SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Preliminary Mitigated Negative Declaration

Date:	August 17, 2011
Case No.:	**2008.0845E**
Project Title:	San Francisco Botanical Gardens Nursery: Center for Sustainable Gardening
Zoning:	P (Public) OS (Open Space) Height and Bulk District
Block/Lot:	1700/001
Project Size:	2.5 acres (110,000 square feet)
Project Sponsor	Deborah Kartiganer, representing the San Francisco Botanical Garden Society (415) 627-3530
Staff Contact:	Chelsea Fordham – (415) 575-9071 Chelsea.Fordham@sfgov.org

PROJECT DESCRIPTION

The proposed project, located within the San Francisco Botanical Garden at Strybing Arboretum (Botanical Garden), includes demolition of an existing 4,642 square-foot (sf) greenhouse building and associated pavement and ancillary structures, and construction of a new 9,830 square-foot nursery facility that would range in height from 9 to 28 feet. The proposed nursery facility: Center for Sustainable Gardening (Nursery) would consist of a greenhouse, shadehouse, headhouse, support space, outdoor nursery space, and an outdoor Learning Court. In addition, the headhouse portion of the nursery would be designed so that it could be expanded by up to approximately 1,320 square feet at a later date, as the programmatic needs and funds allow, for a total Nursery size of 11,150 square-feet. At full buildout, the proposed project would result in an overall increase of 5,992 sf of building space and 5,897 sf of impervious and pervious surfaces, for a total overall increase of 11,889 sf of developed area within the Botanical Garden. The proposed project also includes creating a vehicular and emergency service access route from Martin Luther King Jr. Drive (MLK Drive) to the Nursery by widening and extending an existing 10 foot wide pathway to a 20 foot wide access route. Additionally, this access route would include the creation of one ADA parking space and an emergency vehicle turn around space adjacent to the proposed Nursery. The proposed Nursery would be accessed by pedestrians via existing paved pathways from within the Botanical Garden and from a separate pedestrian pathway from MLK Drive that would be constructed as part of the proposed project. Additionally, pedestrian walkways that currently traverse the project site would be rerouted to bypass the proposed Nursery location. The project site is located within Golden Gate Park (Assessor's Block 1700, Lot 001) in the western portion of the Botanical Garden in proximity to the intersection of Lincoln Way and 15th Avenue, directly adjacent to the Inner Sunset neighborhood. The project site totals approximately 2.5 acres (approximately 110,000 sf), which includes the total size of the area being proposed for improvements. The project site is located within a Public (P) zoning district with OS (Open Space) height and bulk limits. The project would require a variance from the Planning Code Section 151 for the off-street parking requirements.

FINDING

This project could not have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to prepare a Negative Declaration), and the following reasons as documented in the Initial Evaluation (Initial Study) for the project, which is attached.

Mitigation Measures are included in this project to avoid potentially significant effects. See pages 135-145.

cc:

Deborah Kartiganer, Sedgwick, Detert, Moran & Arnold LLP
Supervisor Eric Mar, District 1
Glenn Cabreras, Neighborhood Planner, Northeast Quadrant
Historic Distribution List
Masrerr Decision File
Bulletin Board

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INITIAL STUDY
Case No. 2008.0845E – Nursery: Center for Sustainable Gardening

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A. PROJECT DESCRIPTION

Project Location and Site Characteristics

The project site is located within Golden Gate Park (Assessor's Block 1700, Lot 001) in the western portion of the San Francisco Botanical Garden at Strybing Arboretum (Botanical Garden) in proximity to the intersection of Lincoln Way and 15th Avenue (see Figure 1: Project Location), directly adjacent to the Inner Sunset neighborhood. The Botanical Garden is a 55-acre (2,395,800 square-foot) garden located in the southeastern portion of Golden Gate Park. The Botanical Garden consists of landscaped gardens, forests, and meadows displaying 8,000 varieties of plants from different climates of the world. The only buildings located in the Botanical Garden include the existing greenhouse buildings and the County Fair Building.

The Botanical Garden is accessible by pedestrians through the Main Gate entrance gate located near the County Fair Building at the intersection of Martin Luther King Jr. Drive (MLK Drive) and Lincoln Way and through a secondary access point known as the "Friends Gate" located along MLK Drive. Additionally, the project site is located approximately 300 feet from the Muir Gate, which is the third entrance point into the Botanical Garden; however, this gate remains locked the majority of the time. The Botanical Garden has an off-street parking lot with 31 parking spaces located at the intersection of 10th Avenue and Lincoln Way, which provides parking for staff and volunteers of the Botanical Garden. Additionally, vehicles currently access the existing greenhouse from an access road from the off-street parking lot. Visitors to the Botanical Garden can park along MLK Drive and off-street parking is provided in the underground parking garage in the Music Concourse.

The project site totals approximately 2.5 acres or approximately 110,000 square feet, which includes the total size of the area being disturbed for construction activities. However, the total overall square-footage of permanent improvements associated with the project would be 80,235 square feet (see Table 1, page 8). A greenhouse and supporting buildings located in the southern portion of the Botanical Garden are proposed for demolition. The area being proposed for new construction is located in the southwestern portion of the Botanical Garden which is currently undeveloped and contains disturbed soils and native grasses.

The project site is located within a Public (P) zoning district with OS (Open Space) height and bulk limits.

Proposed Project

The proposed project would include demolition of an existing 4,642 square-foot (sq.ft) greenhouse building (built in approximately 1963), associated ancillary structures, and informal parking spaces [1], and construction of a new 9,830 sq.ft nursery facility that would range in height from 9 to 28 feet (together, the "proposed project"). The proposed nursery facility, Center for Sustainable Gardening (Nursery), would consist of a greenhouse, shadehouse, headhouse (which would contain office, meeting, assembly, and work space), support space, outdoor nursery space (including upper growing grounds and lower growing grounds), restrooms and an outdoor Learning Court (see Figures 4- 8: Proposed Nursery: Center for Sustainable Gardening Elevations). The headhouse building would have a green "living" roof. The Learning Court would be an open area with growing grounds and informal seating. In addition, the headhouse portion of the nursery would be designed so that it could be expanded by up to approximately 1,320 square feet at a later date, as programmatic needs and funds allow, for a total building size of the Nursery of 11,150 square-feet. To understand the potential environmental impacts of the proposed project at full buildout, the total expanded square-footage of 11,150 for the Nursery is analyzed in this environmental document.

The proposed project would also include the installation of a fence around the perimeter of the proposed Nursery and growing grounds that would have a range of height from 4' to 9'-6" feet tall and a length of 490.5 feet (see Figure 8). The project would also require retaining walls along the boundaries of the learning court and the upper growing grounds and backfill of the slope south of the project site with approximately 4,000 cubic yards of soil that will be supplied from elsewhere on the project site. The project site for the Nursery is not currently served by utilities; therefore, the project site would require extension of utility lines from Lincoln Way including wastewater/ stormwater lines, high voltage electricity service lines, domestic water lines, and water lines to be used for recycled water once such a system is installed by the Recreation and

[1] The existing parking lot at the greenhouse is considered unofficial because it does not have designated parking spaces and was not constructed to function as a parking lot.

Park Department. The proposed project would also require the removal of 46 trees within the vicinity of the proposed Nursery site.[2]

TABLE 1: EXISTING AND PROPOSED LAND USES

Land Use	Existing (Square Feet)	Proposed (Square Feet)	Net Addition (Square Feet)
Greenhouse	2,086	2,800	+ 714
Shade House	2,556 sq.ft.	2,800 sq.ft.	+ 244 sq.ft.
Headhouse (office and common areas)	0	4,230 sq.ft.	+ 4,230 sq.ft.
Future expansion of Headhouse	NA	1,320 sq.ft.	+ 1,320 sq.ft.
Ancillary Structures[1]	516	0	- 516
Total Overall Building Square Footages	5,158	11,150	+5,992
Impervous Surfaces (roadways and pathways)	29,015 sq.ft	32,132 sq.ft	+ 3,117 sq.ft
Pervious Surfaces (i.e. pervious pavers, outdoor nursery space, Learning Court)	0	2,780 sq.ft	+ 2,780 sq.ft
Total Overall Square Footages	34,173	46,062	+ 11,889 sq.ft.

[1] These include two 104-square-foot hot house structures and a 308-square-foot shed which will be removed as part of the Project.

In total, the proposed project would result in an overall increase of 5,992 sf of building space and 5,897 sf of impervious and pervious surfaces, for a total overall increase of 11,889 sf of developed space within the Botanical Garden. The proposed demolition of the existing greenhouse facilities would include demolition of the greenhouse building, shade house, and ancillary structures, which totals approximately 5,158 sf. The existing greenhouse facilities (including existing outdoor nursery area and seven space paved unofficial parking lot[3]) would be replaced with native vegetation as an extension of the existing California Native Garden consistent with the historical

[2] The Botanical Garden proposes to replant the existing greenhouse site and the Nursery site with replanted trees as part of the Botanical Gardens Tree Canopy Succession Plan; however, this Plan is not a part of the proposed project.

[3] The existing parking lot at the greenhouse is considered unofficial because it does not have designated parking spaces and was not constructed to function as a parking lot.

vegetation pattern of Golden Gate Park and the Botanical Gardens. Table 1 below shows the distribution of space of the existing greenhouse and the proposed Nursery.

The proposed project would also include a vehicular and emergency service access route from Martin Luther King Jr. Drive (MLK Drive) to the proposed Nursery. This access route would be created by widening and extending an existing 10 foot wide pathway to a 20 foot wide access route per specific San Francisco Fire Department requirements, with the possibility of a 15-foot width at certain locations (subject to Fire Department approval). The access route would be 300 feet in length from the Muir Gate to the proposed Nursery site (see Figure 3 – Site Plan). Additionally, this access route would include the creation of one ADA parking space and an emergency vehicle turn around space adjacent to the proposed Nursery. The access road would be used for fire equipment access, service/delivery vehicle access, and for access to the onsite ADA parking space. No other additional off-street parking would be provided, and as discussed above, the proposed project would eliminate the existing seven informal parking spaces at the existing greenhouse as part of the demolition. The proposed Nursery would be accessed by pedestrians via existing paved pathways from within the Botanical Garden and from a separate existing pedestrian pathway from MLK Drive that would be reoriented and moved to avoid any potential conflicts between pedestrians and vehicular service trucks. Additionally, other pedestrian walkways that currently traverse the project site would be rerouted to either bypass or cross through the proposed Nursery (see Figures 2 and 3).

The Nursery would function as a propagation center and growing facility for the Botanical Garden, as well as office space for the existing staff of approximately 15 employees and 20 – 25 volunteers (per day) who currently operate out of the existing greenhouse building. Additionally, the building also could be used to provide space (for up to about 80 people) for informational presentations or demonstrations of horticultural techniques. No such programming is currently planned for the Nursery; should such programming be undertaken in the future, it would be scheduled for midday programs for children and evening programs for adults.

SOURCE: ESA; USDA, 2005

San Francisco Botanical Garden Nursery Project . 208660

Figure 1 Project Location

Figure 2 **Existing Conditions of the Botanical Garden**

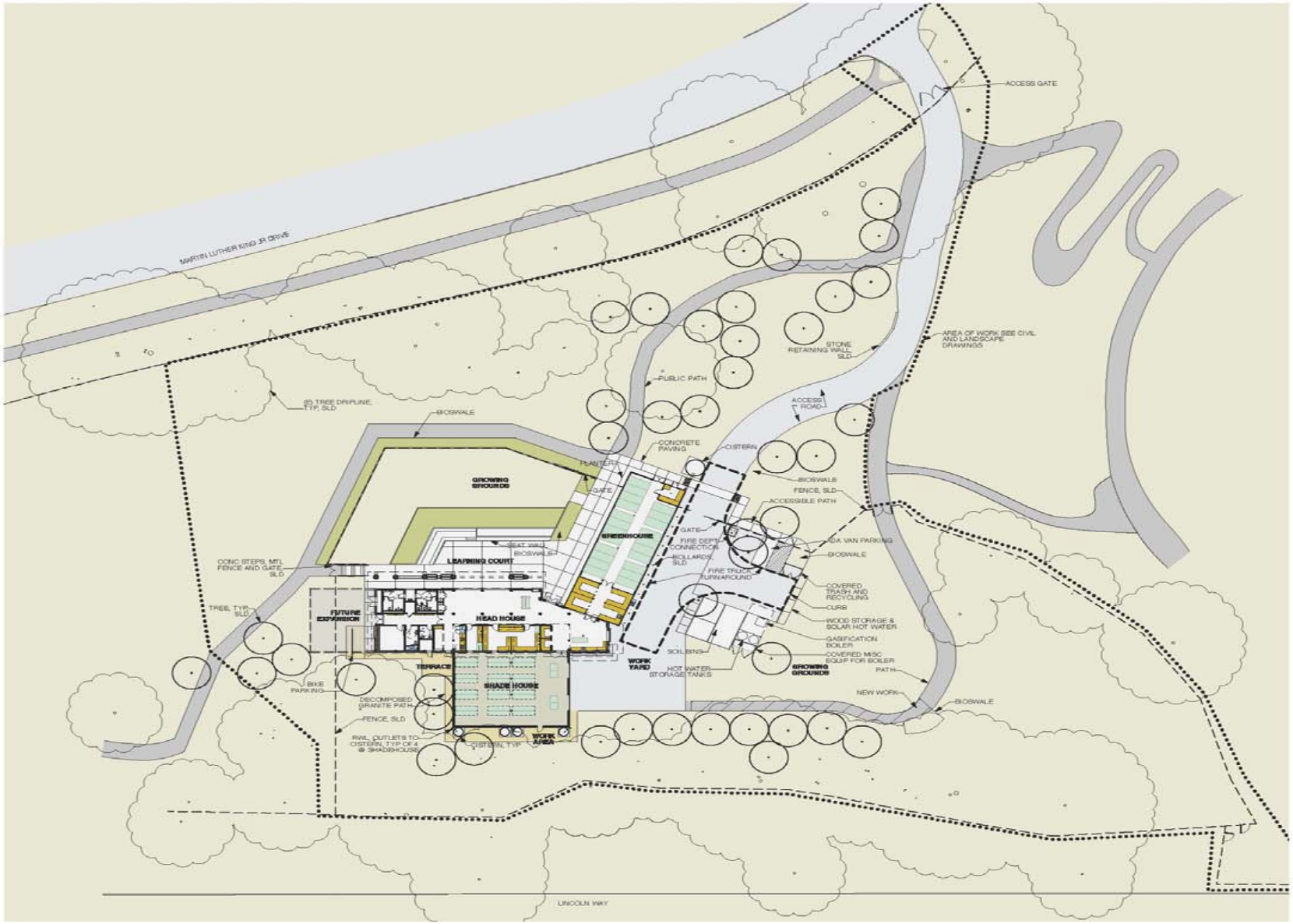


Figure 3 Site Plan

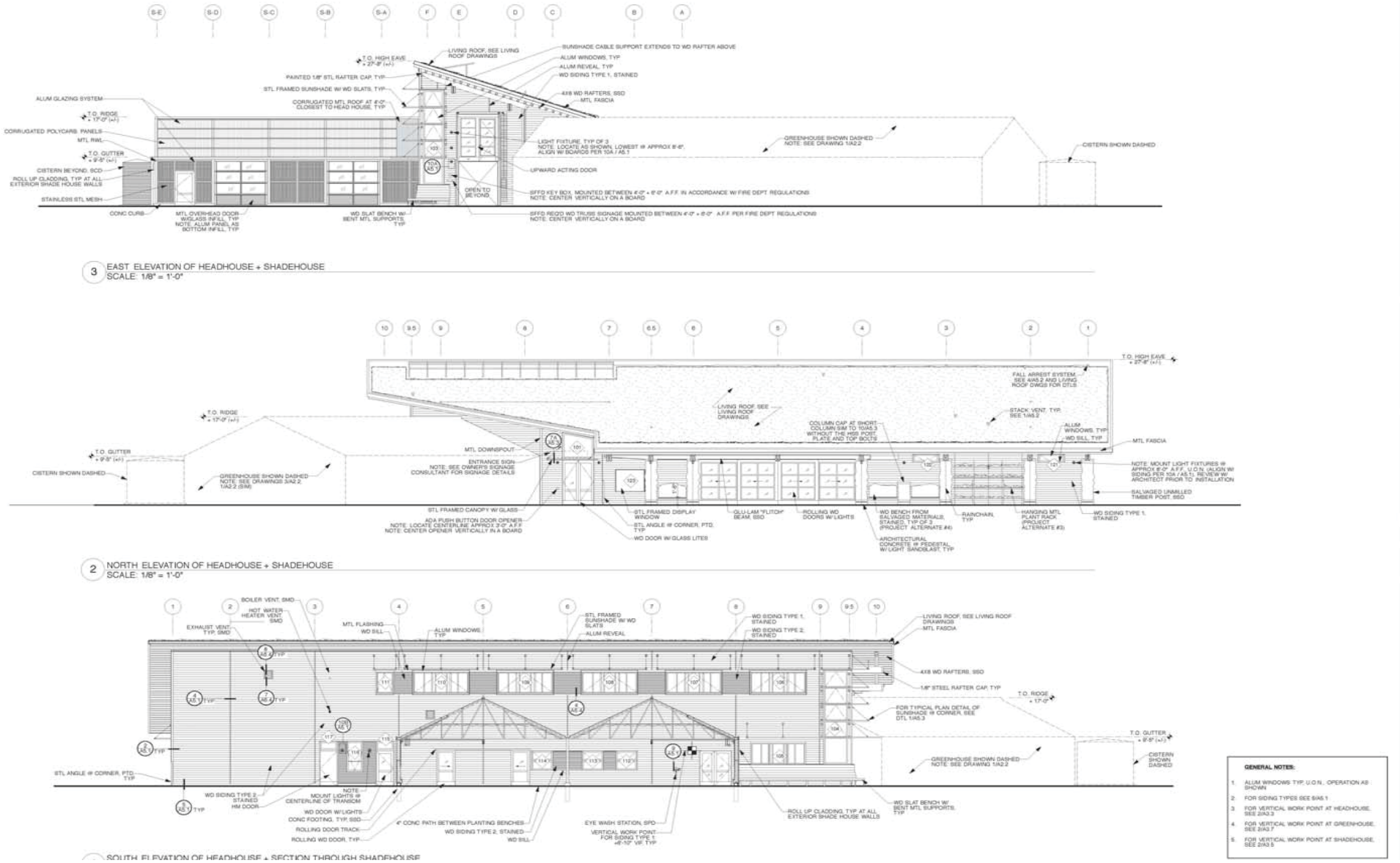


Figure 4 Proposed Nursery: Center for Sustainable Gardening Elevations

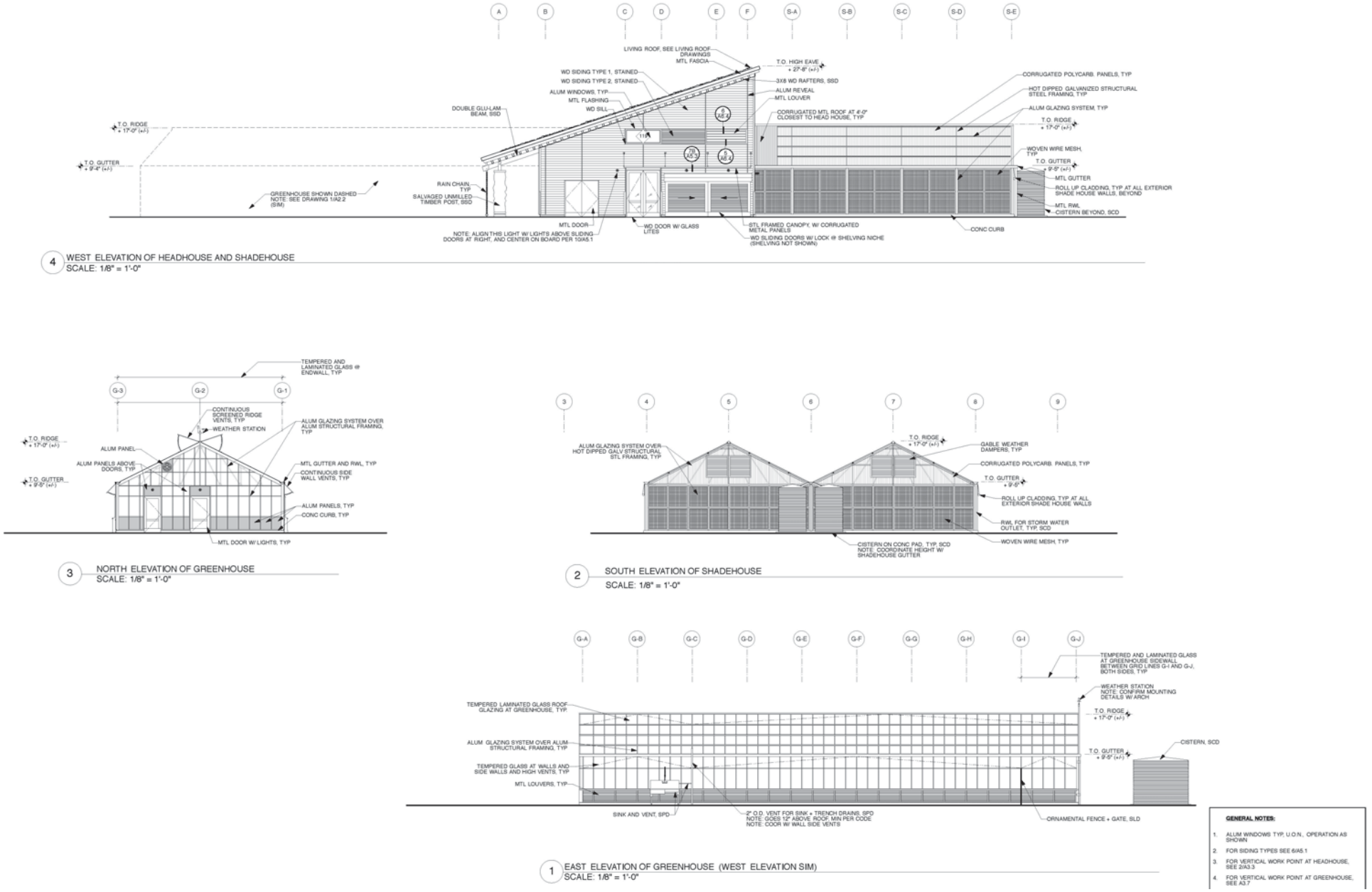


Figure 5 Proposed Nursery: Center for Sustainable Gardening Elevations

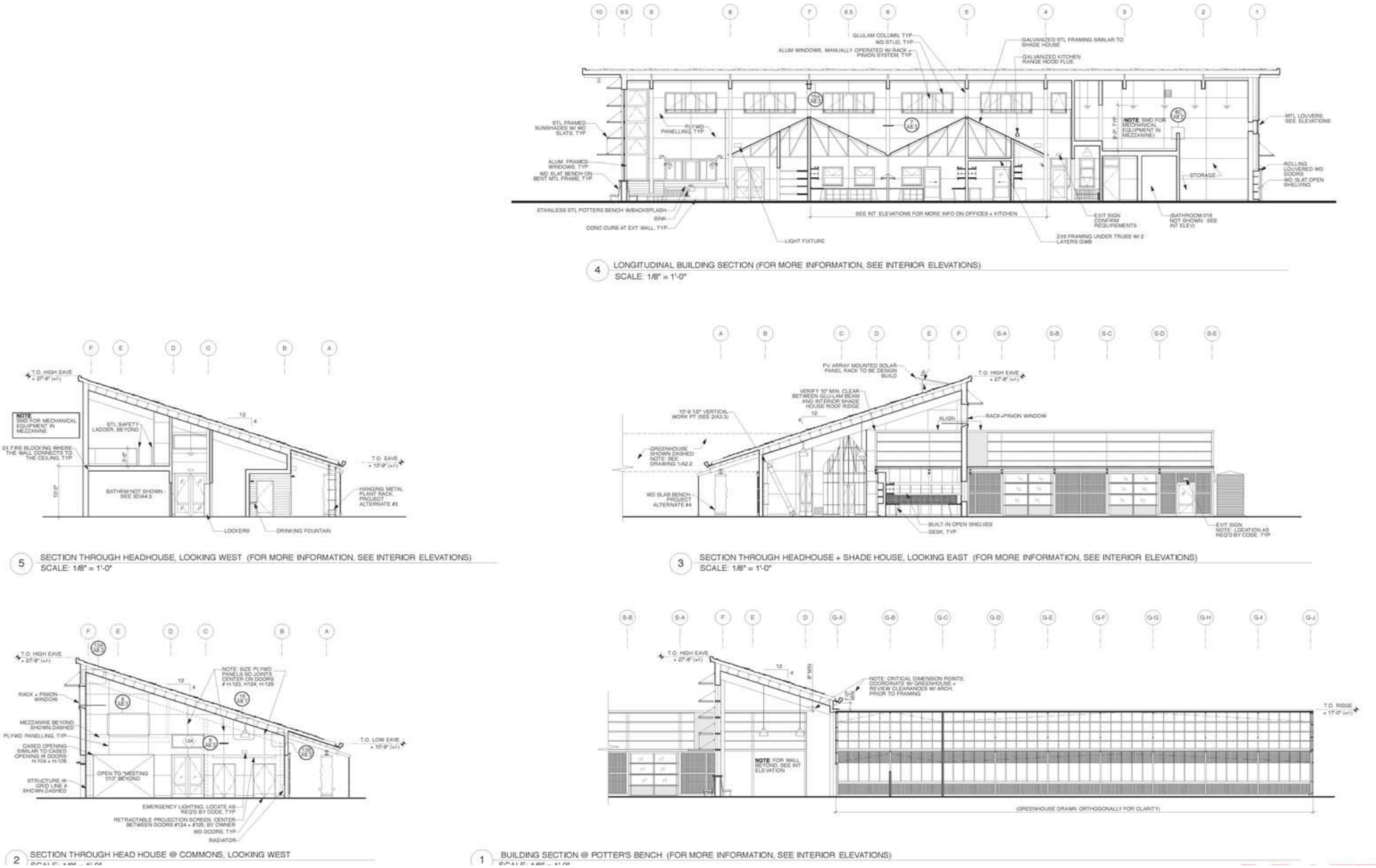


Figure 6 **Proposed Nursery: Center for Sustainable Gardening Elevations**

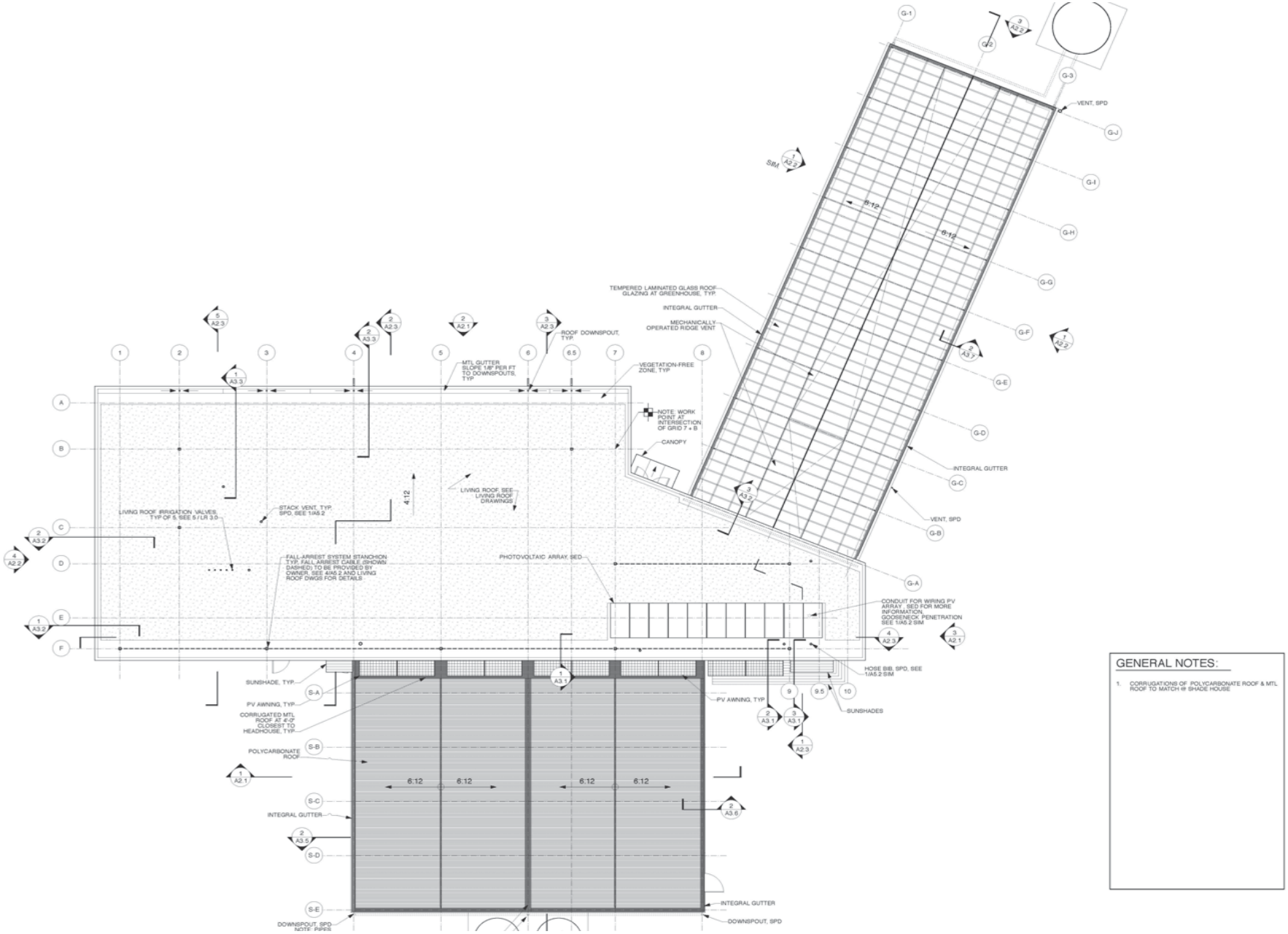
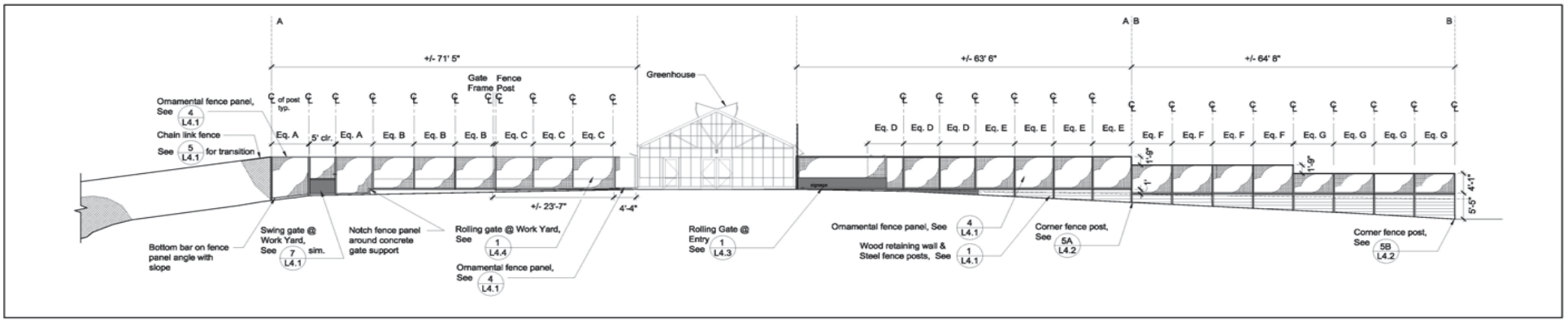
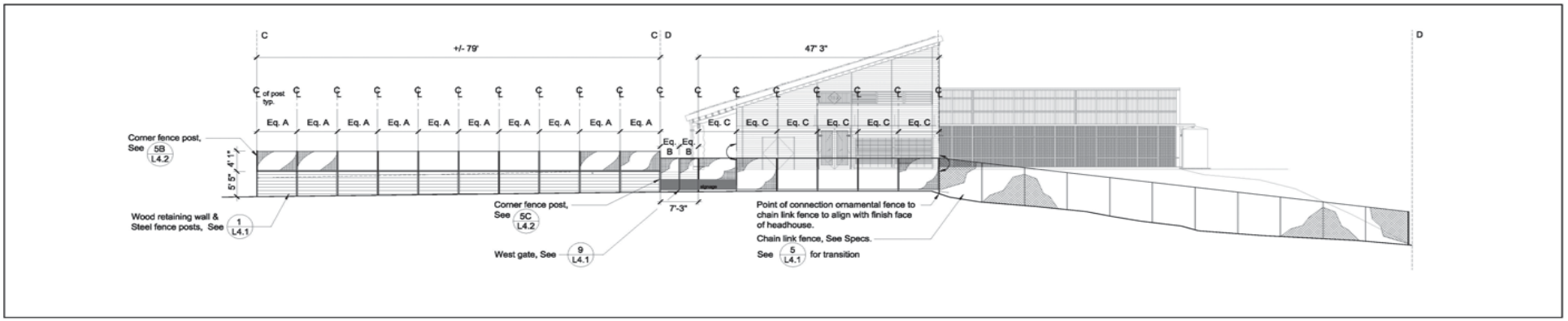


