

STAFF RECOMMENDATION

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NCPC File No. 6805



**SUTTLAND COLLECTIONS CENTER
GREENHOUSE COMPLEX**
4210 Silver Hill Road
Suitland, Prince George's County, Maryland

Submitted by the Smithsonian Institution

March 27, 2008

Abstract

The Smithsonian Institution (SI) has submitted preliminary and final site and building plans for the development of new greenhouses and a headhouse at the Suitland Collections Center (SCC) in Suitland, Maryland. The need to replace existing Smithsonian greenhouses at the Armed Forces Retirement Home (AFRH) is vital, as the AFRH is developing the area for other uses and the lease with the Smithsonian Institution terminates in September 2008, requiring the relocation of the SI greenhouses.

Commission Action Requested by Applicant

Commission approval of preliminary and final site and building plans pursuant to 40 U.S.C. § 8722(b)(1)

Executive Director's Recommendation

The Commission:

Approves the preliminary and final site and building plans for the Suitland Collections Center Greenhouse Complex, as shown on NCPC Map File No. 3205.11(38.00)-42481.

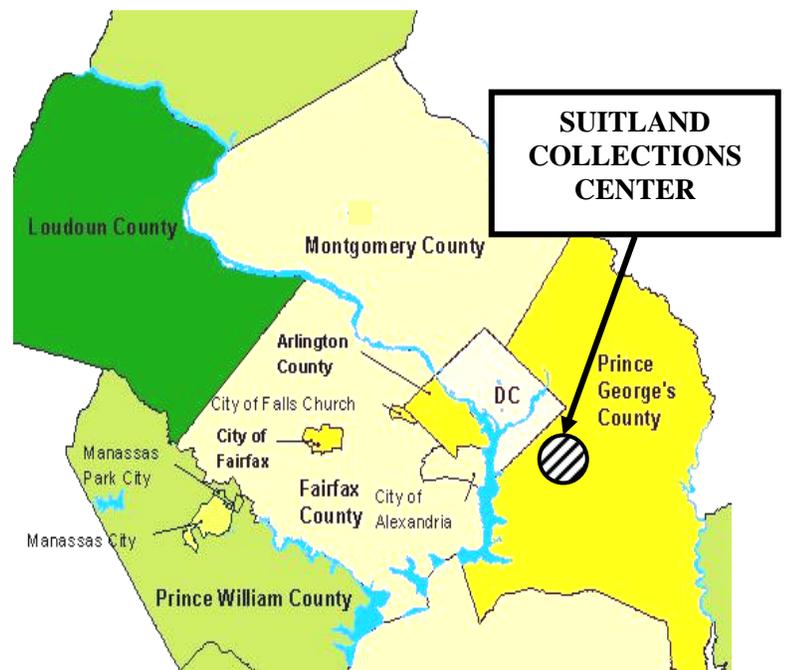
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PROJECT DESCRIPTION

Site

The Suitland Collections Center (SCC) site is located south and west of the Suitland Parkway and north of Silver Hill Road. The Smithsonian Institution (SI) makes its collections available to researchers, scholars and curators at this facility. SI established the Center in 1994 as a 110-acre parcel in Suitland, Maryland, to solve the collections storage and space needed to support its Capital Area museums and operations.

There are three existing developed precincts located within the 110 acres. They are the Museum Support Center (MSC), the Garber Facility, and the Support Facilities Precinct. MSC Precinct, approximately 25 acres located in the south central portion of the site, contains a large building footprint, with adjacent staff/visitor access drive, parking areas, and an access drive for service and supply transfer vehicles. The Garber Facility Precinct is located in the western portion of the site, with 23 acres, and contains 29 separate buildings. The buildings are mostly prefabricated metal, providing approximately 300,000 square feet of floor space. The Garber Facility is used by the National Air and Space Museum for the restoration of aircraft and related maintenance of aircraft collections.

