TEMPLATE FOR PROPOSING FUTURE MARS LANDING SITES. M. Golombek[1] and J. Grant[2], [1]Jet Propulsion Laboratory, Caltech, Pasadena CA 91109, mgolombek@jpl.nasa.gov, [2]Smithsonian Institution, National Air and Space Museum, Washington, DC 20560, grantj@si.edu

REPLACE WITH THE TITLE OF YOUR ABSTRACT. A. B. Author[1] and C. D. Author[2], [1]Affiliation (include full mailing address and e-mail address if desired) for first author, [2]Affiliation for second author (full mailing address and e-mail address).

Introduction: Provide a short summary of the candidate mission and the science and engineering merit of the proposed site along with any supporting references that can be provided. Give detailed location information (latitude, longitude of center of proposed landing ellipse). Include a figure with the proposed ellipse (see below) and the areas of prime science interest and their priority. The document should not exceed 3 pages.

Mission Description: Provide a brief description of the future mission for which the landing site is being proposed. Include basic information on the science objectives of the mission, the type of lander and landing scenario (e.g., MSL or other). Also include any know planet wide (e.g., latitudinal and elevation) constraints on landing sites from either science or engineering considerations.

Science Merit Related to Mission Objectives: A description of how the proposed landing site potentially satisfies the science objectives of the candidate mission should be provided. Comments could include discussion (as is possible) of whether there are multiple rock units present of diverse morphology and mineralogy that display systematic trends and clear stratigraphy and cross-cutting relations (diversity). A statement regarding the geologic framework and chronology of the site and whether it will likely enable placement of surface observations into regional context should be included (geologic context). Any mineralogical or geomorphic evidence important for the interpretation should be included. Information supporting the key interpretations of the site should be included.

Engineering Constraints: Engineering constraints on potential landing sites should be included if known. In addition to global constraints, such as latitude and elevation discussed earlier. Information on ellipse size should be provided. If the mission being considered is Mars Sample Return or MAX-C (descriptions of concepts for these future missions can be found in MEPAG at http://mepag.jpl.nasa.gov/reports/index.html) or some other mission that employes the "sky-crane" landing system developed for Mars Science Laboratory (MSL), ellipse size is expected to be about 15 km across. Although no specific elevation and latitude constraints exist for future missions using this design, thermal considerations typically favor sites nearer the equator and elevations higher than +1 km with respect to the MOLA geoid will likely be difficult to accommodate. Constraints for this landing system also exist for slopes at a variety of length scales, rock height, radar reflectivity, load bearing surface, and winds.

Information Required for Potential New Landing Sites: In order to review, evaluate, and obtain information on potential new landing sites, certain standard information will be needed.

Landing Ellipse: A visual image or map showing the landing site is required. Figure 1 shows an example on a MOLA topography and shaded relief map. The image background could be any easily obtainable image such as MOLA shaded relief, THEMIS thermal, HRSC, CTX or other image base. The ellipse must be shown on the map, with the ellipse size and the center latitude and longitude provided (preferably in MOLA planetocentric coordinates). Areas of science interest in and around the ellipse should also be designated on the image. Also a table (Table 1) that includes the name of the site, the ellipse center coordinates, site elevation, ellipse size, the prime science targets, and the distance and priority of the prime science targets from the center of the ellipse. The location of any existing HiRISE, CTX and CRISM data in or near the ellipse should also be indicated. In general, the surface of any proposed landing site must appear smooth and flat throughout the ellipse in available images and topographic maps. While we do not expect detailed analysis of potential hazards in the ellipse by site proposers, we would like to be made aware of any potential hazards that are discovered by the proposer.

Table 1: Example table required for any landing site proposed.

Site Name	Ares
Center Coordinates Latitude, longitude	Between XX°N or XX°S
Elevation	XX.X km wrt MOLA
Ellipse Size	XX km by XX km
Prime Science Targets	e.g., Smectites [Highest Priority], Layered materials, Channels [Lowest Priority]
Distance of Science Targets from Ellipse Center	Smectites – 13 km to W Layers – 8 km to NW Channels – 3 km to E

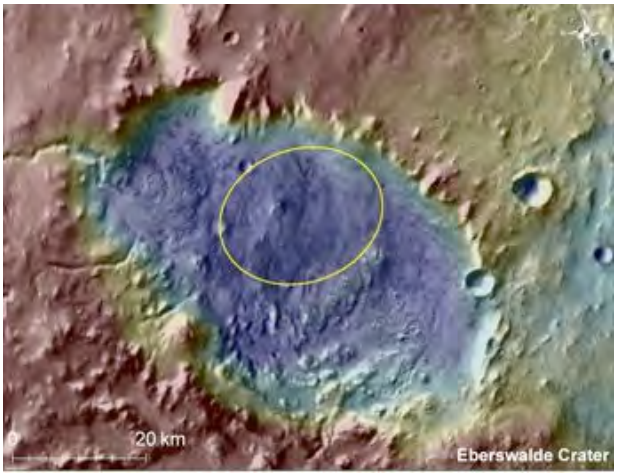

Figure 1: Example 25 km by 20 km ellipse on MOLA shaded relief topography at Eberswalde crater. The ellipse is centered at 23.86°S, 326.73°E at an elevation of -1.45 km with respect to the geoid in MOLA planetocentric coordinates. The prime science targets are phyllosilicates within the ellipse associated with a delta just to the west of the ellipse.

References: Use the brief numbered style common in many abstracts, e.g., [1], [2], etc. References should then appear in numerical order in the reference list, and should use the following abbreviated style:

[1] Author A. B. and Author C. D. (1997) *JGR, 90,* 1151–1154. [2] Author E. F. et al. (1997) *Meteoritics & Planet. Sci., 32,* A74. [3] Author G. H. (1996) *LPS XXVII,* 1344–1345. [4] Author I. J. (2002) *LPS XXXIII,* Abstract #1402.