SAND2016-0063R

Collaboration in Research and Engineering for Advanced Technology & Education

SANDIA NATIONAL LABS - CALIFORNIA

DEKKER/PERICH/SABATINI

Executive Summary

The Collaboration in Research and Engineering for Advanced Technology and Education (CREATE Facility) is conceptualized to be located in the Livermore Valley Open Campus (LVOC). The CREATE Facility would be an initiative driven by SNL/CA. As currently envisioned, the CREATE Facility would be designed, constructed, owned and operated by a "third-party" private developer. The CREATE Facility would be located on a portion of land that is currently in the General Access Area (GAA) of LVOC.

The LVOC is a joint initiative between Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratories (SNL) initiated by NNSA to promote greater collaboration between the world-class scientists at the nuclear security labs and their partners in industry and academia. The motivation for the LVOC stems from current and future national security challenges that require increased coupling to the private sector to understand threats and deploy solutions in areas such as high performance computing, energy and environmental security, cyber security, economic security, and non-proliferation. In September 2010, the Livermore Valley Open Campus Development Options Report was submitted to DOE, describing proposed LVOC development options and the Campus Development Master Plan.

The consultant team of Dekker/Perich/Sabatini and Bridgers and Paxton were retained to provide preliminary facility programming, site analysis for locating the CREATE Facility, conceptual renderings and in the development of a Statement of Work that could be utilized in a future request for proposal (RFP) to "third-party" private sector developers.

SNL/CA proposes the Collaboration in Research and Engineering for Advanced Technology and Education (CREATE) facility to support customer-driven national security mission requirements while demonstrating a fiscally responsible approach to cost-control. SNL/CA realizes that due to the current backlog of capital projects in NNSA that following the normal Line Item process to procure capital funding is unlikely and therefore SNL/CA will be looking at all options including Alternative Financing.

Table of Contents

Bridgers & Paxton Consulting Engineers, Inc.
4600-C Montgomery Blvd NE
Albuquerque, NM 87109
tel 505.883.4111
fax 505.888.1436
bpce.com

Dekker/Perich/Sabatini
7601 Jefferson NE, Suite 100
Albuquerque, NM 87109
tel 505.761.9700
fax 505.761.4222
dpsdesign.org

Statement of Work

Statement of Work

1.0 PROJECT STATEMENT

The proposed CREATE Facility is to be located in The Livermore Valley Open Campus (LVOC) which is a joint initiative between Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratories (SNL) initiated by National Nuclear Security Administration (NNSA) to promote greater collaboration between the world-class scientists at the nuclear security labs and their partners in industry and academia. The LVOC leverages and facilitates ready access to the expertise and capital investments already made by NNSA and DOE SC while providing a dynamic and exciting work environment for scientists and engineers. The LVOC is located on Department of Energy (DOE) property managed by SNL and LLNL, which is the General Access Area (GAA). In September 2010, the Livermore Valley Open Campus Development Options Report was submitted to DOE, describing proposed LVOC development options and the Campus Development Master Plan.

At the Sandia National Laboratories-California campus (SNL/CA), SNL is growing unclassified, collaborative programs in hydrogen science and technology, cyber-security and engineering environments for the future. At the same time, growth in the nuclear weapons program requires additional space to execute this core mission. An opportunity exists to simultaneously meet these programmatic needs while also enhancing the security profile of the SNL/CA site through a more efficient configuration. Sandia proposes the CREATE facility to support these customer driven national security mission requirements while demonstrating a fiscally responsible approach to cost control. With the current backlog of NNSA funded capital projects, SNL/CA will be pursuing an Alternative Financing path to meet the needs of CREATE.

Goals of the CREATE Facility include the following:

- Enable rapid progress in interdisciplinary research and interaction among national lab scientists, industry partners and academia
- Broaden the intellectual scope of research activities to advance the nation's science and science education
- Provide the infrastructure to house collaborative work space
- Enhance synergy among university, public sector, and industry scientists by colocating within a common work environment
- Provide an environment to attract the brightest, most creative students, postdoctoral researchers, and visiting scientists to study and do their research
- Act as a catalyst for spin-off activities and technology transfer and as a stimulus for hosting industry partnerships
- Third party Developer

The Developer shall provide all design, engineering, management, and construction expertise necessary to provide a fully functioning "Class A" Facility as described herein. Coordination of the Facility systems with equipment supplied by the end user is critical to making the Facility fully operational at the time of commissioning. All Facility systems shall be tested and commissioned in accordance with ASHRAE commissioning standards. The Developer shall provide training for all Facility systems and operations. Descriptions are limited to essential requirements and the selected Developer is expected to offer creative and cost-effective solutions. The selected Developer will be required to conform to this Statement of Work (SOW). Although exceptions to these requirements may be permitted and even encouraged if they offer additional benefit, any exceptions must be noted in proposals and must be agreed to in writing by SNL/CA.

1.1 INTRODUCTION

The proposed new CREATE facility for SNL/CA is intended to better support the mission and the changing needs of the organization into the next century by providing a quality working environment that enhances collaboration between the technical staff of the laboratory and academic and private industry partners. The facility, located in the LVOC, will become the new "front door" to SNL/CA and will house the badge office and other Mission Support functions that need direct contact with the public.

The components to be housed in the proposed facility require approximately 85,000 Gross square feet ANSI/BOMA to accommodate approximately 153 employees. Specific square footage requirements are addressed in the CREATE Program Summary table in Section 1.6.

CREATE is to be a state of the art facility. It will be an environmentally sustainable project and will incorporate sustainable and green features throughout the design, construction, and occupancy phases of the project. Specific sustainability requirements are detailed in this document. The base building infrastructure will be capable of supporting current and future needs of the tenant and will be designed and laid out in such a way as to readily facilitate changes in organization and mission. The configuration of the building should relate to Building 915 DISL creating usable outdoor space.

The facility will enhance the quality of life of the occupants and visitors by providing access to natural light and views, a healthy work environment, and a modern state-of-the-art office and laboratory environment. Further, the design of the facility should be flexible to support the evolving needs and requirements of the occupants.

The interior design of the new facility will include numerous "best practice"

workplace solutions currently implemented in public and private sector buildings. Some of these innovations include: open plan work, universal planning, increased allocations of teaming and meeting spaces, and multiuse spaces.

The tenant intends to use the facility primarily as office and light laboratory space with shared support. Generally, the facility will be configured with an open plan layout with limited enclosed office and support space incorporated throughout the facility. Support spaces include shared conference, copy/work rooms and coffee bars. Workspace standards have been developed for the organization and are shown in the programming section.

CREATE will also house campus wide amenities such as fitness center, Café with coffee shop, training/conference center and library. The amenities should be easily accessible to all SNL/CA employees, preferably on the first level of the facility.

1.2 SUSTAINABLE DESIGN & DEVELOPMENT CONSIDERATIONS

Designing, constructing, and operating facilities in an efficient and environmentally sound manner is important to SNL/CA. Sustainable design and development is intended to minimize site disturbance, optimize energy and water use, provide good indoor environmental quality, select environmentally preferable building products, and handle construction and demolition waste in a resource-conserving manner. The CREATE Facility should provide a healthful, resource-efficient, and productive working environment. To achieve these design goals requires an awareness of and a commitment to sustainable design through an integrated, whole-site and buildings design and development approach. The Developer is encouraged to suggest other measures and develop integrated solutions to meet the intent of a sustainable design for the CREATE Facility.

The Developer is required to design and construct a building that will meet and or exceed the 2013 Energy Provisions of the California Green Building Standards Code, Part 11 of the California Building Code (also known as CalGreen) and achieve LEED GOLD certification per the most current adopted USGBC LEED standards for commercial office buildings. For evaluation purposes the Developer shall provide with their proposal for SNL/CA evaluation the following deliverables:

1. A LEED scorecard that lists the energy efficiency measures and goals to be pursued. Along with the proposed scorecard, the Developer shall submit a brief statement outlining how each of the credits proposed on the scorecard will be achieved, mapping those actions and associated costs back to each credit expected to be met
2. A list of sustainable design measures (LEED Gold or Guiding Principles) and goals to be pursued
3. Estimated costs to implement sustainable design measures and goals
4. The Developer will be obligated to achieve a LEED-NC Gold certification within one year following occupancy
5. From the entirety of available LEED-NC Credits, the Developer must achieve the following Credits on the project:
   - Water Efficiency Credit 1.1 Water Use Reduction 50%
   - Energy and Atmosphere Credit 3 Enhanced Commissioning
   - Materials and Resources Credit 5.2 Regional Materials, 20% Manufactured Regionally
   - Indoor Environmental Quality Credit 2 Increased Ventilation
   - Indoor Environmental Quality Credit 3.2 Construction IAQ Management Plan, Before Occupancy
   - Innovation and Design Credit 2
   - LEED Accredited Professional
6. The Developer must identify the USGBC LEED Accredited Professionals (APs) as team members, including their roles throughout the project

1.3 FACILITY ACCESS AND PHYSICAL SECURITY

There are two basic requirements:

- Provide ease of accessibility to the main conferencing areas for meetings without requiring SNL/CA Security badges
- Maintain a secure perimeter for "suites" within CREATE

The working assumption is that the interior function of the CREATE Facility will have both restricted and non-restricted areas. Access to the restricted areas inside CREATE will be permitted only to those holding security badges.

The existing parking area in the GAA east of the proposed CREATE site will also provide parking for CREATE occupants as well as SNL/CA employees who have access to the Limited and Property Protected Areas "inside the fence." In the absence of other Developer proposed mitigating site measures, vehicular traffic and parking should be 100 feet from the building.

1.4 FURNITURE, FIXTURES AND EQUIPMENT (FF&E)

As part of their bid, the Developers shall include in their package a proposal for supplying FF&E in order to deliver a fully furnished "Class A" Facility. The Developer's Architect and the User shall work together to coordinate quality, styles, and finishes. Furniture to be ANSI/BIFMA tested and meet level® certification.

1.5 PROJECT COMPLETION, CONTRACT CLOSEOUT

Contract closeout submittals shall be in an electronic format that is compatible with the systems used initially to create the contract documents. These submittals are as follows:

1. Record Documents/Drawings
2. Operation and Maintenance Data/ Manuals
3. Guarantees/Warranties
4. Listing of Spare Parts and Maintenance Materials
5. Evidence of compliance with the requirements of governing authorities
6. Special Closeout Submittals
7. Evidence of compliance with all City of Livermore development requirements

1.6 PROGRAM OVERVIEW

The program for CREATE incorporates spaces suitable for a twenty-first century collaborative work space, research, and development environment. The facility should be similar to a world class academic, industrial or government laboratory having similar requirements.

CREATE will provide space for unclassified, collaborative programs in hydrogen science and technology, cyber-security and engineering environments for the future. This facility will be located outside the controlled area of the lab to foster collaboration with industry partners and academia. In addition to providing space for technical work and collaboration several Mission Support activities are planned to relocate to this facility. By moving these functions out of the secured area the vacated space can be repurposed to support the growth in the nuclear weapons program which requires additional space to execute their core mission. Other amenities will also be located in this facility, including a fitness facility, Café, library, and conference / training center. Grouping these functions together will provide a central hub of activity for the campus. The table below illustrates the number of staff, the square footage required as well as the desired floor location.

The facility is intended to support the Goals established for the project:

- Enable rapid progress in interdisciplinary research and interaction among national lab scientists, industry partners and academia.
- Broaden the intellectual scope of research activities to advance the nation's science and science education.
- Provide the infrastructure to house collaborative work space.
- Enhance synergy among university, public sector, and industry scientists by colocating within a common work environment.
- Provide an environment to attract the brightest, most creative students, postdoctoral researchers, and visiting scientists to study and do their research.
- Act as a catalyst for spin-off activities and technology transfer and as a stimulus for hosting industry partnerships

CREATE Program Summary

Program Area	Staff	Gross Square Footage	Desired Floor
1. ENGINEERING			
Translation Biomedicine	*9*	*4,638*	*3rd*
Hydrogen Program +Engineering Sciences	*16*	*6,041*	
Hydrogen Systems, Thermal Fluids, Engineering Systems.	*40*	*12,670*	
Engineering Environment Program	*5*	*1,932*	
Cyber Security	*15*	*4,249*	
Engineering Labs Total	***85***	***29,530***	
2. MISSION SUPPORT			
Visitor Badge Office	*6*	*4,375*	*1st*
Public Relations / Media Relations/ Outreach	*5*	*1,820*	
Human Resources	*26*	*6,636*	*1st*
Procurement	*10*	*2,114*	
Business Development	*18*	*3,281*	
Mission Support Total	***65***	***18,226***	
3. CAMPUS AMENITIES			
Technical Library	*3*	*6,440*	
Fitness Center	*0*	*8,969*	*1st*
Café	*0*	*7,875*	*1st*
Training/Conf Ctr	*0*	*6,125*	*1st*
Campus Amenities Total	***3***	***29,409***	
4. SHARED SUPPORT			
Shared Support Total	***0***	***8,446***	
5. BUILDING SUPPORT AREAS			
Building Support Total		***Included in above numbers***	
TOTALS	**153**	**85,610**	

The CREATE facility will have five unique types of spaces:

1. Engineering
   a. Translational Biomedicine
   b. Hydrogen Program and Engineering Sciences
   c. Hydrogen Systems, Thermal Fluids, Engineering Systems
   d. Engineering Environments
   e. Cyber Security
2. Mission Support Functions
   a. Badge Office
   b. PR/Media Relations and Outreach
   c. Human Resources
   d. Procurement
   e. Business Development
3. Amenities
   a. Technical Library
   b. Café with Coffee Shop
   c. Fitness Center
   d. Training / Conference Center
4. Shared Support Spaces
5. Building Support Areas

1.6.1 Engineering Space

The Engineering Space will be a mix of individual workspace, collaboration space and light laboratory space. Workspace is focused on a more open environment with few enclosed offices and touchdown space for visitors and Sandians who have their individual workspace in the secured area and are working with industry partners and academia.