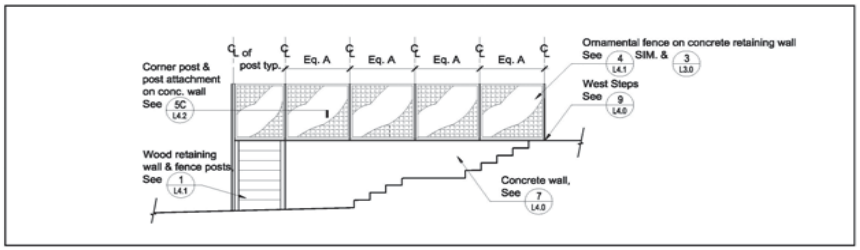
Figure 7 Proposed Nursery: Center for Sustainable Gardening Roof Plan



1 North Elevation of Fences and Gates (A-A, B-B) Scale: 1" = 10' - 0"



2 West Elevation of Fences and Gates (C-C, D-D) Scale: 1" = 10' - 0"



3 South Elevation of Fence Scale: 1/4" = 1' - 0"

Figure 8 Proposed Nursery: Center for Sustainable Gardening Elevations with Perimeter Fence

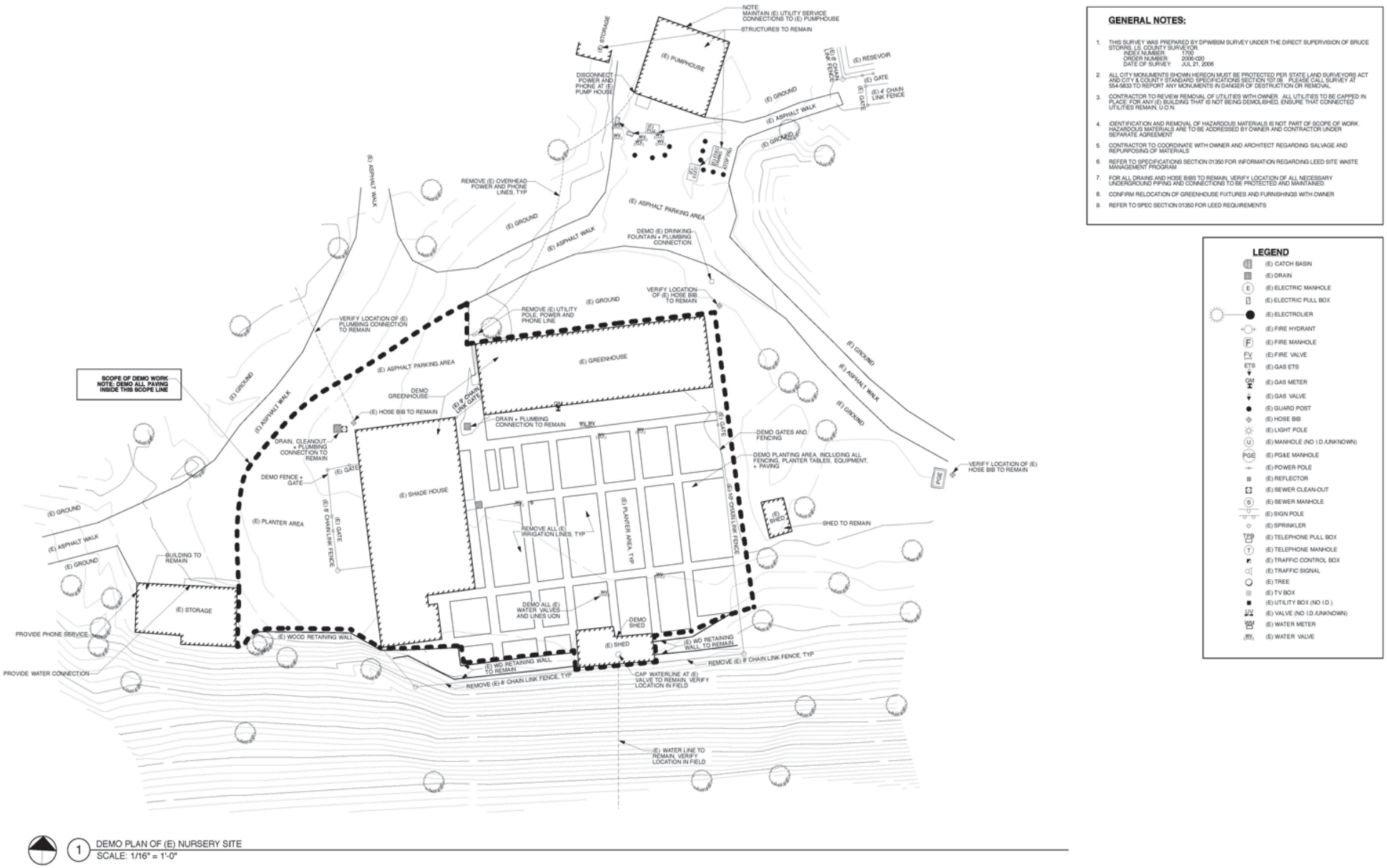


Figure 9 Demolition Plan for the Existing Greenhouse

Figure 10 Proposed New Conditions of the Botanical Garden

The project sponsor, the San Francisco Botanical Garden Society (Society), estimates that demolition of the existing greenhouse and accessory building and construction of the new greenhouse facility would take approximately 14 months. The proposed project is located on San Francisco Recreation and Park Department (RPD) property and will be implemented and constructed by the Society, which leases a portion of the Botanical Garden. As discussed below, the project would require approval from the Recreation and Park Department Commission, for a "general approval" from the Commission pursuant to Section 4.113 of the City Charter. After construction of the Nursery, the Nursery would be transferred to the RPD as a "gift in place", if approved by the Recreation and Park Commission and the Board of Supervisors.

The project sponsor intends on pursuing LEED© (Leadership in Energy and Environmental Design) Platinum Certification for the proposed project under the category of LEED© for New Construction program. LEED© is a nationally recognized standard for high performance "green" buildings. The LEED© green building certification incorporates sustainable design concepts across five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. The following table is a partial list of sustainable design strategies, grouped into six categories, that the project sponsor intends to incorporate into the proposed project.

TABLE 2:
NURSERY: CENTER FOR SUSTAINABLE GARDENING PROPOSED SUSTAINABLE DESIGN STRATEGIES FOR LEED PLATINUM CERTIFICATION

Sustainable sites	**Indoor Environmental Quality**
Site Selection	Increased Ventilation
Development Density and Community Connectivity	Construction Indoor Air Quality Management Plan
Alternative Transportation	Low-Emitting Materials
Site Development	Indoor Chemical and Pollutant Source Control
Stormwater Design	Controllability of Systems
Heat Island Effect	Thermal Comfort
Light Pollution Reduction	Daylight and Views
Water Efficiency	**Innovation and Design Process**
Water Efficient Landscaping	Building as an Education Tool
Water Use Reduction	Non-Chemical Landscape Maintenance
Energy and Atmosphere	Green Housekeeping
Optimize Energy Performance	Green Power
Enhanced Refrigerant Management	LEED Accredited Professional
Green Power	
Materials and Resources	
Construction Waste Management	
Recycled Content	
Certified Wood	

Source: Simon & Associates, Inc. Nursery: Center for Sustainable Gardening Project File. Available for public review at the Planning Department, 1650 Mission Street, Suite 400 as part of Case File No. 2008.0845E.

B. PROJECT SETTING

The project site is located in the San Francisco Botanical Garden at Strybing Arboretum within Golden Gate Park. The Botanical Garden is located in the southeast portion of Golden Gate Park and is bordered by MLK Drive, Crossover Drive, Lincoln Way, and 9th Avenue. The Botanical Garden consists of 55 acres of landscaped gardens, forests, and meadows displaying 8,000 varieties of plants from different climates of the world. The Botanical Garden is located across from the Music Concourse, which contains the highest concentration of museum, institutional, and recreational uses in Golden Gate Park, including the De Young Museum and the California Academy of Sciences building. The project site is located in a P (Public) zoning district and an OS (Open Space) height and bulk district, as is all of Golden Gate Park.

The existing greenhouse buildings proposed for demolition are located in the southern portion of the Botanical Garden and have an area of approximately 34,173 sq. ft. The greenhouse is located west of the County Fair building, south of the California native plant exhibit, and east of the Redwood Trail exhibit.

The proposed Nursery project site consists of approximately 110,000 sq.ft, located in the western portion of the Botanical Garden between MLK Drive and Lincoln Way. The proposed Nursery site is east of the Children's garden and west of the succulent gardens and existing growing grounds for the Botanical Garden. The proposed Nursery site is bordered by Mothers Meadow and Playground directly across from MLK Drive to the north and multi-family apartment complexes and single-family homes on the other side of Lincoln Way to the south.

The Nursery project site is sloped downward from north to south and from east to west. Elevations on the site range from approximately 245 feet above mean sea level (msl) to approximately 269 feet msl, with a slope of seven percent grade.

C. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	Applicable	*Not Applicable*
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	☒	☐
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	☒	☐
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	☒	☐

Planning Code and Zoning

The *San Francisco Planning Code*, which incorporates by reference the City's Zoning Maps, governs permitted uses, densities and the configuration of buildings within San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless either the proposed project conforms to the *Planning Code* or an exception is granted pursuant to provisions of the *Planning Code*.

The project site is located within a Public Use District (P). P Districts are lands that are owned by a government agency and are in some form of public use, including open space. Permitted uses within P Districts include public structures and uses of the City and County of San Francisco and other governmental agencies that are subject to regulation by the Planning Code, including accessory nonpublic uses when in conformity with a Master Plan for the area.

The purpose of the P District designation is to relate the Zoning Map to actual land use and to an associated Master Plan, which regulates permitted uses. The Master Plan that regulates land use for the San Francisco Botanical Garden includes the Golden Gate Park Master Plan and the Master Plan for the Strybing Arboretum and Botanical Garden. The compatibility with these Master Plans is discussed below, under the appropriate subheadings.

The project site is located within an OS (Open Space) height and bulk district. Open Space Districts have a principal or exclusive purpose as open space, with future development of any character strictly limited. Any development requires that a building's height and bulk be in accordance with the principles and policies of the Master Plan, and no building, structure, or addition may be permitted if it is inconsistent the Master Plan. The proposed projects consistency with the Golden Gate Park Master Plan and the Master Plan for the Strybing Arboretum and Botanical Garden is discussed below.

Planning Code Section 151 regulates required off-street parking. According to Section 151 of the *Planning Code*, greenhouses or plant nurseries require one off-street parking space for every 4,000 sq.ft. of occupied floor area, where the occupied floor area exceeds 5,000 sq.ft. The proposed project would be required to provide two off-street parking spaces (or three if the greenhouse were expanded in the future to 11,150 sq.ft.). The proposed project would provide one ADA off-street parking space. Therefore, the project sponsor is seeking a Variance from *Planning Code* Section 151.

The OS height and bulk district regulates building height and bulk by requiring conformity with the objectives, principles, and policies of an associated Master Plan document (Planning Code Section 290), which in this instance consists of both the Golden Gate Park Master Plan and the Strybing Arboretum & Botanical Garden Master Plan. The Master Plans do not define height and bulk for the Botanical Garden.

Plans and Policies

Golden Gate Park Master Plan

The Master Plan for Golden Gate Park (Master Plan) is intended to provide a framework and guidelines to ensure responsible stewardship of the Park. The goal of the Master Plan is to manage current and future park and recreation demands while preserving the historic significance of the Park. The Master Plan provides recommendations for improvements to the Park including the Park landscape, circulation, visitor facilities, buildings and monuments, utilities and infrastructure, maintenance and operations, park management, and special area plan. The Master Plan includes several recommendations for improvements to the Strybing Arboretum and Botanical Garden. The primary components outlined in the Master Plan for the Botanical Garden include providing a distinctive visual identity for the Botanical Garden and creating new education opportunities to teach children and adults about plants and conservation. One of the components of the Master Plan is to relocate the existing Strybing Nursery Complex. The Master Plan states, "The current nursery facility is dilapidated and in the coldest part of the Park. It will be relocated and its areas will become part of the California native plant collection.

The new nursery will be relocated in a more favorable growing area to the west."[4] The proposed project is generally consistent with the recommendations for the Botanical Garden outlined in the Golden Gate Park Master Plan including the demolition of the existing nursery and the construction of a new nursery in an area in the western portion of the Botanical Garden. The compatibility of the proposed project with Master Plan policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project.

Master Plan for Strybing Arboretum and Botanical Gardens

The Master Plan for Strybing Arboretum and Botanical Gardens (Plan) is the planning document for the growth of the San Francisco Botanical Gardens for the 21st Century. The Plan provides a framework to respect the historical landscape and enhance and strengthen the Garden's distinctive "sense of place." The Plan for the Botanical Garden defines the fundamental considerations that are considered critical to the Botanical Garden future viability, which includes; improving access to the Botanical Garden by making the exhibits and educational services more evident and appealing to the public. The Plan is a series of guidelines for gradual development of the Botanical Garden in phases over time, including new facilities and new landscaping, interpretative signage, paths, and visitor amenities.

The Plan discusses an outline for a new nursery complex and grounds that would total approximately 1.8 acres. As set forth in the Plan, the new nursery facilities would be of adequate size in an appropriate location and include:

- Expansion of the Botanical Garden growing, research and experimentation programs;
- Minimal visual impacts;
- An opportunity to educate the public about the techniques in practice at the Nursery Complex through interpretative signage;
- Space for preparation, storage, and growing of plants leading to increased funds through sales; and

[4] Golden Gate Park Master Plan, San Francisco Recreation and Park Department, October 1998, prepared by Royston, Hanamoto, Alley, & Abey, pg.13-8

- Encouragement of volunteer participation with improved parking, lighting, security and modern facilities.

The Plan states the following about the proposed location for the new nursery complex and grounds, "The building, work and storage areas should be located within the complex in a manner which allows full development of the western end of the Botanical Garden. Visual impact will be minimized by fitting these into existing slopes."[5] The Master Plan further describes the proposed architectural features for the nursery complex and grounds, including building sizes, buildings and grounds, circulation, signage, and proposed landscaping. The Master Plan states that development of the Plan for a new nursery would require a detailed topographic survey and more detailed programming based on staff and volunteer workshops, followed by more refined design drawings.

The proposed Nursery project is generally consistent with the nursery complex outlined in the Strybing Arboretum & Botanical Gardens Master Plan, including the demolition of the existing nursery and the construction of a new nursery in an area in the western portion of the Botanical Garden. The compatibility of the proposed project with the Master Plan policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project.

San Francisco General Plan

The San Francisco General Plan (General Plan) provides general policies and objectives to guide land use decisions. Any conflict between the proposed project and policies that relate to physical environmental issues are discussed in Section E, Evaluation of Environmental Effects. The compatibility of the proposed project with General Plan policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project.

Priority Policies

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the *Planning Code* to establish eight Priority

[5] The Master Plan for Strybing Arboretum and Botanical Gardens, Prepared for the Strybing Arboretum Society, prepared by Fernau & Hartman Architect, 1995. pg. 28

Policies. These policies, and the sections of this Environmental Evaluation addressing the environmental issues associated with the policies are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character (Question 1c, Land Use); (3) preservation and enhancement of affordable housing (Question 3b, Population and Housing, with regard to housing supply and displacement issues); (4) discouragement of commuter automobiles (Questions 5a, b, f, and g, Transportation and Circulation); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership (Question 1c, Land Use); (6) maximization of earthquake preparedness (Questions 13a-d, Geology, Soils, and Seismicity); (7) landmark and historic building preservation (Question 4a, Cultural Resources); and (8) protection of open space (Questions 8a and b, Wind and Shadow, and Questions 9a and c, Recreation and Public Space). Prior to issuing a permit for any project which requires an Initial Study under the California Environmental Quality Act (CEQA), and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action which requires a finding of consistency with the General Plan, the City is required to find that the proposed project is consistent with the Priority Policies. As noted above, the consistency of the proposed project with the environmental topics associated with the Priority Policies is discussed in the Evaluation of Environmental Effects and provides information for use in the case report for the proposed project. The case report and approval motions for the project will contain the Department's comprehensive project analysis and findings regarding consistency of the proposed project with the Priority Policies.

Regional Plans and Policies

The five principal regional planning agencies and their over-arching policy plans to guide planning in the nine-county Bay Area include: the Association for Bay Area Governments' (ABAG), "A Land Use Policy Framework" and Projections 2005; the Bay Area Air Quality Management District's (BAAQMD's) Clean Air Plan and the Bay Area Ozone Strategy; the Metropolitan Transportation Commission's Regional Transportation Plan - Transportation 2030; the San Francisco Regional Water Quality Control Board's San Francisco Basin Plan; and the San Francisco Bay Conservation and Development Commission's San Francisco Bay Plan. Due to the size of the proposed project, there would be no anticipated conflicts with regional plans.

Federal Regulations

Federal Endangered Species Act (ESA)

The Federal Endangered Species Act (ESA) was enacted in 1973. Under the ESA, the Secretary of the Interior and the Secretary of Commerce, have the authority to list a species as threatened or endangered (Title 16 United States Code [USC] Section 1533[c]). The ESA is administered by both the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS Fisheries) and the United States Fish and Wildlife Service (USFWS). NOAA Fisheries is accountable for animals that spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish. The USFWS is accountable for all other federally-listed plants and animal species.

Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species may be present in the project site and determine whether the proposed project would have a potentially-significant impact on such species. In addition, the agency is required to determine whether the proposed project is likely to jeopardize the continued existence of any species proposed to be listed under the ESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]). If so, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Projects that would result in a "take" of a federally-listed threatened or endangered species would be required to obtain authorization from USFWS through an incidental take permit. The proposed project could be required to get an incidental take permit because of potential impacts that could occur to the California Red Legged Frog (CRLF), which is a federally listed endangered species.

Project Approvals Required

The proposed project could require the following project approvals:

- Variance (Planning Code Section 151) for required off-street parking spaces for a greenhouse or plant nursery for projects exceeding 5,000 sf.

- General Plan Referral for projects for the construction or improvement of public buildings or structures within the City and County of San Francisco,
- Acceptance of a "gift in place" by the San Francisco Recreation and Park Department Commission and the Board of Supervisors.
- General Approval from the San Francisco Recreation and Park Department Commission pursuant to Section 4.113 of the City Charter
- Design review approval by the San Francisco Arts Commission.
- Department of Building Inspection (DBI) building permits; San Francisco Fire Department approval of the access route; Department of Recreation and Parks (RPD) for the use of on-street parking spaces for freight loading zone, and for work within the public right-of-way; and Department of Parking and Traffic (DPT) approval for permits for work within the public right-of-way on Lincoln Way.
- Tree Removal permit from the Recreation and Park Department
- SFPUC Wastewater Enterprise, Urban Watershed Management Program (UWMP) – Approval of a Stormwater Control Plan and Operation and Management Plan demonstrating compliance with the requirements of the Stormwater Design Guidelines (SDG).
- Incidental take permit from USFW

NEIGHBORHOOD NOTIFICATION

A "Notification of Project Receiving Environmental Review" was sent out on January 23, 2009, to the owners of properties within 300 feet of the Botanical Garden boundaries and to occupants of properties adjacent to the project site, as well as to other interested parties. The Planning Department received several letters and telephone calls in response to the notice. Respondents requested to receive environmental review documents and/or expressed concerns regarding the proposed project. Concerns regarding the proposed project included: (1) traffic impacts on MLK Drive; (2) pedestrian impacts; (3) impacts to the California Red Legged Frog (CRLF); (4) lighting impacts; (5) impacts to wildlife from construction and operation; (6) bird strikes from the new Nursery; (7) transit accessibility; (8) use of extensive fencing; (9) non-conformance with both the Master Plan for Strybing Arboretum and Botanical Gardens and the Golden Gate Park Master Plan; (10) aesthetic impacts; (11) historic resource impacts; and (12) greenhouse gas emissions

impacts. These issues are addressed in the discussion in Section E, Evaluation of Environmental Effects.

D. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project could potentially affect the environment in the topic areas checked below. The topic areas that are checked are topics for which the proposed project could potentially result in significant impacts and require mitigation measures to reduce potential effects to less-than-significant levels. Each topic is discussed in Section E. Evaluation of Environmental Effects. Corresponding mitigation measures, if required to reduce potentially significant environmental effects, are presented in Section F, Mitigation Measures.

☐ Land Use	☐ Air Quality	☐ Geology and Soils
☐ Aesthetics	☐ Wind and Shadow	☐ Hydrology and Water Quality
☐ Population and Housing	☒ Recreation	☒ Hazards/Hazardous Materials
☒ Cultural and Paleo. Resources	☐ Utilities and Service Systems	☐ Mineral/Energy Resources
☐ Transportation and Circulation	☐ Public Services	☐ Agricultural Resources
☐ Noise	☒ Biological Resources	☒ Mandatory Findings of Signif..

E. EVALUATION OF ENVIRONMENTAL EFFECTS

All items in the Initial Study checklist that have been checked "Less Than Significant Impact", "No Impact" or "Not Applicable" indicate that, upon evaluation, the proposed project could not have a significant adverse environmental effect relating to that issue. For items that have been checked "Less Than Significant with Mitigation Incorporated", that the proposed project would not have a significant adverse environmental effect with implementation of the mitigation measures presented in Section F of this document (see page 130). A discussion is included for most issues checked "Less Than Significant with Mitigation Incorporated", "Less Than Significant", "No Impact", or "Not Applicable". For all of the items checked "Not Applicable" or "No Impact" without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff experience and expertise on similar projects, and/or standard reference material available within the Department, such as the Department's *Transportation Impact Analysis Guidelines for Environmental Review*, or the California Natural Diversity Data Base and maps, published by the California Department of Fish and Game. For each checklist item, the evaluation has considered the impacts of the project both individually and cumulatively.

E.1 Land Use and Land Use Planning

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
1.	**LAND USE AND LAND USE PLANNING— Would the project:**					
a)	Physically divide an established community?	☐	☐	☒	☐	☐
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐
c)	Have a substantial impact upon the existing character of the vicinity?	☐	☐	☒	☐	☐

Impact LU-1: The proposed project would not physically divide an established community. (Less than Significant)

The proposed project is located within Golden Gate Park, which is a mix of open space, educational, recreational, cultural, and museum uses. The project site is located within the Botanical Garden and is comprised of two sites; one of which is occupied by an existing greenhouse and supporting building, and the second which is undeveloped and contains disturbed soils and native grasses. The proposed project would demolish the existing greenhouse building and convert it into an extension of the California Native Garden exhibit and construct a new Nursery building and growing grounds west of the existing greenhouse. The land use surrounding the project site consists of different portions of the Botanical Garden including the California Native Garden, the succulent garden, and the Children's Garden. The Botanical Garden is located across from the Music Concourse area, which is the area that contains the highest concentration of museum, institutional, and recreational uses in Golden Gate Park including the De Young Museum and the California Academy of Sciences buildings. Land use impacts are considered significant if they disrupt or divide the physical arrangement of an established community, or they have substantial impacts on the existing character of the vicinity. The proposed project would construct a new Nursery facility within an undeveloped portion of the Botanical Garden. Additionally, the proposed project would include expanding an existing 10-foot wide pathway to a 20-foot wide vehicular and emergency service access road to the new Nursery. It is not expected that this access road would create an impediment to the passage of persons or vehicles within the Botanical Garden because the majority of the service access road is

configured to follow the existing pathway and the service road would have on average only three service vehicles per day, which would not create an impediment for pedestrians within the Garden. Accordingly, the proposed project would not disrupt or divide the physical arrangement of the Garden, and this impact would be less than significant.

Impact LU-2: The proposed project would be consistent with the applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

The proposed project would not substantially conflict with any applicable land use plan, policy or regulation such that an adverse physical change would result (see Section C. Compatibility with Existing Zoning and Plans). Environmental plans and policies are those, like the Bay Area Air Quality Management Plan, which directly address environmental issues and/or contain targets or standards, which must be met in order to preserve or improve characteristics of the City's physical environment. The proposed project would not substantially conflict with any such adopted environmental plan or policy.

Strybing Arboretum and Botanical Gardens Master Plan

As discussed above under Section C, the Master Plan for the Strybing Arboretum & Botanical Gardens is a planning document to guide the development of the Botanical Garden for the 21st Century. The proposed project would be generally consistent with the proposals for a nursery complex and grounds described in the Master Plan. The proposed Nursery would be located in approximately the same location as described in the Plan. One primary difference is that the Master Plan envisioned 16 off-street parking spaces in the Nursery parking lot with an access road entering on Lincoln Way and exiting on MLK Jr. Drive; however, in the interest of eliminating paved areas and driving within the Botanical Garden, the number of off-street parking spaces was reduced to one ADA compliant space and the access from Lincoln Way was eliminated.[6] The overall square-footage and building components of the proposed Nursery are comparable to those described into the Master Plan. Specifically, the Master Plan outlines that the nursery complex and grounds should be comprised of a head house (including a public restroom), potting shed, shade house, greenhouse, and garage, encompassing a total of 11,174

[6] The Master Plan for Strybing Arboretum and Botanical Gardens, Prepared for the Strybing Arboretum Society, prepared by Fernau & Hartman Architect, 1995. pg. iii

square feet.[7] The proposed project would include a headhouse (including a public restroom), shade house, and greenhouse, encompassing approximately 11,150 square feet at full build-out. Therefore, the proposed project is comparable to the plans outlined in the Strybing Arboretum and Botanical Gardens Master Plan and would not conflict with this adopted Plan.

