appendix

Thoughts on design guidelines for the Fermilab campus

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Early on in the master planning process, Fermilab management, as well as the master planning task force, determined that it would be wise to enlist the assistance of some outside of the Fermilab organization to participate in campus planning process. To that end two professionals were asked to part of the team. The first was Steve Wiesenthal, the campus architect for the University of Chicago. The second was John Ronan, a practicing architect, as well as Professor of Architecture at the Illinois Institute of Technology.

Their role has been one of critique, validation and guidance based on their respective experience in the specialty of master planning and campus planning in particular. In that spirit, per our request, John Ronan has provided the following perspectives on the current status of the Fermilab Campus, and recommendation and issues to consider as we move forward to the next era. Following are his thoughts and observations..

The following thoughts on design guidelines for the Fermilab campus are organized by theme and/or issue and include an analysis/critique of existing campus followed by recommendations on how one might think about this issue going forward. The major issues of the campus are as follows:

Legibility and cohesion

Observations: The campus has a haphazard feel to it due to the scattered nature of structures and utilities about the site. The organizational principle that determined their siting, which presumably was based on the layout of science experiments, is indecipherable to the outsider, and the relationship of the buildings to the science conducted there is opaque. Furthermore, it is very difficult for the outsider to understand what happens at Fermilab and it is currently possible to pass through the site unaware of any science taking place there at all.

With respect to structures, there seem to be three scales operating on the campus—iconic buildings which are landmarks within the campus such as Wilson Hall and some of the early experiment buildings; lower, horizontally-organized lab and workspace buildings around Wilson Hall for scientists which are somewhat nondescript; and utilitarian structures scattered about the site primarily supporting science experiments (that have few or no people working in them).

Recommendation: Create an integrated conceptual framework that takes into consideration future buildings in a natural landscape which together make legible what happens at Fermilab and connects it to people's lives. Utilitarian structures should be divided into two categories: contributing and non-contributing structures, assessed on the basis of their value in telling the story of Fermilab. Non-contributing structures could be buried or screened by landscape in order to minimize their detraction from the natural setting. Contributing buildings should, through materiality, color, graphics, *etc*. tell the story of the science tak-

ing place at the laboratory. Fermilab has a map which decodes the site and depicts the various science experiments taking place there; it would be a great improvement to the visitor experience if one could experience the site in this way, with utilitarian buildings coded in some way to make legible their role in the experiments, and by which visitors could stop off at certain points to read about the science via signage or through phone apps.

Since the future of the campus is as much about erasure as it is addition, an attitude about the value of Fermilab's history needs to be developed that would provide a framework for thinking about what is erased from the site, and to what degree. The Tevetron ring, for example, will one day be abandoned but perhaps has lasting value as a landscape element or scar that speaks to Fermilab's history, and as such is worth preserving. Similarly, the utilitarian structures that dot the site—should they be erased completely and the natural landscape restored, or should some element (say foundations and slab) be preserved as a trace to tell the laboratory's story to future generations? The site could become a palimpsest, used over and over again, and on which past realities leave their trace.

People versus cars

Observations: Like many office and industrial campuses developed in the Post-War period, Fermilab is meant to be experienced by automobile, and generally speaking, is not pedestrian friendly. Getting around at Fermilab means driving from point to point, and existing campus buildings seem to be designed to be viewed from fast-moving cars. This aspect of the campus is in direct conflict with the sense of community which Fermilab seeks to create amongst its scientists and staff, and presents a challenge to sustainability goals.

The upshot of a campus designed with the car in mind is that many of the buildings that house scientists and staff have the feel of being designed from the outside in, prioritizing image or representation over more experiential and "quality of life" aspects. Early science buildings are self-referential objects meant to be seen as sculptures that make no attempt to create usable outdoor space or contribute to a "sense of place" mentioned as a goal in the FCMP document.

Recommendation: Future building additions to the campus intended for use by scientists and staff should be clustered around Wilson Hall in a way that creates usable outdoor space where collaboration and interaction can occur. Parking should be minimized, screened and/or tucked under the building to minimize its visual impact. Paving area should be reduced to a minimum throughout the site, and parking lots should be made of porous paving that mitigates storm water managed runoff.

Public interface

Observations: The campus has weak entrance points which are easy to miss and convey no sense of arrival. Public areas of the campus are not identified or distinguished from private areas, and it is not clear which areas of campus, and which buildings, are welcome to the public and which are "off-limits." The guard station, located a short distance from the entry, only reinforces the question in the visitor's mind of whether he is "supposed to be there." The overall entry sequence is not a welcoming experience, and one has the feeling of entering a military installation. The architecture of Wilson Hall further exacerbates this issue, as the building seems unfriendly and designed to intimidate.

Recommendation: Entry points should be clearly marked and strengthened. The guard station experience should be rethought along the lines of a national park entry station or the Chicago Botanical Garden, where access is controlled but in a friendly way that is more about providing information and laying the ground rules for exploration than providing the security of a military checkpoint.

It seems that most lab employees do not enter the main entrance of Wilson Hall, but that this entrance is used by *all* visitors; therefore, it makes sense that this entrance be redesigned, in a way that is respectful to the building, to make it more friendly, welcoming, and perhaps usable to the scientists and staff.

Landscape stewardship

Observations: Originally sited amidst farm land and indistinguishable from the surrounding agrarian landscape, land development over the years has encroached upon Fermilab and now "frames" the campus, transforming the site into something of a nature/ wildlife preserve. This landscape aspect is now a primary identifying characteristic of the campus, and one which makes it unique and distinguishes it from other particle physics laboratories in Switzerland and Japan. The existing buildings of Fermilab tend to dominate their landscape, but the campus has the potential as a model of building & landscape integration going forward.

Recommendation: Acknowledge the natural landscape of Fermilab as one of its primary assets, and use it as an attractor for scientists, staff and visitors. Make integration of buildings with the landscape a primary concern of future campus additions, and restoration of the land a primary concern of future erasures. Make legible to the staff and visitor what the site has to offer in terms of nature and wildlife (perhaps in partnership with an organization like the nearby Morton Arboretum), and promote Fermilab as a place where nature and science harmonize.

Architectural character

Observations: The laboratory's founder should be recognized for the utopian vision upon which Fermilab was based, and from which its early design inspiration proceeded. But it needs to be said that Wilson was a better physicist than a sculptor. Although the original Wilson structures, including Wilson Hall, have historical value for the laboratory, they would not be deemed "architecturally significant" structures today. The same can be said for sculptural elements (for example, Wilson's entrance gate); they are important milestones in telling the story of Fermilab and worth preserving for historical value, but are not worthy of imitation.

Recommendation: Respect and preserve Fermilab's Wilsonian past while acknowledging what has changed in terms of science, values and performance since the founding period of the laboratory. Establish which Wilson-era structures and elements are worth preserving and which are not, and engage restoration experts in their survival. Adhere to Wilson's goal of creating a utopian laboratory, but reassess what would constitute the Utopian laboratory of today, which Fermilab is uniquely qualified to consider.

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