The Engineering Space will incorporate low-hazard, flexible, and sub dividable laboratory spaces with significant electrical

and data wiring requirements. Labs will include (2) BSL1 labs which include fume hoods and special exhaust. These labs should accommodate reconfiguration and multiple uses and should be located in reasonable proximity to teams working on related projects.

Shared support spaces will be distributed throughout the facility for use by the different Engineering disciplines in the facility.

1.6.2 Mission Support Space

With the exception of the Badge Office these groups require typical open office environment with few enclosed offices and touchdown space for visitors and storage specific to the group. These groups will also share support space similar to Engineering.

The Badge office will be accessible to the public, either from the building lobby or directly from the exterior. This space will be large enough to accommodate multiple visitors at any given time. The space will have a fixed counter for visitor and employee badging process, including photography. The workspace will have a direct view of the counter. Separate restrooms are to be included in this area.

1.6.3 Amenities

Technical Library:
The Library will be relocated from a portable building in the PPA. The library should be highly visible and will include the existing collection and reference resources for the use of SNL/CA staff, academic and industry partner researchers. AD hoc team rooms will also be provided for teams to schedule for short term projects. The administrative/back-room processing area will house three staff members.

Café with Coffee Shop:
The Café will be a full service Café with food preparation and dishwashing. Options will include hot meals, self serve and grab and go, served from 7:30 am – 3 pm. It is not anticipated that a grill will be required. Indoor seating for 100 people with outdoor dining is required. A specialty coffee area will be included and will utilize the same seating area.

Fitness Center:
The Fitness Center provides a combination of weight machines, cardio machines, free weights and a 20 person group fitness room for SNL/CA employees, family members (over 18) and retirees. Additional floor loading may be required. The facility should have 24 hour access by card swipe and an exterior access point. Locker rooms with showers are required, a room for biometric screening and space for two consultants who operate the facility. Indoor bike storage should be located nearby.

Training / Conference Center:
These spaces provide a combination of conference and training rooms with built-in infrastructure to support remote group-to-group interactions and other technologies suitable for distance conferencing, meetings, education and large group collaboration.

1.6.4 Shared Support

The following are required office support spaces used to support the office areas and will be shared among the different groups occupying the facility.

- Small Conference Rooms
- Medium Conference Rooms
- Copy / Coffee / Work Areas
- Wellness Room

1.6.5 Building Support Area

The programmed spaces indicated above are exclusive of additional customary, but typically required, spaces in a Facility of this scale. Subject to approval, the sizing, quantities, and placement of the following additional expected spaces and any other areas as seen required or desirable by the Developer are left to the designer's discretion.

- Elevators
- Restrooms
- Mechanical Equipment
- Electrical Equipment
- Telecom/LAN Closets
- Maintenance Storage
- Janitor's Storage
- Corridors/Stairs

1.7 CODES, STANDARDS, AND PERMITTING

The Facility shall be treated as a "Class A" commercial project and shall be designed with an expected life span of 35-50 years. Factory Mutual standards shall be incorporated. The Developer shall file and acquire all permit documents required for the City of Livermore. The primary building codes and standards for this project at SNL/CA are:

- 2010 California Building Code (Based on the 2009 International Building Code)
- 2010 California Fire Code (Based on the 2009 International Fire Code)
- 2010 California Plumbing Code (Based on the 2009 Uniform Plumbing Code)
- 2010 California Mechanical Code (Based on the 2009 Uniform Mechanical Code)
- 2010 California Electrical Code (Based on the 2011 National Electrical Code)
- 2010 Building Energy Efficiency Standards (Title-24)
- Accessibility requirements shall be in compliance with Chapter 11B of the 2010 CBC
- CALGreen Code (USGBC can be substituted to meet CALGreen Tier 1)
- USGBC LEED
- City of Livermore Development Code
- The Energy forms are required at time of permit submittal
- City of Livermore Environmental Standards require laboratory drains lines to be separate from other building sanitary system piping and collected to a common point outside the Facility.
- Plan review fees are the responsibility of the Developer
- Livermore-Pleasanton Building Department and Fire Department Plan review

2.0 PROJECT PROGRAM

2.1 SITE

The intended CREATE building site is due east of the SNL/CA limited area and due south of the Combustion Research Facility inside the LVOC on a site of approximately 3.5 acres gross area of which approximately 3.0 acres is available for construction. (See Exhibit A). Approximately .5 acres of the site is available for a construction lay-down area in advance of its planned conversion for future vehicular circulation.

2.1.1 Geotechnical

No geotechnical investigation has been conducted in this specific site.

The Developer finalists for Stage Two shall retain the services of a geotechnical consultant to perform an appropriate number of borings and produce a geotechnical report. The report is to contain boring logs, site plan, description of soils, and water table location. Recommendations on foundation design including seismic site class, allowable bearing pressures, bearing elevations, anticipated settlement, and lateral earth pressure shall be included.

2.1.2 Survey

The Developer finalists for Stage Two shall retain the services of a registered Land Surveyor to prepare a survey of the proposed site. The survey shall include grades, site boundary lines, location of existing structures, paving and improvements, location of trees, natural and man-made objects, and utilities. Utility information shall include location, size, and depth of water, gas, sewer systems (including laboratory waste, storm and sanitary), central steam, fire hydrants, central chilled water, and power and communications systems, and all associated easements.

2.1.3 Environmental Evaluation

DOE and SNL/CA must comply with the requirements of the National Environmental Policy Act (NEPA) and its implementing regulations (10CFR 1021 and 40 CFR 150-1508). SNL/CA will conduct all necessary environmental studies. At the conclusion of the studies, the Developer will work with SNL/CA to minimize environmental impacts.

2.1.4 Topography / Storm Drainage / Detention

Compliance includes wetland and storm water management (including parking lot runoff), a Storm Water Pollution Prevention Plan (SWPPP) which includes an Erosion and Sedimentation Control Plan, and agreement with SNL/CA regarding the changes of storm water runoff flow onto their property from this site. Grading and Drainage plans will require review and approval of the City of Livermore. Calculations regarding storm water rates & volumes, retained, detained and discharged must be prepared and submitted by the Developer for review and approval by all applicable authorities.

The CREATE site has a very gently sloped (approximately 1% to 2%) from the southeast to the northwest. It is recommended that the Facility footprint be located to minimize drainage issues. The natural storm drainage will be to the east from the Facility. There are no known wetland areas near the proposed CREATE Site.

2.1.5 Utilities

The Developer will be responsible for all required utility service infrastructure for the CREATE Facility, including coordination with existing utilities, and appropriate isolation according to applicable standards. Access to all necessary electric, telecommunications (voice and data), water, sewerage, steam, and natural gas will be provided.

2.1.5.A Domestic Water and Sewer

Water (for both domestic use and fire protection) and Sanitary Sewer for the project will be available in streets adjacent to the site. The developer shall be responsible for applicable fees (such as impact fees, tap fees, etc) as well as for construction of all new on-site lines required to serve the building and any required fire hydrants. Developer shall coordinate with SNL/CA and the City of Livermore to determine acceptable points and methods of connection.

2.1.5.B Telecommunications Cable Infrastructure

The CREATE Facility telecommunication system shall originate from SNL telecommunication infrastructure.

Provide appropriate conduit pathways from the building to the Sandia infrastructure for copper conductors and fiber cable to provide telecommunications and data to the building. The conduit pathways shall include manholes and concrete encased conduits to the SNL designated location. See the performance specification for the design requirements for the location and number of manholes, number of conduits, and size of copper/fiber cable.

2.1.5.C Electrical Service

The existing SNL medium voltage distribution system shall be utilized for the primary power to the facility. The projected electrical demand for this facility shall be approximately 750 kVA to 1200 kVA. The developer shall perform electrical calculations per National Electrical Code (NEC), using energy usage criteria form California Title 24, ASHRE 90.1 and LEED to determine the exact demand load for the building. The developer's calculation shall utilize the information presented in this document concerning the program and projected usage of the building plus twenty (20) percent spare capacity. The developer shall provide a medium voltage switch capable of two incoming circuits and two outgoing feeders. The medium voltage (13.8 kV) to low voltage (480V) transformer shall be oil filled or dry type, cast coil transformer sized for the load of the building plus twenty (20) percent spare capacity. The location of the building main transformer shall be coordinated with the building site development and future site development per the long range master plan. The location shall meet the requirements of NEC and Factory Mutual.

2.1.5.D Site Lighting

The site lighting shall comply with California Title 24 energy code and LEED for the light intensity, distribution and control. The

lighting shall provide safe passageway to and from the building for the occupants but shall not provide light pollution to the surrounding areas. The light fixtures shall be LED type for pole mounted and building mounted lighting. The pole height shall not exceed 20' including the base.

2.1.5.E Storm Sewer Service

Compliance with the State of California Storm Water Management laws and regulations will be required. The Developer shall be responsible for the development and implementation of a Storm Water Pollution Prevention Plan and securing a Construction Activities Storm Water General Permit (2009-0009-DWQ, or most current version) from the State of California. Sandia staff may assist in facilitating the land owner signatures as needed, and provide necessary site information for the permit submission.

Section 438 of the Energy Independence and Security Act (EISA 438) requires that federal agencies "use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the pre development hydrology of the property." The methodology and execution is the responsibility of The Developer. The EPA issued Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act on December 4, 2009. That document is available at http://www.epa.gov/oaintrnt/documents/epa_swm_guidance.pdf

2.1.6 Traffic

As with current traffic visiting the SNL/CA, traffic to LVOC is from East Avenue down Thunderbird Lane.

During construction it is anticipated that construction vehicle access will be via this route. Any easements for site access during construction will be negotiated with SNL/CA during the design phase. The Developer's Lay-Down will be in the associated facilities parking area dedicated for CREATE.

Because the access route is currently being used as access to LVOC, the Developer will provide and maintain a safety plan for construction related activities to and from Thunderbird Lane to the construction site.

2.1.7 Parking

There shall be a non-restricted parking area and entrance accessible from outside the Laboratory security perimeter for public events. The same parking area will also provide parking for CREATE occupants as well as SNL/CA employees who have access to the Limited and Property Protected Areas "inside the fence."

Comply with Livermore Development Code, Section 4.04 Parking. Parking area shall be coordinated and colocated with existing parking on site. Parking areas shall include a visitor drop off area. Additionally provide bicycle spaces as prescribed by the Livermore Development Code

2.1.8 Landscaping

Comply with Livermore Development Code, Section 4.05 for landscaping requirements and to Municipal Code 13.25 Water Efficient Landscape Ordinance. The Developer shall provide parking, walks, grading, detention, site utilities, lighting, and other hardscape and landscaping. Site lighting shall be designed to minimize visual impact beyond the site property line. Landscaping should be appropriate for the Facility and site design. To the greatest extent possible, landscape plantings shall utilize native and hardy plant species enhancing the visual character of the Facility and extend the architectural concept into the surrounding environment.

Within the limits of the site, The Developer will restore all disturbed areas with landscaping materials, hardscape or parking areas. Directly associated with the Café, an outdoor space shall be provided to accommodate 50% of the total occupancy of the Café. This outdoor space shall include planting, shading, hardscape, trash receptacles and furnishing for outdoor dining.

2.2 BUILDING SYSTEMS

2.2.1 Foundations & Substructure

A geotechnical investigation has not yet been completed so the foundation system is undetermined at this time. It is assumed that existing soils are suitable to support conventional cast in-place concrete spread footings at a depth of approximately 4-feet below existing grade.

2.2.2 Superstructure

The most economical superstructure is anticipated. Similar "Class A" office buildings normally consist of the following:

- Typical Floor Framing – The ground floor will likely consist of concrete slabs on grade over a high quality vapor retarder membrane. Elevated floors should consist of concrete slabs on composite metal deck that are supported by composite steel beams and girders
- Typical Roof Framing - The roof framing should consist of either a metal deck slab supported on steel beams similar to the floors, or a metal roof deck supported by a combination of steel joists and wide flange beams
- Lateral Framing - The lateral force resisting system will likely consist of steel special concentric or buckling restrained braced frames, or steel special moment resisting frames. Due to the project location, these will require special seismic detailing
- Exterior Walls – We anticipate utilizing non-load bearing metal stud framing to support a variety of exterior finish materials

2.2.3 Exterior Closure

The exterior closure must meet the following design criteria:

- Be of a non-combustible material with a corrosion resistant surface finish
- Provide a system with a typical design wind load of 25 psf (inward or outward) and 30 psf at the corner areas
- Provide a water management system
- The insulation system shall meet a minimum R13 Value
- Provide a vapor barrier
- Joints within exterior closure system shall be treated with polyurethane or a non-acid curing sealant system

- Windows shall be of a Performance Class C rating with a wind load of 30 psf. Frames to have, at a minimum, an anodized aluminum finish. Glass to have a low-e coating with a minimum of .33 U value

2.2.4 Roofing

Provide a fully adhered 80 mil single ply membrane over an R-30 insulation conforming to Factory Mutual requirements for Windstorm Classification 1-90.

2.2.5 Interior Construction

Typical interior wall construction shall be gypsum board over metal studs with hollow metal frames and solid core wood veneer doors.