Golden Gate Park Master Plan

The Golden Gate Park Master Plan outlines plans for the Botanical Garden, including the relocation of the existing greenhouse to a "more favorable growing area to the west."[8] The Master Plan also states that the existing greenhouse area will become part of the California native plant collection after the greenhouse is demolished. The proposed project would be consistent with the outlines of the Golden Gate Park Master Plan, and the proposed project would not result in a conflict with this adopted Plan.

Furthermore, the proposed project would not conflict with the *San Francisco General Plan* policies that relate to physical environmental issues, and this impact would be less-than-significant.

Impact LU-3: The proposed project would not have a substantial impact upon the existing character of the vicinity. (Less than Significant)

The project site is located within a Public (P) zoning district. P districts are defined by lands that are owned by a government agency and are in some form of public use, including open space. This P district includes all of Golden Gate Park, including the Panhandle, which extends from the Great Highway to Masonic Street. Immediately south of the project site lies a Residential, Mixed (RM-1) zoning district along Lincoln Way. Additionally, a Residential House, Two Family (RH-2) zoning district exists further east of the project site along Lincoln Way. Land use impacts are considered to be significant if a proposed project would have a substantial impact on the existing character of the project vicinity. The change in land use on the project site for the proposed Nursery would not be considered a significant impact because the site is located in a zoning district for which the proposed uses are permitted. The proposed project would not be adding new or inconsistent land uses to the project site because the proposed Nursery would replace an existing nursery use. Although the proposed project would be a larger and slightly more intense

[7] The Master Plan for Strybing Arboretum and Botanical Gardens, Ibid, pg. 28

[8] Golden Gate Park Master Plan, San Francisco Recreation and Park Department, October 1998, prepared by Royston, Hanamoto, Alley, & Abey, pg.13-8

land use than the existing greenhouse, it would be consistent with the prevailing scale and height of the other buildings within the Botanical Garden, including the County Fair building. For these reasons, the proposed projects would not have a substantial impact upon the existing character of the vicinity.

Impact LU-4: The proposed project, in combination with past, present, or reasonably foreseeable future projects in the vicinity, would result in less than significant cumulative land use impacts. (Less than Significant)

The proposed project would change the existing project site from an existing greenhouse to a portion of the California Native Garden and an undeveloped portion of the Botanical Garden to the proposed Nursery. The proposed Nursery would introduce a more intense use in the western portion of the Botanical Garden. However, the proposed project would not physically divide an established community; conflict with adopted land use plans, including the Golden Gate Park Master Plan or the Strybing Arboretum and Botanical Gardens Master Plan; or substantially and adversely alter the land use character of the vicinity. Further, there are no other proposed projects within the project area that would lead to any cumulative land use impacts. For the reasons discussed above, the proposed project would not result in significant individual or cumulative land use impacts and the project's contribution to cumulative land use impacts would be less than significant.

E.2 Aesthetics

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
2. AESTHETICS—Would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting?	☐	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	☐

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	☐	☐	☒	☐	☐

Impact AE-1: The proposed project would have a less-than-significant effect on scenic views and vistas. (Less than Significant)

The proposed project is located within Golden Gate Park, within the Botanical Garden, which is considered a scenic resource and public scenic view and vista. The Urban Design Element of the General Plan classifies views along MLK Drive and Lincoln Way as part of the "route of the 49 mile scenic drive". Figures 11 and 12, Photo Renderings of the Proposed Project, depict the existing views and views with the proposed project from along MLK Drive and from Lincoln Way.

The proposed project would change views currently observed from within the Botanical Garden and from MLK Drive; however, the proposed project would not substantially adversely affect or eliminate any scenic view or vista now observed from areas currently accessible to the general public. The project site currently contains an undeveloped portion of the Botanical Garden. The proposed project would demolish the existing greenhouse and accessory structures and construct a new 11,150 square-foot nursery, and associated growing grounds. The tallest portion of the proposed Nursery would be 28-feet in height and the proposed fence around the perimeter of the Nursery and the growing ground would be 9'–6". The proposed project would not substantially degrade or obstruct any scenic view or vistas now observed from public areas, or damage any scenic resources because of the low height of the Nursery and the "living" roof which would be visibly compatible with the surrounding gardens. Thus, the proposed project would result in less-than-significant impacts to scenic resources and scenic vistas.

The proposed project would be visible from a limited number of residential buildings in the project vicinity, including those south of the project site along Lincoln Way; however, the trees and fence bordering the Botanical Garden would block the majority of these private views of the proposed project. (see Figures 11-12- Photo Renderings of the Proposed Project). Any residual impacts to such private views would not be considered an impact to a scenic vista under CEQA.

Impact AE-2: The proposed project would not substantially damage any scenic resources. (Less than Significant)

Scenic Resources are the visible physical features on a landscape (e.g. land, water, vegetation, animals, structures, or other features). The project site itself is not a scenic resource, because its visual physical features are an undeveloped portion of the Botanical Garden that contains disturbed soils and grasses and it contains no significant visual physical features. The proposed project would result in the removal of approximately 46 trees, which is discussed under Topic 13, Biological Resources.[9] Thus, the project would have less-than-significant impacts on scenic resources.

[9] The Botanical Garden Tree Canopy Succession Plan would replant the project site; however, this plan is not a part of the proposed project.

Proposed Site Views

Existing Site Views

Figure 11 - Existing View and Photo Rendering of Proposed Project from Lincoln Way

Proposed Site Views

Existing Site Views

Figure 12 - Existing View and Photo Rendering of Proposed Project from Pedestrian Walkway from MLK Blvd.

Impact AE-3: The proposed project would result in a change to the existing character of the project site, but this change would not degrade the visual character or quality of the site and its surroundings. (Less than Significant)

The proposed Nursery would be one story with a second-floor loft and range in height from 9 – 28 feet tall. The project vicinity is bordered by Mothers Meadow and Playground on the other side of MLK Drive from the project site and multi-family apartment complexes, and single-family homes on the other side of Lincoln Way. The proposed Nursery site is located east of the Children's Garden, and west of the succulent garden and existing growing grounds of the Botanical Garden. The proposed Nursery would be located in a portion of the Botanical Garden that does not contain any buildings. The proposed project would demolish the existing 5,158 sf greenhouse and shade house located east of the proposed Nursery, ancillary structures, and with an unofficial parking lot with seven off-street parking spaces. The County Fair Building is located at the entrance to the Botanical Garden at the Main Gate near the intersection of MLK Drive and Lincoln Way. The proposed headhouse building would incorporate a green "living" roof that would be visually compatible with the vegetation, forests, and meadows in the immediate project vicinity. Thus, the effect of the proposed project on views from street-level vantage points would be in keeping with the existing character of the Botanical Garden and would not be significant.

Design and aesthetics are, by definition, subjective and open to interpretation by decision-makers and members of the public. A proposed project would therefore be considered to have a significant adverse effect on visual quality under CEQA only if it would cause a substantial and demonstrable negative change. The proposed project would not cause such a change. The project would not change the visual character of the project site because the proposed project's height and massing would be similar to the existing buildings within the Botanical Garden, including the County Fair Building. While somewhat intensifying the use on the project site, the proposed project would not add a new or visually inconsistent presence to the area. For these reasons, the proposed project would not cause a substantial and demonstrable negative change or disruption to the existing visual character of the project vicinity.

Impact AE-4: The proposed project would create a new source of light and glare, but not to an extent that would adversely affect day or nighttime views in the area or substantially impact other people or properties. (Less than Significant)

The proposed Nursery would be one story with a second-floor loft ranging in height from 9 to 28 feet tall that would increase the level of lighting on the project site. Project lighting, visible from exterior vantage points, would consist of interior lighting in the headhouse and the greenhouse. The proposed project would introduce a lighting source in an area that is currently undeveloped and compromised of disturbed soils and native grasses, similar to the lighting source at the existing greenhouse. The proposed project would comply with Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass. Fixtures at the proposed Nursery would be directed downward to minimize visible light on and off the project site. Additionally, the proposed project would demolish the existing greenhouse, which is lit during the evenings. For these reasons, the proposed project would not generate obtrusive light or glare that would substantially impact other properties and would therefore be a less-than-significant impact.

Impact AE-5: The proposed project, in combination with past, present, and reasonably foreseeable future development in the site vicinity, would result in less-than-significant impacts to aesthetic resources. (Less than Significant)

The proposed project would result in a more intense development on the project site, but would replace existing greenhouse with a Nursery. Development in the project area would be subject to development standards such as those controlling height and bulk in the proposed project. As discussed above, the proposed project would not substantially change the existing visual character of the project area, and therefore would not result in cumulative aesthetic effects.

E.3 Population and Housing

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
3. POPULATION AND HOUSING— Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	☐
b) Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing?	☐	☐	☐	☒	☐

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐

Impact PH-1: The proposed project would not induce substantial population growth in San Francisco, either directly or indirectly. (No Impact)

The proposed project would not result in an increase of population within the vicinity of the project site. The proposed project would demolish an existing greenhouse and support structures and construct a new 11,150 sq.ft. nursery west of the existing greenhouse. The existing greenhouse staff of approximately 15 full-time employees plus volunteers would be relocated from the existing facilities to the proposed Nursery. Therefore, the proposed project would not result in an increase of employees to the San Francisco Botanical Garden, Golden Gate Park, or the surrounding area, and would not induce population growth.

Impact PH-2: The proposed project would not displace existing housing units, or substantial numbers of people, or create demand for additional housing, necessitating the construction of replacement housing. (No Impact)

The proposed Nursery would not result in the displacement of any residents. Additionally, the proposed project would relocate the San Francisco Botanical Garden's 15 existing employees plus volunteers from the existing greenhouse facilities to the proposed Nursery. Therefore, the proposed project would not displace any existing residents or result in the displacement of any jobs.

As discussed above, the proposed project would not induce any population growth nor have significant physical environmental effects on housing demand or population. For the reasons discussed above, the proposed project would have no impacts related to population and housing.

Impact PH-3: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would have a less-than-significant impact on population and housing. (Less than Significant)

As described above, the proposed project would not induce any population growth nor have significant physical environmental effects on housing demand or population, and therefore would not have significant cumulative population effects. Population and housing impacts, for the reasons described above, would be less than significant.

E.4 Cultural and Paleontological Resources

Topics:		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
4.	**CULTURAL AND PALEONTOLOGICAL RESOURCES—Would the project:**					
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco *Planning Code*?	☐	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐

Impact CP-1: The proposed project would demolish the existing greenhouse building within the Botanical Garden, which is not considered historically significant for the purposes of CEQA, and would have a less-than-significant impact on historic architectural resources. (Less than Significant)

The proposed project is the demolition of the existing greenhouse and associated structures and construction of a new Nursery. The new facilities would be located on an undeveloped plot of land located west of the existing greenhouse. The existing greenhouse site will be replanted with vegetation as an extension of the California Native Garden.

A property is considered an historical resource under CEQA if it is listed already in a local, state, or national register or if it meets the evaluative criteria for listing used by the California Register, that is, an association with significant historical events, persons, design/ construction methods, or information and retention of sufficient integrity in characteristics of location, design, setting, materials, workmanship, feeling and association.[10],[11]

The existing greenhouse and associated structures were built in 1963. These buildings are not yet 50 years old and are utilitarian structures originally constructed for temporary use. The buildings are not eligible for listing on the California Register as either individual resources or as contributing buildings with a historic district because they are not yet 50 years of age and are utilitarian structures.[12] The buildings were previously evaluated for listing on the National Register of Historic Places (NRHP) and found to be non-contributing resources within the Golden Gate Park Historic District, which is listed on the NRHP as a landmark district. The buildings do not meet the threshold age for determining historical significance for the California Register and are not exemplary examples of architecture. Therefore, the existing greenhouse and associated buildings located on site are not historic architectural resources as defined by CEQA, and their demolition would result in a less-than-significant impact on historic architectural resources.

Impact CP-2: The proposed Nursery would not cause a substantial adverse change to the Golden Gate Park Historic District, which is listed on the NRHP as a landmark district. (Less than Significant)

The San Francisco Botanical Garden and the project site are located within a designated historic district, the Golden Gate Park Historic District listed on the NRHP. Additionally, Golden Gate

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10 California Code of Regulations, Title 14, Chapter 11.5.

11 *National Register Bulletin 15—How to Apply the National Register Criteria for Evaluation*.

12 Nelson, Douglas. NPS Form 10-900, Golden Gate Park. July 2003, revised June 2004. Refer to Section 7, Page 3 for listing of contributing and non-contributing features and to Page 16 for a description of the greenhouses, excerpted below. **"Greenhouses, dates unknown, Noncontributing Structures -** There are approximately 12 greenhouses of various ages and construction at the north end of the nursery. All are likely not from the period of significance. Some of the greenhouses were added during expansions in 1965 and 1988. Most are aluminum or other metal frames with glass or fiberglass glazing."On file for review at the SF Planning Department, National Register Historic District Files, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

Park has been nominated as an Article 11 Historic District. Alterations within the historic district could potentially affect the general character-defining features of the Park, including spatial relationships, topography and grading, circulation system, vegetation, natural features, recreation facilities, buildings and structures, and utilities and infrastructure. Thus, the proposed project was evaluated for conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties *(Secretary's Standards)* and the Guidelines for the Treatment of Cultural Landscapes. The project impacts are analyzed below under each section of the *Secretary's Standards* and Guidelines.

Spatial Organization and Land Patterns

The proposed Nursery would be located on the eastern end of Golden Gate Park (Park), which has historically been more intensely developed than the western end of the Park. Therefore, the proposed site will be in keeping with the established pattern of development. Historically the recreational/cultural/social features of the Park were located in the lowland meadows while hills were reserved for woodland.

A fundamental principal of the Secretary of the Interior Standards for Rehabilitation is to differentiate new features from historic features to preserve the integrity of the resource. This differentiation allows the visitor to understand visually which elements are original features of the resource and which are contemporary additions. The proposed location of the new building within Golden Gate Park will differentiate the new feature from the historic features of the park, thereby preserving the landscape's historic integrity. This design choice also preserves the composition of the lowland meadows where historic recreational/ cultural/ social features of the park are located. Meanwhile the woodland character of the chosen site has been respected through the sensitive and organic design of the proposed new building so that it is minimally impacted. By incorporating the new building into the wooded hilltop, the lowlands remain dedicated to historic features and the new building site is differentiated as a new feature within the Park. Lastly, the relatively small scale of the proposed project and the removal of the existing greenhouse would not add a significant portion of newly developed land to the Park relative to its overall size.

Topography

The project respects the existing topography of the Park which is essentially unchanged since before the construction of the Park, incorporating existing sand dune, outcrops, etc.

Vegetation

The demolished portions of the existing greenhouse site would be replanted with vegetation that is compatible with the Botanical Gardens as an extension of the California Native Gardens. Also the planting plan for the new site would be in keeping with the historic landscaping found in the Park.

Circulation

The circulation patterns within the Botanical Gardens would not be substantially changed. The proposed project will require the expansion of an existing paved road extending from MLK Drive to the Nursery, as well as demolition and reconfiguration of footpaths around the proposed Nursery. All such changes will be in keeping with the curvilinear character of the historic circulation system.

Water Features

No existing water features would be impacted by the proposed project and no new water features are proposed. The nearest existing feature, the Children's Garden pond, is west of the project site. Stow Lake is north of the project site and will not be affected by the proposed project.

Structures, Furnishings, and Objects

The proposed Nursery building has been planned and designed to be clearly differentiated from the Park's character-defining features of the historic district so that these features are not radically changed, obscured, damaged, or destroyed.

- The planned location of the Nursery is bound by three major thoroughfares, Crossover Drive, MLK Drive, and Lincoln Way, thus the area to be developed is already affected by the existing urban fabric of the site and the existing transportation pattern. The project would maintain the trees at the Park's border

on Lincoln Way, which would help to screen the new Nursery building. The view of the building would also be partially screened by the slight rise between Lincoln Way and the building's footprint at the north end.

- The design of the new Nursery buildings would be compatible with the historic landscape. It would not have a significantly larger footprint than the existing greenhouse complex and the new buildings would be limited to one-story plus loft so that its visual impact is minimized. The building would only rise to a maximum of 28' feet above grade, which will be below the height of the surrounding mature trees. The building would also be arranged in a loose pinwheel plan that breaks down the massing of the structures and reflects the natural topography of the land. The green design of the proposed project incorporates the new structure into the landscape and employs organic materials such as wood siding and green "living" roof. From the path and MLK Drive visitors to the Park would see the building's green "living" roof which would help the building to blend into the natural surroundings.

Therefore, the proposed project would have no adverse effect on the National Register listed Golden Gate Park Historic District, and this impact would be less –than-significant.

Impact CP-3: The proposed project would result in damage to, or destruction of, as-yet unknown archeological remains, should such remains exist beneath the project site. (Less than Significant with Mitigation)

Factors considered in determining the potential for encountering archaeological resources include the location, depth, and the amount of excavation proposed, as well as any existing information about known resources in the area. The project includes demolishing a greenhouse facility and the construction of a new nursery west of the old greenhouse. The project site varies from level to steeply sloped and grading activities would require excavation of about 5 to 8 feet. The proposed project foundation would require a system of spread and continuous footings be used to support the proposed building. The footings should be embedded at least 24 inches below the lowest adjacent rough grade. Due to the proposed excavation work, the Planning Department conducted a study to determine if any archeological resources would be impacted. In a memorandum dated April 5, 2011, the Planning Department staff determined that there appear

to be no CEQA-significant archeological deposits present at the project site.[13] Additionally, in order to reduce the potential impacts of any accidental discovery of potentially significant archeological resources, the project sponsor would be required to comply with **Mitigation Measure M-CP-3**, which would reduce this impact to a less-than-significant impact.

Mitigation Measure M-CP-3

Archaeological Resources. (Accidental Discovery)

The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines Section 15064.5(a)(c). The project sponsor shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils disturbing activities within the project site. Prior to any soils disturbing activities being undertaken each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, machine operators, field crew, pile drivers, supervisory personnel, etc. The project sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet.

Should any indication of an archeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or project sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of a qualified archeological consultant. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological

[13] Memorandum from Randall Dean/Don Lewis, San Francisco Planning Department to Chelsea Fordham, San Francisco Planning Department, April 5, 2011. A copy of this memorandum is available for public review at the Planning Department, 1650 Mission Street, 4th Floor, as part of Case File No. 2008.0845E.

resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor.

Measures might include: preservation in situ of the archeological resource; an archaeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Major Environmental Analysis (MEA) division guidelines for such programs. The ERO may also require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describing the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

Impact CP-4: The proposed project would destroy paleontological resources or other unique geological features, should such remains exist beneath the project site. (Less than Significant with Mitigation)

Although no known paleontological resources have been recorded in the project area, paleontological resources may be found at depths greater than previously disturbed during past development. Soil or rock disturbing activities resulting from future development, including

construction of building foundations has potential to affect paleontological resources that may be present in underlying geological deposits. In the unlikely event that paleontological resources are discovered in the area during construction activities, potential significant impact paleontological resources could occur. Implementation of Mitigation Measure M-CP-4 would reduce impacts of the proposed project to a less-than-significant level.

Mitigation Measure M-CP-4

Paleontological Resources Monitoring Plan.

The project sponsor and any other agency that may have jurisdiction shall retain the services of a qualified paleontological consultant having expertise in California paleontology to design and implement a monitoring and mitigation program. The program shall include a description of when and where construction monitoring would be required; emergency discovery procedures; sampling and data recovery procedures; procedures for the preparation, identification, analysis, and curation of fossil specimens and data recovered; preconstruction coordination procedures; and procedures for reporting the results of the monitoring program. If potential paleontological resources (fossilized invertebrate, vertebrate, plant, or micro-fossil) are encountered during excavation, work shall cease within 25 feet of the feature, the ERO shall be notified, and the paleontologist shall identify and evaluate the significance of the potential resource, documenting the findings in an advisory memorandum to the ERO. If it is determined that avoidance of effect to a significant paleontological resource is not feasible, the paleontologist shall prepare an excavation plan that may include curation of the paleontological resource in a permanent retrieval paleontological research collections facility such as the University of California Museum of Paleontology or California Academy of Sciences. The Environmental Planning division of the Planning Department shall receive two copies of a final paleontological excavation and recovery report.

The paleontologist's work shall be conducted in accordance with this measure and at the direction of the ERO. Plans and reports prepared by the paleontologist shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Paleontological monitoring and/or data recovery programs required by this measure could suspend construction for a maximum of four weeks. At the direction of the ERO, the suspension of construction could be extended beyond four weeks

only if such a suspension is the only feasible means to reduce to a less-than-significant level potential effects on a significant paleontological resource as previously defined.

Impact CP-5: The proposed project would substantially disturb human remains, should such remains exist beneath the project site. (Less than Significant with Mitigation)

While no known human remains are anticipated to be found in the project area, it is possible that such resources may be present. These resources could be encountered during ground-disturbing activities. Implementation of Mitigation Measure M-CP-5 would reduce potential adverse impacts to human remains to a less-than-significant impact.

Mitigation Measure M-CP-5

Treatment of Human Remains

The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the NAHC who shall appoint a Most Likely Descendant (MLD) (Public Resource Code Section 5097.98). The project sponsor shall direct the archaeological consultant, in coordination with the MLD, to make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Impact CP-6: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would result in less-than-significant cumulative impacts to cultural resources. (Less than Significant)

As described above, the proposed project would have a less than significant impact on historic architectural resources; therefore, no cumulative impact on these resources would occur. However, without mitigation, there would be cumulative impacts associated with archeological resources, paleontological resources, unique geologic features, and human remains. As described above, **Mitigation Measure M-CP-3, M-CP-4, and M-CP-5** would reduce the proposed project's potential impact to archaeological resources, paleontological resources, unique geologic features, and human remains to a less than significant level. There is no other development in the project

vicinity that would contribute to cumulative effects. Implementation of the above referenced mitigation measures would reduce this potential effect to a less than significant level.

E.5 Transportation and Circulation

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
5.	**TRANSPORTATION AND CIRCULATION— Would the project:**					
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways (unless it is practical to achieve the standard through increased use of alternative transportation modes)?	☐	☐	☒	☐	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks?	☐	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	☐	☐	☒	☐	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐	☐
f)	Result in inadequate parking capacity that could not be accommodated by alternative solutions?	☐	☐	☒	☐	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.), or cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity or alternative travel modes?	☐	☐	☒	☐	☐

The project site is not located near a public or private airport or within an airport land use plan area. Therefore, significance criterion 5c would not apply to the proposed project.

Setting

The project site is located within Golden Gate Park, in an undeveloped portion of the San Francisco Botanical Garden, within proximity to Martin Luther King Jr. Drive (MLK Drive). The

Botanical Garden is bordered by Martin Luther King Jr. Drive on the north and east, Lincoln Way on the south, and 19th Avenue/Crossover Drive on the west. MLK Drive is a two-way, east-west roadway, with one travel lane in each direction, and parking on both sides of the street. Lincoln Way lies directly south of the Botanical Garden, outside of Golden Gate Park, and is two-way, east-west roadway, with two travel lanes in each direction, that accommodates both auto and bus traffic outside the Park. Additionally, 19th Avenue, which is designated State Route 1, is a two-way, north-south roadway, with three travel lanes in each direction, which continues through Golden Gate Park as Crossover Drive. Neither Lincoln Way nor 19th Avenue/Crossover Drive provide public access to the Botanical Garden. In the San Francisco *General Plan*, MLK Drive is designated as a Recreational Street in the Transportation Element.

Impact TR-1: The proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, nor would the proposed project conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures. (Less than Significant)

Policy 10.4 of the Transportation Element of the San Francisco General Plan states that the City will "Consider the transportation system performance measurements in all decisions for projects that affect the transportation system." To determine whether the proposed project would conflict with a transportation- or circulation-related plan, ordinance or policy, this section analyzes the proposed project's effects on intersection operations, transit demand, impacts on pedestrian and bicycle circulation, parking and freight loading, as well as construction impacts. A Transportation Technical Memorandum was prepared for the proposed project.[14] The Transportation Technical Memorandum provides a description of existing transportation, circulation, parking, and alternative modes of transportation characteristics associated with the existing facilities, and provides an evaluation of potential impacts from the proposed project on transportation, circulation, parking, and alternative modes of transportation conditions.

14 ESA Associates, Transportation Technical Memorandum, San Francisco Botanical Garden Nursery: Center for Sustainable Gardening, August, 28, 2010. This study is on file and available for public review at the Planning Department, 1650 Mission Street, 4th Floor.

Project Travel Demand

The proposed project would demolish the existing greenhouse and associated support structures, and construct a new 11,150 square-foot nursery and associated facilities, to be known as the Nursery: Center for Sustainable Gardening. The project's facilities would serve as a continuation of the Society's curatorial and propagation activities. Approximately 15 full-time employees, who would be relocated from the existing greenhouse, are expected to work at the proposed Nursery (primarily from 7:00 a.m. to 3:00 p.m.). In addition, there are approximately 20 to 25 volunteers per day at the existing greenhouse. Under project conditions, the number of daily volunteers and their hours and days (10:00 a.m. to 3:00 p.m. on Wednesdays, Fridays, and Saturdays) are not expected to change from the current situation. The existing greenhouse is not open to the public except for the approximately monthly plant sales. There would be no change in the size or frequency of such plant sales events at the proposed Nursery.

The proposed project would not generate additional vehicle trips associated with the Nursery, as described above, because the number of full-time daily employees and volunteers would remain the same. The only potential increase of trips could result from future programming discussed in further detail below; however, no such programming is currently planned for the proposed Nursery.

The proposed project could cause vehicle trips to be redistributed to different roads because the proposed Nursery would be located adjacent to MLK Drive rather than the current 10th Avenue parking lot and the informal parking lot at the existing greenhouse. Currently, an average of about six cars (12 one-way trips) per day drive to/from the existing greenhouse; an average of three service vehicles (six one-way trips) per day deliver materials to the greenhouse and then leave (for a total of 18 one-way trips per day). At the proposed Nursery, there would be a single onsite parking space (ADA-designed), and no other volunteer parking would be permitted at the Nursery. Therefore, employee and volunteer cars would need to park at the 10th Avenue parking lot, which would remain, or on MLK. Drive (except for use by disabled staff/volunteers of the onsite ADA parking space). Trips to and from the proposed Nursery by service vehicles would be made via an access road from MLK Drive (through the gated Muir Gate). The current paved path (about 10 feet wide) from the gated Muir Gate would be widened to 20 feet along most of its length to the proposed Nursery site, per specific San Francisco Fire Department requirements, with the possibility of a 15-foot width at certain locations (subject to Fire Department approval).

The path would be used for service/delivery vehicle access, for access to the onsite ADA parking space, and when necessary fire equipment access. The access road would be used to facilitate the day-to-day activities of the Nursery as a support facility for the entire Botanical Garden, which would continue to include the three daily service vehicles. Therefore, the proposed project would not result in a significant increase in traffic that would adversely affect local intersections, nor would the proposed project result in inadequate emergency access.

The Nursery would function as a propagation center and growing facility for the San Francisco Botanical Garden, as well as office space for the existing staff of approximately 15 employees and 20 – 25 volunteers (per day) who currently operate out of the existing greenhouse building. The building also could be used to provide space (for up to about 80 people) for informational presentations or demonstrations of horticultural techniques. No such programming is currently planned for the Nursery; should such programming be undertaken in the future, it would be scheduled for midday programs for children and evening programs for adults (for example, midday programs for children and evening programs for adults, both of which would be outside the peak periods of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.). Therefore, such events would not coincide with peak traffic volumes, transit use, or pedestrian and bicycle volumes nearby and trips made in connection with such events would have a less-than-significant impact.

Loading

The loading and other truck activity associated with the existing greenhouse includes twice weekly deliveries of soil, using a 15-cubic-yard (non-semi-trailer) dump truck, twice weekly service calls by a portable-toilet pumpout truck, twice monthly deliveries of plants and other materials by a City flat-bed pickup-size truck, and one annual delivery of plants for the Garden's spring plant sale, generally consisting of about three truckloads of plants. Other service vehicles include parcel deliveries and City pickup trucks and vans. Total service vehicle traffic amounts to approximately three vehicles (six one-way trips) per day during weekdays, with very limited service vehicle traffic on weekends.[15] There would be no change in loading or other truck activity anticipated as a result of the proposed project, with the exception that the proposed Nursery would have permanent toilet facilities, and thus service by the pumpout truck would no longer be required.

[15] Information provided by San Francisco Botanical Garden Society, May 4 and December 3, 2009.