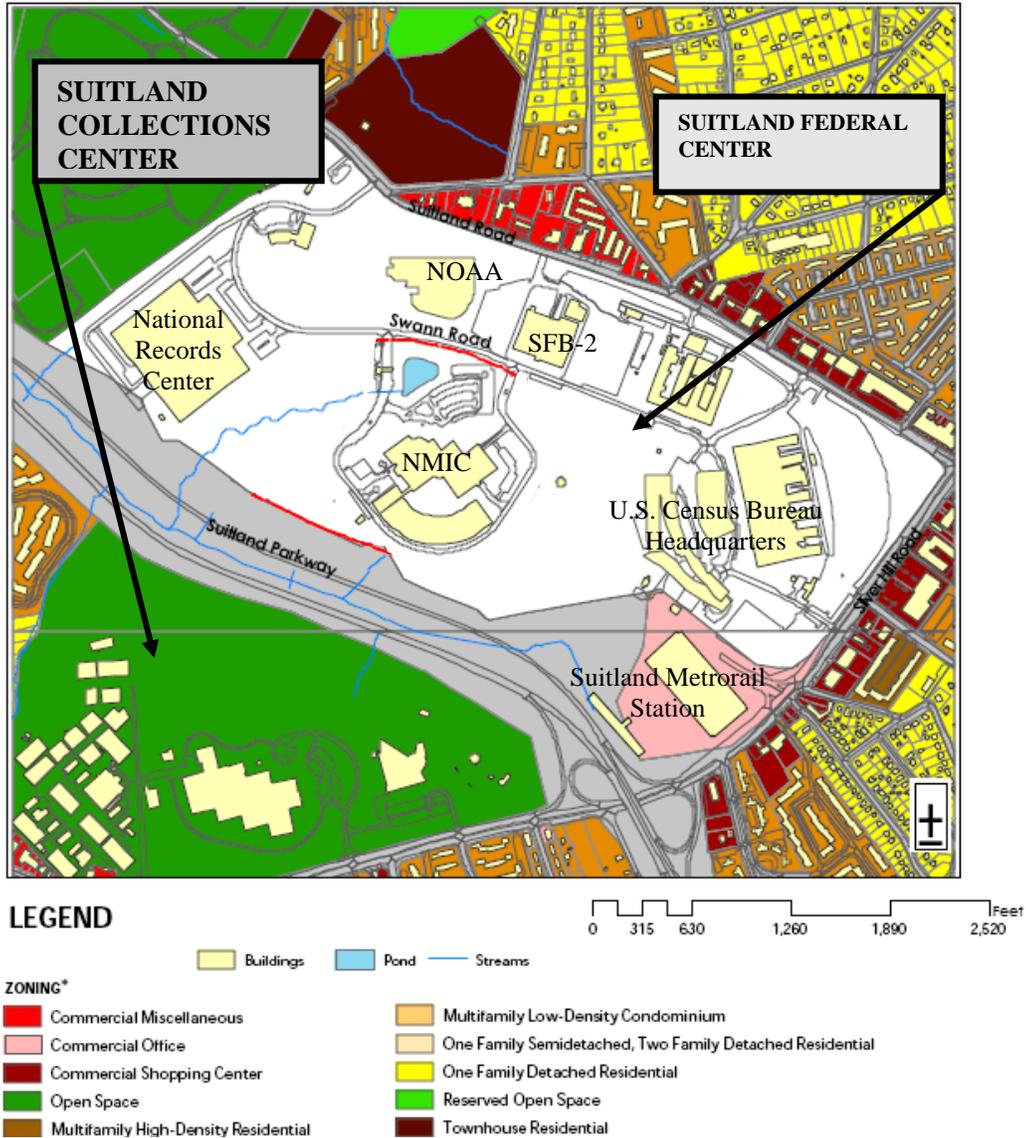


REGIONAL LOCATION

The entire northern portion of the site, extending from the central edges of the developed precincts to the Suitland Parkway at the north and east, is wooded slopes that provide drainage for the SCC and existing natural seeps. The southern parcel of land between Silver Hill Road and the MSC is open space. A secure perimeter encloses the developed portions of the site and separates the developed precincts from the surrounding open areas and community by a chain-link fence with gates located at all vehicular access/egress intersections with Silver Hill Road.

The SCC site constraints and planning criteria have contributed to the designation of an area of the property that is recommended for the placement of buildings, roads, parking, and other facilities. This Development Area covers 61 percent of the site's 110 acres. The southern, eastern and western edges are largely the result of compliance with Prince George's County Zoning Ordinance Guidelines for developing L-1 (Light Industrial) zone properties, and setback criteria for federal campuses. The northern edge has been determined by jointly complying with the Prince George's County Woodland Conservation/Tree Preservation Guidelines and the preservation of a substantial wooded buffer to visually screen SCC from the Suitland Parkway.

Only one SI bureau has a distinctive presence for its building. That structure is the National Museum of American Indian Cultural Resources Center and is located in the eastern portion of the site.