2.2.6 Conveying Systems

Gearless Traction Machine Room-Less (MRL) elevators:

- **Passenger** - quantity of passenger elevators shall be determined based on building configuration

Hydraulic Elevators:

- **Freight** – at minimum; one (1) freight elevator shall be sized in order to handle the heaviest piece of equipment in the building requiring vertical transportation

2.2.7 Plumbing

2.2.7.A Domestic Water Service

Facility shall be supplied with a dedicated domestic lead-in service extended from the site water loop. Once inside the building, water shall be metered and distributed throughout the Facility to all plumbing locations. High efficiency gas fired hot water heaters shall be provided with pumped recirculation loops for domestic hot water shall be provided for all HVAC equipment requiring make-up water. Code approved point-of-use backflow prevention shall be installed at all connections subject to cross connection. Non-potable hot and cold water shall be provided to Laboratory sinks and will be separated from the domestic water service through the use of code approved backflow prevention devises.

2.2.7.B Building Storm Drainage

Building storm drainage will be provided by means of roof drains to downspouts that go into the approved storm water conveyances. The plans will be reviewed through the SNL design review process and through the storm water management plan. Secondary (emergency) drains will be provided for all all-flat roof areas per Code and the discharge points will also be coordinated through the design review process.

2.2.7.C Building Drainage and Vent System

There shall be two separate drainage systems for the facility.

1. Building drainage and vent systems shall consist of conventional drainage systems for toilets, kitchenettes and locker room collected and extended to appropriate Laboratory sewers by means of gravity
2. Laboratory sewer lines (sinks, drains, etc.) would be separate from the main sewer line exiting the building and a manhole upstream of the connection point to the sewer main. Lab lines would be connected to the sewer main at an easily accessible point. This would allow for sewer monitoring in the future if found to be needed. This would support any labs with sinks, floor drains, eyewash, safety shower, etc. including BSL-2.

2.2.8 Fire Protection

The Facility shall be designed to comply with the Factory Mutual (FM) standards, required building/fire codes, and any pertinent SNL requirements. A dedicated fire water supply shall be provided for the building in a water service room shared with the domestic water system. Water service shall be extended from site water loop. An appropriate backflow prevention assembly shall be provided on the water service building entrance. An electric fire pump is anticipated for the Facility along with all associated appurtenances. The Facility shall be fully sprinklered with separate zones for each floor and building area as necessary. Fume hood may require fire protection per the Livermore-Pleasanton Fire Department requirements.

2.2.9 HVAC

2.2.9.A. Environmental Design Conditions

The heating ventilating and air conditioning (HVAC) systems shall be designed to conform to ASHRAE standards and the required building codes. (See Chart: Target Design Conditions and Criteria - Temperatures and Relative Humidity).

2.2.9.B Office Spaces

The goal of the HVAC system design for office areas is to provide a cost-effective, yet reliable system that can meet the programmatic and functional requirements of the various areas of the Facility. The office spaces and other non-critical areas should be designed to meet a typical "Class A" suburban commercial office environment, but other higher quality, more energy efficient systems should be considered.

Air conditioning loads shall also be typical of a "Class A" suburban office building, but are required to comply with the requirements of the program. Also, systems that provide for future flexibility and expansion capability with minimal disruption and downtime are required, as subsequent expansion phases are anticipated.

TARGET DESIGN CONDITIONS AND CRITERIA - TEMPERATURES AND RELATIVE HUMIDITY

Application	*Inside*	*Outside*
General Cooling	*75°F dry bulb (db), 50% relative humidity (RH)*	*100°F, 69°F wet bulb (wb)*
General Heating	*72°F db*	*24°F db*
Heating for Laboratory and Other Critical Spaces	*72°F db 30% + 10% RH*	*N/A*
Off-Hour Heating Offices	*60°F db*	*N/A*
*Cooling Tower Design**	*71°F wb*	*N/A*

*IF USED AS PART OF THE HVAC SYSTEM DESIGN

Redundancy of systems for non-critical areas is not required, but proper zoning, air distribution and appropriate noise levels for optimal occupant comfort is required. A high-degree of user controllability is required. Special attention shall be paid to acoustic considerations in conference rooms and the multipurpose room.

Minimum Required Zoning

- Corner office shall have individual zones
- Conference/Multipurpose/Breakout rooms shall have individual zones
- Perimeter offices shall have no more than three office per zone
- Classrooms shall have individual zones
- Telecomm/Electrical rooms shall have independent air conditioning systems for 24 hour operations
- Elevator machine rooms shall have independent air conditioning systems
- Office areas of the Facility are defined as offices, conference rooms, breakout areas, common spaces, multipurpose room and library

The expected use of the fitness center shall be evaluated to determine if an independent HVAC system is required for after hours and weekend use. The determination shall be based on the resultant energy efficiencies gained by not utilizing the main HVAC equipment for conditioning the Fitness Center during afterhours use.

2.2.9.C Laboratory

In addition to the requirements of the design concepts for the office spaces, the laboratories spaces have additional requirements of more flexibility and more user control to adapt to the varying requirements of different loading conditions. The laboratories contain fume hoods or hazardous exhaust. The laboratory environmental control systems should be flexible, allowing a laboratory's configuration to change without major impact on other research laboratories or spaces in the Facility. The systems should adapt and comply with the varying load conditions.

The laboratory HVAC system should be independent of the office HVAC system. The laboratory exhaust and supply system shall be designed to automatically control supply and exhaust air flow in response to fume hood sash position to maintain constant room pressure control. In addition the laboratory HVAC system shall have allowances for maintaining space temperature while the fume hood sashes are in their minimum position. Exhaust Heat recovery should be considered for the laboratory HVAC system. Redundancy of systems for laboratories and other critical areas is not required, but proper zoning, air distribution and appropriate noise levels for optimal occupant comfort is required.

2.2.9.D Kitchen

The kitchen HVAC system will include a grease exhaust system including hood grease exhaust duct with access doors, and grease exhaust fans. The exhaust duct will be enclosed in a fire rated enclosure to the exit of the building. The hood will be provided with a stand alone chemical fire protection system. There will also be a makeup air unit to provide tempered air to the kitchen. Provide exhaust for dishwashers if required.

2.2.9.E Plumbing

The sanitary waste discharged from the kitchen shall be directed through a grease interceptor prior to discharge to the sanitary sewer. The kitchen shall be equipped with a dedicated hot water heater. Consideration shall be given to providing a solar hot water supplement to reduce energy costs.

2.2.9.F Building Automation System

A Building Automation System (BAS) shall be provided for the Facility. The BAS shall be an open, non proprietary DDC system based on BACNET protocol. It shall utilize an ETHERNET/TCP/IP backbone for tier one communications. The system shall control the HVAC and Central Plant systems. The system shall monitor and alarm malfunctions of the HVAC systems and when room environmental conditions are outside of operating point. The BAS system shall consist of the following:

- Standalone DDC panels
- Standalone application specific controllers (ASCs)
- Operator's Terminals
- Personal Computer Operator Workstations

2.2.9.G Energy and Environmental Design

It is a strong desire to make this Facility as energy efficient and environmentally responsible as allowable by the budget. Innovative design strategies that fit within the context of achieving LEED Gold certification should be considered such as heat recovery from exhaust systems, solar panels to supplement domestic hot water production, energy recovery ventilation units (ERV's) for outside air tempering and use of renewable energy sources

Compliance with the California 2008 Energy Efficiency Standards for Residential and Non-Residential Building is required.

2.2.9.H Testing and Commissioning

All Systems shall be tested and commissioned in accordance with ASHRAE commissioning standards.

2.2.10 Electrical

2.2.10.A Design Loads

The projected electrical design loads for lighting shall be based on California Title 24 and LEED for the specific space requirements. The electrical design loads for the mechanical systems shall be based on California Title 24, LEED, and AHRE 90.1. The approximate receptacle and general power loads for specific spaces shall be as follows:

- Offices – 8 watts / sf.
- Conference Rooms – 5 watts/ sf.
- Classrooms – 8 watts/ sf.
- Library – 3 watts/ sf. (reading area, stack and shelving area)
- Library – 8 watts/ sf. (computer research area)
- Fitness Center Area – 5 watts/ sf. (coordinate with equipment to be supplied)
- Badge Office – 8 watts/ sf.
- Café/ Coffee Shop - 10 watts/ sf.
- Laboratory Space – 12 watts/ sf.

The values presented are estimates based on generic space types. Specific watts/ sf. for specialized spaces such as 3-D printing, energy systems lab, Cyber lab, Video edit room, Graphic area, Photo room, Copy room could have higher density power requirements. Coordination with SNL for specific equipment requirements for specialized spaces is essential.

The Developer shall review and revise these loads with SNL as the design progresses.

2.2.10.B Electrical Distribution

The electrical service entrance to the building shall terminate at a service entrance listed switchboard (480 V) with a main circuit breaker. The switchboard shall contain metering and surge protection device. Separate feeders from the switchboard shall supply a distribution panelboard (480 V) located in an electrical room to supply each individual major function of the building residing on the first floor, such as Badge Office, conference/ classrooms, Café, Fitness Center, and Library. Labs will require additional power. Also each floor above the first floor shall be supplied by a minimum of two feeders supplying distribution panelboards (480 V) on each floor. The distribution panelboards may also supply lighting and mechanical equipment. Metering shall be supplied per LEED requirements for monitoring of the individual loads of lighting, power and mechanical power. All switchboards shall be provided with surge protection devises (SPD). All main and feeder overcurrent devices shall be adjustable trip circuit breakers.

2.2.10.C Lighting

The lighting shall be energy efficient LED type luminaires. Lay-in type fixtures shall be utilized in areas with lay-in type ceiling. The lay-in fixtures shall have a CRI of 90 and rated for 90 lumens per watt. Area's with open type ceilings shall utilize suspended type LED luminaires with a CRI greater than 80 and are rated for 80 lumens per watt. Areas where natural light is available shall utilize daylight harvesting type control. All other lighting control shall comply with Title 24 and LEED requirements. Conference rooms shall have dimming capability for visual presentations. The lighting intensity and distribution shall be based on the Illuminating Engineering Society of North America (IESNA) requirements and specific SNL program requirements. Lighting circuit pathways shall comply with National Electrical Code (NEC) and California Building Code for occupancy of the building and specific space and operation criteria.

2.2.10.D Emergency Lighting

Emergency lighting intensity, location and operation shall comply with California building code for the occupancy type of the building or space. The emergency lighting shall be integral to the building light fixtures where possible. The emergency lighting units shall be self-diagnostic, automatic testing type units.

2.2.10.E Branch Circuit (120 V)

The distribution panelboards shall supply 480 – 208/120V transformers, located in the electrical rooms, which will supply branch circuit panelboards. The panelboards will supply the circuits that connect to the utilization devices. There shall be no multi-wire branch circuits (shared neutral circuits). Each circuit shall supply no more than 8 receptacles. Hard wall offices shall have receptacles located on each wall. Open office, movable type, office partitions shall have branch circuit connections coordinated with systems furniture supplier. engineering labs, conference rooms, classrooms, Library, Café shall have branch circuits per the program requirements of this document. Branch circuit pathways shall comply with National Electrical Code (NEC) and California Building Code for occupancy of the building and specific space and operation criteria.

2.2.10.F Other Electrical Systems

Grounding: Provide a grounding system complying with the requirements of NEC and California Building Code. The main electrical room shall have a main grounding electrode ground bar external to the main switchboard for grounding verification and testing. All other electrical rooms shall have a main grounding electrode ground bar extension connected by an insulated #3/0 cable.

Lightning Protection System: A UL-listed lightning protection system shall be installed and bonded to the grounding system. The system shall be designed and installed per NFPA 780 current standards and shall provide Master Label Certification.

Fire Alarm: A fire alarm system that complies with California Building Code, California Fire Code, Livermore-Pleasanton Fire Code and NFPA 72 shall be provides for the building. The building is a multiple occupancy type building so the requirements for each space should be verified and integrated into a single system. Coordinate with SNL for specific system type and site specific operational capabilities.

Security: Portions of the building (see program requirements) will require SNL badge access. The cable pathway system of conduits, boxes, etc. is to be provided by the developer. Coordinate the specific requirements for location, type and size of the components with SNL during the developer space allocation.

Paging: A paging system shall be provided in accordance with SNL requirements to cover all areas of the Facility, and shall be integrated into the SNL site-wide paging system.

Generator: An emergency generator shall be provided to supply emergency power to the proposed fire pump. The generator system shall comply with the requirements of NEC, California building Code, California Fire code as amended by Livermore – Pleasanton fire code, NFPA 72 and NFPA 110.

2.2.11 Electrical Commissioning

Electrical systems shall be tested and commissioned to verify and ensure that the fundamental electrical elements and systems are designed, installed and calibrated to operate as intended.

2.2.12 Telecommunications

The telecommunications system will consist of a structured cabling distribution system throughout the Facility to support voice and data networking. This scope of work includes voice and data cabling for the fixed and open office areas and

specialty areas within the Facility. The following sub-sections describe expected minimum specifications for the Facilities telecommunications requirements.

2.2.12.A Pathways and Spaces
The structured cabling distribution system for the Facility shall include an entrance room to allow carrier services into the Facility and to provide a space for demarcation points. Cabling termination spaces shall also include a Main Distribution Frame (MDF) and satellite telecommunications rooms (TRs). Some services may terminate in the entrance room; others may be extended in conduit directly to the MDF

Spare conduits (beyond those used for initial backbone cabling needs) shall be provided between the entrance room and the MDF, between the MDF and the satellite TRs.

Horizontal cabling pathways between TRs and work area outlets shall be designed and sized to facilitate complete re-cabling, or the installation of additional copper or fiber optic cables at select outlet locations, at some later date.

In Laboratories, cabling shall be accessible and easily re-configurable by the resident researchers. Consideration should be given to the use of zone cabling with up to three consolidation points or multiuser outlets in each lab. Consideration should be given to having a spare conduit run from the serving TR to each lab.