The change in location of the Nursery would alter truck travel patterns in proximity to the site, but not in the larger vicinity (i.e., major routes such as Lincoln Way and 19th Avenue would continue to provide access), and the relatively low volume of existing and future truck traffic would mean that the change in truck circulation at the site would not be expected to result in any significant conflicts with other vehicles or pedestrians or bicycles, and no significant effects would ensue. Therefore, because the proposed project would result in the same amount of loading trips as the existing conditions, which would be relatively low, the effect on traffic flow would be considered less-than-significant.

Parking

Parking impacts are not considered significant under CEQA but a discussion of parking is presented here as an informational item. The San Francisco *Planning Code* states that greenhouses or plant nurseries require one parking space for each 4,000 square-feet of floor area where the floor area exceeds 5,000 square-feet. The proposed project, which is proposed to construct up to 11,150 square-feet, would be required to provide two parking spaces. As only one ADA parking space is proposed, a parking variance would be required.

According to the transportation technical memorandum, parking occupancy rates in the vicinity vary greatly between weekdays and weekend days and times of the day. Parking in the vicinity of the proposed nursery is at capacity on weekends, and during weekdays parking tends to be more sporadic with the highest concentration of parking located closest to the Botanical Garden Main Gate and the Music Concourse. Additionally, the proposed project would shift its existing daily 15 employees and 20-25 volunteers from the existing greenhouse location to the proposed Nursery location, in the western undeveloped portion of the Botanical Garden and would not result in an increase of employees or volunteers. Nursery employees and volunteers who currently drive to work (almost all employees and about three-quarters of the volunteers) park at the existing 10th Avenue lot, in an informal parking area at the existing nursery, or on Lincoln Way. It is anticipated that employee and volunteer parking would continue to occur at the 10th Avenue lot and on Lincoln Way and that the volunteers who currently park at the existing greenhouse would be expected to park on other public roads (likely MLK Drive) or, with pre-arrangement by a disabled person, the onsite ADA parking space.[16] Currently up to about

16 It is proposed that at the new Nursery, a disabled volunteer would use the one onsite ADA parking space, and if more than one disabled person is volunteering at a time, the Society staff would use an

seven volunteers park at the existing nursery in the informal parking area. The displacement of seven vehicles to other parking would not meaningfully change parking conditions in the area. Just as use of the 10th Avenue parking lot by employees and volunteers would not change from existing conditions, employee- and volunteer-generated parking demand on MLK Drive would not change substantially.

The San Francisco Planning Department does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines Section 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation." As described in detail above, the project site is well served by public transit.

The traffic analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to

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electric cart (similar to golf carts) to "shuttle" the volunteers from the gated Muir Gate if they are not able to walk from their car.

find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects. In view of the above discussion, the proposed project's parking effect would not rise to a level considered significant.

Construction Activities

Temporary and intermittent transportation impacts would result from vehicle movements to and from the project site during activities associated with the 14 month construction period of the proposed project. Vehicles would likely use 19th Avenue / Park Presidio Boulevard (SR 1), and the Fell/Oak Streets couplet between Golden Gate Park and outlying areas, and would use MLK Drive to access the project site. Project staging would be done in a manner consistent with traffic management strategies established by the San Francisco Municipal Transportation Agency (SFMTA) Sustainable Streets Division (formerly the Department of Parking and Traffic), the Fire Department, the Recreation and Park Department, through consultation with the project sponsor and construction contractor to determine feasible traffic management and mitigation measures to reduce traffic congestion during construction of this project and other nearby projects. The current design plans show a staging area adjacent to (to the east of) where the greenhouse, head house and shade house would be built, in an area north of Lincoln Way near 15th Avenue. Parking demand from construction workers' vehicles would temporarily increase parking occupancy levels on MLK Drive in the project area. Because construction would occur within a confined area that is not currently widely accessible, construction activities would not be expected to result in conflicts with pedestrians or bicycles. Trucks making deliveries to and from the construction site would present the potential for conflict, but the limited scale of the proposed project means that truck volumes would be small (according to the project sponsor, construction activities would require, on average, one truck per day—two one-way truck trips—to visit the site to make deliveries of fencing, wood framing, steel, glass, pipe, gravel, roofing, green "living" roof materials, fixtures, and other materials) and truck traffic would occur over a limited duration, and therefore the potential safety hazard is judged to be relatively minimal and less

than significant. On limited occasions, truck traffic would be greater. For example, when the concrete slab to support the new nursery facilities is poured, it would require about 20 concrete-mixer trucks over one or two consecutive days, and installation of the exterior (finishing) concrete in the Learning Court would require three to four mixer trucks (up to eight truck trips) on a single day. In addition, when the finish asphalt paving for the driveway is delivered, there would be about five to seven trucks delivering asphalt, again on a single day.[17] Because these larger truck volumes would occur on approximately four days during the construction period, while they could potentially result in some localized disruption, the effects would not be significant. However, limiting construction-related truck traffic during peak periods would further decrease the less-than-significant construction period impacts (see **Improvement Measure, IM-T-1**).

Improvement Measure IM-T-1: Construction Traffic Measures

The following measures would further minimize disruption of the general traffic flow on adjacent streets:

- To the extent possible, truck movements should be limited to the hours between 9:00 AM and 3:30 PM (or other times, if approved by the SFMTA).

- The project sponsor and construction contractor(s) would meet with the Traffic Engineering Division of the SFMTA, the Police Department, the Fire Department, Muni's Street Operations and Special Events Office, the Planning Department, the Recreation and Park Department, and other City agencies to determine feasible traffic measures to reduce traffic congestion and other potential transit disruption and pedestrian circulation effects during construction of the project.

The intensification of the project site with the introduction of a new 11,150 square-foot Nursery and associated facilities would result in less-than-significant transportation impacts with regard to any conflict with an applicable congestion management plan.

[17] Information provided by San Francisco Botanical Garden Society, June 15, 2010.

Impact TR-2: The proposed project would not result in substantially increased hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. (Less than Significant)

The proposed project does not include any design features that would substantially increase traffic hazards (e.g., creating a new sharp curve or dangerous intersections), and would not include any incompatible uses, as discussed above in Topic 1, Land Use and Land Use Planning; therefore, there would be no impacts associated with increased traffic hazards for the proposed project. The proposed project would include the construction of an access route to the proposed Nursery by widening and extending an existing 10 feet wide pathway to a 20 foot wide access route (and could be reduced to a width of 15 feet in some areas following Fire Department approval). The access route would be 300 feet in length from the Muir Gate to the proposed Nursery site. Additionally, this access route would include the creation of one ADA parking space and an emergency vehicle turn around space adjacent to the proposed nursery. The access road would be used for fire equipment access, service/delivery vehicle access, and for access to the onsite ADA parking space. The proposed Nursery would be accessed by pedestrians via existing paved pathways from within the Botanical Garden and from a separate pedestrian pathway from MLK Drive that would constructed as part of the proposed project. The existing pedestrian pathway from MLK Drive and through the project site would be demolished and reoriented and moved to avoid any potential conflicts between pedestrians and vehicular service trucks and would not be out of character or present a substantial increased hazard. The proposed access route would have approximately three service vehicles per day, which would not increase from the existing greenhouse. Therefore, this impact would be less-than-significant.

Impact TR-3: The proposed project would not result inadequate emergency access. (Less than Significant)

The proposed project would also include the construction of a vehicular and emergency service access route from MLK Drive to the proposed Nursery. This access route would be created by widening and extending an existing 10 foot wide pathway to a 20 foot wide access route (and could be reduced to a width of 15 feet in some areas following Fire Department approval). The access route would be 300 feet in length from the Muir Gate to the proposed Nursery site. The access road would be designed to comply with the San Francisco Fire Code requirements for emergency access. Additionally, the proposed project would not result in an increase in

employees or volunteers, and would therefore not require additional emergency services. Therefore, the proposed project would not result in a significant impact with regard to emergency access.

Impact TR-4: The proposed project would not conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such features. (Less than Significant)

Transit and Alternative Modes of Transportation

Muni provides transit service within the City and County of San Francisco, including bus (both diesel and electric trolley), light rail (Muni Metro), cable car, and electric streetcar lines. Muni service on Lincoln Way consists of the 71-Haight-Noriega, 71L-Haight-Noriega Limited, and 16X-Noriega Express bus lines, with a bus stop at the intersection of Lincoln Way and 9th Avenue; the 44-O'Shaughnessy (running on 9th Avenue and through the park) also stops at this intersection, which is located approximately one-half mile from the project site.[18] The N-Judah Muni Metro runs on Irving Street (one block south of Lincoln Way) east of 9th Avenue and on Judah Street (two blocks south of Lincoln Way) west of 9th Avenue. Muni service on 19th Avenue – Crossover Drive consists of the 28-19th Avenue, 28L-19th Avenue Limited, and 29-Sunset bus lines, with a bus stop at the intersection of 19th Avenue and Lincoln Way, which is located one quarter mile from the project site.[19] Additionally, the nearest BART station (Civic Center) is approximately three miles east of the project site on Market Street. The proposed project would not generate additional transit trips because, as described above, the number of full-time employees and volunteers working out of the proposed Nursery would not change from existing conditions. Therefore, the proposed project would not cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, or a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result, and transit effects would be less than significant.

Pedestrian conditions in the vicinity of the project, on both sidewalks and crosswalks, were observed to be operating at acceptable levels of service. MLK Drive has pedestrian paths separated from vehicle traffic on both sides. The proposed project would not generate additional

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18 Descriptions of Muni service reflect conditions effective December 5, 2009.

19 Muni map on SFMTA website: *http://transit.511.org/static/providers/maps/SF_123200991008.pdf*.

pedestrian trips because there would be no new dwelling units or additional employees. Pedestrian walkways that currently traverse the project site would be rerouted to bypass the proposed Nursery. Additionally, the pathway from the Muir Gate would be widened to function as a service vehicle access road. This widening to create the service access route could impede some pedestrians within the Botanical Garden, but not to a degree that would result in safety concerns.

In the vicinity of the project site, John F. Kennedy Jr. Drive, the main east-west roadway in Golden Gate Park, is a designated bicycle route (Route 30, along with Bicycle Path 830), as are Transverse Drive to the west (Route 75, connects to 20th Avenue to the south and 23rd Avenue to the north) and Arguello Boulevard to the east (Route 65, connects to 6th Avenue to the south and continues on Arguello Blvd. to the north). Outside the Park, Kirkham Street (Route 40) and Cabrillo Street (Route 20) are east-west bicycle routes. Additionally, although MLK Drive accommodates some bicycle traffic, it is not an official bicycle route in the City's adopted Bicycle Plan, nor does it have separate bicycle lanes. Regardless, the proposed project would not generate additional traffic; therefore, the impact on bicycles would be less than significant.

Impact TR-5: The proposed project, in combination of past, present, and reasonably foreseeable future projects, would have less-than-significant transportation cumulative impacts. (Less than Significant)

Per the analysis discussed above, the proposed project would not have a significant project-specific or cumulative impact to transportation and circulation. The number of trips associated with the proposed project would be dispersed throughout the local roadway network and throughout the hours of day.

Future Potential Programs at the San Francisco Botanical Garden

Children participating in the Society's weekday Children's Garden School Program generally arrive between 10:00 a.m. and 1:00 p.m. and are dropped off by school buses at the Muir Gate. The gate is unlocked when children arrive to allow them to walk to the Children's Garden. Currently, there are one or two buses per week (each carrying 20 to 40 students), and an added 20 to 40 students per week that arrive on foot or take public transit. Other groups of school children (also generally arriving between 10:00 a.m. and 1:00 p.m.) are dropped off by school buses (one or two buses) four days a week at the Main Gate (Tuesday through Friday) to use the

exhibit areas of the Garden and do not go to the Children's Garden. The school buses drop off the students, leave and then return for pick-up; they do not remain parked at the Garden.

Use of the Children's Garden (located to the west of the project site) by school groups could potentially benefit from being adjacent to the proposed Nursery (i.e., greater proximity to amenities such as restrooms, drinking fountain, storage for backpacks, etc). However, there is no direct correlation between these two programs (i.e., increases that may occur to the educational programming in the Children's Garden are not related to the construction of the Nursery). Use of the proposed Nursery by school groups would be limited to their use of the above-described amenities while they are participating in programmed activities in the adjacent Children's Garden. There is also no proposal to expand the Children's Garden School Program or Summer Programs, but in order to provide a conservative evaluation of the proposed project's cumulative effect on transportation, circulation and parking conditions, it is assumed, based on an estimate by the project sponsor, that the number of schoolchildren who visit the Botanical Garden could double (i.e., from approximately 10,000 to 20,000 children per year) within the 20-year time span of the environmental review. This increase would not be a direct result of the proposed Nursery.

As stated above, currently, there are one or two buses per week (each carrying 20 to 40 students), and an added 20 to 40 students per week that arrive on foot or take public transit. These are the groups that would utilize the restrooms, drinking fountains and backpack storage area at the proposed Nursery. Other groups of school children (also generally arriving between 10:00 a.m. and 1:00 p.m.) are dropped off by school buses (one or two buses) four days a week (Tuesday through Friday) at the Main Gate, near the intersection of 9th Avenue and Lincoln Way, to use the exhibit areas of the Garden and do not go to the Children's Garden and would not use the proposed Nursery facility.

In addition, there are two programs held during the summer ("From Acorn to Oak", four hours on weekdays, in the Children's Garden; and "Garden Explorers", two hours on Wednesdays, Thursdays and Fridays, in various areas of the Botanical Garden). For 8.5 weeks in the middle of the summer, there are about 150 children in the Garden per week. These children arrive by public transit, on foot, or by private automobile, and those in the Children's Garden likely would use the public facilities available at the proposed Nursery.

Based on the expectation that school children would continue to arrive in a manner similar to current conditions described above, it is estimated that the doubling of school children

participating in the Society's programs within the 20-year time span of the environmental review would increase school bus traffic by about one bus per day (for a total of two or three buses per day) during the school year. Buses that currently drop off school groups using the Children's Garden at the gated Muir Gate (and at the Main Gate to use the exhibit areas of the Garden) would continue to do so, and therefore, there would be no change to the roads those buses use. The projected cumulative increase of one bus per day during the portion of the year when schools are in session would not be a substantial increase in traffic volume, and would represent a less-than-significant impact on the existing traffic load and road capacity. Moreover, these potential future increases in school bus traffic would not occur during the a.m. or p.m. peak hours. In addition, increased use of public transit by school children within the above-stated 20-year time span would have a less-than-significant impact on Muni because the increase in transit demand would occur during off-peak hours, and would be accommodated by Muni transit capacity. In addition, the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation.

The above-described cumulative increases to traffic volumes and transit ridership would not be substantial, and the proposed project's contribution to those cumulative conditions would be less than considerable (i.e., a less-than-significant cumulative impact).

E.6 Noise

Topics:		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
6.	**NOISE—Would the project:**					
a)	Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	☐
b)	Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	☐
c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
d)	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
e)	For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☐	☒
f)	For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐	☒
g)	Be substantially affected by existing noise levels?	☐	☐	☒	☐	☐

The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip. Therefore, topics 6e and 6f are not applicable.

Impact NO-1: The proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity, nor would it expose persons to noise levels in excess of standards established in the local general plan or noise ordinance. (Less than Significant)

The project site is located within Golden Gate Park, which has ambient noise levels that are less than typical of noise levels in greater San Francisco. Ambient noise levels in the vicinity of the project site are dominated by vehicular traffic. The project site for the proposed Nursery is located approximately 200 feet east of Lincoln Way, which is moderately to heavily trafficked, and generates moderate to high levels of traffic noise. Observation indicates that surrounding land uses do not generally conduct noisy operations. Based on modeling of traffic noise volumes conducted by the San Francisco Department of Public Health (DPH),[20] the project site has ambient traffic noise levels of 55-60 dBA, which is below the threshold for discouraging placement of sensitive uses, such as residential uses. Additionally, the proposed project is a nursery and associated facilities, which are not considered to be a sensitive use, therefore, the project would not be affected by existing noise levels.

Operation of the proposed Nursery would include mechanical equipment, such as a radiator heating system utilizing fin-tube radiators and ventilation fans. These mechanical systems could minimally increase ambient noise levels. These operations would be subject to the San Francisco

[20] Traffic noise map presented on DPH website: http://www.sfdph.org/dph/EH/Noise/default.asp.

Noise Ordinance (Article 29, Section 2909 of the San Francisco Police Code), which limits noise from building operations. Substantial increases in the ambient noise level due to building equipment noise would not be anticipated because the project mechanical equipment could minimally increase ambient noise levels. At the project location, operational noise would not be expected to be noticeable, given background noise levels along Lincoln Way, which is approximately 200 feet east of the project site.

Vehicular traffic makes the greatest contribution to ambient noise levels throughout most of San Francisco. Generally, traffic must double in volume to produce a noticeable increase in the ambient noise level in the project vicinity. The proposed project would not generate additional vehicle trips associated with the proposed Nursery because the number of full time employees and volunteers would remain the same as under existing conditions (see Topic 5, Transportation and Circulation, Traffic, above). The proposed project would not result in increase in vehicle trips, and therefore, would not cause traffic volumes to double on area streets, have a noticeable effect on ambient noise levels in the project vicinity, nor would the project contribute to any potential cumulative traffic noise effects.

In summary, the operational noise from the proposed project, including traffic-related noise, would not significantly increase the ambient noise levels in the project vicinity.

Impact NO-2: During construction, the proposed project would result in a temporary or periodic increase in ambient noise levels and vibration in the project vicinity above levels existing without the project, but any construction-related increase in noise levels and vibration would be considered less than significant. (Less than Significant)

Demolition, excavation, and project construction would temporarily and intermittently increase noise, and possibly vibration levels near the project site and may be considered an annoyance by occupants of nearby properties or visitors to the Botanical Garden. During construction activities, which would take approximately 14 months, noise and vibration levels would be above existing levels in the project area. Construction noise and vibration levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers. There would be times when construction noise could interfere with indoor activities in nearby residences and offices and outdoor park visitors near the project site. Construction noises associated with the proposed project would include

demolition, excavation, truck traffic, foundation and building construction, and finishing. Of these, demolition, excavation, site work, and erection of the new building's exterior would likely generate the most construction-related noise. Throughout the construction period there would be truck traffic to and from the site, hauling excavated material and debris, and delivering building materials.

The San Francisco Noise Ordinance (Article 29 of the Police Code) regulates construction-related noise. Compliance with this regulatory program is required by law and would serve to reduce significant negative impacts of the proposed project on sensitive receptors to less-than-significant levels. The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA[21] at a distance of 100 feet from the source. Impact tools, such as jackhammers, must have both the intake and exhaust muffled to the satisfaction of the Director of the Department of Public Works or the Director of Building Inspection. Section 2908 of the Ordinance prohibits construction work between 8:00 p.m. and 7:00 a.m. if noise would exceed the ambient noise level by 5 dBA at the project property line unless a special permit is authorized by the Director of Public Works or the Director of Building Inspection. The project must comply with regulations set forth in the Noise Ordinance. Additionally, Improvement Measure IM-T-1, proposed to minimize the disruption of traffic flow by limiting truck movement to between 9:00 AM and 3:30 PM, would also have the secondary effect of reducing construction noise impacts.

The nearest sensitive receptors to the project site are nearby residents along Lincoln Way. The project sponsors anticipate using a continuous, spread-type foundation. The proposed building would not use pile driving. Because of this, the proposed project would not create unusual levels of ground borne vibration that would disturb nearby residents or businesses.

Construction-related increases in noise and vibration resulting from construction of the proposed project would be less-than-significant because of the temporary and intermittent nature of

[21] dBA is the symbol for decibels using the A-weighted scale. A decibel is a unit of measurement for sound loudness (amplitude). The A- weighted scale is a logarithmic scale that approximates the sensitivity of the human ear.

construction and because the contractor would be required by law to comply with the City's Noise Ordinance.

Impact NO-3: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would result in less than significant cumulative noise impacts. (Less than Significant)

Local traffic noise would increase in conjunction with foreseeable residential and commercial growth in the project vicinity, though this increase would be far less than the doubling of traffic noise that would result in an audible change. However, because the proposed project would not increase traffic volumes, the project would not contribute considerably to any cumulative traffic-related increases in ambient noise. Moreover, the proposed project's mechanical equipment and occupants would be required to comply with the Noise Ordinance and would therefore not be expected to contribute to any cumulative increases in the ambient noise as a result of the building equipment or occupants. Therefore, the proposed project would not result in cumulatively considerable noise impacts, and cumulative noise impacts are considered less than significant.

E.7 Air Quality

Topics:		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
7.	**AIR QUALITY** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**					
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒	☐

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction over the nine-county Bay Area Air Basin (Air Basin). BAAQMD is responsible for attaining and maintaining air quality in the Air Basin within federal and State air quality standards. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Air Basin and to develop and implement strategies to attain the applicable federal and State standards. The BAAQMD has also adopted *CEQA Air Quality Guidelines* (Air Quality Guidelines) to assist lead agencies in evaluating the air quality impacts of projects and plans proposed in the Air Basin. The Air Quality Guidelines provide procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. The BAAQMD recently issued revised Air Quality Guidelines that supersede the 1999 Air Quality Guidelines.[22]

According to the BAAQMD, the recently adopted thresholds of significance for criteria air pollutants, greenhouse gas (GHG) emissions, and health risks from new sources of emissions are intended to apply to environmental analyses that have begun on or after adoption of the revised CEQA thresholds of significance (June 2, 2010). The environmental review for the proposed project began on January 13, 2009 when a neighborhood notice was sent to community organizations, tenants of the affected property and properties adjacent to the project site, and those persons who own property within 300 feet of the project site. Thresholds of significance pertaining to the health risk impacts of sources upon new sensitive receptors are intended to apply to environmental analyses begun on or after May 1, 2011. The 2010 thresholds of significance have generally been lowered and are more health protective than the 1999 Guidelines. However, to provide a conservative analysis, the following analysis is based upon the BAAQMD's recently adopted CEQA thresholds of significance (2010).

Impact AQ-1: Construction of the proposed project would result in fugitive dust emissions. (Less than Significant)

Project-related excavation and grading and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and State and regional air quality control plans have been implemented, air pollutants continue to have impacts on human health throughout the country.

22 Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, June 2010, http://www.baaqmd.gov/

California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board (CARB), reducing ambient particulate matter from 1998–2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes and irritation to the lungs, nose, and throat. Excavation, grading, and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

For fugitive dust emissions, the 2010 Air Quality Guidelines recommend following the current best management practices, which has been a pragmatic and effective approach to the control of fugitive dust emissions. The Air Quality Guidelines note that individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent and conclude that projects that implement BAAQMD's recommended construction best management practices will reduce fugitive dust emissions to a less-than-significant level.[23]

The San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of on-site workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

The Dust Control Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from DBI. The Director of DBI may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.

[23] *Ibid*, Section 4.2.1.

The following regulations and procedures set forth in Article 22B of the San Francisco Health Code – Construction Dust Control Requirements – contain the BAAQMD-recommended best management practices:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials, or require such trucks to maintain at least 2 feet of freeboard;
- Pave, apply water at a minimum three times daily in dry weather, or apply non-toxic soil stabilizers to all unpaved access roads, parking areas, and staging areas;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public street areas;
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more);
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.);
- Limit traffic speeds on unpaved roads to 15 miles per hour;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Install wheel washers for all exiting trucks, or wash off the tires of all trucks and equipment prior to leaving the site;
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas;
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph; and
- Limit the area subject to excavation, grading, and other construction activity at any one time.

The Dust Control Ordinance incorporated BAAQMD's recommended best management practices. Therefore, compliance with the Dust Control Ordinance would ensure that the project's fugitive dust impacts would be less than significant and no mitigation is required.

Impact AQ-2: Construction of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation. (Less than Significant)

The BAAQMD's 2010 CEQA thresholds of significance for criteria air pollutant emissions resulting from construction or operation of a proposed project is whether the project would emit reactive organic gases (ROG), oxides of nitrogen (NO_x), or fine particulate matter (PM_{10}) in excess of 54 lbs/day or whether the project would emit particulate matter ($PM_{2.5}$) in excess of 82 lbs/day.[24]

The 2010 Air Quality Guidelines state that the first step in determining the significance of criteria air pollutants and ozone precursors related to construction or operation of a proposed project is to compare the attributes of the proposed project with the applicable screening criteria provided in the Air Quality Guidelines.[25] The purpose of this comparison is to provide a conservative indication of whether construction or operation of the proposed project would result in the generation of criteria air pollutants or ozone precursors that exceed BAAQMD's thresholds of significance. If all of the screening criteria are met by a proposed project, then the lead agency or applicant does not need to perform a detailed air quality assessment of the project's air pollutant emissions, and construction or operation of the proposed project would result in a less-than-significant criteria air pollutant impact. If the proposed project does not meet all the screening criteria, then project emissions need to be quantified and compared against the thresholds of significance.[26]

The Air Quality Guidelines note that the screening levels are generally representative of new development on greenfield[27] sites without any form of mitigation measures taken into

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24 The thresholds for criteria air pollutants have generally been lowered with the exception of PM_{10}. The threshold for PM_{10} has been increased from 80 lbs./day to 82 lbs./day. The difference between the 1999 and 2010 thresholds would not change the conclusions of this analysis.

25 Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, June 2010, at page 3-2 to 3-3.

26 *Ibid*, p. 3-1.

27 Agricultural or forest land or undeveloped site earmarked for commercial, residential, or industrial projects.

consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill, and/or proximate to transit service and local services, emissions would be less than the greenfield-type project that the screening criteria are based upon.

Vehicle exhaust resulting from on- and off-road construction equipment may emit criteria air pollutants. Based on a review of the Air Quality Guidelines' screening tables, for detailed analysis of criteria air pollutants and ozone precursors for a general light industrial project 259,000 gross square-feet. The proposed project includes an 11,150 square-foot nursery facility and the overall square-footage of disturbance from project site is approximately 110,000 square-feet, both of which are well below the screening level that requires a detailed air quality assessment of air pollutant emissions. [28] Thus, the project would not exceed any of the thresholds of significance for criteria air pollutants and would result in a less-than-significant air quality impact related to construction exhaust emissions.

Impact AQ-3: Operation of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation. (Less than Significant)

A screening level analysis for project operations, similar to that described above for construction activities, was conducted to determine whether operation of the proposed project could exceed the BAAQMD's 2010 thresholds of significance. Projects that exceed the screening level sizes require a detailed air quality analysis. Projects below the screening levels would not be anticipated to exceed BAAQMD's 2010 significance thresholds for ROG, NO_x, PM_{10} and $PM_{2.5}$. The Air Quality Guidelines' screening level for operational criteria air pollutant and ozone precursors for a general light industrial project is 541,000 gross square-feet.[29] The proposed project includes an 11,150 square-foot nursery facility and the overall square-footage of disturbance from project site is approximately 110,000 square-feet, both of which are well below the screening level that requires a detailed air quality assessment of air pollutant emissions. Therefore, the project would not result in the generation of criteria air pollutants and ozone precursors that exceed the BAAQMD's thresholds of significance for operational criteria air pollutants and ozone precursors would be less than significant.

28 *Ibid*, Table 3-1.

29 *Ibid*, Table 3-1.

Impact AQ-4: Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. (No Impact)

The San Francisco Department of Public Health (DPH) has issued guidance for the identification and assessment of potential air quality hazards and methods for assessing the associated health risks.[30] Consistent with CARB guidance, DPH has identified that a potential public health hazard for sensitive land uses exists when such uses are located within a 150-meter (approximately 500-foot) radius of any boundary of a project site that experiences 100,000 vehicles per day. To this end, San Francisco added Article 38 of the San Francisco Health Code, approved November 25, 2008, which requires that, for new residential projects of 10 or more units located in proximity to high-traffic roadways, as mapped by DPH, an Air Quality Assessment be prepared to determine whether residents would be exposed to potentially unhealthful levels of PM2.5. Through air quality modeling, an assessment is conducted to determine if the annual average concentration of PM2.5 from the roadway sources would exceed a concentration of 0.2 micrograms per cubic meter (annual average).[31] If this standard is exceeded, the project sponsor must install a filtered air supply system, with high-efficiency filters, designed to remove at least 80 percent of ambient PM2.5 from habitable areas of residential units.

The project site in the Botanical Garden, is located within the Potential Roadway Exposure Zone, as mapped by DPH. However, the proposed project would construct a Nursery, which would be a facility for the propagation and growing of plants, which is not considered a sensitive land use (for example: residential units, childcare facilities, hospitals).

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[30] San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 6, 2008, http://www.sfphes.org/publications/Mitigating_Roadway_AQLU_Conflicts.pdf, accessed June 21, 2010.

[31] According to DPH, this threshold, or action level, of 0.2 micrograms per cubic meter represents about 8–10 percent of the range of ambient PM2.5 concentrations in San Francisco based on monitoring data, and is based on epidemiological research that indicates that such a concentration can result in an approximately 0.28 percent increase in non-injury mortality, or an increased mortality at a rate of approximately 20 "excess deaths" per year per one million population in San Francisco. "Excess deaths" (also referred to as premature mortality) refer to deaths that occur sooner than otherwise expected, absent the specific condition under evaluation; in this case, exposure to PM2.5. (San Francisco Department of Public Health, Occupational and Environmental Health Section, Program on Health, Equity, and Sustainability, "Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review, May 6, 2008. Twenty excess deaths per million based on San Francisco's non-injury, non-homicide, non-suicide mortality rate of approximately 714 per 100,000. Although San Francisco's population is less than one million, the presentation of excess deaths is commonly given as a rate per million population.)

