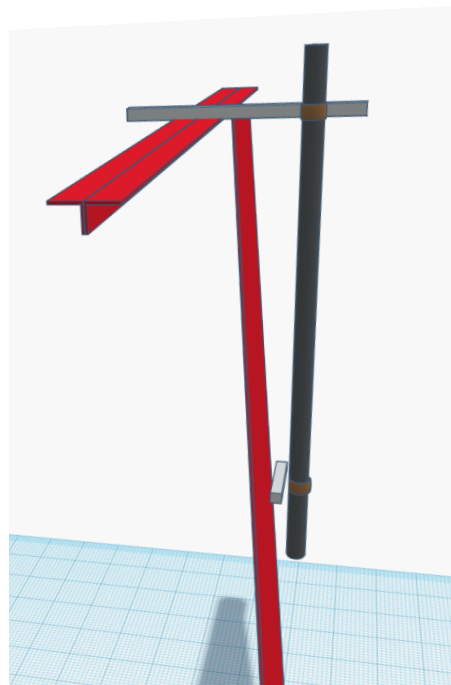
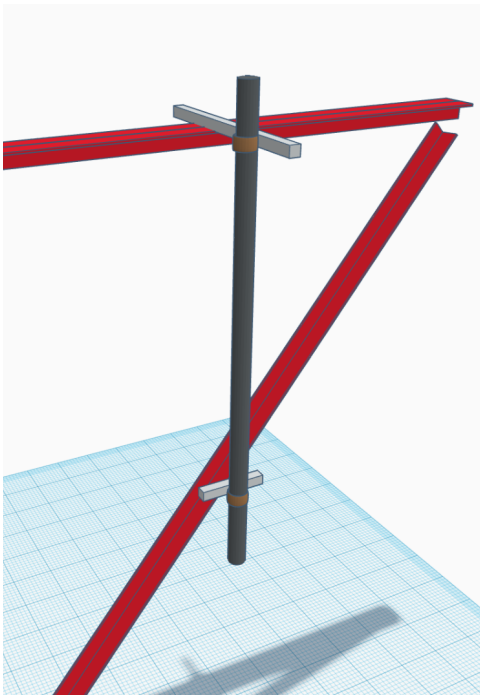


## **SFWEM/BAM San Bruno node - Proposed Mount**

We propose to mount a vertical pipe between the horizontal and angled tower beams, as indicated in the photo and drawings below.



Note: beam angles in the drawings are approximate and may be exaggerated.

## Attachment techniques and parts

At the top attachment point we will mount a horizontal section of strut channel extending out from the tower by a foot or two. It will be attached to the top of the “T” beam using a pair of perpendicular beam clamps.

- 1x Strut Channel (galvanized steel), 3 ft: [mcmaster.com/3310T64-3310T636](https://mcmaster.com/3310T64-3310T636)
- 2x Beam Clamp for strut channel (zinc coated steel): [mcmaster.com/1815T11](https://mcmaster.com/1815T11)

At the bottom attachment point we will mount a short (~1 ft.) section of strut channel horizontally parallel to the face of the tower. It will be attached to the horizontal flange of the “L” beam using a threaded rod beam clamp

- 1x Strut Channel (galvanized steel), 1 ft: [mcmaster.com/3310T64-3310T633](https://mcmaster.com/3310T64-3310T633)
- 1x Threaded Rod Beam Clamp (zinc coated steel): [mcmaster.com/88715T719](https://mcmaster.com/88715T719)
- 1x Bolt & washers: 3/8-16 bolts, 1/2”, 3/4” or 1” long, with washers.

We'll attach the pipe to the strut channels using strut-mount pipe clamps.

1x Pipe (galvanized steel conduit), Size: 3 in., 8 ft. long [Details TBD]

2x Strut Mount Metal Routing Clamp (zinc coated steel) for 3” pipe: [mcmaster.com/3115T22](https://mcmaster.com/3115T22)

Or

2x Strut Mount Metal Routing Clamp (zinc coated steel) for 2” pipe: [mcmaster.com/3115T86](https://mcmaster.com/3115T86)

The pipe will be made vertical/plumb by adjusting the distance from the tower using the top strut, and the horizontal angle using the bottom strut.

Antennas will be attached to the pipe using the mounting hardware included with or appropriate to each. .

We plan to secure all wires / cabling with clamps that attach to the beams as well:

20x Cable clamp for pipe... (galvanized steel): [amazon.com/dp/B09J7XX65B](https://amazon.com/dp/B09J7XX65B) (or similar)

## Bill of Materials

Purpose	Description	Link	Qty	Note
Vertical Pipe	Galvanized 3" pipe, 8' L			
Beam Clamps for strut channel	Zinc coated steel	<a href="http://mcmaster.com/1815T11">mcmaster.com/1815T11</a>	2	
Beam clamp for threaded rod	Zinc coated steel	<a href="http://mcmaster.com/88715T718">mcmaster.com/88715T718</a>	2	Get 2 (1 extra) in case we want to mount at angle along beam.
Strut Channel	Galvanized steel, 1 5/8", 1 ft L.	<a href="http://mcmaster.com/3310T64-3310T633">mcmaster.com/3310T64-3310T633</a>	1	
Strut Channel	Galvanized steel, 1 5/8", 3 ft L.	<a href="http://mcmaster.com/3310T64-3310T636">mcmaster.com/3310T64-3310T636</a>	1	
Bolts for clamps for threaded rod.	Size 3/8 - 16 to match clamps. Length 3/4 in ?? With washers.		2	Not sure about length. Maybe get 1/2", 3/4" and 1" ? That's length of threads, not with cap?
Washers	3/8-16, zinc coated steen	Chris has lots	10	Probably only need 3-4, have plenty.
Beam Clamp Pipe Clamps	Galvanized Steel, for 3" pipe	<a href="http://mcmaster.com/3115T22">mcmaster.com/3115T22</a>	2	Adjust to final pipe OD size.
Cable clamps	Cable Clamp for Pipe; Conduit Hanger with Beam Clamp;	<a href="http://amazon.com/dp/B09J7XX65B">amazon.com/dp/B09J7XX65B</a>	20	