SMITHSONIAN SUTLAND COLLECTIONS CENTER IN RELATION TO SURROUNDING LAND USES

Background

In 1993 The Commission approved the revised master plan for the Suitland Collections Center (SCC), Prince George's County, Maryland, as shown on NCPC Map File No. 3205.11(05.12)-30922. The greenhouse complex is located within an area previously slated for a five to eight-story building in the approved master plan. The land use classification, with both the proposed

use and the prior large building, is maintained as support and research. Although the entire SCC is not open to the general public the “East Enclave” houses facilities that provide higher levels of visitation by non- SI facility users. These operations have daily visits of 130± visitors (outside curators, scholars, teachers, researchers, and contractors).

The need to replace an existing Smithsonian greenhouse complex from the Armed Forces Retirement Home (AFRH) to the SCC is critical, as the AFRH is developing its site area for other uses and the lease with the Smithsonian Institution expires in September 2008, requiring the relocation of the SI greenhouses.

Proposal

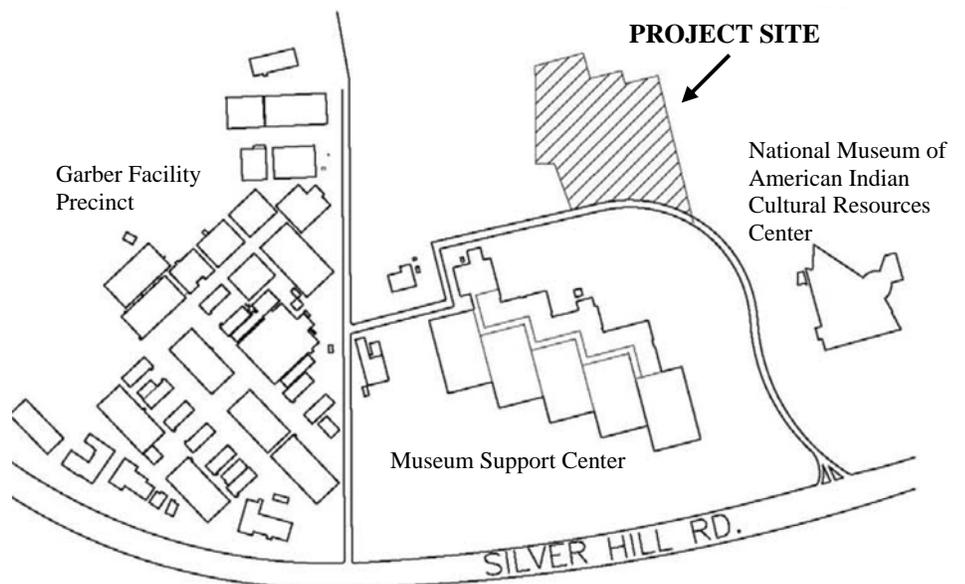
SI has submitted preliminary and final site and building plans for a new series of greenhouses and a headhouse at the SCC. The 3.5-acre project area is on a gently sloping ridge top that was designated as the site for the eight-level building of the SCC master plan. The wooded land buffering the project to the north is near the SCC boundary with the Suitland Parkway (480 feet distant). Other nearby features include the center’s circulation drive on the south, a service road along the southeast, a retention pond at the southwest, and steeply sloped ravines to the east and west.

The greenhouse complex will consist of a 10,000 square foot headhouse (offices, potting/work room, walk-in cooler, pesticide storage, loading dock, equipment storage, general storage, toilets, locker rooms, and utility rooms) and 48,400 square feet of greenhouses. An enclosed common connector corridor is developed between the

two functions. Exterior areas include an access road, a shade house, outdoor growth area, outside storage, recycling area, parking for 36 cars and 6 shuttle-type vans.

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The new facilities will bring additional staff and operational activities to the SCC. Approximately 18 full-time staff and 20 part-time volunteers will work at the greenhouses. Also, due to the events that Horticultural Services Division supports, there will be six trucks per day making round trips between the greenhouse and other Smithsonian sites.



PROPOSED GREENHOUSE COMPLEX LOCATION AT THE SUITLAND COLLECTIONS CENTER (SCC)

The proposed employee parking supply for the greenhouse complex falls within the parking ratio policy of 1:1.5 to 1:2 spaces per employee maintained as a goal in the Federal Comprehensive Plan for the SCC location. The greenhouse parking ratio itself equates to 1 space per 1.6 employees. Twelve of the car spaces are assigned by SI for visitors and interim delivery truck parking. Of the approved total of 764 spaces for the master plan, 258 parking spaces currently exist at the SCC. The present SCC total employee population of 447 (excluding the greenhouse complex) equates to a ratio of one space per 1.8 employees.