The 2010 Air Quality Guidelines also recommend an analysis of health risk impacts, which are effects related to the placement of a new sensitive receptor (for example, a residential project) in proximity to source(s) of toxic air contaminates (TACs) and particulate matter. The BAAQMD's thresholds of significance for health risk impacts are an increase in lifetime cancer risk of 10 chances in one million, an increase in the non-cancer, chronic or acute, hazard index greater than 1.0, and an increase in the annual average concentration of $PM_{2.5}$ in excess of 0.3 micrograms per cubic meter. If a single roadway or stationary source exceeds any one of these thresholds, the project would be consider to expose sensitive receptors to a significant health risk impact. The BAAQMD also recommends cumulative thresholds of an increased cancer risk of 100 in one million, acute or chronic hazard index greater than 10.0, and a $PM_{2.5}$ concentration greater than 0.8 micrograms per cubic meter. If the total of all roadway and point sources within 1,000 feet of the proposed project exceed these cumulative thresholds, the project would be considered to expose sensitive receptors to a significant cumulative health risk impact. These thresholds do not apply because the proposed project would not result in the placement of sensitive receptors in proximity to air pollutants. Therefore, the proposed project would not expose any sensitive receptors (for example: residential units, childcare facilities, hospitals) to substantial pollutant concentrations, and there would be no impact.

Impact AQ-5: The proposed project would not create objectionable odors affecting a substantial number of people. (No Impact)

The project would not result in a perceptible increase or change in noxious odors on the project site or in the vicinity of the project because it would not include uses that to generate noxious odors. Observation indicates that surrounding land uses (i.e. park users and residential uses) are not sources of noticeable odors, and therefore, would not adversely affect project vicinity residents.

Impact AQ-6: Implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment , or, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in cumulative air quality impacts. (Less than Significant)

With respect to cumulative criteria air pollutant impacts, BAAQMD's approach to cumulative air quality analysis is that any proposed project that would exceed the criteria air pollutant thresholds of significance would also be considered to result in a cumulatively considerable

increase in criteria air pollutants. As discussed in Impact AQ-2 and AQ-3, the proposed project would result in less-than-significant impacts related to construction and operational air quality emissions. Therefore, the proposed project's contribution to cumulative criteria air pollutant impacts is less than significant.

The proposed project would be generally consistent with the General Plan and air quality management plans such as the *2010 Clean Air Plan*, which is the applicable regional air quality plan developed for attainment of state air quality standards. Additionally, the General Plan, Planning Code, and the City Charter implement various transportation control measures identified in the City's Transit First Program, bicycle parking regulations, transit development fees, and other actions. Accordingly, the proposed project would not interfere with implementation of the *2010 Clean Air Plan*, and this impact would be less than significant.

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
8. GREENHOUSE GAS EMISSIONS— Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐

Environmental Setting

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG's has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor.

While the presence of the primary GHGs in the atmosphere are naturally occurring, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are largely emitted from human activities,

accelerating the rate at which these compounds occur within the earth's atmosphere. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in "carbon dioxide-equivalent" measures (CO_2E).[32]

The most common GHGs resulting from human activity are CO_2, CH_4, and N_2O.[33] State law defines GHGs to also include hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These latter GHG compounds are usually emitted in industrial processes and therefore not applicable to the proposed project. Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers, energy required to pump, treat, and convey water, and emissions associated with landfill operations.

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.[34]

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[32] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

[33] Governor's Office of Planning and Research. *Technical Advisory- CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. June 19, 2008. Available at the Office of Planning and Research's website at: *http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf.* Accessed March 3, 2010.

[34] California Climate Change Portal. Frequently Asked Questions About Global Climate Change. Available online at: *http://www.climatechange.ca.gov/publications/faqs.html*. Accessed November 8, 2010.

CARB estimated that in 2006 California produced about 484 million gross metric tons of CO_2E ($MMTCO_2E$), or about 535 million U.S. tons.[35] CARB found that transportation is the source of 38 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 22 percent and industrial sources at 20 percent. Commercial and residential fuel use (primarily for heating) accounted for 9 percent of GHG emissions.[36] In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) and the industrial and commercial sectors are the two largest sources of GHG emissions, each accounting for approximately 36% of the Bay Area's 95.8 $MMTCO_2E$ emitted in 2007.[37] Electricity generation accounts for approximately 16% of the Bay Area's GHG emissions followed by residential fuel usage at 7%, off-road equipment at 3% and agriculture at 1%.[38]

Regulatory Setting

In 2006, the California legislature passed Assembly Bill 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions).

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business as usual emissions levels, or about 15 percent from today's levels.[39] The Scoping Plan estimates a reduction of 174 million metric tons of CO_2E ($MMTCO_2E$) (about 191 million U.S. tons) from the transportation, energy, agriculture forestry, and high global warming potential sectors (see Table 3, below). CARB has identified an

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[35] California Air Resources Board (CARB), "California Greenhouse Gas Inventory for 2000-2006— by Category as Defined in the Scoping Plan." *http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2009-03-13.pdf*. Accessed March 2, 2010.

[36] Ibid.

[37] Bay Area Air Quality Management District, Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2007, Updated: February 2010. Available online at: *http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_2_10.ashx*. Accessed March 2, 2010.

[38] Ibid.

[39] California Air Resources Board, California's Climate Plan: Fact Sheet. Available online at: *http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf*. Accessed March 4, 2010.

implementation timeline for the GHG reduction strategies in the Scoping Plan.[40] Some measures may require new legislation to implement, some will require subsidies, some have already been developed, and some will require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA).

TABLE 3. GHG REDUCTIONS FROM THE AB 32 SCOPING PLAN SECTORS[41]

GHG Reduction Measures By Sector	GHG Reductions (MMT CO_2E)
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total	**174**
Other Recommended Measures	
Government Operations	1-2
Agriculture- Methane Capture at Large Dairies	1
Methane Capture at Large Dairies	1
Additional GHG Reduction Measures	
Water	4.8
Green Buildings	26
High Recycling/ Zero Waste • Commercial Recycling • Composting • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9
Total	**42.8-43.8**

AB 32 also anticipates that local government actions will result in reduced GHG emissions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.

[40] California Air Resources Board. AB 32 Scoping Plan. Available Online at: *http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf*. Accessed March 2, 2010.

[41] Ibid.

The Scoping Plan relies on the requirements of Senate Bill 375 (SB 375) to implement the carbon emission reductions anticipated from land use decisions. SB 375 was enacted to align local land use and transportation planning to further achieve the State's GHG reduction goals. SB 375 requires regional transportation plans (RTP's), developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" in their RTP's that would achieve GHG emission reduction targets set by CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. SB 375 would be implemented over the next several years, and the Metropolitan Transportation Commission's 2013 RTP would be its first plan subject to SB 375.

Senate Bill 97 (SB 97) required the Office of Planning and Research (OPR) to amend the state CEQA Guidelines to address the feasible mitigation of GHG emissions or the effects of GHGs. In response, OPR amended the CEQA Guidelines to provide guidance for analyzing GHG emissions. Among other changes to the CEQA Guidelines, the amendments add a new section to the CEQA Checklist (CEQA Guidelines Appendix G) to address questions regarding the project's potential to emit GHGs.

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for air quality regulation in the nine county San Francisco Bay Area Air Basin (SFBAAB). As part of its role in air quality regulation, BAAQMD has prepared the CEQA Air Quality Guidelines to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the SFBAAB. The guidelines provide procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. On June 2, 2010, the BAAQMD adopted new and revised CEQA air quality thresholds of significance and issued revised guidelines that supersede the 1999 air quality guidelines. The *2010 CEQA Air Quality Guidelines* for the first time provide CEQA thresholds of significance for greenhouse gas emissions. OPR's amendments to the CEQA Guidelines as well as BAAQMD's *2010 CEQA Air Quality Guidelines* and thresholds of significance have been incorporated into this analysis.

The BAAQMD has adopted CEQA thresholds of significance for projects that emit GHGs, one of which is a determination of whether the proposed project is consistent with a Qualified Greenhouse Gas Reduction Strategy, as defined in the *2010 CEQA Air Quality Guidelines*. On August 12, 2010, the San Francisco Planning Department submitted a draft of the City and

County of San Francisco's *Strategies to Address Greenhouse Gas Emissions* to the BAAQMD.[42] This document presents a comprehensive assessment of policies, programs and ordinances that collectively represent San Francisco's Qualified Greenhouse Gas Reduction Strategy in compliance with the BAAQMD's *2010 CEQA Air Quality Guidelines* and thresholds of significance.

San Francisco's GHG reduction strategy identifies a number of mandatory requirements and incentives that have measurably reduced greenhouse gas emissions including, but not limited to, increasing the energy efficiency of new and existing buildings, installation of solar panels on building roofs, implementation of a green building strategy, adoption of a zero waste strategy, a construction and demolition debris recovery ordinance, a solar energy generation subsidy, incorporation of alternative fuel vehicles in the City's transportation fleet (including buses and taxis), and a mandatory composting ordinance. The strategy also identifies 42 specific regulations for new development that would reduce a project's GHG emissions.

San Francisco's climate change goals as identified in the 2008 San Francisco Greenhouse Gas Reduction Ordinance are as follows:

- By 2008, determine the City's 1990 GHG emissions, which would then be the baseline level used to establish target reductions;
- Reduce GHG emissions by 25 percent below 1990 levels by 2017;
- Reduce GHG emissions by 40 percent below 1990 levels by 2025; and
- Reduce GHG emissions by 80 percent below 1990 levels by 2050.

The City's 2017 and 2025 GHG reduction goals are more aggressive than the State's GHG reduction goals as outlined in AB 32 and are consistent with the State's long-term (2050) GHG reduction goals. San Francisco's *Strategies to Address Greenhouse Gas Emissions* identifies the City's actions to pursue cleaner energy, energy conservation, alternative transportation and solid waste policies and concludes that San Francisco's policies have resulted in a reduction in greenhouse gas emissions below 1990 levels, meeting statewide AB 32 GHG reduction goals. As reported, San Francisco's 1990 GHG emissions were approximately 8.26 million metric tons (MMT) CO_2E and

[42] San Francisco Planning Department. *Strategies to Address Greenhouse Gas Emissions in San Francisco*. 2010. The final document is available online at: http://www.sfplanning.org/index.aspx?page=1570.

2005 GHG emissions are estimated at 7.82 MMTCO$_2$E, representing an approximately 5.3 percent reduction in GHG emissions below 1990 levels.

The BAAQMD reviewed San Francisco's *Strategies to Address Greenhouse Gas Emissions* and concluded that the strategy meets the criteria for a Qualified GHG Reduction Strategy as outlined in BAAQMD's CEQA Guidelines (2010) and stated that San Francisco's "aggressive GHG reduction targets and comprehensive strategies help the Bay Area move toward reaching the State's AB 32 goals, and also serve as a model from which other communities can learn."[43]

Depending on a proposed project's size, use, and location, a variety of controls are in place to ensure that a proposed project would not impair the State's ability to meet statewide GHG reduction targets outlined in AB 32, nor impact the City's ability to meet San Francisco's local GHG reduction targets. Given that: (1) San Francisco has implemented regulations to reduce greenhouse gas emissions specific to new construction and renovations of private developments and municipal projects; (2) San Francisco's sustainable policies have resulted in the measured success of reduced greenhouse gas emissions levels; (3) San Francisco has met and exceeded AB 32 greenhouse gas reduction goals for the year 2020; (4) current and probable future state and local greenhouse gas reduction measures will continue to reduce a project's contribution to climate change; and (5) San Francisco's *Strategies to Address Greenhouse Gas Emissions* meet BAAQMD's requirements for a Qualified GHG Reduction Strategy; projects that are consistent with San Francisco's regulations would not contribute significantly to global climate change.

Impact GG-1: The proposed project would generate greenhouse gas emissions, but not in levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

The proposed project would increase the activity onsite by construction of the Nursery, which would result in an increase in energy use. The expansion could also result in an increase in overall water usage which generates indirect emissions from the energy required to pump, treat and convey water. The expansion could also result in an increase in discarded landfill materials. Therefore, the proposed project would contribute to annual long-term increases in GHGs as a

[43] Letter from Jean Roggenkamp, BAAQMD, to Bill Wycko, San Francisco Planning Department. October 28, 2010. This letter is available online at: *http://www.sfplanning.org/index.aspx?page=1570*. Accessed November 12, 2010.

result of increased operations associated with energy use, water use and wastewater treatment, and solid waste disposal.

Based on the BAAQMD's 2010 *CEQA Air Quality Guidelines*, projects that are consistent with San Francisco's *Strategies to Address Greenhouse Gas Emissions* would result in a less than significant impact with respect to GHG emissions. Furthermore, because San Francisco's strategy is consistent with AB 32 goals, projects that are consistent with San Francisco's strategy would also not conflict with the State's plan for reducing GHG emissions. As discussed in San Francisco's *Strategies to Address Greenhouse Gas Emissions*, new development and renovations/alterations for private projects and municipal projects are required to comply with San Francisco's ordinances that reduce greenhouse gas emissions. Applicable requirements are shown below in Table 4.

TABLE 4. REGULATIONS APPLICABLE TO THE PROPOSED PROJECT

Regulation	Requirements	Project Compliance	Discussion
Transportation Sector			
Commuter Benefits Ordinance (Environment Code, Section 421)	All employers must provide at least one of the following benefit programs: 1. A Pre-Tax Election consistent with 26 U.S.C. § 132(f), allowing employees to elect to exclude from taxable wages and compensation, employee commuting costs incurred for transit passes or vanpool charges, or (2) Employer Paid Benefit whereby the employer supplies a transit pass for the public transit system requested by each Covered Employee or reimbursement for equivalent vanpool charges at least equal in value to the purchase price of the appropriate benefit, or (3) Employer Provided Transit furnished by the employer at no cost to the employee in a vanpool or bus, or similar multi-passenger vehicle operated by or for the employer.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Botanical Garden Society has a "Café 125" plan through which its employees may opt to deduct pre-tax commute costs.
Energy Efficiency Sector			
San Francisco Green Building Requirements for Energy Efficiency (SF Building Code, Chapter 13C)	Commercial buildings greater than 5,000 sf will be required to be at a minimum 14% more energy efficient than Title 24 energy efficiency requirements. By 2008 large commercial buildings will be required to have their energy systems commissioned, and by 2010, these	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will comply with, and likely significantly exceed, these energy efficiency measures because the project will be applying for LEED green building certification.

Regulation	Requirements	Project Compliance	Discussion
	large buildings will be required to provide enhanced commissioning in compliance with LEED® Energy and Atmosphere Credit 3. Mid-sized commercial buildings will be required to have their systems commissioned by 2009, with enhanced commissioning by 2011.		
San Francisco Green Building Requirements for Stormwater Management (SF Building Code, Chapter 13C) Or San Francisco Stormwater Management Ordinance (Public Works Code Article 4.2)	Requires all new development or redevelopment disturbing more than 5,000 square feet of ground surface to manage stormwater on-site using low impact design. Projects subject to the Green Building Ordinance Requirements must comply with either LEED® Sustainable Sites Credits 6.1 and 6.2, or with the City's Stormwater ordinance and stormwater design guidelines.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Project stormwater management will meet or exceed the applicable LEED SS 6.1 and 6.2 guidelines.
San Francisco Green Building Requirements for water efficient landscaping (SF Building Code, Chapter 13C)	All new commercial buildings greater than 5,000 square feet are required to reduce the amount of potable water used for landscaping by 50%.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will reduce the amount of potable water used for landscaping by 50%. The Society is also pursuing the use of non-potable water for certain elements of the Project.
San Francisco Green Building Requirements for water use reduction (SF Building Code, Chapter 13C)	All new commercial buildings greater than 5,000 sf are required to reduce the amount of potable water used by 20%.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building.
Renewable Energy Sector			
San Francisco Green Building Requirements for renewable energy (SF Building Code, Chapter 13C)	By 2012, all new commercial buildings will be required to provide on-site renewable energy or purchase renewable energy credits pursuant to LEED® Energy and Atmosphere Credits 2 or 6. Credit 2 requires providing at least 2.5% of the buildings energy use from on-site renewable sources. Credit 6 requires providing at least 35% of the building's electricity from renewable energy contracts.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will comply with LEED Energy and Atmosphere Credit 6.
Waste Reduction Sector			

Regulation	Requirements	Project Compliance	Discussion
San Francisco Green Building Requirements for solid waste (SF Building Code, Chapter 13C)	Pursuant to Section 1304C.0.4 of the Green Building Ordinance, all new construction, renovation and alterations subject to the ordinance are required to provide recycling, composting and trash storage, collection, and loading that is convenient for all users of the building.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will comply with Section 1304C.0.4 of the Green Building Ordinance.
Mandatory Recycling and Composting Ordinance (Environment Code, Chapter 19)	The mandatory recycling and composting ordinance requires all persons in San Francisco to separate their refuse into recyclables, compostables and trash, and place each type of refuse in a separate container designated for disposal of that type of refuse.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will comply with Chapter 19 of the Environment Code.
San Francisco Green Building Requirements for construction and demolition debris recycling (SF Building Code, Chapter 13C)	These projects proposing demolition are required to divert at least 75% of the project's construction and demolition debris to recycling.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will recycle and/or salvage at least 75% of non-hazardous construction and demolition debris. A construction waste management plan will be developed and implemented that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or co-mingled.
San Francisco Construction and Demolition Debris Recovery Ordinance (SF Environment Code, Chapter 14)	Requires that a person conducting full demolition of an existing structure to submit a waste diversion plan to the Director of the Environment which provides for a minimum of 65% diversion from landfill of construction and demolition debris, including materials source separated for reuse or recycling.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The Project will comply with the San Francisco Construction and Demolition Debris Recovery Ordinance.

The proposed project would be required to comply with these requirements and was determined to be consistent with San Francisco's *Strategies to Address Greenhouse Gas Emissions.*[44] As such, the proposed project would result in a less than significant impact with respect to GHG emissions.

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[44] Greenhouse Gas Analysis: Compliance Checklist. November 12, 2010. This document is on file and available for public review at the Planning Department, 1650 Mission Street, Suite 400.

E.9 Wind and Shadow

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
9.	**WIND AND SHADOW—Would the project:**					
a)	Alter wind in a manner that substantially affects public areas?	☐	☐	☒	☐	☐
b)	Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	☐	☐	☒	☐	☐

Impact WS-1: The proposed project would not alter wind in a manner that substantially affects public areas. (Less than Significant)

Wind impacts are generally caused by large building masses extending substantially above their surroundings and by buildings oriented such that a large wall catches a prevailing wind, particularly if such a wall includes little or no articulation. Since the proposed project would not be situated next to any surrounding building, would range in height from 9 to 28 feet, and would not be substantially taller than any of its surroundings, the project would not result in adverse effects on ground-level winds. Accordingly, the proposed project would result in a less-than-significant wind impact.

Impact WS-2: The proposed project would not create new shadow in a manner that could substantially affect outdoor recreation facilities or other public areas. (Less than Significant)

Section 295 of the *Planning Code* was adopted in response to Proposition K (passed in November 1984) in order to protect public open spaces under the jurisdiction of the Recreation and Park Commission from shadowing by new and altered structures during the period between one hour after sunrise and one hour before sunset, year round. Section 295 restricts new shade and shadow upon public open spaces under the jurisdiction of the Recreation and Parks Department by any structure exceeding 40 feet in height unless the Planning Commission finds the shadow to be an insignificant effect. The proposed project, which would range from 9 to 28 feet-tall, would not be subject to Section 295. Therefore, the proposed Nursery would not result in any shadow impacts.

Impact WS-3: The proposed project, in combination with other past, present, or reasonably foreseeable future projects, would result in less than significant cumulative wind and shadow impacts. (Less than Significant)

The proposed project, as discussed above, would not substantially impact shadow or wind levels at or near the project site. There are no other developments in the project vicinity that would contribute substantially to cumulative effects. Therefore, a cumulative impact would not occur.

E.10 Recreation

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
10. RECREATION—Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☒	☐	☐	☐
c) Physically degrade existing recreational resources?	☐	☐	☒	☐	☐

Impact RE-1: The proposed project would not increase the use of existing neighborhood parks or other recreational facilities, such that substantial physical deterioration of the facilities would occur or be accelerated. (Less than Significant)

The proposed project is located within the San Francisco Botanical Garden, which is a 55-acre (2,395,800 square-feet) garden located in the southeastern portion of Golden Gate Park. The Botanical Garden consists of landscaped gardens, forests, and meadows displaying 8,000 varieties of plants from different climates of the world. The Botanical Garden is used as a passive recreational open space. The proposed project would construct a new Nursery and associated facilities and demolish the existing greenhouse. The proposed project would not increase the use of existing recreational facilities and parks in the area because there would be no residents or additional employees associated with the proposed project. Additionally, the proposed project could potentially increase the number of users of the Botanical Gardens with future programming of the Nursery; however, this amount would be minor compared to the overall existing visitation of the Botanical Gardens and would not result in physical deterioration of the facilities. Therefore, the project would not be considered a substantial contribution to the existing demand for public recreational facilities in this area and this impact would be less than significant.

Impact RE-2: The proposed project would construct recreational facilities; however, the proposed project would have less-than-adverse physical effects on the environment from the expansion or construction of recreational facilities. (Less than Significant with Mitigation)

The proposed project would construct a Nursery and associated facilities that would be considered a recreational facility. Construction of this recreational facility might have an adverse physical effect on the environment. However, with implementation of **Mitigation Measures M-BIO-1a – 1f, M-CP-3, M-CP-4, M-CP-5, and M-HZ-2,** this impact would be reduced to less-than-significant.

Impact RE-3: The proposed project would not physically degrade existing recreational facilities. (Less than Significant)

The proposed project is located within the San Francisco Botanical Garden, which is a 55-acre (2,395,800 square-feet) garden located in the southeastern portion of Golden Gate Park. The Garden is used as a passive recreational open space. As discussed under Impact RE-1, the proposed project could potentially increase the number of users of the Botanical Gardens with future programming of the Nursery; however, this amount would be minor compared to the overall existing visitation of the Botanical Gardens and would not result in physical deterioration of the facilities. Therefore, the project would not be physically degrade existing recreational facilities and this impact would be less than significant.

Impact RE-4: The proposed project in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in cumulative recreational impact. (Less than Significant)

The proposed project would not generate additional park demand. Additionally future developments would be subject to Planning Code open space requirements. No other development in the project vicinity would contribute substantially to recreational cumulative effects. Therefore, the proposed project would not result in a cumulatively considerable impact.

E.11 Utilities and Service Systems

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
11.	**UTILITIES AND SERVICE SYSTEMS—Would the project:**					
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐
d)	Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	☐	☐	☒	☐	☐
e)	Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐	☐

Impact UT-1: Implementation of the proposed project would result in a less-than-significant impact to wastewater and stormwater collection and treatment facilities. The project includes construction of an extension of a new wastewater collection facility to the project site, but would not result in significant environmental affect. (Less than Significant)

Project-related wastewater and stormwater would flow to the City's combined stormwater and sewer system and would be treated to standards contained in the City's National Pollutant Discharge Elimination System (NPDES) Permit for the Southeast Water Pollution Control Plant prior to discharge into the Bay. Because the NPDES standards are set and regulated by the San Francisco Bay Area Regional Water Quality Control Board (RWQCB), the project would not conflict with RWQCB requirements.

The proposed project would include the construction of an extension of wastewater facilities to the project site from Lincoln Way. The proposed wastewater extension would connect to existing sewer trunk lines on Lincoln Way and would be approximately 6" in width and 200 –feet in length. However, this extension of wastewater facilities to the project site would not require any substantial expansion of wastewater/stormwater treatment facilities and would not result in significant environmental impacts.

The proposed project would demolish the existing greenhouse and construct a new Nursery, which would result in an increase of impervious surfaces (roadways and pathways) by 3,117 sf and pervious surface (pervious pavers and outdoor nursery space) by 2,780 sf. Compliance with the Stormwater Management Ordinance (SMO) will require the project to maintain, reduce, or eliminate the existing volume and rate of stormwater runoff discharged from the site. To achieve this, the project would implement and install appropriate stormwater management systems that retain runoff onsite, promote stormwater reuse, and limit (or eliminate altogether) site discharges entering the combined sewer collection system. This in turn would limit the incremental demand on both the collection system and wastewater facilities resulting from stormwater discharges, and minimize the potential for upsizing or constructing new facilities. The proposed project would therefore not substantially increase the demand for wastewater or stormwater treatment and would result in a less-than-significant impact.

Impact UT-2: The SFPUC has sufficient water supply and entitlements to serve the proposed project, and implementation of the proposed project would not require expansion or construction of new water treatment facilities. (Less than Significant)

All large-scale projects in California subject to CEQA are required to obtain an assessment from a regional or local jurisdiction water agency to determine the availability of a long-term water supply sufficient to satisfy project-generated water demand under Senate Bill 610 and Senate Bill 221.45 Under Senate Bill 610, a Water Supply Assessment (WSA) is required if a proposed project is subject to CEQA review in an EIR or Negative Declaration and is any of the following: (1) a residential development of more than 500 dwelling units; (2) a shopping center of business

[45] California Department of Water Resources (2003). Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. Available at www.owue.water.ca.gov/Guidebook_101003.pdf. Accessed on July 2, 2008.

employing more than 1,000 persons or having more than 500,000 sf of floor space; (3) a commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space; (4) a hotel or motel with more than 500 rooms; (5) an industrial or manufacturing establishment hosing more than 1,000 persons or having more than 650,000 sf or 40 acres; (6) a mixed-use project containing any of the foregoing; or (7) any other project that would have a water demand at least equal to a 500 dwelling unit project. The proposed project would not exceed any of these thresholds and therefore, would not be required to prepare a WSA.

In May 2002, the SFPUC adopted a resolution finding that the SFPUC's Urban Water Management Plan (UWMP) adequately fulfills the requirements of the water assessment for water quality and wastewater treatment and capacity as long as a project is covered by the demand projections identified in the UWMP, which includes all known or expected development projects and projected development in San Francisco at that time through 2020. The UWMP uses growth projections prepared by the Planning Department and Association of Bay Area Governments (ABAG) to estimate future water demand. The project is within the demand projections of the UWMP and would not exceed the water supply projections.

The proposed project would require water connections per the SFPUC. The proposed project includes utility extensions from a domestic water main from Lincoln Way. The water main would have a length of 205 feet and a width of 3 feet. Additionally, SFPUC could recommend changes to the size and design of this infrastructure.

The proposed project would result in a minimal increase in consumption of water per day because the project would involve replacement of the existing greenhouse to a different location within the Botanical Garden, the addition of restrooms, and would result in a minimal increase of plant propagation space (Table 1). The project would not result in an increase of employees or volunteers. The proposed Nursery would include the installation of public bathrooms; however, the new building and the restrooms would be designed to incorporate water-conserving measures, such as low-flush toilets and urinals, as required by the California State Building Code Section 402.0(c). Since the proposed water demand could be accommodated by existing and planned water supply anticipated under the SFPUC's 2005 Urban Water Management Plan and would include water conservation devices, it would not result in a substantial increase in water use and could be served from existing water supply entitlements and resources. Thus, the

proposed project would not require the expansion of water facilities, resulting in a less-than-significant impact.

Impact UT-3: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)

The portion of San Francisco's waste that is not recycled is disposed of in the Altamont Landfill. The landfill is expected to remain operational for another 19 to 28 years, with an increase of 250 acres of fill area under an expansion plan. With the City's plan to increase recycling to 75 percent of the waste stream by 2010 and the Altamont Landfill expansion, the City's solid waste disposal demand could be met through at least 2026, once expansion of the Altamont Landfill occurs.

The Nursery would participate in the City's recycling and composting programs and other efforts to reduce the solid waste disposal stream. Given the existing and anticipated increase in solid waste recycling and the proposed landfill expansion in size and capacity, the impacts on solid waste facilities from the project would be less than significant.

Impact UT-4: The construction and operation of the proposed project would follow all applicable statutes and regulations related to solid waste. (Less than Significant)

The California Integrated Waste Management Act of 1989 (AB 939) requires municipalities to adopt an Integrated Waste Management Plan (IWMP) to establish objectives, policies, and programs relative to waste disposal, management, source reduction, and recycling. Reports filed by the San Francisco Department of the Environment showed the City generated 1.88 million tons of waste material in 2002. Approximately 63 percent (1.18 million tons) was diverted through recycling, composting, reuse, and other efforts while 700,000 tons went to a landfill.[46] San Francisco residents currently divert approximately 72 percent of their solid waste to recycling and composting, bringing the City's residents closer to their goal of 75 percent diversion by 2010 and 100 percent by 2020.[47] San Francisco Ordinance No. 27-06 requires a minimum of 65 percent of all construction and demolition debris to be recycled and diverted from landfills. Furthermore,

46 San Francisco Office of the Controller, Community Indicators Report. Available on the internet at: *http://www.sfgov.org/wcm_controller/community_indicators/physicalenvironment/index.htm*. Accessed March 12, 2009.

