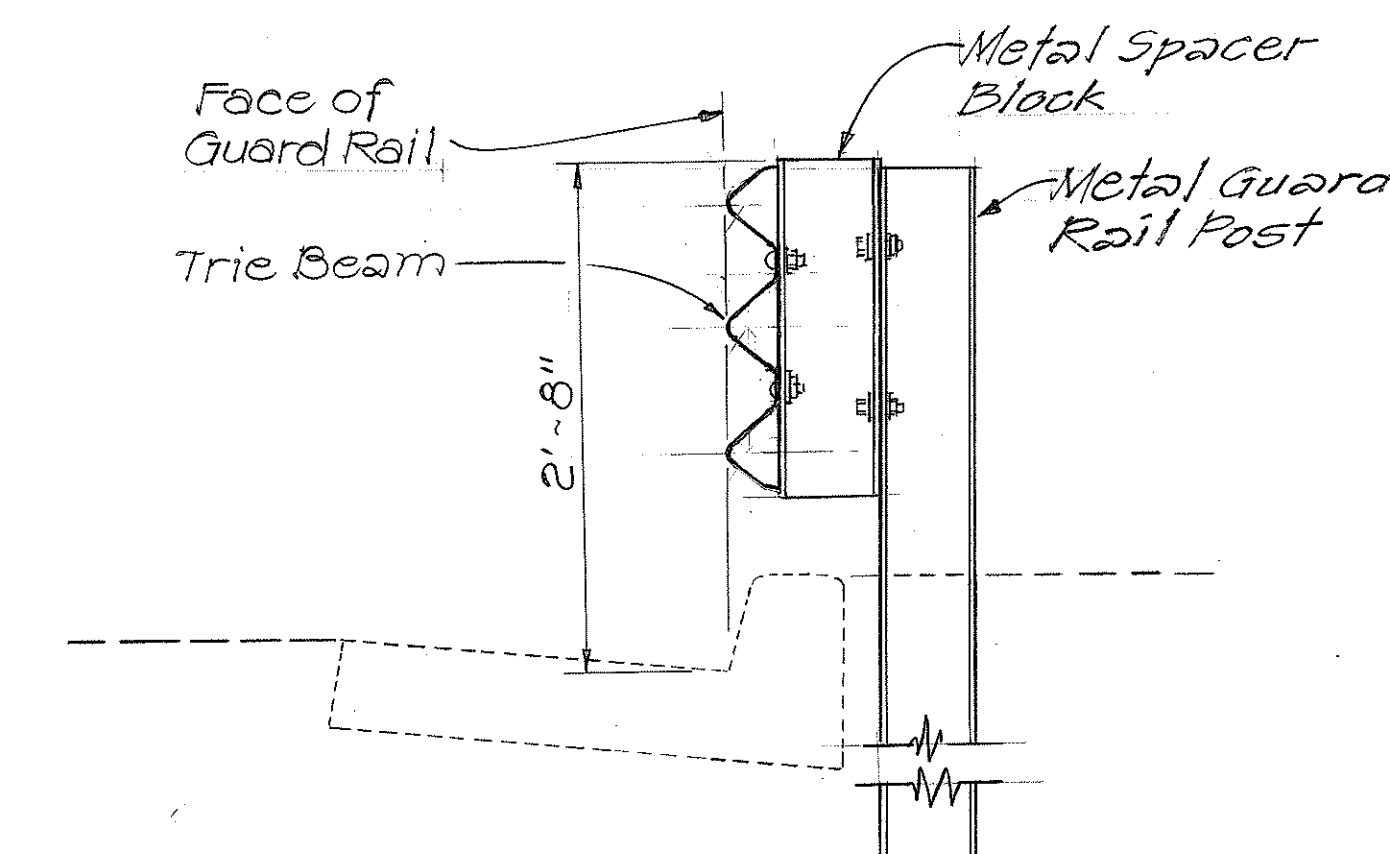
TYPICAL SECTION OF
RELOCATED SPRINKLER
AND HIGHWAY LTG. LINES
Scale: 1" = 1'-0"



'W' BEAM METAL GUARD RAIL
ALONG EXIST. CONCRETE CURB
Scale: 1" = 1'-0"



TYPICAL SECTION AT RAMPS
Scale: 3/8" = 1'-0"



THRIE BEAM METAL
GUARD RAIL ALONG
CONCRETE CURB
Scale: As Shown

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(192)	1985	2	39

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

INTERSTATE ROUTE H-1
GUARD RAIL IMPROVEMENTS
Kalo Lane to Koko Head Avenue
F.A.I.P. No. IR-HI-1(192)

Scale: As Shown Date: July, 1984

SHEET NO. 1 OF 2 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

Hand-drawn technical drawing of a guard rail post base plate. The drawing shows a rectangular base plate with dimensions 8 inches wide and 11 inches high. The top flange is 4 inches wide, and the bottom flange is 4 inches wide. The base plate is labeled "W6 x 20". The base plate is attached to a "Base Fl" (Base Flange) which is 8 inches x 3/4 inch x 11 inches. The base plate has four holes for 3/4 inch diameter x 7 inch long H.S. anchor bolts, with 4-7/8 inch spacing between the holes. The base plate is also labeled "Guard Rail Post" and "Symm. about C-C".

The diagram illustrates a trench cross-section with the following specifications:

- Existing Ground:** Indicated by a dashed line at the top of the trench.
- Trench Depth:** Labeled as $18'' \text{ Min.}$.
- Backfill:** The trench is filled with "Trench back fill selected material or same as Type A backfill except not more than 50% by vol. of rock particles".
- Conduit:** A "2" Conduit" is shown at the bottom of the trench.
- Bed Course Material:** A layer of "4" Min. Bed Course Material" is shown below the conduit.
- Width:** The trench width is labeled as $8'' \text{ Min. Width}$.
- Side Slopes:** The trench walls are sloped at an angle of $1'X'$ on each side.
- Value of X':** A note specifies $1'X' = 3'' \text{ Min.}$.

GUARD RAIL POST ON
CATCH BASIN DETAIL

1. Cable shall be installed in a 2" conduit and shall be 3-conductor, 600 volt, #6 AWG, Stranded, RR, with a #8 Bare Copper Wire. Cable shall conform to Subsection 712.34 for Multiple Circuit Cable of the Standard Specifications. Conduit shall be PVC, Schedule 40.
2. Trench Backfill
Type A and Bed Course Backfill.
Cinders, beach sand or crush rock less than #3 but not more than 20 % by volume of rock particles.
3. Pull Boxes
Type "B" Pull Box shall be furnished and installed at each highway light standard where cable relocation was necessary.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION &
MISCELLANEOUS DETAILS

INTERSTATE ROUTE H-1
GUARD RAIL IMPROVEMENTS
Kalo Lane to Koko Head Avenue
F.A.I.P. No. 1R-H1-1(192)

Scale: As Shown Date: July, 1984

SHEET NO. 2 OF 2 SHEETS