Detailed plans for the structures indicate the headhouse is a utilitarian structure of steel framing with insulated metal panel exterior walls with both vertical and horizontal alignments. A standing seam metal roof caps the headhouse. All interior spaces will have operable windows and/or skylights to allow for natural ventilation and daylight.

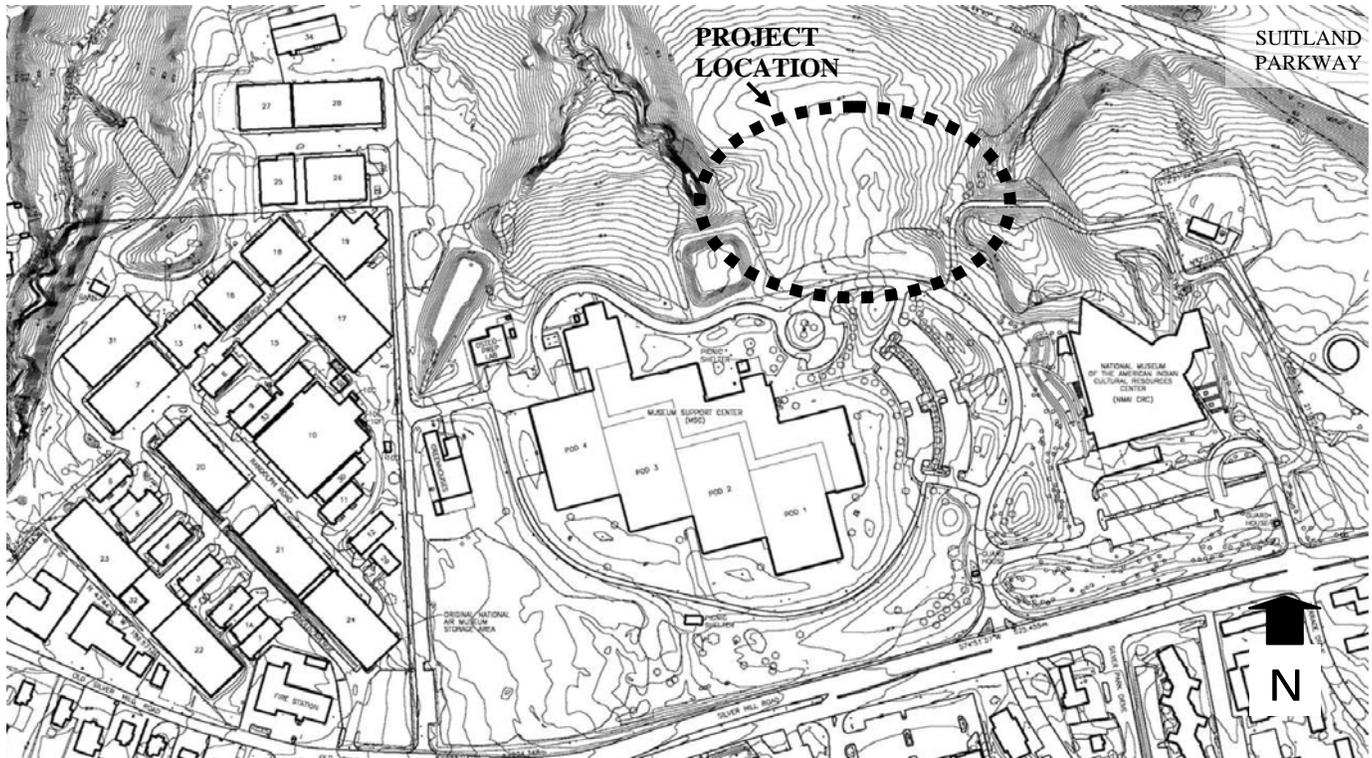
The greenhouses are prefabricated units with steel frames. The exterior walls and roofs are sided in translucent polycarbonate panels. The individual structures are arranged in an array of fourteen greenhouses with gable roofs that are connected along the roof gutters. Each greenhouse is 36 feet by 96 feet, with heights of 19 to 24 feet at the roof peaks. Opening roof vents exist at the top of all greenhouses. All buildings are supported by spread footings and grade beams with slabs-on-grade.