47 San Francisco Department of the Environment. Zero Waste. Website available at: *http://sfgov.org/site/frame.asp?u=http://www.sfenvironment.org*. Accessed February 11, 2009.

the project would be required to comply with City's Ordinance 100-09, the Mandatory Recycling and Composting Ordinance, which requires everyone in San Francisco to separate their refuse into recyclables, compostables, and trash. With waste diversion and expansions that have occurred at the Altamont Landfill, there is adequate capacity to accommodate San Francisco's solid waste.

Therefore, solid waste generated from the project's construction and operation would not substantially affect the projected life of the landfill, and no associated impacts related to solid waste would occur.

Impact UT-5: In combination with past, present, and reasonably foreseeable future development in the project site vicinity, the proposed project would have a less-than-significant cumulative impact on utilities and service systems. (Less than Significant)

The proposed project would not substantially impact utility provision or service in the project area. There are no other developments in the project vicinity that would contribute substantially to cumulative effects. Given that existing service management plans address anticipated growth in the region, the proposed project would not have a significant cumulative effect on utility service provision or facilities.

E.12 Public Services

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
12. PUBLIC SERVICES— Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services?	☐	☐	☒	☐	☐

Impact PS-1: The proposed project would increase demand for fire protection and police services, but not to an extent that would result substantial adverse impacts associated with the provision of such service. (Less than Significant)

The proposed project would minimally increase the demand for fire protection and police services within the project area because the project does not include additional residents or employees. The San Francisco Fire Department (SFFD) and the San Francisco Police Department (SFPD) provide fire and police protection services to the project site. The closest fire station to the project site is Station 22, located at 1290 16th Avenue. The closest police stations to the project site are the Taraval Station located at 2345 24th Avenue and the Richmond Station located at 461 6th Avenue. Although the proposed project could increase the number of service calls received from the area as a result of the increase in activity on the site, this increase would not be substantial in light of the existing demand for fire and police protection services in the area and would not exceed amounts anticipated and provided for in the area. As such, the proposed project would not require new or physically altered SFFD and SFPD facilities.

In addition, the proposed project would be required to comply with all regulations of the California Fire Code, which establishes requirements pertaining to fire protection systems, including the provision of state-mandated smoke alarms, fire extinguishers, appropriate building access, and emergency response notification systems.

Impact PS-2: The proposed project would not indirectly generate school students, and would not require new or physically altered school facilities; therefore, the impact to schools would be less than significant. (Less than Significant)

The proposed project would construct an 11,150 square-foot nursery and associated facilities, and demolish the existing greenhouse. The proposed project does not include residents or additional employees that would not add new population to the area, and would therefore, generate school students. Therefore, the project would not result in new or physically altered school facilities, and this impact would be less-than-significant.

Impact PS-3: The proposed project, combined with past, present, and reasonably foreseeable future projects in the vicinity, would result in less-than-significant cumulative impacts to public services. (Less than Significant)

Public service providers accommodate growth within their service areas by responding to forecasted population growth and land use changes. There is no other development in the project vicinity that would contribute substantially to cumulative effects. The proposed project would not exceed growth projections for the area, would generally be consistent with the General Plan, and as such, would be accommodated in the projected cumulative demand for services.

E.13 Biological Resources

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact	Not Applicable
13. BIOLOGICAL RESOURCES— Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐	☐

Impact BIO-1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on special status species, and sensitive natural communities, or conflict with an adopted conservation plan. Additionally, the project could interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant with Mitigation)

A Biological Technical Memorandum was prepared for the proposed project.[48] The biological technical memo describes existing biological resources at the project site during several visits in spring 2009, evaluates the potential for special-status plant or animal species to be present in the vicinity of the project site, and identifies mitigation measures that would reduce impacts to biological resources.

Setting

The 55-acre Strybing Arboretum contains the Botanical Garden featuring landscaped gardens depicting a diversity of plant species from around the world. The succulent garden and the Children's Garden border the site of the proposed Nursery on the east and west respectively, and the redwood forest habitat and California Native Plant Garden abut the existing nursery and greenhouse. The Southeast Asian cloud forest habitat is farther to the north.

The following land uses are within or immediately adjacent to the project site:

- · The existing San Francisco Botanical Garden at Strybing Arboretum and associated buildings, pathways, and vegetated beds;
- · MLK Drive, which supports vehicular and bicycle traffic throughout the day, surrounds the project site and bounds the Botanical Garden to the west, north, and east;
- · Lincoln Way to the south of the project site, outside the Golden Gate Park boundary; and
- · Stow Lake to the north of the project site, and is separated from the site by Martin Luther King Jr. Drive.

Vegetation Communities

Within the project construction limits (including existing nursery and greenhouse location and the location where the existing greenhouse and nursery would be removed) and surrounding the proposed project site, vegetation communities include non-native grassland, landscaping, and vegetated beds.[49] The proposed Nursery site includes scattered coyote brush, but this site does not have a dominant or intact natural vegetation community. The existing greenhouse and nursery site is developed with structures and pavement and does not contain vegetation

[48] ESA Associates, Biological Technical Memorandum, San Francisco Botanical Garden Nursery: Center for Sustainable Gardening, August, 25, 2010. From Tom Roberts and Erin Higbee to Chelsea Fordham, MEA. This study is on file and available for public review at the Planning Department, 1650 Mission Street, 4th Floor.

49 The California Native Plant Garden within the Botanical Garden includes native California species, although most are not native to the site, the Arboretum (like the rest of Golden Gate Park) was created on what was once primarily sand dunes, largely lacking vegetation.

communities.

Trees

The proposed Nursery site primarily contains eucalyptus (Eucalyptus globulus), Monterey pine (Pinus radiata), Douglas fir (Pseudotsuga menziesii), California bay laurel (Umbellularia californica) and Coast live oak (Quercus agrifolia). These trees may provide roosting and nesting sites for various raptors or other migratory birds protected by California Fish and Game Code Sections 3503 and 3503.5 and the federal Migratory Bird Treaty Act (discussed below under Special-Status Species and under Migratory Bird Treaty Protected Species). According to the Tree Protection and Removal Plan, 46 trees are proposed to be removed as part of the proposed project, seven of which are native trees including the following species: California bay laurel (Umbellularia californica); oak species (Quercus sp.); and California lilac (Ceanothus sp.) [50]. Non-native trees to be removed include blue gum Eucalyptus (Eucalyptus globulus); Douglas fir (Pseudotsuga menziessi); Monterey pine (Pinus radiate).

Special-Status Species

For the purposes of this analysis, the term "special-status species" includes species that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as threatened or endangered but designated as species "of concern," or as "rare" or "sensitive" on the basis of adopted policies and expertise of federal or state resource agencies or organizations with acknowledged expertise, including the U.S. Fish and Wildlife Service, California Department of Fish and Game, National Marine Fisheries Service (now known as "NOAA Fisheries"[51]), and the California Native Plant Society. Specifically, the following categories are included:

- federally listed endangered and threatened species; species proposed for listing as endangered or threatened;
- candidates for such listing;

50 Lutsko Associates, "Nursery: Center for Sustainable Gardening, Tree Protection and Removal Plan," 100 percent progress print, January 8, 2010.

51 The National Oceanic and Atmospheric Administration Fisheries Service, or NOAA Fisheries, formerly the National Marine Fisheries Service or NMFS, has responsibility for fisheries resources, but has no jurisdiction over upland areas where there is no stream access for anadromous fish, such as the project site.

- federally identified species of concern and species of local concern; state-listed endangered and threatened species, and rare (plants only) species;
- California Species of Special Concern; species designated "special animals" by the state;[52]
- "fully protected" species (of which there are about 35, most of which are also listed as either endangered or threatened; none is likely to be present at the project site);
- raptors (birds of prey), which are specifically protected by Fish & Game Code Section 3503.5, which prohibits the take, possession, or killing of raptors and owls, their nests, and their eggs;[53] and
- California quail; although not generally considered a special-status species, California quail is considered locally significant and thus is considered a special-status species in this report, given its state and local designations (see discussion below), and the City's endorsement of the Quail Recovery Plan.

The species noted above are referred to collectively as "special-status species" following a convention that has developed in practice but has no official sanction. Special-status species with the potential to be present at the project site are listed in Table 5.

The California Natural Diversity Database (CNDDB) database lists 50 special-status plant and animal species in the San Francisco North quadrangle with potential to occur in the project area. [54] None of the special-status plants are known to occur or have suitable habitat in the immediate vicinity of the project site. Nine special-status animals have a moderate to high potential for occurrence at the project site, while another 12 have a low potential for occurrence at the site, as shown in Tables 5. These species are discussed below.

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52 Species listed on the current CDFG Special Animals List (July 2009), which includes 883 species. This list includes species that CDFG considers "those of greatest conservation need." The list is available at *http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp*; reviewed September 14, 2009.

53 The inclusion of birds protected by Fish & Game Code Section 3503.5 is in recognition of the fact that these birds are substantially less common in California than most other birds, having lost much of their habitat to development, and the recognition that the populations of these species are therefore substantially more vulnerable to further loss of habitat and to interference with nesting and breeding than are most other birds. It is noted that a number of raptors and owls are already specifically listed as threatened or endangered by state and federal wildlife authorities.

54 California Department of Fish and Game (CDFG), California Natural Diversity Database 3.1.0 for San Francisco North 7.5-minute topographic quadrangle. Information dated March 31, 2009a.

TABLE 5
SPECIAL-STATUS ANIMAL SPECIES REPORTED OR WITH POTENTIAL TO OCCUR NEAR THE PROPOSED SAN FRANCISCO BOTANICAL GARDEN NURSERY

Common name Scientific name	Listing Status USFWS/CDFG	Potential to Occur at the Project site[a]
SPECIES LISTED OR PROPOSED FOR LISTING		
Invertebrates		
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT/–	**Low.** Inhabits serpentine grassland, which is not present at the project site.
Mission blue butterfly *Plebejus icarioides missionensis*	FE/–	**Low.** Documented species presence in only five locations in the San Francisco Bay area.
Callippe Silverspot butterfly *Speyeria callippe callippe*	FT/–	**Low**. According to CNDDB, this species is extirpated from this area.
Amphibians		
California red-legged frog *Rana draytonii*	FT/CSC	**High.** Documented presence in numerous ponds throughout Golden Gate Park, including the Children's Garden pond and the Duck pond in Strybing Arboretum. Last documented observation was in 2005.
Birds		
California black rail *Laterallus jamaicensis coturniculus*	–/CT	**Low.** Found in salt and brackish marshes; also in freshwater marshes at low elevations.
FEDERAL SPECIES OF CONCERN OR STATE/LOCAL SPECIES OF SPECIAL CONCERN		
Reptiles		
Western pond turtle *Actinemys marmorata*	–/CSC	**Low**. Known to occur in two lakes (Mallard Lake and Lloyd Lake) within Golden Gate Park, but not within the Strybing Arboretum.
Birds		
San Pablo song sparrow *Melospiza melodia samuelis*	–/CSC	**Low.** This species has not been observed in the Botanical Garden as identified on the *Checklist of Birds of Strybing Arboretum & Botanical Garden.*
Bank swallow *Riparia riparia*	–/CT	**Low.** Habitat requirements include vertical banks and cliffs with sandy soils, near water. This species has not been observed in the Botanical Garden as identified on the *Checklist of Birds of Strybing Arboretum & Botanical Garden.*
California black rail *Laterallus jamaicensis coturniculus*	–/CT, CFP	**Low.** This species has not been observed in the Botanical Garden as identified on the *Checklist of Birds of Strybing Arboretum & Botanical Garden.*
Double-crested cormorant *Phalacrocorax auritus*	–/WL	**Low.** This species has not been observed in the Botanical Garden as identified on the *Checklist of Birds of Strybing Arboretum & Botanical Garden.*
Cooper's hawk *Accipiter cooperii*	–/3503.5	**High.** Present in Strybing Arboretum..
Sharp-shinned hawk *Accipiter striatus*	–/3503.5	**Low.** This species is an uncommon sighting as identified on the *Checklist of Birds of Strybing Arboretum & Botanical Garden.*
Red-shouldered hawk *Buteo lineatus*	–/3503.5	**High.** Riparian woodlands with swamps and emergent wetlands. Observed within vicinity of project site in Strybing Arboretum.
Red-tailed hawk *Buteo jamaicensis*	–/3503.5	**High.** Found in nearly all habitats and elevations.
FEDERAL SPECIES OF CONCERN OR STATE/LOCAL SPECIES OF SPECIAL CONCERN (cont.)		
Birds (cont.)		

Common name Scientific name	Listing Status USFWS/CDFG	Potential to Occur at the Project site[a]
Great horned owl *Bubo virginianus*	–/3503.5	**High.** Nest recently observed in Golden Gate Park
California quail *Callipepla californica*	b	**High.** Shrub, scrub, brush, grasslands, open coniferous and deciduous habitats. Observed within vicinity of project site in Strybing Arboretum.
Allen's hummingbird *Selasphorus sasin*	–/WL	**High.** Present in Strybing Arboretum
Mammals		
American badger *Taxidea taxus*	–/CSC	**Low.** Last documented presence in Golden Gate Park in 1936.
Western red bat *Lasiurus blossevillii*	–/CSC	**Moderate.** Roosting habitat is in foliage of deciduous and coniferous trees. CNDDB has recorded observation of presence in the Strybing Arboretum.
Hoary bat *Lasiurus cinerus*	–/CSAL	**Moderate.** Prefers tree roosts in edge habitats. CNDDB has recorded observation of presence in Golden Gate Park.
Point Reyes jumping mouse *Zapus trinotatus orarius*	–/CSC	**Low.** No documented occurrences in Golden Gate Park.

STATUS CODES:

Federal Categories (USFWS)
FE = Listed as endangered by the federal government
FT = Listed as threatened by the federal government
FPE = Proposed for listing as endangered
FPT = Proposed for listing as threatened
FC = Candidate for federal listing
FSC = former Federal species of concern (as of 2006 USFWS no longer maintains a list of species of concern, but these species are still considered at-risk species by other federal and state agencies and various organizations with recognized expertise such as the Audubon Society.)

State Categories (CDFG)
CE = Listed as endangered by the State of California
CT = Listed as threatened by the State of California
CSC = California species of special concern
CSAL = CDFG Special Animals List
WL = California watch list
CFP = California fully protected
3503.5 = California Fish and Game Code Section 3503.5, Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls)

[a] High Potential = Species is expected to occur and habitat meets species requirements.
Moderate Potential = Habitat is only marginally suitable or is suitable but not within species geographic range.
Low Potential = Habitat does not meet species habitat or range requirements as currently understood in the scientific community, or species may be extirpated.

[b] California quail is included as a special-status species because of its local significance, as described in the text.

SOURCE: CDFG, 2009a; USFWS, 2009 (San Francisco North quadrangle).

California Red-Legged Frog

The California red-legged frog (CRLF) is a federal Threatened species and California Species of Special Concern. It is found in quiet permanent waters of ponds, pools, streams, springs, marshes, and lakes, and non-breeding habitat includes moist woodlands, forest clearings, and grasslands. CRLF breed in a variety of aquatic habitats, from deep pools to marshes and sag ponds, and in shallow sections of streams with and without riparian vegetation. Egg masses (deposited between November and April) need to be laid in water and larvae typically metamorphose between July and September. Exact habitat used during the non-breeding season is unknown, but is presumed to be root channels, burrows, and pond bottoms. Frogs utilize

upland habitat during periods of wet weather and in the summer for foraging. During wet weather, frogs have been known to migrate up to one mile from breeding habitat in upland habitat.[55]

As described in the *Golden Gate Park Master Plan FEIR*, CRLF are thought to have established in Golden Gate Park from historical populations near Ninth Avenue and Lincoln Way, near the project site.[56] In the 1960s, according to the FEIR, CRLF were commonly observed in Stow Lake and in the Arboretum pond (one of several ponds within the Arboretum, this is located near the main entrance and is approximately 1,760 feet northeast of the proposed new Nursery site and about 1,320 feet northeast of the existing nursery). The FEIR noted that, in Golden Gate Park, adult frogs were reported under flower pots in the Arboretum nursery during the 1976 – 1977 winter. In 1995, a focused survey of CRLF occurrence was conducted for the Golden Gate Park Lake Relining Project; however, no CRLF were found, according to the FEIR. CRLF adults, juveniles, and larvae were recorded at ponds in Strybing Arboretum in July 1993 in the CNDDB. In the most recent record in the CNDDB, an adult CRLF was found under the walkway bridge to the Children's Garden pond in 2005.[57] This pond is approximately 150 feet west of the edge of the building envelope for the proposed new Nursery. As noted above, CRLF are known to migrate up to one mile from suitable habitat. Therefore, this analysis will assume that CRLF are present on or transient through the project, including the existing greenhouse location and the proposed nursery location, and could make use of upland habitat as well as the nearby ponds. CRLF are well distributed within the Park, therefore barriers to movement are not identified in the project area.

California Quail

In July 2000, the San Francisco Board of Supervisors approved a resolution designating the California quail (*Callipepla californica*) the official City bird of San Francisco, and urging city departments to support efforts to assist in restoring the City's quail population. In the Quail

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55 U.S. Fish and Wildlife Service (USFWS), Recovery Plan for the California Red-Legged Frog (Rana draytonii), May 2002. Available online at: http://ecos.fws.gov/docs/recovery_plan/020528.pdf; accessed 2009 April 9.

56 San Francisco Planning Department, 1998. Final Environmental Impact Report on the Golden Gate Park Draft Master Plan. State Clearinghouse No. 95093011. Certified July 9, 1998.

57 U.S. Fish and Wildlife Service (USFWS), Sacramento Endangered Species Office, Quick Endangered Species List, San Francisco North quadrangle. Available online at: *http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp*; accessed 2009 March 31

Recovery Plan published by the San Francisco Quail Recovery Task Force and subsequently endorsed by the San Francisco Commission on the Environment, the Botanical Garden was entified by the Task Force as one of four recovery sites as providing the best potential for quail habitat restoration while at the same time avoiding conflicts with other park uses and animals. [58] Quails require forbs (non-grass herbs) and brush for food and cover and build their nests scrape on ground lined with vegetation, usually placed in dense vegetation with thin overhead cover. California quail has been reported in the Botanical Garden: individuals have been observed as recently as April 2009 by staff at the San Francisco Botanical Garden in the succulent garden, which is located along the edge of the proposed new Nursery site.

Other Special-Status Species

Several special-status bird species listed in Table 5 have a moderate or high potential to be found at the project site, including three raptors (birds of prey): red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and Cooper's hawk (*Accipiter cooperii)*. As noted previously, these species are protected in California under California Fish & Game Code Section 3503.5 and, as such, are considered special-status species. All of these species nest in either dead or living large trees, including conifers and eucalyptus, located in forest or woodland habitat. These species have been observed, and are known or suspected to nest in Golden Gate Park, and may potentially use trees within the construction area for nesting. Six red-tailed hawk nests, one great-horned owl (*Bubo virginianus*) nest, and two red-shouldered hawk nests were observed in Golden Gate Park in spring 2009, though none within the project site.[59] During the October, 2009 reconnaissance survey for the biological memo, a juvenile Cooper's hawk was observed landing in a nest that is located 175 feet outside of the 300 foot buffer around the proposed Nursery project site. [60]Additionally, red-shouldered hawks have been observed hunting in the field near the children's garden within the proposed new Nursery site.

Additionally, Allen's hummingbird is known to be present at Botanical Garden, and was observed during site surveys. Two bat species—the western red bat and hoary bat—have high and moderate potential, respectively, to be present; both have a recorded presence in Golden

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58 The San Francisco Quail Recovery Task Force was overseen by the Department of the Environment and included representatives of the Golden Gate Audubon Society, Save the Quail Campaign, San Francisco SPCA, and San Francisco Parks Coalition.

59 Bartley, Eddie, partner, Nature Trip, and member, Golden Gate Audubon Society, email communication, May 27, 2009.

60 ESA Associates, Biological Technical Memorandum, August, 25, 2010. Ibid.

Gate Park, and the western red bat has been reported in the Botanical Garden, according to CNDDB records. Because the project site is within an artificially created arboretum, there is a low potential for any special-status plants to be present, and therefore no surveys for special-status plant species were conducted.

Project Impacts

Temporary Construction-Related Impacts

As described above, it is assumed that CRLF are present at or near the project site and could be adversely affected by construction activities associated with the proposed project, including vegetation and tree removal, grading, paving, truck trips to and from the staging area, and building and utility construction at the site of the proposed project, as well as demolition of the existing greenhouse and nursery, and replanting of that site. Temporary and intermittent transportation impacts would result from vehicle movements to and from the project site during activities associated with construction of the proposed project.

According to the project sponsor, construction activities would require, on average, one truck per day (two one-way truck trips) to visit the site to make deliveries of fencing, wood framing, steel, glass, pipe, gravel, roofing, green "living" roof materials, fixtures, and the like. On limited occasions, truck traffic would peak. For example, when the concrete slab to support the new nursery facilities is poured, it would require about 20 concrete-mixer trucks over one or two consecutive days, and installation of the exterior (finishing) concrete in the learning court would require three to four mixer trucks (up to eight truck trips) on a single day day. In addition, when the finish asphalt paving for the driveway is delivered, there would be about five to seven trucks delivering asphalt, again on a single day. While a single truck round-trip per day would be unlikely to result in disturbance of CRLF, frogs could be adversely affected on the few days when there would be a substantially greater volume of truck traffic. However, **Mitigation Measures M-BIO-1a - 1b** identified below, including education of construction workers, erection of exclusion fencing, and biological monitoring of construction activities, would ensure that effects on CRLF related to construction, including truck traffic, would be reduced to a less-than-significant level.

The current design plans show a staging area of a minimum of 10,000 square feet adjacent (to the east) to where the greenhouse, head house and shade house would be built. The total area of ground surface to be disturbed is approximately 110,000 square feet for new construction and

demolition of the old greenhouse, which occupies a footprint of about 25,000 square feet. However, demolition of the greenhouse would not result in disturbance of areas not previously improved. Erosion control measures would be implemented throughout the construction period. Other potential impacts to the project area from the construction staging would be reduced by the implementation of a Stormwater Pollution Prevention Plan (SWPPP) as part of the General Construction Permit with elements such as the installation of straw wattles and check dams to contain and direct stormwater and stabilized construction entrance/exits to reduce tracking of mud and material throughout the site. Additionally, existing trees within the project area that are not proposed for removal would be preserved with tree protection fencing.

Other special-status species, including Cooper's hawk, red-shouldered hawk, red-tailed hawk, Allen's hummingbird, Western red bat, and hoary bat are potentially present at the project site and could also, therefore, be adversely affected by disturbance including noise generated by construction activities, including tree and vegetation removal. Construction of the proposed project could affect other common wildlife, including birds protected under the federal Migratory Bird Treaty Act but not otherwise identified as special-status species. Nesting birds, their nests, and eggs are fully protected by *Fish and Game Code* (Sections 3503, 3503.5) and the Migratory Bird Treaty Act (MBTA). The MBTA protects over 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species. The proposed project would include the removal of 46 trees. Such effects on special-status species would be considered a significant impact under CEQA. Additionally, demolition and construction activities could affect two special-status bat species that may be present at the site. In particular, bats could roost in the existing structures that compose the existing greenhouse. However, **Mitigation Measures 1d – 1f** identified below would reduce potential impacts on special-status species to a less-than-significant level through protection of individuals during construction, including demolition, and, as applicable, during project operation.

Mitigation Measure M-BIO-1a – Special Status Species, General

Because there is the potential for special-status species to be present at or near the project site, the following measures would be implemented by the project sponsor:

- A worker awareness program (environmental education) will be developed and implemented prior to any demolition or construction activities to inform project workers of their responsibilities in regards to sensitive biological resources.

- An environmental inspector will be appointed by the project sponsor or construction/demolition contractor(s) to serve as a contact for issues that may arise concerning implementation of avoidance measures, and to document and report on adherence to these measures during construction and demolition.

- Loss of habitat will be minimized through the following measures: (1) the number and size of access routes and staging areas and the total area of the project activity will be limited to the minimum necessary (110,000 square feet); and (2) all areas temporarily disturbed by construction will be revegetated to pre-project or native conditions consistent with the landscape plan developed for the proposed project.

- During work activities, all trash that may attract predators will be properly contained, removed from the work site and disposed of regularly. Following construction activities, all trash and construction debris will be removed from work areas.

Mitigation Measure M-BIO-1b – California Red-Legged Frog, Construction-Period Mitigation Measures

1. A mandatory biological-resources awareness training will be provided to all construction personnel prior to any demolition or construction activities as follows:

    - The training will be developed and provided by a qualified biologist familiar with the sensitive species that may occur in the study area. The training program shall be reviewed and approved by the project sponsor prior to implementation if prepared by a consulting biologist.
    - Training materials shall be language-appropriate for construction personnel.
    - The training shall be provided before any work occurs in the work area boundary, including vegetation clearing and grading.
    - The training shall provide educational information on sensitive habitats and the natural history of the special-status species potentially occurring in the study area,

a discussion of the required mitigation measures to avoid impacts on the special-status species, and a discussion of penalties for noncompliance with biological mitigation requirements.

- If new construction personnel are added to the project, the contractor shall ensure that new personnel receive training before they start working. The subsequent training of personnel can include videotape of the initial training and/or the use of written materials approved by a qualified biologist rather than in-person training by a biologist.

2. The project sponsor shall retain a qualified biologist to install barrier fencing around the project site area of ground disturbance during project construction. The biologist will be required to coordinate with the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) on the type and location of barrier fencing. Per consultation with CDFG, the fence material shall be made of heavy duty plastic sheeting with the posts on the inside of the construction area with no holes or gaps, except for exit doors. The fencing would need to be buried several inches down into a trench. The area would be cleared of any CRLF or other wildlife before any equipment is allowed inside and prior to ground disturbing activities.

3. The project sponsor shall prepare contractor bid specifications that restrict contractor(s) from working outside of the fenced area, and include these specifications in all construction contract(s).

4. The project sponsor shall ensure that a USFWS and CDFG-approved biologist:

    - Conducts onsite monitoring for the presence of special-status species in the construction area during initial ground disturbance, including demolition activities, grading, excavation, and vegetation removal activities and any dewatering activities that are proposed in Arboretum fountains and waterways.

    - Inspects exclusion fences to ensure that they do not have any tears or holes, that the bottoms of the fences are still buried, and that no individuals have been trapped in the fences, and closely monitors any special-status species found along and outside exclusion fencing until they move away from the construction area.

- Periodically checks all open trenches or holes for the presence of special-status species.

5. The biological monitor will clear the area of any CRLF or other wildlife prior to subsequent ground-disturbing activities. If a CRLF is found to be at-risk, the monitor will have the authority to halt construction or demolition, in conjunction with the resident engineer or project representative and consult with the USFWS before the project may continue. The monitor will also observe the functioning of barrier fencing and make or cause to be made any necessary repairs. Fencing will remain in place until the end of construction.

6. If any special-status species are found by the biological monitor or construction personnel within the work area, construction activities shall cease in the immediate vicinity of the individual until the animal moves of its own volition away from the construction area, or the CDFG and/or USFWS are consulted regarding appropriate actions to take, and/or the species is relocated by a qualified biological monitor.

7. Once all initial ground-disturbing activities are completed, the biological monitor shall perform spot checks of the study area at least once a week for the duration of construction to ensure that the perimeter fence is in good order, trenches are being covered if left open overnight (or escape ramps are being provided), project personnel are conducting checks beneath parked vehicles prior to their movement if they have been parked for an extended amount of time, and that all other required biological protection measures are being complied with. The biological monitors do not need to remain on site for the entire day, but shall remain on-call in case any special-status species are discovered and need to be moved.

Mitigation Measure M-BIO-1c – California Red-Legged Frog, Operational -Period Mitigation Measures

The project sponsor shall install informational signs along the service road for the new Nursery, alerting drivers to the potential presence of CRLF on the road. The sponsor shall also post a speed limit of no more than 15 miles per hour for the service road.

Mitigation Measure M-BIO-1d –Special-Status Birds (Raptors)

A qualified wildlife biologist will conduct preconstruction (including pre-demolition) surveys no more than 5 days prior to tree removal or construction activities during the breeding season for

active raptor nests within 300 feet and all active nests within 100 feet of ground-disturbance and demolition activities, where access is available.

- If active nests (eggs/chicks present) are found during preconstruction surveys, there will be a no-disturbance buffer (acceptable in size to the CDFG) around active raptor nests and nests of other special-status birds during the breeding season, or until it is determined that all young have fledged. Typical buffers include 300 feet for raptors and 100 feet for other nesting birds. The size of these buffer zones and types of ground-disturbing and demolition activities restricted in these areas may be further modified during coordination with the CDFG, and will be based on existing noise and human disturbance levels at the project site. Nests initiated during construction or demolition is presumed to be unaffected, and no buffer would be necessary. However, substantial adverse effect on any individuals will be prohibited.

- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during construction or ground-disturbing activities, no further measures are required. If trees and shrubs within the proposed project footprint are determined to be unoccupied by special-status birds, or are outside the no-disturbance buffer for active nests, they may be removed.

- If there is a break of at least 5 days in construction or demolition activities during nesting season, an additional nesting bird survey should be conducted to ensure that no birds have occupied nests during the break in construction or demolition activities.