2.2.12.B Backbone Cable
24 strands of Single Mode (SM) optical fiber and 24 strands of Multi-Mode (MM) fiber shall be run from the MDF to each TR and to the entrance room.

The MM fiber will be 50-micron core, laser-optimized fiber designed to support 10 Gbps over a 300- meter distance using the VCSEL-driven 850 nanometer transmission window. All fiber will be terminated on field-polished SC connectors.

While standards allow 0.75 dB attenuation per mated MM fiber optic connector pair, no more than 0.5 dB will be permitted throughout this installation.

2.2.12.C Horizontal Cable
The horizontal cabling system shall consist of 1 single mode fiber terminating in a 4 port optical network terminal; two (2) 4 fiber (50 micron) multi-mode fiber cables terminating into SC type connectors and 1 CAT 6 UTP terminating into a 8 pin RJ-45 connector. All horizontal CAT 6 UTP cable shall be plenum-rated. Cabling system shall be installed, labeled and tested by contractor certified by manufacturer of cabling system that shall be one of three short-listed, high-performance solutions certified by UL as being compliant with Level 7 of their Levels XP program.

Voice jacks shall be terminated in rack-mounted patch panels at the TRs, so that voice jacks can be used as data jacks and data jacks can be used as voice jacks for desirable future flexibility. Voice backbone cables must also be terminated in rack-mounted patch panels.

Exhibit A

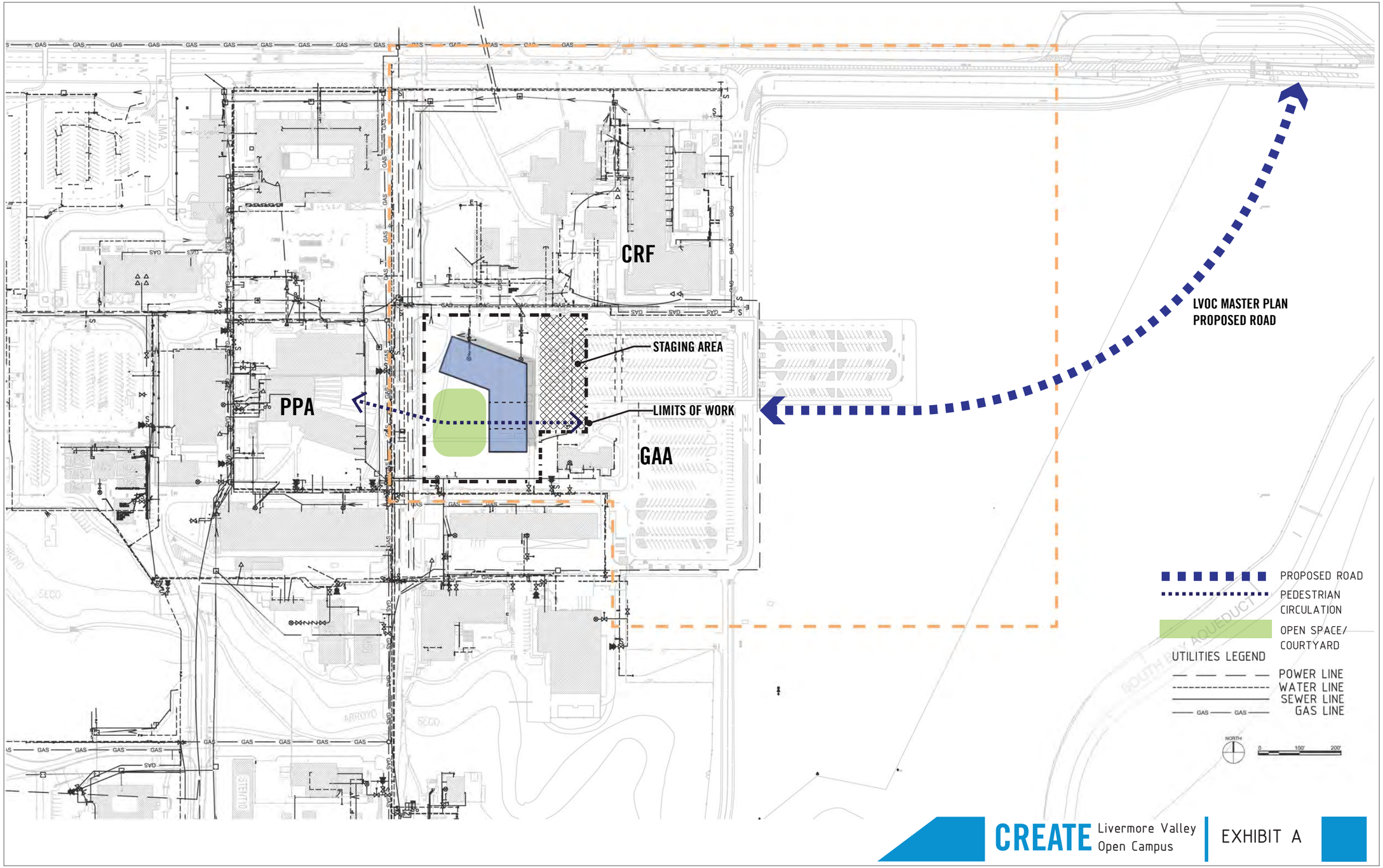
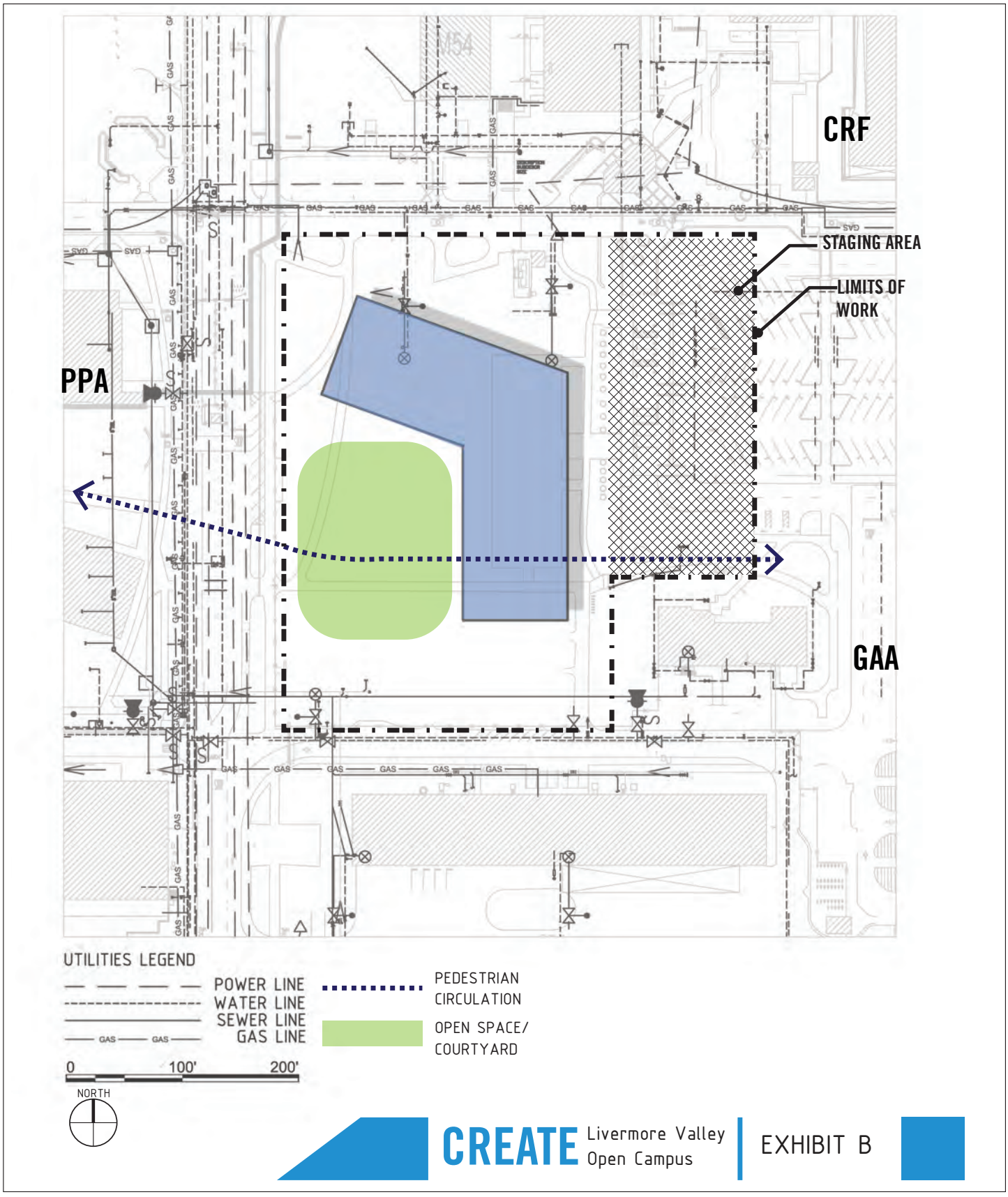

CRF
PPA
GAA
STAGING AREA
LIMITS OF WORK
LVOC MASTER PLAN
PROPOSED ROAD
PROPOSED ROAD
PEDESTRIAN CIRCULATION
OPEN SPACE/ COURTYARD
UTILITIES LEGEND
POWER LINE
WATER LINE
SEWER LINE
GAS LINE
NORTH
0
100'
200'
CREATE Livermore Valley Open Campus
EXHIBIT A

Exhibit B


CRF
STAGING AREA
LIMITS OF WORK
PPA
GAA
UTILITIES LEGEND
POWER LINE
WATER LINE
SEWER LINE
GAS LINE
PEDESTRIAN CIRCULATION
OPEN SPACE/ COURTYARD
0
100'
200'
NORTH
CREATE Livermore Valley Open Campus
EXHIBIT B

Site Analysis

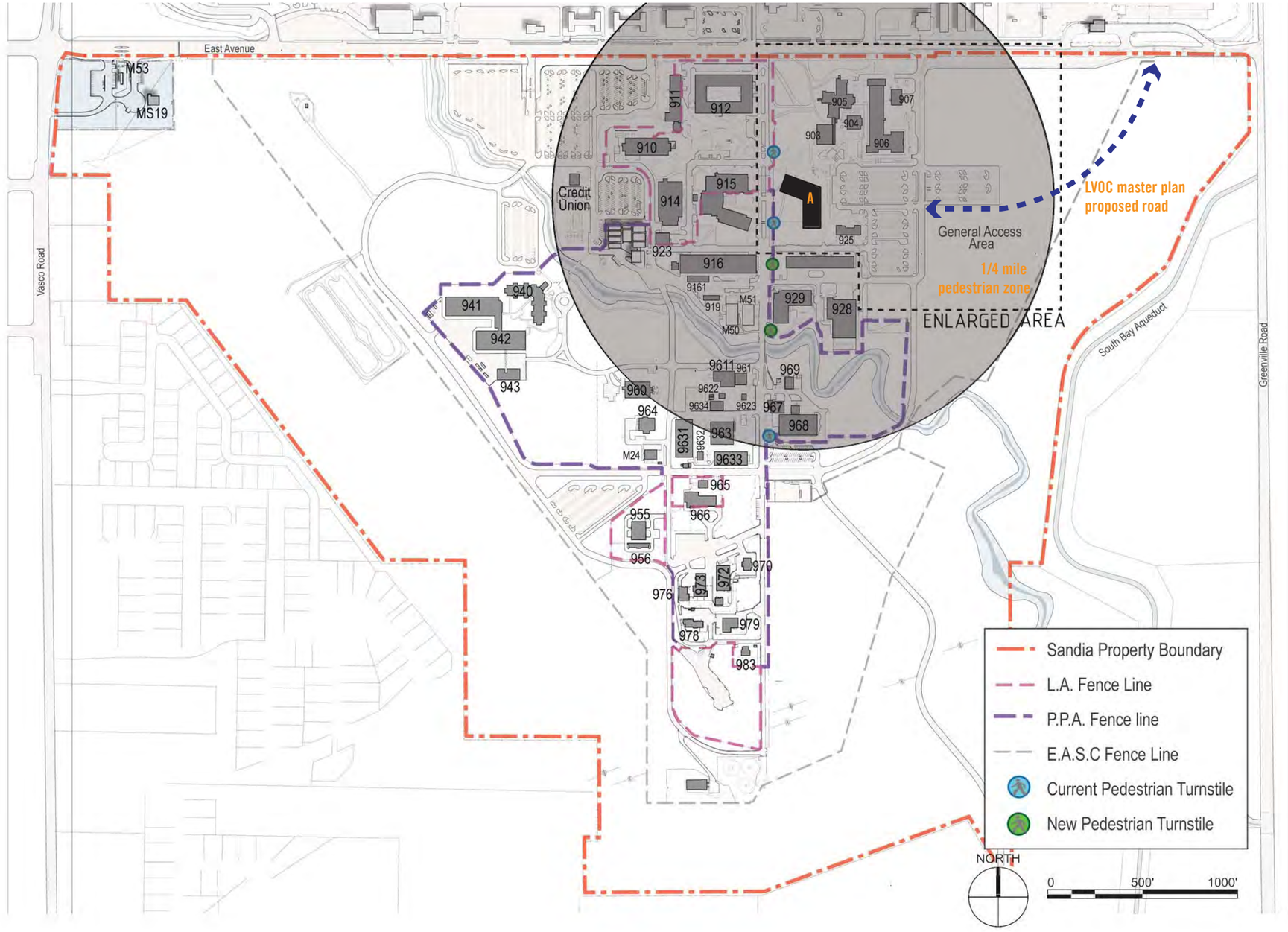
Site Analysis

D/P/S with input from the SNL/CA Team evaluated three possible site locations for the CREATE Facility. Each site was located in lands designated for the LVOC and were directly east of the SNL/CA general access area (GAA) and south of the CRF. Site evaluation criteria was developed to "score" each site and is described below:

