

HCRO Shed Description

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1 Introduction

This document outlines the details of a new shed to be constructed at HCRO to house the Advanced L-band Phased Array Camera for Astronomy (ALPACA).

2 Task List

The following need completed for this project:

- A 10' by 12' concrete pad adjacent to asphalt poured for the base of the shed
- Shed built on new concrete pad
- Conduits trenched from vault to shed
- Conduits trenched from shed out into asphalt strip
- Concrete repoured over section of broken asphalt

3 Concrete Pad and Shed Location

The new shed is to be built in the fenced-off section of the runway, east of the main office, as pictured.

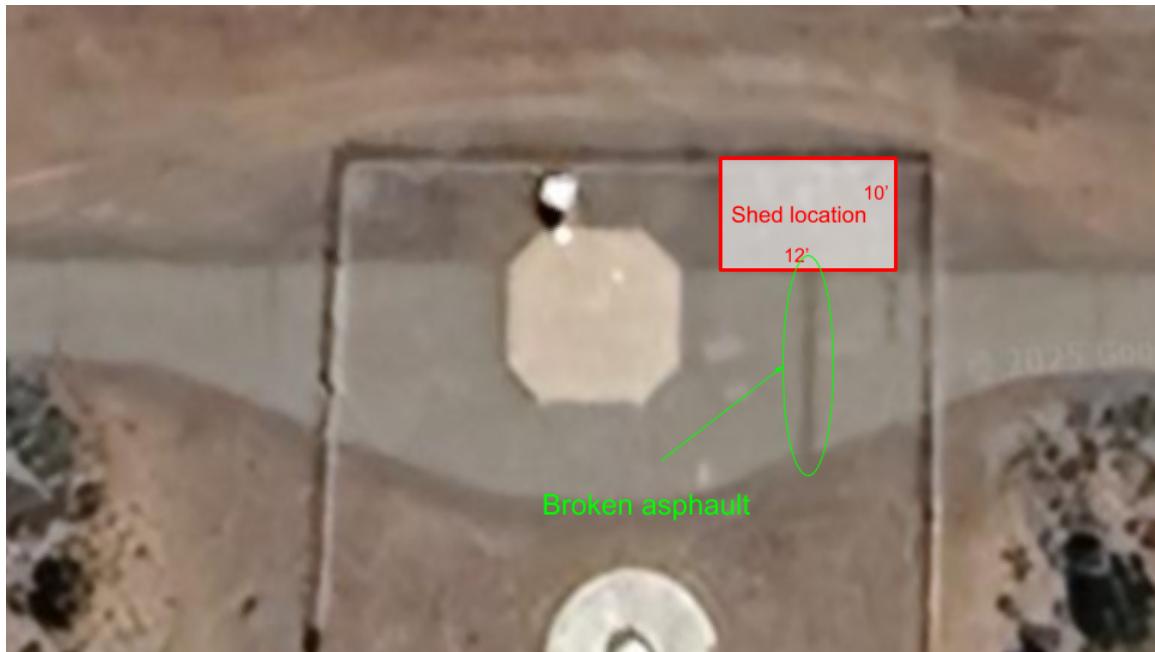


Figure 1: Location of ALPACA shed

The shed should rest on a concrete pad that is 12 feet long (along the length of the road) and 10 feet wide. The pad should be centered (6ft on either side) with respect to the broken section

of asphalt circled in green. The pad should sit flush (or as close as possible) to the asphalt. The concrete pad should be reinforced with rebar. Mechanical drawings of concrete pad are provided in appendix.

4 Shed

A 10x12 shed should be constructed. See mechanical drawings. The drawing doesn't include a door, but a door should be installed. It is necessary that the door doesn't have a lip/frame on the bottom, so the entrance is flat to have instruments wheeled in and out. The shed should be constructed with 2x4s (for walls to be about 4 inches thick, conserving inside space). Some pictures of a similar shed and the ALPACA instrument can be found at the end of this document.

5 Conduits

The following conduits should be installed as pictured.

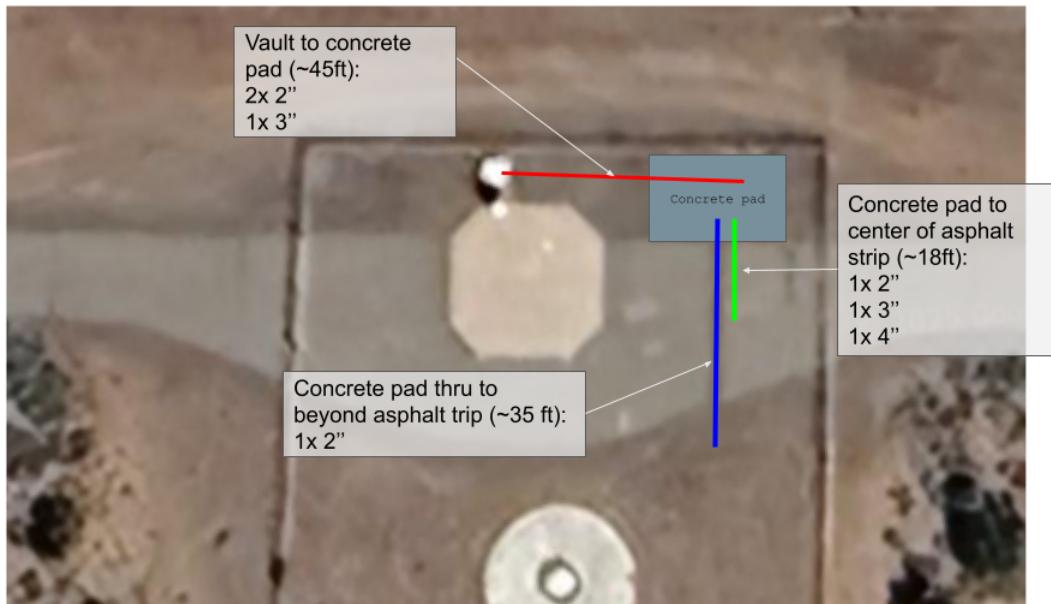


Figure 2: Conduit Map

1. From vault to shed (~45ft):
 - (a) 2x 2" conduits
 - (b) 1x 3" conduit
2. From vault to center of asphalt (~18ft):
 - (a) 1x 2" conduit
 - (b) 1x 3" conduit
 - (c) 1x 4" conduit
3. From shed thru to other side of asphalt (~35 ft)
 - (a) 1x 2" conduit

The placement of conduit holes in the shed can be found on the drawing for the concrete pad.

6 Repair asphalt

After the conduits are installed, the broken section of asphalt should be repoured across the width of the road.

7 BYU ALPACA Shed

The following are pictures from a similar project at BYU. The dimensions of our shed will be different, but these should give you an idea of the desired use.



Figure 3: ALPACA



Figure 4: Shed outside



Figure 5: Shed outside, door open