Major outside functional areas of the greenhouse complex include:

- A shade house (4,000 square-foot area built of galvanized steel pipe framing to support shade cloth with a concrete and permeable paving)
- Outdoor growth area (10,300 square feet with paving similar to the shade house.)
- Outside storage (6,400 square feet that includes an area for 4 truck shipping containers.)
- A recycling area (9,000 square feet) for composting and material salvage.
- Eight Cold Frames (4 feet by 25 feet each)
- 300-foot long retaining wall will be constructed from segmented concrete masonry units using mass earth structural design and the concrete veneer unit.

To reduce the impact of stormwater runoff, permeable pavement is incorporated into the site plan that decreases the amount of impervious area and resultant runoff. In addition each greenhouse has a central trench drain. The interior drains collect various cooling, irrigation and cleaning water runoff and conveys it to the sanitary sewer instead of allowing the water becoming general site runoff.

Stormwater control will be provided to treat all new impervious areas. A surface water drainage sand filter is designed in the project to treat the runoff generated. For stormwater management, an existing retention/detention pond structure is incorporated for quality and quantity control. Outfalls from the pond structure will exit to the existing storm water detention pond to the east.

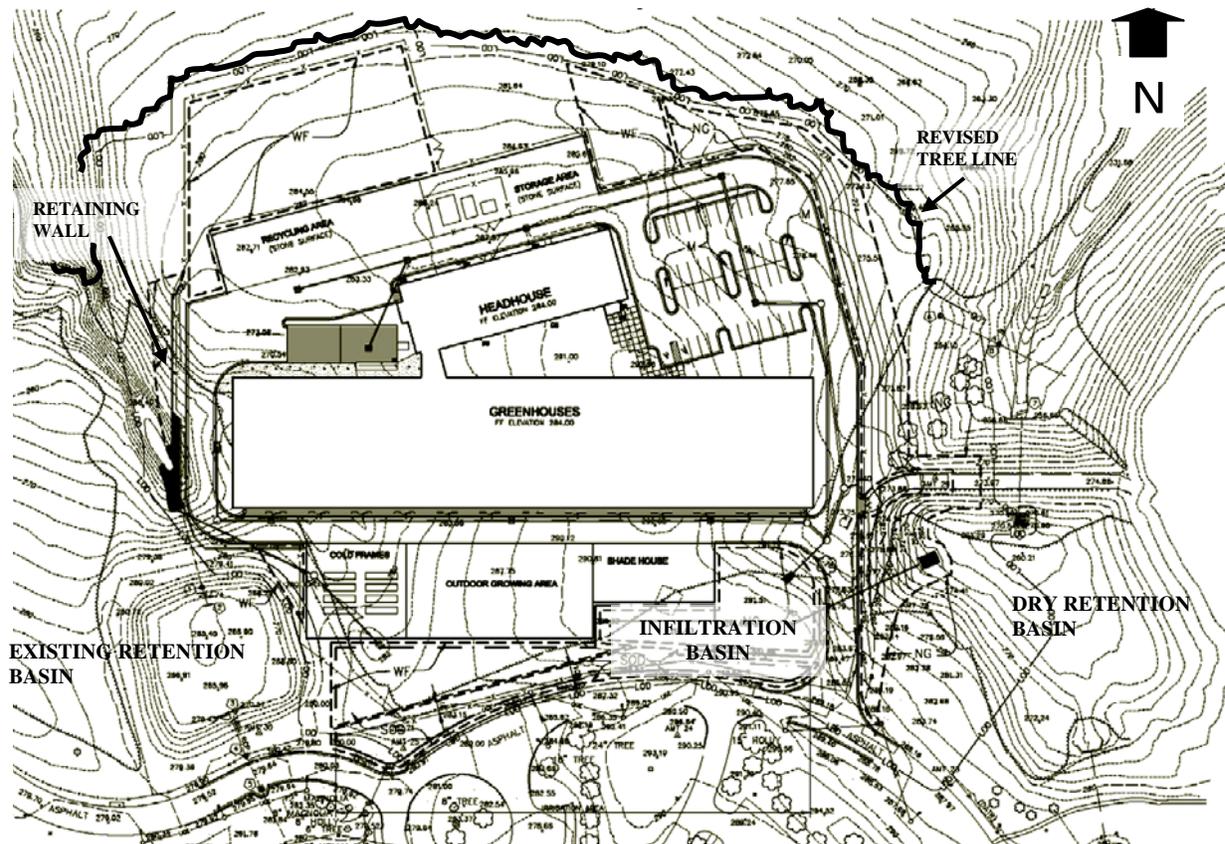


SUITLAND COLLECTIONS CENTER EXISTING 2008 SITE PLAN

Vegetation removal is within the selective clearing area depicted in the tree conservation plan for the master plan¹. All disturbed site areas will feature temporary vegetative cover during construction to stabilize soil surfaces.