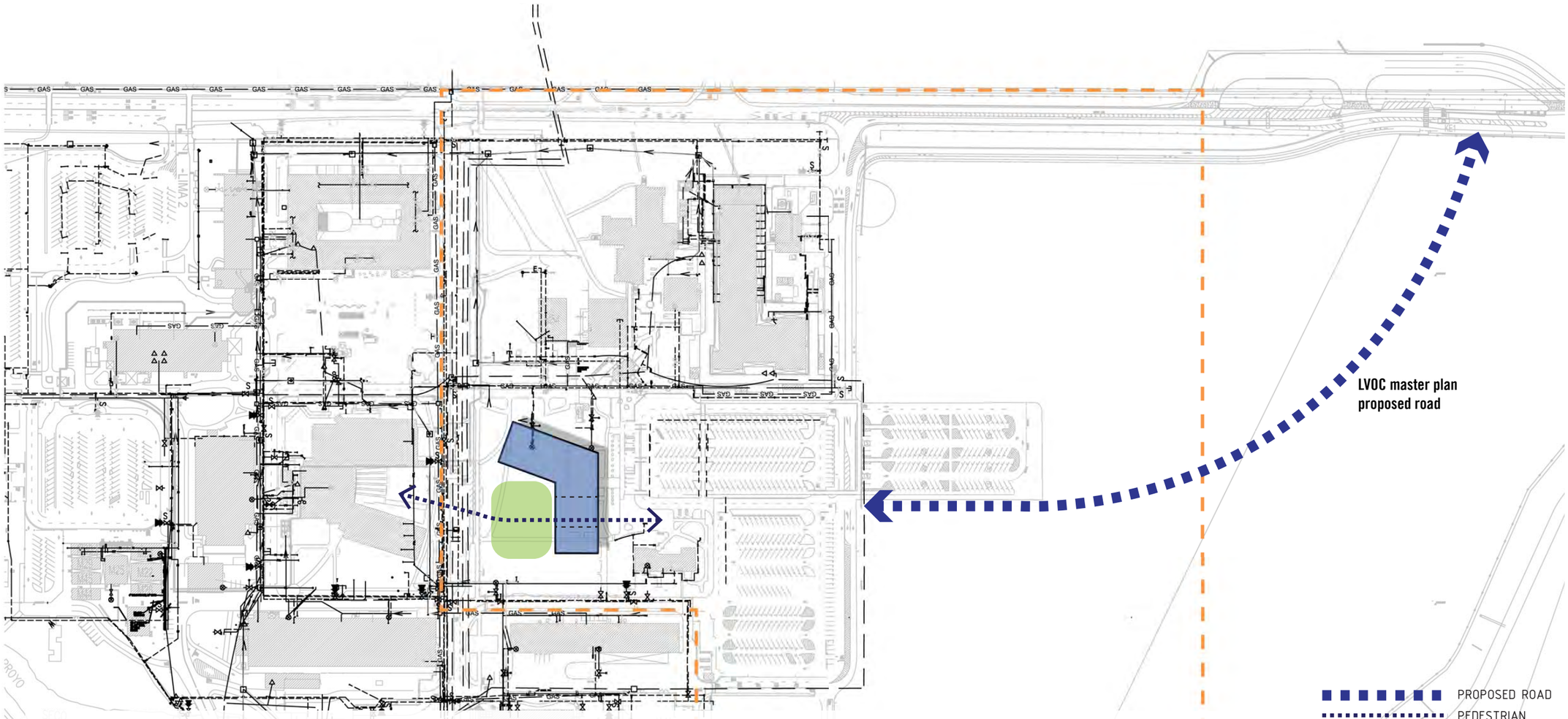
CREATE - Site Evaluation Criteria

5/31/13

	SITE LOCATION AND SIZE	MAX POINTS	SITE A	SITE B	SITE C	NOTES:
1.0	**Site Location and Size**	**85**	**75**	**66**	**60**	
1.1	*Site is of sufficent in area to accommodate planned uses*	*10*	*10*	*10*	*10*	
1.2	*Site is located to facilitate maximum number of users inside PPA*	*25*	*25*	*15*	*10*	
1.3	*Site is highly visible and accessible to internal users*	*10*	*10*	*8*	*5*	
1.4	*Site is highly visible and accessible to external users*	*10*	*5*	*8*	*10*	
1.5	*Site conforms to LOVC masterplan*	*15*	*15*	*15*	*10*	*LVOC MP envisions first phase for Sites A*
1.6	*Site affords developer solution options/flexibility*	*15*	*10*	*10*	*15*	*Site C allows bigger foot print could go 2-story-most flexible*
2.0	**Site Services**	**60**	**40**	**25**	**40**	
2.1	*Site location requires little to no extension of utilities*	*20*	*20*	*15*	*10*	*Major utility extensions required for Site D*
2.2	*Site location requires replacement of existing site amenities*	*20*	*10*	*10*	*15*	*Site C scores highest because it preserves all current assets.*
2.3	*Impacts current farmer's market?*	*10*	*0*	*0*	*5*	*Sites A scores lowest because farmer's market would be relocated*
2.4	*Requires removal and replacement of existing parking lots*	*10*	*10*	*0*	*10*	*Site B scored 0 because major parking lot improvements would be required*
3.0	**Sustainability**	**30**	**25**	**25**	**25**	
3.1	*Site affords best building solar orientation*	*15*	*10*	*10*	*15*	*Site A & B might require and "L" shaped building footprint*
3.2	*Site provides opportunities for swales and water conservation*	*15*	*15*	*15*	*10*	*Site C requires greater disturbance of existing parking areas*
4.0	**Attractiveness to "third party lessor"**	**55**	**35**	**40**	**40**	
4.1	*Site provides easy access for "third party" exit strategy*	*15*	*5*	*10*	*10*	*Site C scores highest because it is the least integrated into the site*
4.2	*Site is integrated into SNL-L site assets and access to user tenants*	*15*	*15*	*10*	*5*	
4.3	*Risk to Security Operation*	*25*	*15*	*20*	*25*	
5.0	**Attractiveness to SNL-L for achieving operation/site goals**	**60**	**60**	**45**	**30**	
5.1	*Easily accessible for maximum use by PPA occupants*	*15*	*15*	*10*	*5*	
5.2	*Easily accessible for maximum use by CRF private and public sector users*	*15*	*15*	*10*	*5*	
5.3	*Meets goal of providing integrated SNL-L and private sector interface*	*15*	*15*	*10*	*5*	
5.4	*Site creates a corporate "front door" for SNL-Livermore*	*15*	*15*	*15*	*15*	
		290	**235**	**201**	**195**	
SITE TOTALS		**100%**	**81%**	**69%**	**67%**	



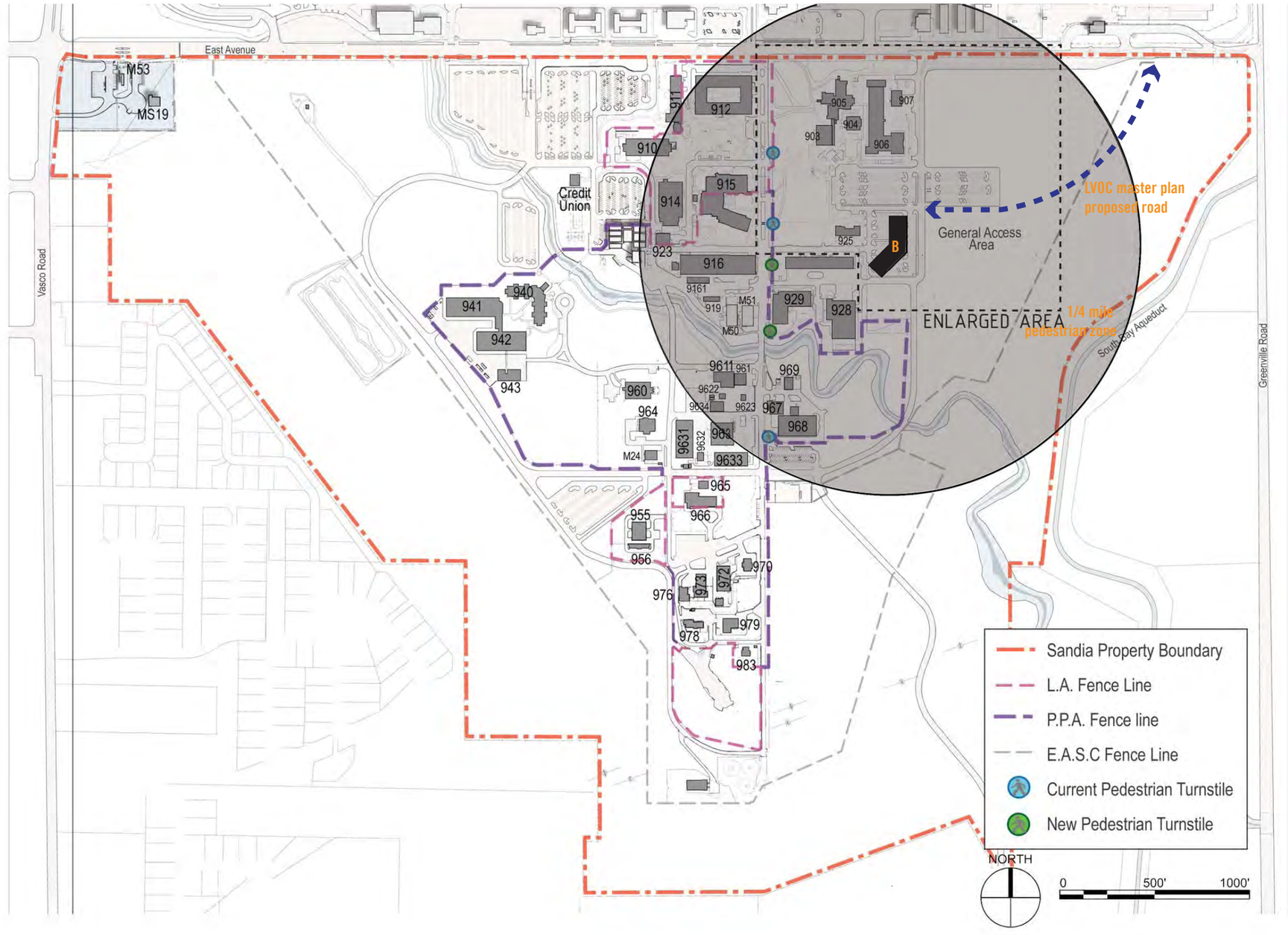
CREATE Livermore Valley Open Campus | SITE A | Dekker/Perich/Sabatini architecture interiors landscape planning engineering



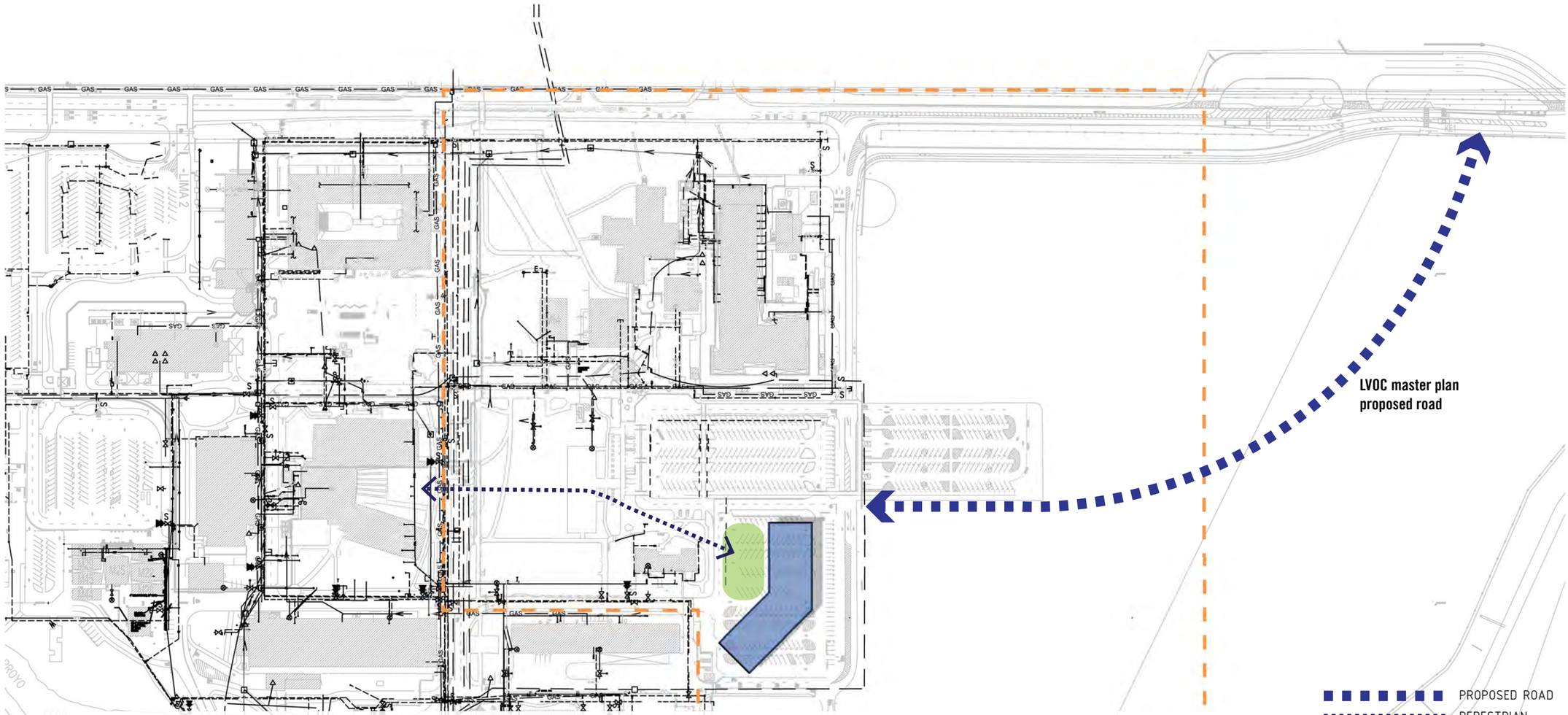
Factor		Max points	Site A
1.0	Site Location and Size	85	75
1.1	Site is of sufficent in area to accommodate planned uses	10	10
1.2	Site is located to facilitate maximum number of users inside PPA	25	25
1.3	Site is highly visible and accesible to internal users	10	10
1.4	Site is highly visible and accesible to external users	10	5
1.5	Site conforms to LVOC masterplan	15	15
1.6	Site affords developer solution options/flexibility	15	10
2.0	Site Services	60	40
2.1	Site location requires little to no extension of utilities	20	20
2.2	Site location requires replacement of existing site amenities	20	10
2.3	Impacts current farmer's market?	10	0
2.4	Requires removal and replacement of existing parking lots	10	10
3.0	Sustainability	30	25
3.1	Site affords best building solar orientation	15	10
3.2	Site provides opportunities for swales and water conservation	15	15