Mitigation Measure M-BIO-1e - California Quail

In addition to the above measures for raptors and special-status bird species, the following measures would apply:

- Prior to any ground-disturbing activities, the project sponsor shall engage a qualified biologist to identify quail-supporting vegetation at the project site such as low growing shrubs. Construction shall avoid removal of the identified vegetation to the extent feasible.

- To the extent that any low-growing shrubs or other quail-supporting vegetation must be removed during construction, such vegetation shall be replaced with suitable vegetation at a 1:1 ratio. Suitable species could include: quail bush (Atriplex breweri), thimbleberry (Rubus parviflorus), or coyote brush (Baccharis pilularis).

Mitigation Measure M-BIO-1f - Special-Status Bats

Pre-construction surveys are not required for demolition or construction activities scheduled to begin during the non-breeding season (September 1 through February 28). If project-related demolition activities (e.g., demolition of structures or removal of trees) activities are scheduled to commence during the breeding season for bats (March 1 through August 31), no more than two weeks in advance of any such activities, a qualified bat biologist, acceptable to the CDFG, shall conduct pre-demolition surveys of all potential special-status bat breeding habitat in the vicinity of the planned activity. Likewise, if construction activities are scheduled to commence during the breeding season, and surveys have not previously been undertaken or demolition not previously begun outside the breeding season, a qualified bat biologist shall conduct pre-construction surveys of all potential special-status bat breeding habitat in the vicinity of the planned activity, also no more than two weeks in advance of the start of such activity. Depending on the survey findings, the following actions shall be taken to avoid potential adverse effects on breeding special-status bats:

1. If active roosts are identified during pre-construction surveys, a no-disturbance buffer will be created by the qualified bat biologist, in consultation with the CDFG, around active roosts during the breeding season. The size of the buffer will take into account factors such as the following:

    - Noise and human disturbance levels at the project site and the roost site at the time of the survey and the noise and disturbance expected during the construction activity;

    - Distance and amount of vegetation or other screening between the project site and the roost; and

    - Sensitivity of individual nesting species and the behaviors of the bats.

2. If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required.

3. Noisy demolition or construction activities as described above (or activities producing similar substantial increases in noise and activity levels in the vicinity) commencing during the non-breeding season and continuing into the breeding season do not require surveys (as it is assumed that any bats taking up roosts would be acclimated to project-related activities already under way). However, if trees are to be removed during the breeding season, the trees would be surveyed for roosts prior to their removal, according to the survey and protective action guidelines above.

4. Bat roosts initiated during demolition or construction activities are presumed to be unaffected by the activity, and a buffer is not necessary.

5. Destruction of roosts of special-status bats and overt interference with roosting activities of special-status bats shall be prohibited.

Permanent Operational Impacts

Tree Removal

The proposed project would remove 46 trees (19 of these trees are unhealthy, diseased, or almost dead), primarily non-native eucalyptus and Monterey pine trees. Four native (bay laurel) trees located at the site of the proposed new Nursery would be removed, as well. Three oak trees located near an existing service road that would serve the new Nursery would be retained.[61] Beyond direct effects on special-status species discussed above, removal of non-native trees would not result in a significant impact under CEQA, because of the availability of potential habitat in the surrounding vicinity of the Botanical Garden, because removal of these trees (and other, low-lying vegetation) would not result in soil removal or erosion, and because removal would not substantially change runoff or percolation of storm water. Moreover, **Improvement Measure I-BIO-1a** identified below (referenced from the proposed project's tree protection plan), would require that native trees removed be replaced at a 3:1 ratio.

61 Lutsko Associates, January 8, 2010, Ibid

Improvement Measure I-BIO-1 Native Trees[62]

To avoid or minimize the effect on native trees in proximity to construction, the project sponsor could implement the following improvement measure during construction.

- No ground surface disturbance, equipment, or placement of stockpiles shall occur within the dripline of retained, native trees at the project site. High visibility fencing or flagging shall be placed around the dripline of these trees, prior to the start of project-related construction activities in accordance with specifications outlined in the Project's Section 01560 Protection of Trees document.

- Native trees removed shall be replanted at a 3:1 ratio, non-natives at 1:1 (CDFG, 2009b).[63]

- All tree removal and construction activities occurring within and around trees will be done in accordance with the Owner's tree removal policies and the Project's Section 0156 Protection of Trees document.

- Section 4.06 of the Park Code prohibits the removal of any tree from park property without the permission of the Recreation and Park Department. Therefore, the removal of 46 trees would require a permit from the Recreation and Park Department.

Habitat Loss

The removal of trees and the construction of the new nursery would result in 110,000 square feet (approximately 2.5 acres) of disturbance. Because the exact types of species that regularly utilize habitat within the project site and the range of those species is unknown, it would be considered too speculative to quantify the habitat loss for each species (CEQA, Section 15145). However, habitat loss would be minimized by limiting project activity to the minimum area necessary to achieve the project goals. As noted, the proposed project would include a green "living" roof on the headhouse building and the existing greenhouse building would be revegetated after demolition. Depending on the species used in planting the roof, this feature could result in an

62 According the Significant Natural Resource Areas Management Plan (San Francisco Recreation & Parks, 2006) historic vegetation records show that trees were not a conspicuous component of the landscape and that much of Golden Gate Park was composed of sand dunes. The earliest botanical descriptions mention coast live oak (Quercus agrifolia), dwarf California buckeye (Aesculus californica) and California laurels (Umbellularia californica).

63 California Department of Fish and Game (CDFG), email communication with Marcia Grefsrud, December 30 and February 22, 2009b.

incremental increase in potential wildlife habitat at the project site, compared to a standard roof, but would not be expected to make a substantial difference in terms of habitat quantity or quality. No adverse biological effects would be expected, since the planting would be undertaken with appropriate native and non-invasive species. Additionally, **Mitigation Measure M-BIO-1e**, identified above, would reduce the impacts of habitat loss to California quail. Due to the size of the project site and the proximity of similar habitat within the Botanical Garden, the permanent loss of habitat for special-status species would be less than significant.

Bird Strikes

Long-term, operational impacts of the proposed project would include emissions of light and noise (e.g. trucks entering and loading, mechanical equipment) from the new Nursery facilities, although these impacts would be at least partially offset by removal of the existing nursery facilities. Window reflections on clear glass are known to cause birds to collide with the glass and result in injury or mortality of birds. The proposed new structures, while larger than those they would replace, would not be sufficiently larger or taller than the existing facilities so as to create a substantial increase in light, glare, or noise. The new Nursery would be approximately 9-28 feet high with glass walls. Therefore, effects on wildlife, including special-status species, would not be significant under CEQA because the project would not introduce sufficient new glazing to result in a substantial increase in adverse effects on special-status bird species. In general, the new structures would have walls that would be primarily opaque surfaces consisting of screens or glass. The glass walls of the new greenhouse would be whitewashed (as they are with the existing greenhouse); a feature that prevents the plants from getting too much sun exposure. The effect of whitewashing the glass can also prevent bird strikes caused by window reflections.

On July 14, 2011, the San Francisco Planning Commission adopted Standards for Bird-Safe Buildings.[64] The standards provide guidelines for evaluating the hazards posed to birds by glazing and proximity to landscaping. The Standards identify designs that may pose hazards, and identify treatments that will provide safe buildings for birds.

Buildings that pose the greatest hazard to birds are called bird-hazards and include those that:

- Have a glass courtyard,
- Have a transparent building corner,

[64] San Francisco Planning Department. Standards for Bird-Safe Buildings, Public Review Draft,

- Have a glazed passageway and/or sight lines through the building,
- Clear glazed railings or bus shelters,

- Clear-glass walls, greenhouse, or other clear barriers on rooftops or balconies, or
- Are located within or immediately adjacent to open spaces of more than one acre with lush landscaping, or immediately adjacent to open water, and with a façade of more than 35 percent glazing.

The features listed above are prohibited unless the building incorporates treatments to address a bird hazard. The following treatments are required for all bird-hazards:

- Glazing and façade treatments: fritting and frosted glass, angled glass, ultra-violet glass, film, and art treatment of glass, external screens, netting, and architectural features.
- Minimal lighting (limited to pedestrian safety needs) shall be used. Lighting shall be shielded. No uplighting should be used.
- The site must not use horizontal axis windmills or vertical axis wind generators that do not appear solid.

Other treatments are not required but are encouraged. Latticework, grilles and other devices, both functional and decorative, can be applied outside the glass or integrated into the glass spacing requirements. No event searchlights should be permitted.

Owners of new buildings must provide their tenants with a copy of the City's Standards for Bird-Safe Buildings. This is required to educate the building's occupants about the risks to birds of nighttime lighting. The Standards for Bird-Safe Buildings are expected to be adopted as an ordinance by the San Francisco Board of Supervisors in the Fall 2011. The proposed buildings would include features that would comply with the City's draft standards. Building lighting will be configured to minimize upward glare. Reflective glass will not be used. Implementation of Mitigation Measure **M-BIO-1g,** which requires conformity with the City's Standards for Bird-Safe Buildings, would ensure that the proposed project would not result in a significant impact related to bird strikes.

Mitigation Measure M-BIO-1g - Conformity with the Planning Department's Standards for Bird-Safe Buildings

The proposed project shall conform with the applicable requirements of San Francisco Planning Department Standards for Bird-Safe Buildings adopted by the San Francisco Planning Commission on July 14, 2011 that would apply to the proposed project. In the event that Standards for Bird Safe Buildings are adopted as ordinance by the San Francisco Board of Supervisors and effective at the time a building permit for the proposed project is sought, the proposed project shall comply with the adopted Standards in addition to any provisions contained in the Department Standards for Bird-Safe Buildings, in the judgment of the ERO, that would provide greater protection for birds.

Special Status Species Impacts

The proposed new Nursery operation would result in the relocation of truck traffic to the site of the proposed new Nursery, where trucks would gain access to the Nursery via an existing service road/pedestrian pathway that would be widened and extended as part of the project. Approximately three service vehicles per day currently drive along pedestrian/service paths from the 10th Avenue parking lot to access the existing greenhouse; with implementation of the proposed project, there would be no increase in truck traffic, but these trucks would use the newly widened road to access the new Nursery. Potential CRLF breeding habitat is in the Children's Garden pond, described earlier, which is located approximately 150 feet west of the edge of the building envelope for the proposed Nursery and approximately 500 feet from the proposed Nursery access road. It is difficult to predict the path of a migrating frog and during the late summer and early fall a transient frog could move in any direction away from the pond into upland habitat. The road is situated between the Children's Garden pond and the Arboretum pond. Therefore, the road is considered to be within potential CRLF upland habitat and the occasional truck traffic on the widened access road could cause mortality of CRLF, which would be a significant impact. Although traffic can materially affect frog movement and mortality, this is noted at road use that is considerably higher than that anticipated for this project. For example, negative effects were noted at 26 vehicles per hour in one study, but the use of the access road

here would involve about three service vehicles per day. [65] The access road would also be shorter in length than the existing road to access the existing greenhouse and expose frogs to proportionately less risk. Additionally, **Mitigation Measures M-BIO-1c** identified above (posting of warning and speed limit signs) would reduce this impact to a less-than-significant level.

Per the CRLF Recovery Plan for the species, the manner in which California red-legged frogs use upland habitats is not well understood.[66] Frogs have been observed to make long-distance movements that are straight-line, point to point migrations rather than using habitat corridors, which also suggests that upland habitat for the species is variable. In that sense, the entire project site might be considered an area through which transient frogs may pass. However, the upland attributes directly associated with summer, non-aquatic habitats are spaces under boulders or rocks and organic debris, such as downed trees or logs; and small mammal burrows. Generally, the site at present does not offer these amenities (the less than two inch-diameter gopher excavations observed at the edge of the site are suboptimal for CRLF use) – it is a disturbed weedy area incidentally used by the Botanical Garden and there would be little change at the site except for the construction of the Nursery. Therefore, while the project would involve new disturbance of some 2.5 acres of land, there would be a negligible loss of suitable upland habitat as a result of the project, and to the extent that transient frogs may use the site, little change would be anticipated. With the implementation of **Mitigation Measures M-BIO-1a, Mitigation Measures M-BIO-1b, and Mitigation Measures M-BIO-1c**, listed above, the impact to special status species would be less-than-significant.

Impact BIO-2: The proposed project would not have a substantial adverse effect on riparian habitat or protected wetlands. (No Impact)

The area being proposed for new construction is located in the southwestern portion of the Botanical Garden and is currently undeveloped and contains disturbed soils and native grasses. The project site is not located within or near any riparian habitat or federally protected wetlands. Therefore, there would be no impact on protected wetlands from the proposed project.

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65 Allen, Michael F., & Tennant, Tracy. (2000). Evaluation of Critical Habitat for the California red-legged frog (Rana aurora draytonii). UC Riverside: Center for Conservation Biology. Retrieved from: *http://www.escholarship.org/uc/item/7027275m*, February 11, 2010.

66 U.S. Fish and Wildlife Service (USFWS), Sacramento Endangered Species Office, Quick Endangered Species List, San Francisco North quadrangle. Available online at: *http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp*; accessed 2009 March 31.

Impact BIO-3: Implementation of the proposed project would not conflict with local tree protection regulations. (Less than Significant)

The San Francisco Board of Supervisors adopted legislation that amended the City's Urban Forestry Ordinance, Public Works Code Sections 801 et. seq., to require a permit from the DPW to remove any protected trees.[67] Protected trees include landmark trees, significant trees, or street trees located on private or public property anywhere within the territorial limits of the City and County of San Francisco. Article 16 of the San Francisco Public Works Code, the Urban Forestry Ordinance, provides for the protection of "landmark" trees, "significant" trees, and street trees. Landmark trees are designated by the Board of Supervisors upon the recommendation of the Urban Forestry Council, which determines whether a nominated tree meets the qualification for landmark designations by using established criteria (Section 810). Special permits are required to remove a landmark tree on private property or on City-owned property. Significant trees are those trees within the jurisdiction of the Department of Public Works, or trees on private property within 10 feet of the public right-of-way, that meet certain size criteria. To be considered significant, a tree must have a diameter at breast height of more than 12 inches, a height of more than 20 feet, or a canopy of more than 15 feet (Section 810(A)(a)). The removal of significant trees on privately owned property is subject to the requirements for the removal of street trees. As part of the determination to authorize removal of a significant tree, the Director of Public Works is required to consider certain factors related to the tree, including (among others) its size, age, species, and visual, cultural, and ecological characteristics (Section 810A(c)). The removal of "street trees" (trees within the public right-of-way or on land within the jurisdiction of the Department of Public Works) by abutting property owners requires a permit under Article 16 of the San Francisco Public Works Code. A Tree Disclosure Statement for the proposed project identified that there are no protected trees on the project site. The proposed project would result in removal of 46 trees on the project site; however, these trees are not under the jurisdiction of DPW or the Urban Forestry Ordinance, and thus their removal would not conflict with any applicable local tree protection ordinance.

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67 San Francisco Planning Department, Director's Bulletin No. 2006-01, May 5, 2006, Planning Department Implementation of Tree Protection Legislation, page 2, *http://www.sfgov.org/site/uploadedfiles/planning/projects_reports/db2006_01treedisclosuredirector.pdf*.

The San Francisco Botanical Garden has prepared a Tree Canopy Succession Plan, separate from the proposed project, which guides the species selection, procurement, and placements of future tree canopy of the Botanical Garden.[68] The Plan proposes replanting the existing greenhouse with approximately 215 trees of varying species and the proposed Nursery with 188 trees of varying species. Based on the above, the proposed project would result in less-than-significant impacts on biological resources.

Impact BIO-4: The proposed project, combined with past, present, and reasonably foreseeable future projects in the vicinity, would not result in cumulative biological impacts. (Less than Significant)

There are no other developments in the project vicinity that would contribute to biological resources cumulative effects. Therefore, proposed project would not contribute to any potential significant cumulative effects on biological resources.

E.14 Geology and Soils

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
14. GEOLOGY AND SOILS— Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☒	☐	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	☐
iv) Landslides?	☐	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐

[68] San Francisco Botanical Gardens Tree Canopy Succession Plan, March 8, 2010.

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
c)	Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☐	☒	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☐	☒
f)	Change substantially the topography or any unique geologic or physical features of the site?	☐	☐	☒	☐	☐

Impact GE-1: The proposed project would not result in exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, expansive soils, seismic ground-shaking, liquefaction, lateral spreading, or landslides. (Less than Significant)

A geotechnical report was prepared for the proposed project by Rutherford & Chekene.[69] The project site subsurface conditions are underlain by 0.5 to 6 feet of brown or light brown loose to medium dense silty sand. The surface layer is underlain by a layer of brown loose to medium dense poorly graded sand. Additionally, thin lenses of dense sand are encountered within this layer. The groundwater was not encountered in any of the drillings, which were drilled to a maximum depth of 51.5 feet.

The Community Safety Element of the *General Plan* contains maps that indicate areas of the city where one or more geologic hazards exist. Maps 2 and 3 in the Community Safety Element of the *General Plan* show the intensity of ground shaking in San Francisco from two of the most probable earthquakes, one of magnitude 7.1 on the San Andreas Fault and one of magnitude 7.1 on the northern segment of the Hayward fault. The project site is in a Seismic Hazards Study Zone designated by the California Division of Mines and Geology as an area subject to

69 Rutherford & Chekene, Geotechnical Investigation, Center for Sustainable Gardening, San Francisco Botanical Garden, San Francisco, CA, November, 2008. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2008.00845E.

"nonstructural" damage from seismic groundshaking along both the Peninsula segment of the San Andreas Fault and the Northern segment of the Hayward fault. The project site is not in an area subject to liquefaction, landslide, tsunami, run-up, or reservoir hazards (Maps 4, 5, 6, and 7 in the Community Safety Element).[70]

Based on its San Francisco location, it is likely that the site would experience periodic minor earthquakes and potentially a major (moment magnitude [Mw] greater than 7.1 characteristic) earthquake on one or more of the nearby faults during the life of the proposed project. The closest mapped active fault to the project site is the San Andreas Fault located approximately 10 kilometers to the west. The Working Group for California Earthquake Probabilities estimates a 62 percent probability of an earthquake of Mw 6.7 or greater occurring on one of the major faults in the Bay Area by 2031.[71]

The project site is not within an Earthquake Fault Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no known fault or potentially active fault exists on the site. In a seismically active area, such as the San Francisco Bay Area, the possibility exists for future faulting in areas where no faults previously existed. The geotechnical investigation report for the project site found no evidence of active faulting on the site and concludes that the risk of surface faulting is low. However, during an earthquake along any of the major faults mentioned above, the ground at the project site would experience strong to very strong shaking. Strong shaking during an earthquake can result in ground failure associated with soil liquefaction, lateral spreading, and differential compaction (also referred to as cyclic densification).

The project site is located in an area defined by the Seismic Hazards Zone as delineated by the California Division of Mines and Geology as historically or potentially subject to liquefaction. The geotechnical report did not encounter groundwater in any of the borings, which were drilled to a maximum of 51.5 feet. The geological report stated the groundwater levels below the project site are subject to change depending upon demand for irrigation water; however, historically they have been in excess of 50 feet deep. Therefore, it was concluded that there is low potential

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70 San Francisco Planning Department, Community Safety Element, *San Francisco General Plan*, April 1997.

71 Earthquake probabilities were analyzed by the Working Group for California Earthquake Probabilities, a group assembled by the U.S. Geological Survey, Earthquake Hazards Program. Its analysis is available online for review at *http://quake.usgs.gov/research/seismology/wg02/*.

for liquefaction at the project site. Lateral spreading or lurching is generally caused by liquefaction of marginally stable soils underlying gentle slopes. Because the site has a low potential for liquefaction, it was concluded that the potential for lateral spreading also is low. Additionally, the proposed project would not be located on expansive soils.

The proposed project would be required to conform to the San Francisco Building Code, which ensures the safety of all new construction in the City. Decisions about appropriate foundation design and whether additional background studies are required would be considered as part of the Department of Building Inspection (DBI) review process. Background information provided to DBI would provide for the security and stability of adjoining properties as well as the subject property during construction. Therefore, potential damage to structures from geologic hazards on the project site would be addressed through the DBI requirement for a geotechnical report and review of the building permit application pursuant to its implementation of the Building Code. Any changes incorporated into the foundation design required to meet the Building Code standards that are identified as a result of the DBI review process would constitute minor modifications of the project and would not require additional environmental analysis. In light of the above, the proposed project would not result in a significant effect related to seismic and geologic hazards.

Impact GE-2: The proposed project would not result in substantial loss of topsoil or erosion. (Less than Significant)

The proposed project would not substantially change any unique geologic or physical features of the site. The project site for the proposed Nursery is currently undeveloped and covered with vegetation and paved walkways on a knoll that is approximately 20 feet above the lowest adjacent grade. The project site slopes downward at about a 7 percent grade from southeast to northwest. Construction would not alter the overall topography of the site, although the slopes in the immediate areas around the perimeter of the new Nursery would be reconfigured to accommodate building pads. The proposed construction of the Nursery would require excavation to 12 inches below the existing grade. It is proposed that grading would be balanced, with soil removed to be re-used elsewhere on the site, including fill of the existing slope on the south side of the project site with approximately 4,000 cubic yards of engineered fill, and therefore there would be no soil removal or import. The geotechnical report recommends that

future cut slope erosion can be reduced by providing vegetative cover, reducing the cut slope inclination, and potentially marking provisions for surface drainage. Because the project sponsor is required to implement construction Best Management Practices listed on the Stormwater Pollution Prevention Program "Checklist for Construction Requirements," implementation of erosion and sedimentation control measures, as required by the City and/or resources agencies, would minimize short-term construction-related erosion impacts. Therefore, proposed projects short-term and long-term impacts to loss of topsoil and erosion would be less-than-significant.

Impact GE-3: The proposed project would not use septic tanks or alternative wastewater disposal systems, which would have soils incapable of adequately supporting them. (Not Applicable)

The proposed project would be connected to the existing sewer system along Lincoln Way and would not require use of septic systems. Therefore, this impact is not be applicable to the proposed project.

Impact GE-4: The proposed project would not result in substantial impacts to site topographical features. (Less than Significant)

The proposed project would not substantially change the topography of the site. The project site does not have unique geologic or physical features. The project site is at an elevation that ranges from approximately 238 feet to 269 feet above Mean Sea Level (MSL) and slopes downward at 7 percent. The proposed Nursery site would be reconfigured to accommodate building pads. The proposed construction of the Nursery would require excavation to 12 inches below the existing grade. It is proposed that grading would be balanced, with soil removed to be re-used elsewhere on the site, including fill of the existing slope on the south side of the project site with approximately 4,000 cubic yards of engineered fill, and therefore there would be no soil removal or import. Although the project site would be reconfigured to accommodate the proposed project, the proposed project would not result in substantial impacts with respect to changes to topographical features located on the project site.

Impact GE-5: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to geology and soils. (Less than Significant)

Geology impacts are generally site-specific and do not have cumulative effects with other projects. The proposed project would not have a significant impact on geology or soil resources. There are no other project developments in the project vicinity that would contribute substantially to cumulative effects. Thus, the project would not contribute to any potential significant cumulative effects on geology or soils.

E. 15 Hydrology and Water Quality

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
15. HYDROLOGY AND WATER QUALITY— Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	☐	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒	☐

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact	Not Applicable
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐

Impact HY-1: The proposed project would not violate water quality standards or otherwise substantially degrade water quality. (Less than Significant)

The proposed project would not substantially degrade water quality or contaminate a public water supply. All wastewater from the proposed project building, and storm water runoff from the project site, would flow into the city's combined sewer system to be treated at the Southeast Water Pollution Control Plant prior to discharge into San Francisco Bay. Treatment would be provided pursuant to the effluent discharge standards contained in the City's National Pollutant Discharge Elimination System (NPDES) permit for the plant. Additionally, compliance with the SMO in general will require the project to maintain or reduce the existing volume and rate of stormwater runoff at the site. To achieve this, the project would implement and install appropriate stormwater management systems that retain runoff onsite, promote stormwater reuse, and limit site discharges before entering the combined sewer collection system. The project is proposing to manage all stormwater on site.

Over the construction period, there would be a potential for erosion and transportation of soil particles during site preparation, excavation, foundation pouring, and construction of the building shell. Once in surface water, runoff, sediment and other pollutants could leave the construction site and ultimately be released into San Francisco Bay. As discussed above, stormwater runoff from project construction would drain to the combined sewer and stormwater system and be treated at the Southeast Water Pollution Control Plant. Pursuant to *Building Code* Chapter 33 (Excavation and Grading) and the City's NPDES permit, the project sponsor would be required to implement measures to reduce potential erosion impacts. Therefore, due to the requirements of the existing regulatory scheme the proposed project would not substantially degrade water quality.

Impact HY-2: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

The proposed project would not affect groundwater or alter the existing drainage pattern of the site. As discussed in Topic 13. Geology and Soils, groundwater was not observed in the borings drilled to a maximum depth of 51.5 feet below ground surface (bgs), so no groundwater would be encountered during construction. The geological report also stated the groundwater levels below the project site are subject to change depending upon demand for irrigation water; however, historically they have been in excess of 50 feet deep. Any groundwater that is encountered during construction of the proposed project is subject to the requirements of the City's Industrial Waste Ordinance (Ordinance Number 199 77), requiring that groundwater meet specified water quality standards before it may be discharged into the sewer system. Additionally, the proposed project would connect to domestic water mains on Lincoln Way per SFPUC specifications and would not require the use of groundwater supplies. The proposed project does not involve the alteration of any hydrologic features, such as a stream or river. The project site is currently undeveloped, and the proposed project would increase the amount of impervious surfaces by 5,887 sf. Compliance with the SMO will require the project to maintain or reduce the existing volume and rate of stormwater runoff at the site by retaining runoff onsite, promoting stormwater reuse, and limiting site discharges before entering the combined sewer collection system. Therefore, groundwater resources would not be substantially degraded or depleted, and the project would not substantially interfere with groundwater recharge.

Impact HY-3: The proposed project would not result in altered drainage patterns that would cause substantial erosion or flooding or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (Less than Significant)

The proposed project includes the demolition of the existing greenhouse and construction of new Nursery within the San Francisco Botanical Garden. In total, the proposed project would result in an overall increase of 5,992 sf of building space, 5,897 sf of impervious and pervious surfaces, for a total overall increase of 11,889 sf of developed space with the Botanical Garden. The proposed Nursery project site is in a currently undeveloped portion of the Botanical Garden. The existing greenhouse area would be replaced with native vegetation as an extension of the existing California Native Garden. Compliance with the SMO will require the project to maintain or reduce the existing volume and rate of stormwater runoff at the site by retaining runoff onsite,

promoting stormwater reuse, and limiting site discharges before entering the combined sewer collection system. The project is proposing to manage all stormwater on site. Therefore, the proposed project would not substantially alter existing groundwater quality or surface flow conditions or cause substantial erosion, flooding, or contribute substantial runoff water.

Impact HY-4: The proposed project would not expose people, housing, or structures, to substantial risk of loss due to flooding. (No Impact)

Given that the project site is not located within a 100-year Flood Hazard Boundary, nor is it located near a levee or dam, there would be no project or cumulative impacts with regard to flooding.

Impact HY-5: The proposed project would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. (No Impact)

The project site is not on the San Francisco 20-foot Tsunami Runup Map; therefore, no significant tsunami hazards exist at the site. A seiche is an oscillation of a water body, such as a bay, which may cause local flooding. A seiche could occur on the San Francisco Bay due to seismic or atmospheric activity. However, based on the historical record, seiches are rare and there is no significant seiche hazard at the site. There is no mudslide hazard at the project site because the site and vicinity are not located near any erosion-prone slopes. Thus, there would be no project-related significant impacts from seiche, tsunami or mudflow hazard.

Impact HY-6: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to hydrology and water quality. (Less than Significant)

The proposed project would not have a significant impact on hydrology or water quality. There are no other project developments in the project vicinity that would contribute substantially to cumulative effects. Thus, the project would not contribute to any potential significant cumulative effects on hydrology or water quality.

E.16 Hazards and Hazardous Materials

Topics:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
16.	**HAZARDS AND HAZARDOUS MATERIALS Would the project:**					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
h)	Expose people or structures to a significant risk of loss, injury or death involving fires?	☐	☐	☒	☐	☐

The project site is not located near a public or private airport or within an airport land use plan area. Therefore, significance criterion 16e and f would not apply to the proposed project.

Impact HZ-1: The proposed project would not create a significant hazard through routine transport, use, disposal, handling or emission of hazardous materials. (Less than Significant)

The proposed project would result in the use of relatively small quantities of hazardous materials for routine purposes. The development would likely handle common types of hazardous materials, such as cleaners, disinfectants, and fertilizers. These products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Most of these

materials are consumed through use, resulting in relatively little waste. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers who handle hazardous materials, and adequately training workers. For these reasons, hazardous materials used during project operation would not pose any substantial public health or safety hazards related to hazardous materials. Thus, there would be less-than-significant impacts related to the use of hazardous materials, with development of the proposed project.

Impact HZ-2: The proposed project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

The project site encompasses the existing greenhouse of the San Francisco Botanical Garden and a currently undeveloped portion of the Botanical Garden for the proposed Nursery.