Final site planting measures address the complete project area. The southern portion of the greenhouse complex site will be planted with a mowable grass area along the circulation drive with native grasses and wildflower meadow between the buildings and other adjacent woodland and pavement areas.

¹ Hayes, Seay, Mattern & Mattern, Incorporated. *Environmental Assessment for the Suitland Collections Center, Master Development Plan*. Prepared for the Smithsonian Institution, Office of Design and Construction, Washington D.C. May 1993.

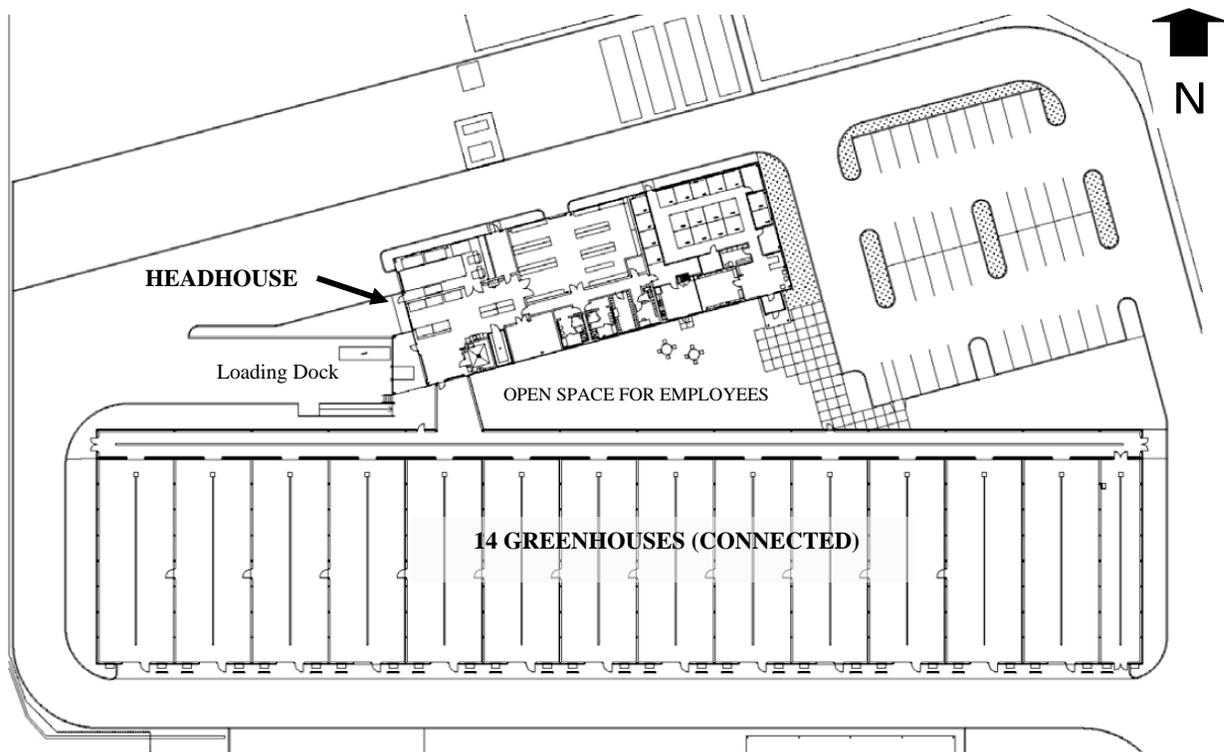


PROPOSED GREENHOUSE COMPLEX FINAL SITE PLAN

Several water conservation systems are built into the new facilities. Automatic sensors for toilets and lavatories will reduce water consumption. A highly-tuned environmental control system will regulate water usage in the greenhouse facility to reduce production waste. In the operation of the greenhouses the staff currently uses no excess pesticides or fertilizers, so pollutants into the waste water system are negligible. Also the SCC uses no priority pollutant pesticides that are prohibited in the State of Maryland. These practices will continue to be maintained throughout the life of the operations.