Factor		Max points	Site A
4.0	Attractiveness to "third party lessor"	55	35
4.1	Site provides easy access for "third party" exit strategy	15	5
4.2	Site is integrated into SNL-L site assets and access to user tenants	15	15
4.3	Risk to Security Operation	25	15
5.0	Attractivenss to SNL-L for achieving operation/site goals	60	60
5.1	Easily accessbile for maximum use by PPA occupants	15	15
5.2	Easily accessbile for maximum use by CRF private and public sector users	15	15
5.3	Meets goal of providing integrated SNL-L and private sector interface	15	15
5.4	Site creates a corporate "front door" for SNL-Livermore	15	15
	Site Totals	290	235
		100%	81%

CREATE Livermore Valley Open Campus | SITE A | Dekker/Perich/Sabatini architecture interiors landscape planning engineering



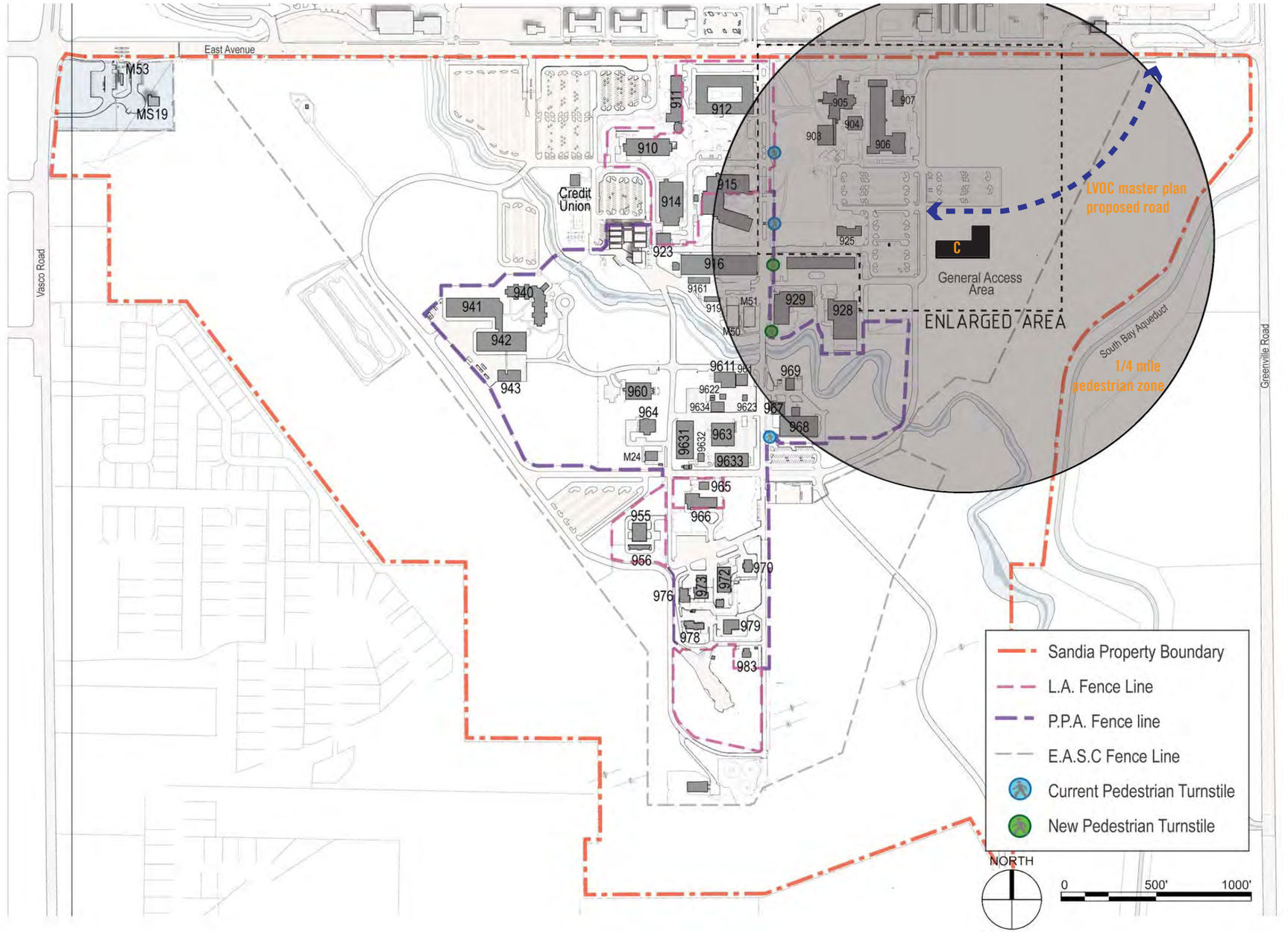
CREATE Livermore Valley Open Campus | SITE B | Dekker/Perich/Sabatini architecture interiors landscape planning engineering



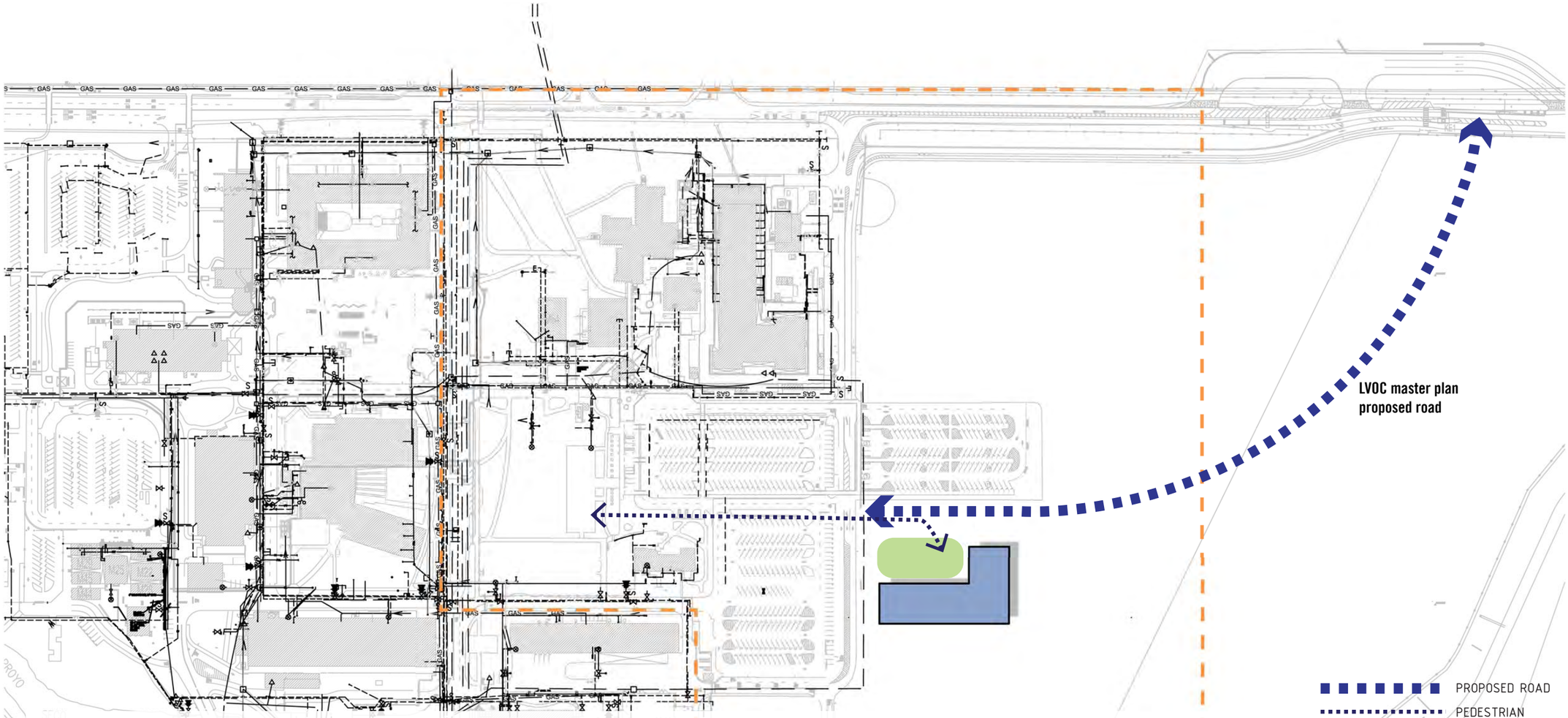
Factor		Max points	Site B
1.0	Site Location and Size	85	66
1.1	Site is of sufficent in area to accommodate planned uses	10	10
1.2	Site is located to facilitate maximum number of users inside PPA	25	15
1.3	Site is highly visible and accesible to internal users	10	8
1.4	Site is highly visible and accesible to external users	10	8
1.5	Site conforms to LVOC masterplan	15	15
1.6	Site affords developer solution options/flexibility	15	10
2.0	Site Services	60	25
2.1	Site location requires little to no extension of utilities	20	15
2.2	Site location requires replacement of existing site amenities	20	10
2.3	Impacts current farmer's market?	10	0
2.4	Requires removal and replacement of existing parking lots	10	0
3.0	Sustainability	30	25
3.1	Site affords best building solar orientation	15	10
3.2	Site provides opportunities for swales and water conservation	15	15

Factor		Max points	Site B
4.0	Attractiveness to "third party lessor"	55	40
4.1	Site provides easy access for "third party" exit strategy	15	10
4.2	Site is integrated into SNL-L site assets and access to user tenants	15	10
4.3	Risk to Security Operation	25	20
5.0	Attractivenss to SNL-L for achieving operation/site goals	60	45
5.1	Easily accessbile for maximum use by PPA occupants	15	10
5.2	Easily accessbile for maximum use by CRF private and public sector users	15	10
5.3	Meets goal of providing integrated SNL-L and private sector interface	15	10
5.4	Site creates a corporate "front door" for SNL-Livermore	15	15
	Site Totals	290	201
		100%	69%

CREATE Livermore Valley Open Campus | SITE B | Dekker/Perich/Sabatini architecture interiors landscape planning engineering



CREATE Livermore Valley Open Campus | SITE C | Dekker/Perich/Sabatini architecture interiors landscape planning engineering



Factor		Max points	Site C
1.0	Site Location and Size	85	60
1.1	Site is of sufficent in area to accommodate planned uses	10	10
1.2	Site is located to facilitate maximum number of users inside PPA	25	10
1.3	Site is highly visible and accesible to internal users	10	5
1.4	Site is highly visible and accesible to external users	10	10
1.5	Site conforms to LVOC masterplan	15	10
1.6	Site affords developer solution options/flexibility	15	15
2.0	Site Services	60	40
2.1	Site location requires little to no extension of utilities	20	10
2.2	Site location requires replacement of existing site amenities	20	15
2.3	Impacts current farmer's market?	10	5
2.4	Requires removal and replacement of existing parking lots	10	10
3.0	Sustainability	30	25
3.1	Site affords best building solar orientation	15	15
3.2	Site provides opportunities for swales and water conservation	15	10