Asbestos

The existing structure on the project site includes 5,158 square-feet of greenhouse and accessory structures that were constructed in 1963. Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or asbestos abatement work. The notification must include: (1) the names and addresses of the operations; (2) the names and addresses of persons responsible; and (3) the location and description of the structure to be demolished/altered, including size, age, and prior use, and the approximate amount of friable asbestos; (4) scheduled starting and completion dates of demolition or asbestos abatement work; (5) nature of the planned work and methods to be employed; (6) procedures to be employed to meet BAAQMD requirements; (7) and the name and location of the waste disposal site to be used. The BAAQMD randomly inspects asbestos removal operations. In addition, the BAAQMD will inspect any removal operation about which a complaint has been received. Any ACBM disturbance at the

project site would be subject to the requirements of BAAQMD Regulation 11, Rule 2: Hazardous Materials; Asbestos Demolition, Renovation and Manufacturing.

The local office of the State Occupational Safety and Health Administration must also be notified of asbestos abatement to be carried out. Asbestos abatement contractors must follow State regulations contained in 8#CCR#1529 and 8#CCR#341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the Office of the California Department of Health Services in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest that details the hauling of the material from the site and the disposal of it. Pursuant to California Law, the Department of Building Inspection would not issue the required permit until the applicant has complied with the notice requirements described above.

Lead-Based Paint

Lead paint may be found in buildings constructed prior to 1978 and proposed for demolition. Demolition must be conducted in compliance with Section 3423 of the *San Francisco Building Code (Building Code),* Work Practices for Exterior Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Where there is any work that may disturb or remove lead paint on the exterior of any building, or the interior of occupied buildings (E3, R1, or R3 occupancy classifications) built prior to or on December 31, 1978, Section 3423 requires specific notification and work standards, and identifies prohibited work methods and penalties.

Section 3423 applies to buildings or steel structures on which original construction was completed prior to 1979, which are assumed to have lead-based paint on their surfaces unless a certified lead inspector/assessor tests surfaces for lead and determines it is not present according to the definitions of Section 3423. The ordinance contains performance standards, including establishment of containment barriers, at least as effective at protecting human health and the environment as those in HUD Guidelines (the most recent Guidelines for Evaluation and Control of Lead-Based Paint Hazards) and identifies prohibited practices that may not be used in disturbance or removal of lead-based paint. Any person performing work subject to the ordinance shall make all reasonable efforts to prevent migration of lead paint contaminants

beyond containment barriers during the course of the work, and any person performing regulated work shall make all reasonable efforts to remove all visible lead paint contaminants from all regulated areas of the property prior to completion of the work.

The Ordinance also includes notification requirements, contents of notice, and requirements for project site signs. Prior to commencement of exterior work that disturbs or removes 100 or more square feet or 100 or more linear feet of lead-based paint in total, the responsible party must provide the Director of the DBI with written notice that describes the address and location of the proposed project; the scope and specific location of the work; whether the responsible party has reason to know or presume that lead-based paint is present; the methods and tools for paint disturbance and/or removal; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential; whether it is owner-occupied or rental property; the approximate number of dwelling units, if any; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Further notice requirements include: a Post Sign notifying the public of restricted access to work area, a Notice to Residential Occupants, Availability of Pamphlet related to protection from lead in the home, and Early Commencement of Work (by Owner, Requested by Tenant), and Notice of Lead Contaminated Dust or Soil, if applicable. The ordinance contains provisions regarding inspection and sampling for compliance by DBI, and enforcement, and describes penalties for non-compliance with the requirements of the ordinance.

These regulations and procedures, already established as part of the building permit review process and the City and State regulatory schemes, would ensure that potential impacts of the proposed project due to the presence of lead-based paint would be reduced to a less-than-significant level.

Other Potential Hazardous Building Materials

In addition to asbestos-containing building materials and lead-based paint, the existing buildings on the site may contain other potentially hazardous building materials such as polychlorinated biphenyl (PCB), contained primarily in exterior paint, sealants, electrical equipment, and fluorescent light fixtures. Fluorescent light bulbs are also regulated (for their disposal) due to their mercury content. Inadvertent release of such materials during demolition could expose

construction workers, occupants, or visitors to these substances and could result in various adverse health effects if exposure were of sufficient quantity. Although abatement or notification programs described above for asbestos and lead-based paint have not been adopted for PCB, mercury, other lead-containing materials, or other possible hazardous materials, items containing these substances that are intended for disposal must be managed as hazardous waste and handled in accordance with Occupational Safety and Health Administration (OSHA) worker protection requirements. Potential impacts associated with encountering hazardous building materials such as PCB, mercury, and lead would be considered a potentially significant impact. Hazardous building materials sampling and abatement pursuant to existing regulations prior to renovation work, as described in **Mitigation Measure M-HZ-2**, below, would reduce potential impacts associated with PCB, mercury, lead, and other toxic building substances in structures to a less-than-significant level. With **Mitigation Measure M-HZ-2** implemented, the proposed demolition of the existing greenhouse would not have the potential to pose a direct (through material removal, if required) or indirect (through transport of materials or accidental release) public health hazard to the surrounding neighborhood. Compliance with existing regulatory requirements, and permits would ensure that the proposed projects do not result in significant effects due to hazardous materials or wastes. Therefore, there would be less-than-significant impacts related to hazardous materials use.

Mitigation Measure M-HZ-2: Other Hazardous Building Materials

The project sponsor shall ensure that building surveys for PCB- and mercury-containing equipment (including elevator equipment), hydraulic oils, and fluorescent lights are performed prior to the start of renovation. Any hazardous materials so discovered shall be abated according to federal, State, and local laws and regulations.

Impact HZ-3: The project site is located within one-quarter mile of an existing school and therefore would emit hazardous emissions or handle hazardous material within the vicinity of a school. (Less than Significant with Mitigation)

The schools located within one-quarter mile of the project site include SFUSD Jefferson Elementary School (grades K through five) and St. Anne School (grades K through eight). Implementation of Mitigation Measure **M-HZ-2** and compliance with existing regulations would

ensure that potential impacts associated with the release of lead, asbestos, and PCB's during the construction period would be less than significant.

Impact HZ-4: The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. (No Impact)

The project site encompasses the existing greenhouse of the San Francisco Botanical Garden and a currently undeveloped portion of the Garden for the proposed Nursery. The project site is not on the Hazardous Waste and Substances Sites List, commonly called the "Cortese List," compiled by the California Department of Toxic Substances Control (DTSC) pursuant to Government Code Section 65962.5. The project site is not listed in database reports from State and federal regulatory agencies that identify businesses and properties that handle or have released hazardous materials or waste.

The City adopted Ordinance 253-86 (signed by the Mayor on June 27, 1986), which requires analyzing soil for hazardous wastes within specified areas, known as the Maher area, when over 50 cubic yards of soil is to be disturbed and on sites specifically designated by the Director of Public Works.[72] The project site falls outside the boundary of the Maher Ordinance and, therefore, would not be subject to this ordinance.

Impact HZ-5: The proposed project would not expose people or structures to a significant risk of loss, injury or death involving fires, nor interfere with the implementation of an emergency response plan. (Less than Significant)

San Francisco ensures fire safety primarily through provisions of the *Building* and the *Fire Codes*. In addition, the San Francisco Fire Department (as well as DBI) reviews the final building plans to ensure conformance with these provisions. The proposed project would conform to these standards, which (depending on building type) may also include development of an emergency procedure manual and an exit drill plan. Additionally, the proposed project would construct a 20-foot access route to the project site to ensure emergency vehicles can access the proposed

72 The Maher Ordinance applies to that portion of the City bayward of the original high tide line, where past industrial uses and fill associated with the 1906 earthquake and bay reclamation often left hazardous waste residue in soils and groundwater. The ordinance requires that soils must be analyzed for hazardous wastes if more than 50 cubic yards of soil are to be disturbed.

Nursery. Therefore, potential emergency response impacts of the proposed project would be less-than-significant.

Impact HZ-6: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to hazards and hazardous materials. (Less than Significant)

Impacts from hazards are generally site-specific, and typically do not result in cumulative impacts. The proposed project would not have a significant impact on hazardous material conditions on the project site or vicinity. There are no other project developments in the project vicinity that would contribute substantially to cumulative effects. Thus, cumulative impacts would be less than significant.

E. 17 Mineral and Energy Resources

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
17. MINERAL AND ENERGY RESOURCES— Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☐	☒
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	☐	☐	☒	☐	☐

Impact ME-1: The proposed project would not result in the loss of availability of a known mineral resource or a locally-important mineral resource recovery site. (Not Applicable)

All land in San Francisco, including the project site, is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology (CDMG) under the Surface Mining and Reclamation Act of 1975 (CDMG, Open File Report 96-03 and Special Report 146 Parts I and II). This designation indicates that there is inadequate information available for assignment to any

other MRZ and thus the site is not a designated area of significant mineral deposits. There are no operational mineral resource recovery sites in the project area whose operations or accessibility would be affected by the construction or operation of the proposed project. Therefore, significance criteria 16(a) and (b) are not applicable to this project.

Impact ME-2: Implementation of the proposed project would not encourage activities which would result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)

New buildings in San Francisco are required to conform to energy conservation standards specified by Title 24 of the California Code of Regulations. Documentation showing compliance with these standards is submitted with the application for the building permit. Title 24 is enforced by the Department of Building Inspection. Additionally, through the proposed project's LEED© Platinum Certification components, the project would use less energy than it would otherwise if these components were not incorporated into the proposed project. Therefore, the proposed project would not cause a wasteful use of fuel, energy, or water and the effects related to such consumption would not be significant.

Impact ME-3: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to energy and minerals. (Less than Significant)

San Francisco consumers have recently experienced rising energy costs and uncertainties regarding the supply of electricity. The root causes of these conditions are under investigation and are the subject of much debate. Part of the problem may be that the state does not generate sufficient energy to meet its demand and must import energy from outside sources. Another part of the problem may be the lack of cost controls as a result of deregulation. The California Energy Commission (CEC) is currently considering applications for the development of new power-generating facilities in San Francisco, the Bay Area, and elsewhere in the state. These facilities could supply additional energy to the power supply "grid" within the next few years. These efforts, together with conservation, will be part of the statewide effort to achieve energy sufficiency. The project-generated demand for electricity would be negligible in the context of overall demand within San Francisco and the State, and would not in and of itself require a major

expansion of power facilities. There are no other project developments in the project vicinity that would contribute substantially to cumulative effects. Therefore, the energy demand associated with the proposed project would not result in a significant physical environmental effect or contribute to a cumulative impact.

E.18 Agricultural Resources

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
18. AGRICULTURE AND FOREST RESOURCES—Would the project					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	☐	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use?	☐	☐	☐	☐	☒

Impact AF-1: The proposed project would not result in the conversion of farmland or forest land to non-farm or non-forest use, nor would it conflict with existing agricultural or forest use or zoning. (Not Applicable)

The project site is located within Botanical Garden and surrounded by an urbanized area of San Francisco. The California Department of Conservation's Farmland Mapping and Monitoring Program identify the site as "Urban and Built-up Land" (Department of Conservation, 2002). Because the site does not contain agricultural uses and is not zoned for such uses, the proposed project would not convert any prime farmland, unique farmland, or Farmland of Statewide Importance to non-agricultural use, and it would not conflict with existing zoning for agricultural

land use or a Williamson Act contract, nor would it involve any changes to the environment that could result in the conversion of farmland. Additionally, the proposed project would not convert any forest land or timberland to non-forest use. Forest land is defined as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits". Timberland is defined as "land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis after consultation with the district committees and others." The project site features landscaped gardens, forests, and meadows displaying plants from different climates of the world; and does contain forest lands or timberland as defined by Public Resources Code Section 12220(g)) or Public Resources Code Section 4526. Therefore, the proposed project would result in no impact to agricultural or forest resources.

E. 19 Mandatory Findings of Significance

Topics:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*	*Not Applicable*
18. MANDATORY FINDINGS OF SIGNIFICANCE—Would the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐	☐

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact	Not Applicable
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	☐

As discussed in the above text, the project is anticipated to have only less-than-significant impacts in the areas discussed. The foregoing analysis indentifies potentially significant impacts to archeological resources, biological resources, and potentially significant impacts resulting from the presence of unknown hazardous materials, which impacts would be mitigated though implementation of Mitigation Measures as described below and more fully within Section F. on page 130.

a. As discussed in Topic E.4, it is possible that below-ground archeological, paleontogical, and human remains resources may be present. Any potential adverse effect to CEQA-significant archeological resources resulting from soils disturbance from the proposed project would be reduced to a less-than-significant level by implementation of **Mitigation Measure M-CP-3**, **Mitigation Measure M-CP-4,** and **Mitigation Measure M-CP-5** as described within Section F. on page 39 of this Initial Study, which addresses the accidental discovery of archeological resources. Additionally, as discussed in Topic E. 13, it is possible that the proposed project could impact endangered species and special status species. However, **Mitigation Measures M-BIO-1a – 1f** would reduce the impacts to a less-than-significant level. Accordingly, the proposed project would not result in a significant impact to archeological resources through the elimination of examples of major periods of California history or prehistory.

b. The proposed project and any surrounding development would be anticipated to add activity (including construction activity) to the project vicinity. Cumulative projects occurring within Golden Gate Park include the Beach Chalet Soccer Fields project. The proposed Beach Chalet project would include replacement of four existing turf fields with new artificial turf and add new park amenities such as benches, bleachers, picnic tables, bbq pits, new maintenance shed, and new pedestrian pathways. The proposed project in combination with other cumulative projects would not result cumulative impacts to land use, aesthetics, population and housing, cultural resources, transportation, noise, air quality, greenhouse gas emissions, wind and shadow, recreation, utilities, public services, biological resources, geology, hydrology, hazards,

mineral resources, or agricultural resources because of the relative distance of two miles between the proposed project and the Beach Chalet project. The proposed projects' contributions to cumulative traffic at intersections in the vicinity would not be substantial. The proposed project would not be considered to contribute incrementally to cumulative regional air quality conditions, or to contribute to significant cumulative noise impacts. Similarly, the proposed project would be consistent with the land use and height controls for the site and would not contribute to a cumulatively considerable land use or visual impact. No other significant cumulative impacts are anticipated. In summary, the proposed project would not have unavoidable environmental effects that are cumulatively considerable.

c. Mitigation Measure M-HZ-2, described in full within Section F. of this Initial Study, has been incorporated into the proposed project to address hazardous building materials in order to reduce these impacts to a less-than-significant level. With implementation of **Mitigation Measure M-HZ-2**, the proposed project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly

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F. MITIGATION MEASURES AND IMPROVEMENT MEASURES

MITIGATION MEASURES

Mitigation Measure M-CP-3

Archaeological Resources. (Accidental Discovery)

The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines Section 15064.5(a)(c). The project sponsor shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils disturbing activities within the project site. Prior to any soils disturbing activities being undertaken each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, machine operators, field crew, pile drivers, supervisory personnel, etc. The project sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor,

subcontractor(s), and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet.

Should any indication of an archeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or project sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of a qualified archeological consultant. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor.

Measures might include: preservation in situ of the archeological resource; an archaeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Major Environmental Analysis (MEA) division guidelines for such programs. The ERO may also require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describing the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of

any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

Mitigation Measure M-CP-4

Paleontological Resources Monitoring Plan.

The project sponsor and any other agency that may have jurisdiction shall retain the services of a qualified paleontological consultant having expertise in California paleontology to design and implement a monitoring and mitigation program. The program shall include a description of when and where construction monitoring would be required; emergency discovery procedures; sampling and data recovery procedures; procedures for the preparation, identification, analysis, and curation of fossil specimens and data recovered; preconstruction coordination procedures; and procedures for reporting the results of the monitoring program. If potential paleontological resources (fossilized invertebrate, vertebrate, plant, or micro-fossil) are encountered during excavation, work shall cease within 25 feet of the feature, the ERO shall be notified, and the paleontologist shall identify and evaluate the significance of the potential resource, documenting the findings in an advisory memorandum to the ERO. If it is determined that avoidance of effect to a significant paleontological resource is not feasible, the paleontologist shall prepare an excavation plan that may include curation of the paleontological resource in a permanent retrieval paleontological research collections facility such as the University of California Museum of Paleontology or California Academy of Sciences. The Environmental Planning division of the Planning Department shall receive two copies of a final paleontological excavation and recovery report.

Mitigation Measure M-CP-5

Treatment of Human Remains

The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the NAHC who shall appoint a Most Likely Descendant (MLD) (Public Resource Code Section 5097.98). The project sponsor shall direct the archaeological consultant, in

coordination with the MLD, to make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Mitigation Measure M-BIO-1a – Special Status Species, General

Because there is the potential for special-status species to be present at or near the project site, the following measures would be implemented by the project sponsor:

- A worker awareness program (environmental education) will be developed and implemented prior to any demolition or construction activities to inform project workers of their responsibilities in regards to sensitive biological resources.

- An environmental inspector will be appointed by the project sponsor or construction/demolition contractor(s) to serve as a contact for issues that may arise concerning implementation of avoidance measures, and to document and report on adherence to these measures during construction and demolition.

- Loss of habitat will be minimized through the following measures: (1) the number and size of access routes and staging areas and the total area of the project activity will be limited to the minimum necessary (110,000 square feet); and (2) all areas temporarily disturbed by construction will be revegetated to pre-project or native conditions consistent with the landscape plan developed for the proposed project.

- During work activities, all trash that may attract predators will be properly contained, removed from the work site and disposed of regularly. Following construction activities, all trash and construction debris will be removed from work areas.

Mitigation Measure M-BIO-1b – California Red-Legged Frog, Construction-Period Mitigation Measures

1. A mandatory biological-resources awareness training will be provided to all construction personnel prior to any demolition or construction activities as follows:

- The training will be developed and provided by a qualified biologist familiar with the sensitive species that may occur in the study area. The training program shall be reviewed and approved by the project sponsor prior to implementation if prepared by a consulting biologist.
- Training materials shall be language-appropriate for construction personnel.
- The training shall be provided before any work occurs in the work area boundary, including vegetation clearing and grading.
- The training shall provide educational information on sensitive habitats and the natural history of the special-status species potentially occurring in the study area, a discussion of the required mitigation measures to avoid impacts on the special-status species, and a discussion of penalties for noncompliance with biological mitigation requirements.
- If new construction personnel are added to the project, the contractor shall ensure that new personnel receive training before they start working. The subsequent training of personnel can include videotape of the initial training and/or the use of written materials approved by a qualified biologist rather than in-person training by a biologist.

2. The project sponsor shall retain a qualified biologist to install barrier fencing around the project site area of ground disturbance during project construction. The biologist will be required to coordinate with the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) on the type and location of barrier fencing. Per consultation with CDFG, the fence material shall be made of heavy duty plastic sheeting with the posts on the inside of the construction area with no holes or gaps, except for exit doors. The fencing would need to be buried several inches down into a trench. The area would be cleared of any CRLF or other wildlife before any equipment is allowed inside and prior to ground disturbing activities.

3. The project sponsor shall prepare contractor bid specifications that restrict contractor(s) from working outside of the fenced area, and include these specifications in all construction contract(s).

4. The project sponsor shall ensure that a USFWS and CDFG-approved biologist:

- Conducts onsite monitoring for the presence of special-status species in the construction area during initial ground disturbance, including demolition activities, grading, excavation, and vegetation removal activities and any dewatering activities that are proposed in Arboretum fountains and waterways.

- Inspects exclusion fences to ensure that they do not have any tears or holes, that the bottoms of the fences are still buried, and that no individuals have been trapped in the fences, and closely monitors any special-status species found along and outside exclusion fencing until they move away from the construction area.

- Periodically checks all open trenches or holes for the presence of special-status species.

5. The biological monitor will clear the area of any CRLF or other wildlife prior to subsequent ground-disturbing activities. If a CRLF is found to be at-risk, the monitor will have the authority to halt construction or demolition, in conjunction with the resident engineer or project representative and consult with the USFWS before the project may continue. The monitor will also observe the functioning of barrier fencing and make or cause to be made any necessary repairs. Fencing will remain in place until the end of construction.

6. If any special-status species are found by the biological monitor or construction personnel within the work area, construction activities shall cease in the immediate vicinity of the individual until the animal moves of its own volition away from the construction area, or the CDFG and/or USFWS are consulted regarding appropriate actions to take, and/or the species is relocated by a qualified biological monitor.

7. Once all initial ground-disturbing activities are completed, the biological monitor shall perform spot checks of the study area at least once a week for the duration of construction to ensure that the perimeter fence is in good order, trenches are being covered if left open overnight (or escape ramps are being provided), project personnel are conducting checks beneath parked vehicles prior to their movement if they have been parked for an extended amount of time, and that all other required biological protection measures are being complied with. The biological monitors do not need to remain on site

for the entire day, but shall remain on-call in case any special-status species are discovered and need to be moved.

Mitigation Measure M-BIO-1c – California Red-Legged Frog, Operational -Period Mitigation Measures

The project sponsor shall install informational signs along the service road for the new Nursery, alerting drivers to the potential presence of CRLF on the road. The sponsor shall also post a speed limit of no more than 15 miles per hour for the service road.

Mitigation Measure M-BIO-1d –Special-Status Birds (Raptors)

A qualified wildlife biologist will conduct preconstruction (including pre-demolition) surveys no more than 5 days prior to tree removal or construction activities during the breeding season for active raptor nests within 300 feet and all active nests within 100 feet of ground-disturbance and demolition activities, where access is available.

- If active nests (eggs/chicks present) are found during preconstruction surveys, there will be a no-disturbance buffer (acceptable in size to the CDFG) around active raptor nests and nests of other special-status birds during the breeding season, or until it is determined that all young have fledged. Typical buffers include 300 feet for raptors and 100 feet for other nesting birds. The size of these buffer zones and types of ground-disturbing and demolition activities restricted in these areas may be further modified during coordination with the CDFG, and will be based on existing noise and human disturbance levels at the project site. Nests initiated during construction or demolition are presumed to be unaffected, and no buffer would be necessary. However, substantial adverse effect on any individuals will be prohibited.

- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during construction or ground-disturbing activities, no further measures are required. If trees and shrubs within the proposed project footprint are determined to be unoccupied by special-status birds, or are outside the no-disturbance buffer for active nests, they may be removed.

- If there is a break of at least 5 days in construction or demolition activities during nesting season, an additional nesting bird survey should be conducted to ensure that no birds have occupied nests during the break in construction or demolition activities.

Mitigation Measure M-BIO-1e - California Quail

In addition to the above measures for raptors and special-status bird species, the following measures would apply:

- Prior to any ground-disturbing activities, the project sponsor shall engage a qualified biologist to identify quail-supporting vegetation at the project site such as low growing shrubs. Construction shall avoid removal of the identified vegetation to the extent feasible.

- To the extent that any low-growing shrubs or other quail-supporting vegetation must be removed during construction, such vegetation shall be replaced with suitable vegetation at a 1:1 ratio. Suitable species could include: quail bush (Atriplex breweri), thimbleberry (Rubus parviflorus), or coyote brush (Baccharis pilularis).

Mitigation Measure M-BIO-1f - Special-Status Bats

Pre-construction surveys are not required for demolition or construction activities scheduled to begin during the non-breeding season (September 1 through February 28). If project-related demolition activities (e.g., demolition of structures or removal of trees) activities are scheduled to commence during the breeding season for bats (March 1 through August 31), no more than two weeks in advance of any such activities, a qualified bat biologist, acceptable to the CDFG, shall conduct pre-demolition surveys of all potential special-status bat breeding habitat in the vicinity of the planned activity. Likewise, if construction activities are scheduled to commence during the breeding season, and surveys have not previously been undertaken or demolition not previously begun outside the breeding season, a qualified bat biologist shall conduct pre-construction surveys of all potential special-status bat breeding habitat in the vicinity of the planned activity, also no more than two weeks in advance of the start of such activity. Depending on the survey findings, the following actions shall be taken to avoid potential adverse effects on breeding special-status bats:

1. If active roosts are identified during pre-construction surveys, a no-disturbance buffer will be created by the qualified bat biologist, in consultation with the CDFG, around active roosts during the breeding season. The size of the buffer will take into account factors such as the following:

    - Noise and human disturbance levels at the project site and the roost site at the time of the survey and the noise and disturbance expected during the construction activity;

    - Distance and amount of vegetation or other screening between the project site and the roost; and

    - Sensitivity of individual nesting species and the behaviors of the bats.

2. If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required.

3. Noisy demolition or construction activities as described above (or activities producing similar substantial increases in noise and activity levels in the vicinity) commencing during the non-breeding season and continuing into the breeding season do not require surveys (as it is assumed that any bats taking up roosts would be acclimated to project-related activities already under way). However, if trees are to be removed during the breeding season, the trees would be surveyed for roosts prior to their removal, according to the survey and protective action guidelines above.

4. Bat roosts initiated during demolition or construction activities are presumed to be unaffected by the activity, and a buffer is not necessary.

5. Destruction of roosts of special-status bats and overt interference with roosting activities of special-status bats shall be prohibited.

Mitigation Measure M-BIO-1g - Conformity with the Planning Department's Standards for Bird-Safe Buildings

The proposed project shall conform with the applicable requirements of San Francisco Planning

Department Standards for Bird-Safe Buildings adopted by the San Francisco Planning Commission on July 14, 2011 that would apply to the proposed project. In the event that Standards for Bird Safe Buildings are adopted as ordinance by the San Francisco Board of Supervisors and effective at the time a building permit for the proposed project is sought, the proposed project shall comply with the adopted Standards in addition to any provisions contained in the Department Standards for Bird-Safe Buildings, in the judgment of the ERO, that would provide greater protection for birds.

Mitigation Measure M-HZ-2: Other Hazardous Building Materials

The project sponsor would ensure that building surveys for PCB- and mercury-containing equipment (including elevator equipment), hydraulic oils, and fluorescent lights are performed prior to the start of renovation. Any hazardous materials so discovered would be abated according to federal, State, and local laws and regulations.

IMPROVEMENT MEASURES

Improvement Measure IM-T-1: Construction Traffic Measures

The following measures would further minimize disruption of the general traffic flow on adjacent streets:

- To the extent possible, truck movements should be limited to the hours between 9:00 AM and 3:30 PM (or other times, if approved by the SFMTA).
- The project sponsor and construction contractor(s) would meet with the Traffic Engineering Division of the SFMTA, the Police Department, the Fire Department, Muni's Street Operations and Special Events Office, the Planning Department, the Recreation and Park Department, and other City agencies to determine feasible traffic measures to reduce traffic congestion and other potential transit disruption and pedestrian circulation effects during construction of the project.

- No ground surface disturbance, equipment, or placement of stockpiles shall occur within the dripline of retained, native trees at the project site. High visibility fencing or flagging shall be placed around the dripline of these trees, prior to the start of project-related construction activities in accordance with specifications outlined in the Project's Section 01560 Protection of Trees document.

- Native trees removed shall be replanted at a 3:1 ratio, non-natives at 1:1 (CDFG, 2009b).

- All tree removal and construction activities occurring within and around trees will be done in accordance with the Owner's tree removal policies and the Project's Section 0156 Protection of Trees document.

- Section 4.06 of the Park Code prohibits the removal of any tree from park property without the permission of the Recreation and Park Department. Therefore, the removal of 46 trees would require a permit from the Recreation and Park Department.

H. DETERMINATION

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

DATE: August 15, 2011

WILLIAM C. WYCKO
Environmental Review Officer

for
John Rahaim
Director of Planning

I. NEGATIVE DECLARATION PREPARERS

Initial Study Authors

Planning Department, City and County of San Francisco
Major Environmental Analysis
1650 Mission Street, Suite 400
San Francisco, Ca 94103

Environmental Review Officer: Bill Wycko
Project Supervisor: Joy Navarrete
Environmental Coordinator: Chelsea Fordham
Archeology: Randall Dean
Transportation: Sue Mickelson and Monica Pereira

Environmental Consultants

Biological and Transportation Consultants
Environmental Sciences Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104
Contact: Karl Heisler

Geotechnical Engineer
Rutherford & Chekene
55 Second Street, Ste 600
San Francisco, CA 94105
Contact: Gyimah Kasali

Project Sponsor

San Francisco Botanical Garden Society
1199 9th Ave.
San Francisco, CA 94122-2370
Contact: Sue Ann Schiff, Interim Executive Director

Project Site Owner

City and County of San Francisco
San Francisco Recreation & Park Department
McLaren Lodge & Annex
501 Stanyan Street
San Francisco, CA 94117
Contact: Brent Dennis (Director, SF Botanical Garden)

Project Manager

Oppenheim Lewis, Inc.
2742 17th Street
San Francisco, CA 94110
Contacts: Scott Lewis and Elizabeth Freer

Architect

Fernau & Hartman Architects, Inc.
2512 Ninth St. #2
Berkeley, CA 94710
Contact: Laura Hartman

Landscape Architect

Lutsko Associates
2815 Eighteenth Street
San Francisco, CA 94110
Contact: Ron Lutsko

Legal Consultant

Sedgwick LLP
One Market Plaza, Steuart Street Tower
San Francisco, CA 94105
Contact: Deborah Kartiganer