The project is designed with a number of energy conservation measures. The greenhouses are oriented for optimal sun exposure for plant growth. This reduces the need for artificial lighting. The greenhouses will be clad in transparent insulated polycarbonate panels with movable panels. The panels allow the sun to heat the interior while moderating seasonal extremes in temperature. Operable ridge windows will allow natural ventilation of air through the greenhouses. Automatically operated solar screens will shade the interior spaces when required to provide an optimum growing environment and to reduce cooling loads, mechanical exhaust fans will assist in reducing cooling requirements. Each greenhouse will be connected to a central computerized

environmental control system that is capable of monitoring, sequencing, balancing and recording the functions of all the greenhouse environmental systems. Each growing house will be a separate zone of plant climate. Each zone will have the capability of being subdivided into additional sub-zones and so reduce the energy used for heating/cooling. Light fixtures will be fluorescent. Exterior security lighting will have integral photocells. Security lighting will use full-cutoff luminaries to meet the light pollution reduction initiatives of the SI and the NCPC.



BUILDING LAYOUT

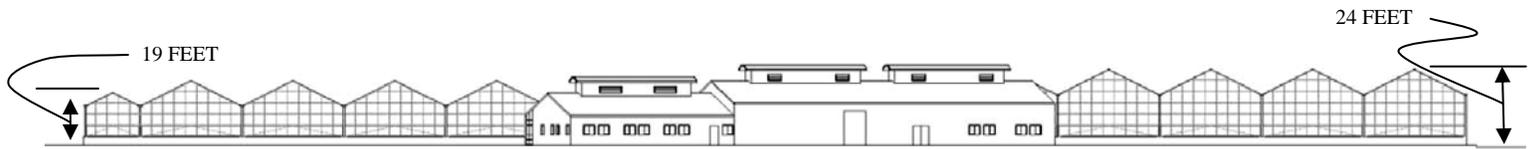
Development Program

Applicant: The Smithsonian Institution

Estimated Cost: \$10 million

Architect: Architrave P.C., Washington, D.C.

Completion Date: The facilities are to be completed by July/August 2009.



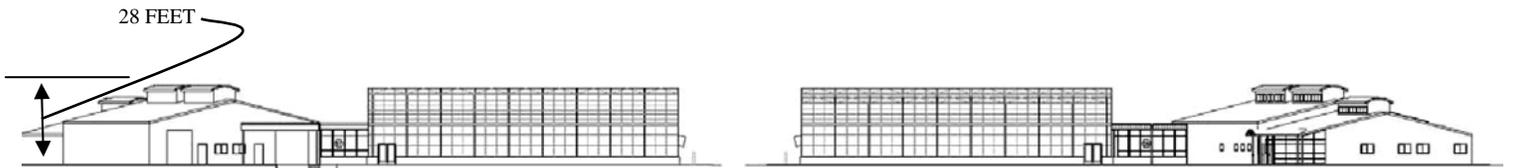
HEADHOUSE NORTH ELEVATION



GREENHOUSE NORTH ELEVATION



GREENHOUSE SOUTH ELEVATION



BUILDING COMPLEX WEST ELEVATION

BUILDING COMPLEX EAST ELEVATION

COORDINATION

The SI initiated consultation with NCPC staff concerning the greenhouse relocation effort in 2007. In its project management, the SI has maintained communications in the planning initiative for project design development, and requested two consultation meetings with NCPC on the initiative in the last quarter of 2007.

The Prince George's County Planning Board of M-NCPPC recommended approval of the master plan in 1993 with the recommendations that the Smithsonian investigate expansion of its recycling program and the continued development of a stormwater management plans that should be submitted to the Maryland Department of the Environment and the Prince George's County Watershed Protection Branch for review and approval in all projects. The County also requested that the Smithsonian explore the use of retention ponds as on-site water control features. All of these measures have been implemented and are complied with under the present design development of the greenhouse relocation project.

The Maryland Department of Environment will review the final stormwater permitting applications for the greenhouse facilities, once they project plans are acted upon by NCPC. To minimize disturbance to the ephemeral streams that exist in the nearby area, the Maryland Department of Natural Resources in its review of earlier SCC plans noted that the use of wide vegetative buffers for streams and the maximization of the maintenance or restoration of natural vegetation in upland areas should be adhered to. In response, SI has developed an on-site drainage system that will consist of an underground pipe system that will be directed into a surface sand filter and will ultimately drain to an existing detention pond near the southeast corner of the site. Vegetative buffers have been preserved and augmented in the site development to maintained streamside protection. A Notice of Intent Application will be filed with the Maryland Department of the Environment for compliance with the National Pollution Discharge Elimination System General Permit since the construction activity will exceed one acre. The Maryland Department of the Environment has the jurisdiction for the review of the on-site storm water management quantity and quality control measures for the project both during and after construction.