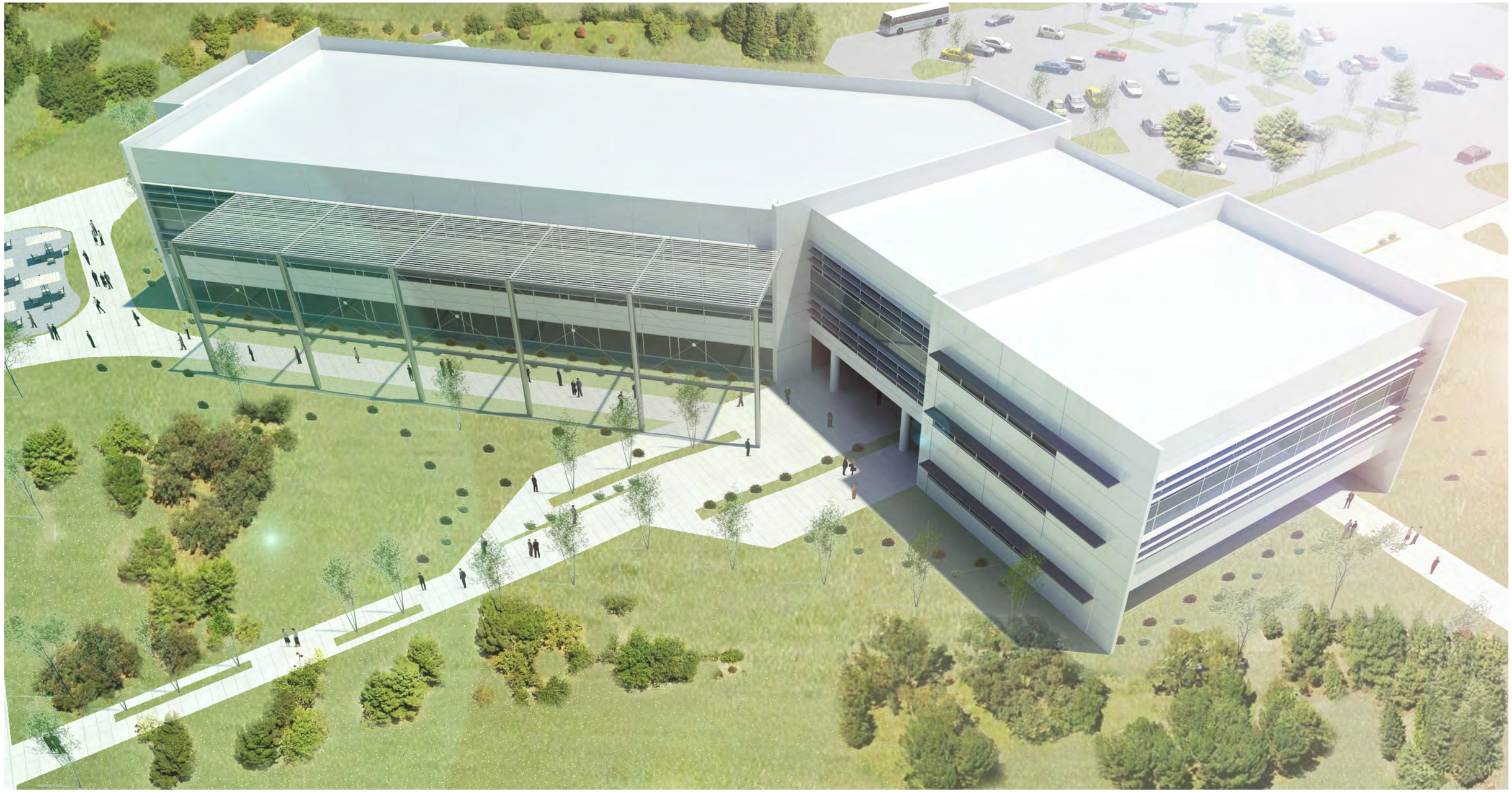
Factor		Max points	Site C
4.0	Attractiveness to "third party lessor"	55	40
4.1	Site provides easy access for "third party" exit strategy	15	10
4.2	Site is integrated into SNL-L site assets and access to user tenants	15	5
4.3	Risk to Security Operation	25	25
5.0	Attractivenss to SNL-L for achieving operation/site goals	60	30
5.1	Easily accessbile for maximum use by PPA occupants	15	5
5.2	Easily accessbile for maximum use by CRF private and public sector users	15	5
5.3	Meets goal of providing integrated SNL-L and private sector interface	15	5
5.4	Site creates a corporate "front door" for SNL-Livermore	15	15
	Site Totals	290	195
		100%	67%

CREATE Livermore Valley Open Campus | SITE C | Dekker/Perich/Sabatini architecture interiors landscape planning engineering

Renderings

Renderings

Aerial Looking Northeast



Aerial Looking Southwest

Entry Perspective

Perspective Looking Northeast

South Perspective

Detailed Facility Program & Typicals

Detailed Facility Program & Typicals

D/P/S met with the potential tenants for the CREATE project at SNL/CA on May 6th and 7th, 2013. The design team distributed a survey instrument in advance of the meetings. Each user group discussed the function of that organization, functional space requirements and adjacencies during the interviews. D/P/S then prepared space standards for workspace and support space based on the functional space requirements and SNL standards. The information collected was analyzed and sorted to create the attached program document which includes diagrams of all spaces.

CREATE Program Summary

		Move in *(Number of Staff)*		**Move in** *(Square Footage)*	
1.0	**Engineering**	**85**		**29,530**	
1.1	TRANSLATION BIOMEDICINE 8620	9		4,638	
1.2	HYDROGEN PROGRAM + ENGR. SCIENCES 8250	16		6,041	
1.3	HYDROGEN SYS. THERM. FLUIDS, ENGR SYS. 8360	40		12,670	
1.4	ENGINEERING ENVIRO PROGRAM 8240	5		1,932	
1.5	CYBER SECURITY 8900	15		4,249	
2.0	**Mission Support**	**65**		**18,226**	
2.1	VISITOR BADGE OFFICE 8511	6		4,375	
2.2	PR/ MEDIA RELATIONS/ OUTREACH 8521	5		1,820	
2.3	HUMAN RESOURCES 8522	26		6,636	
2.4	PROCUREMENT 8525	10		2,114	
2.5	BUSINESS DEVELOPMENT 8539	18		3,281	
3.0	**Campus Amenities**	**3**		**29,409**	
3.1	TECHNICAL LIBRARY	3		6,440	
3.2	FITNESS CENTER	0		8,969	
3.3	CAFÉ	0		7,875	
3.4	TRAINING/CONF CTR	0		6,125	
4.0	**Shared Support**	**0**		**8,446**	
4.1	SHARED SUPPORT	0		8,446	
Total		**153**	*people*	**85,610**	*sf*

1.0 Engineering

1.1 TRANSLATION BIOMEDICINE 8620

Contact	ANUP SANGH				
Detailed Requirements			**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER	PO.01	130	1	130	1
2. STAFF WORKSTATION	WS.01	100	8	800	8
Subtotal			**9**	**930**	**9**
Support Space					
1. BSL1 LAB	LAB.03	800	2	1,600	0
2. CONFERENCE 4-6 PERS DEDICATED	CONF.01	120	1	120	0
3. CONFERENCE 10-12 PERS ACCESS TO	CONF.02	240	0	0	0
4. CONFERENCE 30-40 PERS ACCESS TO	CONF.05	800	0	0	0
Subtotal			**3**	**1,720**	**0**
Total				**2,650** *sf*	
Circulation (40.0% avg.)				1,060 *sf*	
Bldg. Multiplier (25.0%)				928 *sf*	
Total			**12** *spaces*	**4,638** *sf*	**9** *staff*

1.0 Engineering

1.2 HYDROGEN PROGRAM AND ENGINEERING SCIENCES 8250

Contact MARY GONZALES

Detailed Requirements			**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER HYDROGEN PROGRAM	PO.01	130	1	130	1
2. STAFF WORKSTATION HYDROGEN PROGRAM	WS.01	100	5	500	5
3. L1 MANAGER ENGR. SERV. MGR	PO.01	130	1	130	1
4. STAFF WORKSTATION ENGR. SERV. FOREIGN NATIONALS	WS.01	100	4	400	4
5. STAFF WORKSTATION ENGR. SERV. MODELERS	WS.01	100	5	500	5
Subtotal			**16**	**1,660**	**16**
Support Space					
1. VISITOR/ INTERN WS HYDROGEN	VIS.01	64	4	256	0
2. HUDDLE ROOM HYDROGEN	HUD.01	64	2	128	0
3. TOUCH DOWN PROFESSORS- ENGR. SERVICES	TD.01	64	2	128	0
4. VISITOR/ INTERN WS ENGR. SERV.- SUMMER INTERNS	VIS.01	64	20	1,280	0
5. CONFERENCE 4-6 PERS ACCESS TO	CONF.01	120	0	0	0
6. COPY AREA ACCESS TO	COPY.01	48	0	0	0
7. COFFEE BAR ACCESS TO	COFF.01	48	0	0	0
Subtotal			**28**	**1,792**	**0**
Total				**3,452**	
Circulation (40.0% avg.)				1,381	
Bldg. Multiplier (25.0%)				1,208	
Total			**44** *spaces*	**6,041** *sf*	**16** *staff*

1.0 Engineering

1.3 HYDROGEN SYSTEM, THERMAL FLUIDS, ENGINEERING SYSTEM 8360

Contact ART PONTAU

Detailed Requirements			**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. STAFF WORKSTATION THERM FLUIDS STAFF	WS.01	100	18	1,800	18
2. L1 MANAGER THERM FLUIDS MGR	PO.01	130	1	130	1
3. OMA WORKSTATION THERM FLUIDS. OMA	WS.02	150	1	150	1
4. STAFF WORKSTATION HYDRO SYS STAFF	WS.01	100	18	1,800	18
5. L1 MANAGER HYRDO SYS MGR	PO.01	130	1	130	1
6. OMA WORKSTATION HYDRO SYS MGR	WS.02	150	1	150	1
Subtotal			**40**	**4,160**	**40**
Support Space					
1. HYDROGEN LAB	LAB.02	600	2	1,200	0
2. ENERGY SYSTEMS LAB	LAB.05	600	1	600	0
3. VISITOR/ INTERN WS SUMMER INTERNS UNDER ART	VIS.01	64	20	1,280	0
4. COFFEE BAR ACCESS TO	COFF.01	48	0	0	0
5. COPY AREA ACCESS TO	COPY.01	48	0	0	0
Subtotal			**23**	**3,080**	**0**
Total				**7,240**	
Circulation (40.0% avg.)				2,896	
Bldg. Multiplier (25.0%)				2,534	
Total			**63** *spaces*	**12,670** *sf*	**40** *staff*

1.0 Engineering

1.4 ENGINEERING ENVIRONMENTAL PROGRAM 8240

Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER ENGINEERING ENVIRONMENT PROGRAM	PO.01	130	3	390	3
2. STAFF WORKSTATION ENGINEERING ENVIRONMENT PROGRAM	WS.01	100	1	100	1
3. OMA WORKSTATION ENERGY SYSTEMS	WS.02	150	1	150	1
Subtotal			**5**	**640**	**5**
Support Space					
1. TOUCH DOWN ENGINEERING ENVIRONMENT PROGRAM- SNL STAFF	TD.01	64	1	64	0
2. LAB 3D PRINTER	LAB.01	400	1	400	0
3. CONFERENCE 100 PERS ACCESS TO	CONF.06	1,500	0	0	0
4. CONFERENCE 30-40 PERS ACCESS TO	CONF.05	800	0	0	0
Subtotal			**2**	**464**	**0**
Total				**1,104**	
Circulation (40.0% avg.)				442	
Bldg. Multiplier (25.0%)				386	
Total			**7** *spaces*	**1,932** *sf*	**5** *staff*

1.0 Engineering

1.5 CYBER SECURITY 8900

Contact	N/A					
Detailed Requirements				**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER	PO.01	130	1	130	1
2. STAFF WORKSTATION	WS.01	100	13	1,300	13
3. OMA WORKSTATION	WS.02	150	1	150	1
Subtotal			**15**	**1,580**	**15**
Support Space					
1. CONFERENCE 4-6 PERS DEDICATED	CONF.01	120	1	120	0
2. HUDDLE ROOM	HUD.01	64	1	64	0
3. CYBER LAB CONFIRM SIZE	LAB.04	600	1	600	0
4. SUPPLY STORAGE	SUPL.01	64	1	64	0
5. COPY AREA ACCESS TO	COPY.01	48	0	0	0
6. COFFEE BAR ACCESS TO	COFF.01	48	0	0	0
Subtotal			**4**	**848**	**0**
Total				**2,428**	
Circulation (40.0% avg.)				971	
Bldg. Multiplier (25.0%)				850	
Total			**19** *spaces*	**4,249** *sf*	**15** *staff*

2.0 Mission Support

2.1 VISITOR BADGE OFFICE 8511

Contact	LINDA SAGER				
Detailed Requirements			**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. STAFF LIVES INSIDE BADGE OFFICE	PO.00	0	1	0	1
2. BADGE STAFF 3@WS, 2@COUNTER	WS.00	0	5	0	5
Subtotal			**6**	**0**	**6**
Support Space					
1. BADGE OFFICE	BDG.01	2,500	1	2,500	0
Subtotal			**1**	**2,500**	**0**
Total				**2,500**	
Circulation (40.0% avg.)				1,000	
Bldg. Multiplier (25.0%)				875	
Total			**7** *spaces*	**4,375** *sf*	**6** *staff*

2.0 Mission Support

2.2 PR / MEDIA RELATIONS / OUTREACH 8521

Contact CATHERINE DOWSON

Note SCIENCE KITS TO BE STORED IN DIFFERENT LOCATION

Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER COMMUNICATION MGR	PO.01	130	1	130	1
2. STAFF WORKSTATION	WS.01	100	4	400	4
Subtotal			**5**	**530**	**5**
Support Space					
1. HUDDLE ROOM	HUD.01	64	1	64	0
2. VIDEO EDIT RM	EDIT.01	48	1	48	0
3. TOUCH DOWN PHOTO/ TECH WRITER	TD.01	64	2	128	0
4. GRAPHIC AREA INCL. GRAPHIC ARTIST STATION	WKRM.01	150	1	150	0
5. PHOTO ROOM	PHOT.01	120	1	120	0
6. CONFERENCE 10-12 PERS ACCESS TO	CONF.02	240	0	0	0
7. CONFERENCE 30-40 PERS ACCESS TO	CONF.05	800	0	0	0
8. COPY AREA ACCESS TO	COPY.01	48	0	0	0
Subtotal			**6**	**510**	**0**
Total				**1,040**	
Circulation (40.0% avg.)				416	
Bldg. Multiplier (25.0%)				364	
Total			**11** *spaces*	**1,820** *sf*	**5** *staff*

