

## Mayall Building Information

1. Elevations (on the mechanical drawings of the telescope, the declination axis is defined to be 1000.0 feet to avoid negative numbers in the drawings). The survey altitude of the parking lot is 6840 ft MSL, so the telescope would be at 6966 ft = 2123 m MSL.

<b>Location</b>	<b>Reference Height</b>	<b>From Ground</b>	<b>MSL</b>
Ground Floor	874.0	0	6840
U Floor	942.0	68.0	6908
P Floor	952.5	78.5	6918.5
M Floor	972.5	98.5	6938.5
C Floor	989.5	115.5	6955.5
Dec Axis	1000.0	126.0	6966
Dome Springline	1004.0	130.0	6970
Dome Top	1058.0	188.0	7028

2. The inside radius of the dome is 51 feet; the outside radius about 54 feet. The outside diameter of the building is very close to that of the dome, so it would be about 108 feet.
3. I recall seeing a drawing in John Dunlop's office years ago which noted the load on the hexahedrons was just over  $10^6$  pounds. Since there are 10 hexahedrons supporting the building, this would suggest a total weight  $\sim 10^7$  pounds. Note that this does not include the telescope, which is supported by the mechanically separate pier.
4. The outside diameter of the pier is about 36.5 feet. Interestingly, the pier itself is not centered in the building, but is offset by about 3 feet. I did not know this until I just looked at the drawing!

5. The main horseshoe is about 41 ft (12.5 m) diameter. I “think” the south journal is about 8 m diameter, but I am less sure of this. I looked into this briefly when we were worried about polar axis wander, noting that a very small departure from circularity would cause the apparent pointing of the polar axis to wander around.