PROJECT ANALYSIS

Staff review finds the submitted project adheres to the goals and planning information earlier highlighted by Commission review of the SCC master plan. The greenhouse design is well organized and minimal in its construction effects at the wooded location of the SCC parcel.

Both elements of the greenhouse complex are one-story high-space steel framed utilitarian structures with sloped roofs. The greenhouses are structures placed side by side and joined along their eaves. The headhouse is topped with elongated monitors of different lengths. The variations in roof lines and monitors are for functional purposes yet are effective in visually introducing form changes to create interest.

The building design and site plan for the Complex reduces the visual massing and the presence of the project's utilitarian activities, as viewed from the Suitland Parkway, and in this way varies from the master plan. The proposed design allows significantly less impact on the view from the Center's other areas, and from the Parkway, than the five to eight story structure earlier specified for that zone of the SCC. Staff supports this important improvement and the decision to locate a smaller facility adjacent to the Parkway.

With the noted advantages of the smaller project as a whole, and the compact site plan of the proposal, **the staff recommends the Commission approve the final site and building plans for the Suitland Collections Center Greenhouse Complex.**

CONFORMANCE

Master Plan

The proposal is in conformance with the land use element of the master plan, however, the actual building development is significantly reduced in both height and in massing configuration.

The project as submitted impacts only three and one-half acres of property and exhibits no or very limited viewshed effects toward the Suitland Parkway, over 400 feet in distance, downslope from the greenhouse complex location. The master plan specified the site area for an eight-story building.



**GREENHOUSE COMPLEX NORTHEAST PERSPECTIVE VIEW AS SEEN FROM
THE PROJECT PARKING AREA**

National Environmental Policy Act (NEPA)

The Smithsonian completed an Environmental Assessment (EA) for the project in February 2008. NCPC staff has reviewed the EA, but the Commission does not have independent responsibility under NEPA for projects in the environs because its authority over those projects is advisory.

Staff finds the proposal consistent with the environmental objectives of the master plan and with the effects analyzed in the February 2008 environmental assessment; and that it adheres to provisions of the State of Maryland regulations for on-site storm water management quantity and quality control measures.

National Historic Preservation Act (NHPA)

The SI facilities at the 110-acre Center are not historic eligible properties and there is no effect on standing historic structures within the center.

North of the SCC is the Suitland Parkway. The parkway is a National Park Service managed property and is listed on the National Register of Historic Places under Criteria A (transportation) and C (landscape architecture.) As recommended by the National Park Service to avoid and minimize effects on the parkway from adjacent development, the 280-foot side

preservation zone measured from the east-bound lane of Suitland Parkway is observed in the placement of the greenhouse project.

An archaeological investigation of the SI property conducted in support of the initial SCC construction revealed that there were possible archaeological sites located within the SI property. A Phase II archeological investigation of the selected site was completed in 2008. “Site 18PR427” is a 3.6-acre multi-component site consisting of a minor undated prehistoric component and an early nineteenth-through twentieth-century farmstead. The site lacks research potential. It is not stratified, and clear indications of post-abandonment disturbance are present. The absence of stratified deposits and significant features and the presence of large-scale disturbance does not allow for the development of research questions that could address rural life history in the nineteenth-through early twentieth-centuries. Therefore, the site was recommended by the investigation as not eligible for the National Register of Historic Places and no further work is necessary².

SI is not considered a federal agency for purposes of Section 106 of the National Historic Preservation Act when the activity of the SI is subject to NCPC review in an advisory capacity. Consequently, the Phase II analysis and its findings are provided to NCPC as data in conformance with submission requirements.

Comprehensive Plan for the National Capital

The proposed SI greenhouse complex is consistent with the *Comprehensive Plan for the National Capital: Federal Elements*. The Comprehensive Plan notes that “...federal workplaces that require extensive land and/or have little contact with the public...are primarily located in suburban and rural areas. These include intelligence, research, development, and testing activities. (Federal Workplace Element, p. 26).

Federal Capital Improvements Program

The 2008-2013 NCPC Federal Capital Improvements (FCIP) program does not identify the proposed greenhouse complex relocation as it is an unanticipated program action.

² John Milner Associates, Incorporated. *Phase II Archeological Evaluation of Site 18PR427, Suitland Collections Center, Smithsonian Institution, Prince George’s County, Maryland*. Prepared for the architrave p.c. architects, Washington, DC 2008.