2.0 Mission Support

2.3 HUMAN RESOURCES 8522

Contact	KIM EDSON		**Note**	60 BOXES SNL "SWAG" STORED IN DIFFERENT LOCATION		
Detailed Requirements				**Move in**		
Area ()		**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace						
1.	L1 MANAGER Margaret and Kim	PO.01	130	2	260	2
2.	OFFICE- NON-MGR Business Partners	PO.05	100	8	800	8
3.	HR Support	WS.01	100	6	600	6
4.	VISITOR/ INTERN WS Year round interns	VIS.01	64	2	128	2
5.	OFFICE- NON-MGR Recruiting	PO.05	100	3	300	3
6.	OFFICE- NON-MGR tranining/ support	PO.05	100	1	100	1
7.	STAFF WORKSTATION training/ support	WS.01	100	1	100	1
8.	OFFICE- NON-MGR Foreign Hiring/ Investigations	PO.05	100	1	100	1
9.	OFFICE- NON-MGR HR Metrics	PO.05	100	1	100	1
10.	OMA WORKSTATION Located front and center	WS.02	150	1	150	1
Subtotal				**26**	**2,638**	**26**

2.0 Mission Support

2.3 HUMAN RESOURCES 8522

(CONTINUED)

Support Space						
1.	CONFERENCE 20-30 PPL DEDICATED WITH SINK AREA	CONF.04	600	1	600	0
2.	INTERVIEW ROOM ACCESS TO ROOMS NEAR FRONT DOOR	INTV.01	130	0	0	0
3.	HR RECEPTION	RECP.01	150	1	150	0
4.	COPY ROOM	COPY.02	120	1	120	0
5.	STORAGE AREA FOR FRIDGES, NEW HIRE SUPPLIES	STOR.01	64	1	64	0
6.	FILE ROOM- HR WITH CHECK PRINTER	FLRM.01	120	1	120	0
7.	BOOKSHELVES- HR	BOOK.01	100	1	100	0
8.	CLASSROOM 16 PERS ACCESS TO CPU-TRAINING ROOM	CLAS.01	400	0	0	0
9.	CAFÉ ACCESS TO	CAFÉ.01	4,500	0	0	0
10.	CONFERENCE 100 PERS ACCESS TO	CONF.06	1,500	0	0	0
Subtotal				**6**	**1,154**	**0**
Total					**3,792**	
Circulation (40.0% avg.)					1,517	
Bldg. Multiplier (25.0%)					1,327	
Total				**32** *spaces*	**6,636** *sf*	**26** *staff*

2.0 Mission Support

2.4 PROCUREMENT 8525

Contact LYNN MCCLELLAN

Detailed Requirements			**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER	PO.01	130	1	130	1
2. OMA WORKSTATION	WS.02	150	1	150	1
3. STAFF WORKSTATION SUPPORT STAFF	WS.01	100	1	100	1
4. STAFF WORKSTATION JR & SR BUYERS- ENCLOSED GROUP	WS.01	100	7	700	7
Subtotal			**10**	**1,080**	**10**
Support Space					
1. STORAGE ADD. STORAGE FOR STAFF	STOR.01	64	1	64	0
2. FILE AREA	FLAR.01	64	1	64	0
3. COPY AREA ACCESS TO	COPY.01	48	0	0	0
4. CONFERENCE 15-20 PERS ACCESS TO- VTC	CONF.02	240	0	0	0
Subtotal			**2**	**128**	**0**
Total				**1,208**	
Circulation (40.0% avg.)				483	
Bldg. Multiplier (25.0%)				423	
Total			**12** *spaces*	**2,114** *sf*	**10** *staff*

2.0 Mission Support

2.5 BUSINESS DEVELOPMENT 8539

Contact DEVON POWERS

Detailed Requirements			**Move in**		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. L1 MANAGER	PO.01	130	1	130	1
2. STAFF WORKSTATION TT PF	WS.01	100	17	1,700	17
Subtotal			**18**	**1,830**	**18**
Support Space					
1. BUS. DEV. FILES	FLAR.02	45	1	45	0
2. COPY AREA ACCESS TO	COPY.01	48	0	0	0
Subtotal			**1**	**45**	**0**
Total				**1,875**	
Circulation (40.0% avg.)				750	
Bldg. Multiplier (25.0%)				656	
Total			**19** *spaces*	**3,281** *sf*	**18** *staff*

3.0 Campus Amenities

3.1 TECHNICAL LIBRARY

Contact TRACY WALKER/ TIM BERG

Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Workspace					
1. STAFF SUSAN- IN LIBRARY	PO.00	0	1	0	1
2. TOUCHDOWN TIFFANY AND KAREN- IN LIBRARY	TD.00	0	2	0	2
Subtotal			**3**	**0**	**3**
Support Space					
1. LIBRARY KIOSKS,READING AREA, REFERENCE, STAFF	LIB.01	3,200	1	3,200	0
2. CONFERENCE 10-12 PERS ADJ TO LIBRARY	CONF.02	240	2	480	0
Subtotal			**3**	**3,680**	**0**
Total				**3,680**	
Circulation (40.0% avg.)				1,472	
Bldg. Multiplier (25.0%)				1,288	
Total			**6** *spaces*	**6,440** *sf*	**3** *staff*

3.0 Campus Amenities

3.2 FITNESS CENTER

Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Support Space					
1. GYM INCL 2 OPFFICES FOR STAFF, SEE TYPICAL	GYM.01	5,125	1	5,125	0
Subtotal			**1**	**5,125**	**0**
Total				**5,125**	
Circulation (40.0% avg.)				2,050	
Bldg. Multiplier (25.0%)				1,794	
Total			**1** *spaces*	**8,969** *sf*	**0** *staff*

3.0 Campus Amenities

3.3 CAFE

Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Support Space					
1. CAFÉ/ COFFEE SHOP	CAFÉ.01	4,500	1	4,500	0
Subtotal			**1**	**4,500**	**0**
Total				**4,500**	
Circulation (40.0% avg.)				1,800	
Bldg. Multiplier (25.0%)				1,575	
Total			**1** *spaces*	**7,875** *sf*	**0** *staff*

3.0 Campus Amenities

3.4 TRAINING / CONFERENCE CENTER

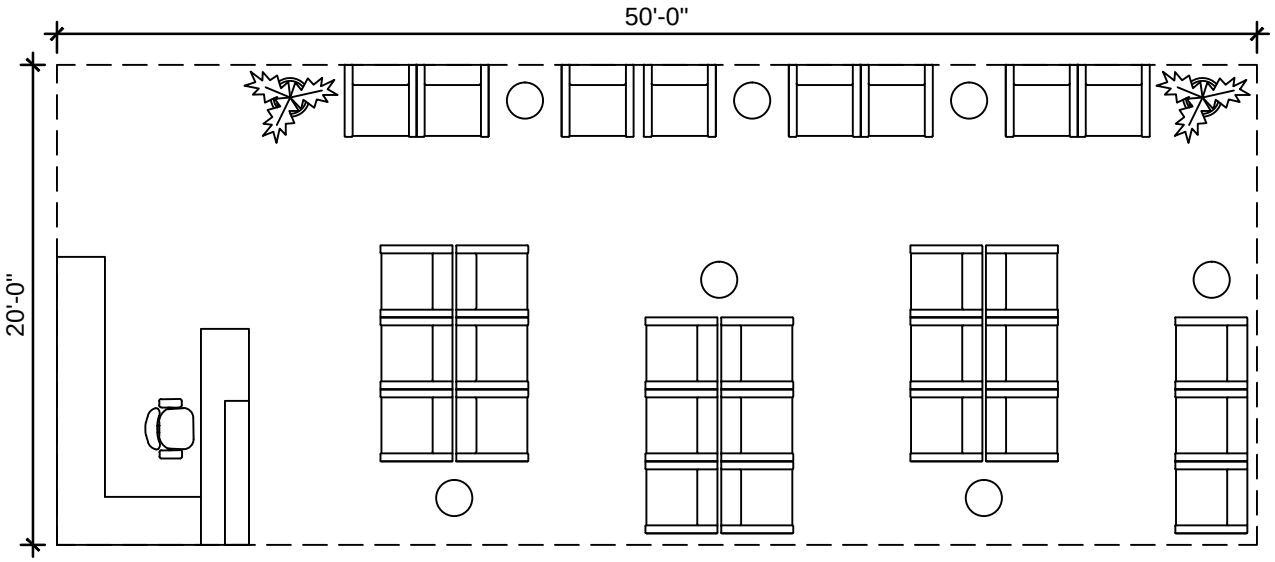
Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Support Space					
1. CLASSROOM 16 PERS COMPUTER BASED TRAINING	CLAS.01	400	1	400	0
2. CONFERENCE 30-40 PERS TRAINING ROOMS	CONF.05	800	2	1,600	0
3. CONFERENCE 100 PERS	CONF.06	1,500	1	1,500	0
Subtotal			**4**	**3,500**	**0**
Total				**3,500**	
Circulation (40.0% avg.)				1,400	
Bldg. Multiplier (25.0%)				1,225	
Total			**4** *spaces*	**6,125** *sf*	**0** *staff*

4.0 Shared Support

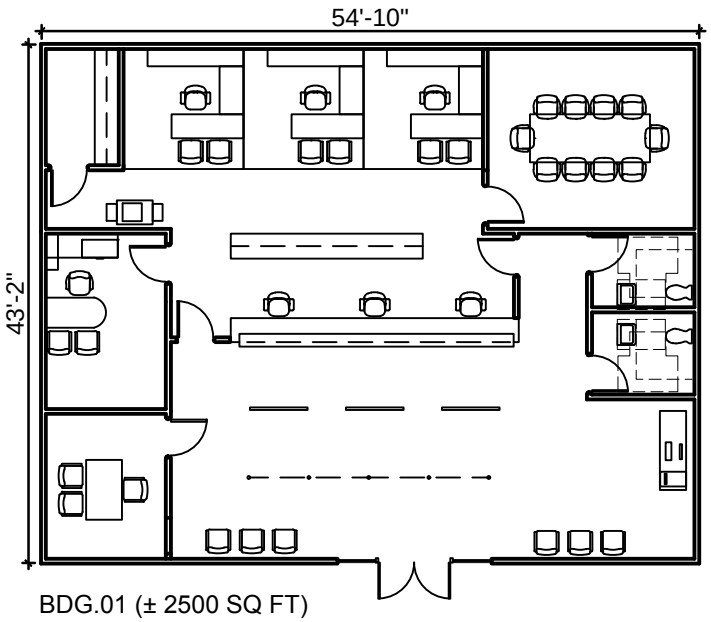
4.1 SHARED SUPPORT

Detailed Requirements			Move in		
Area ()	**Space Std.**	**Unit Area**	**Spaces**	**Square Feet**	**Staff**
Support Space					
9. INTERVIEW ROOM NEAR FRONT DOOR, COMMON USE	INTV.01	130	3	390	0
Subtotal			**3**	**390**	**0**
Shared Support					
1. WELLNESS ROOM	WELL.01	100	2	200	0
2. CONFERENCE 10-12 PERS WITH VTC	CONF.02	240	4	960	0
3. CONFERENCE 15-20 PERS	CONF.03	400	2	800	0
4. CONFERENCE 20-30 PPL	CONF.04	600	1	600	0
5. RECEIVING AREA ADJ. TO DOCK	RECV.01	300	1	300	0
6. BUILDING LOBBY	LOB.01	1,000	1	1,000	0
7. COFFEE BAR SHARED THROUGHOUT THE BUILDING	COFF.01	48	6	288	0
8. COPY AREA SHARED TRHOUGHOUT THE BUILDING	COPY.01	48	6	288	0
Subtotal			**23**	**4,436**	**0**
Total				**4,826**	
Circulation (40.0% avg.)				1,930	
Bldg. Multiplier (25.0%)				1,689	
Total			**26** *spaces*	**8,446** *sf*	**0** *staff*

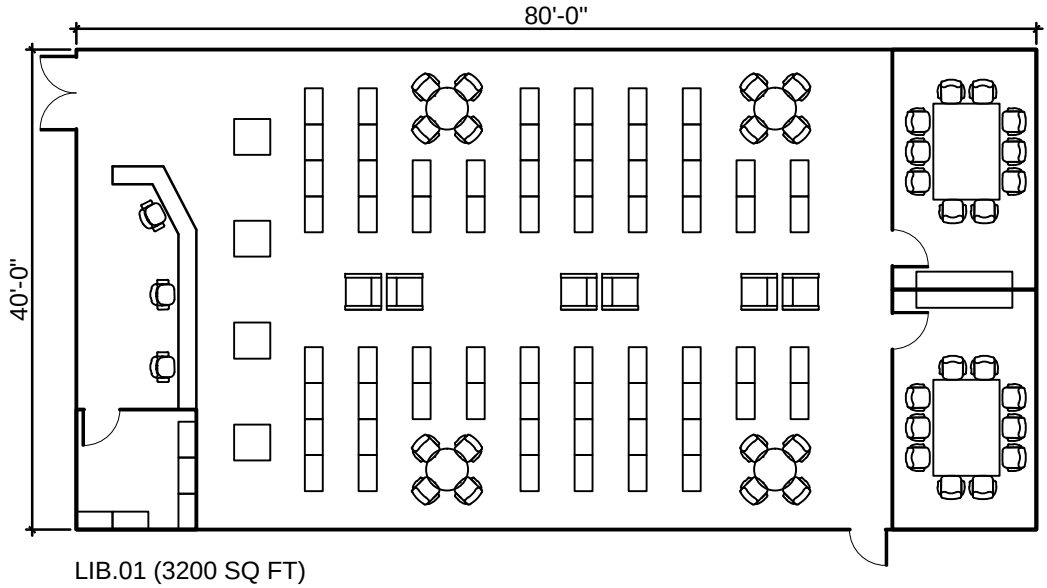
TYPICALS



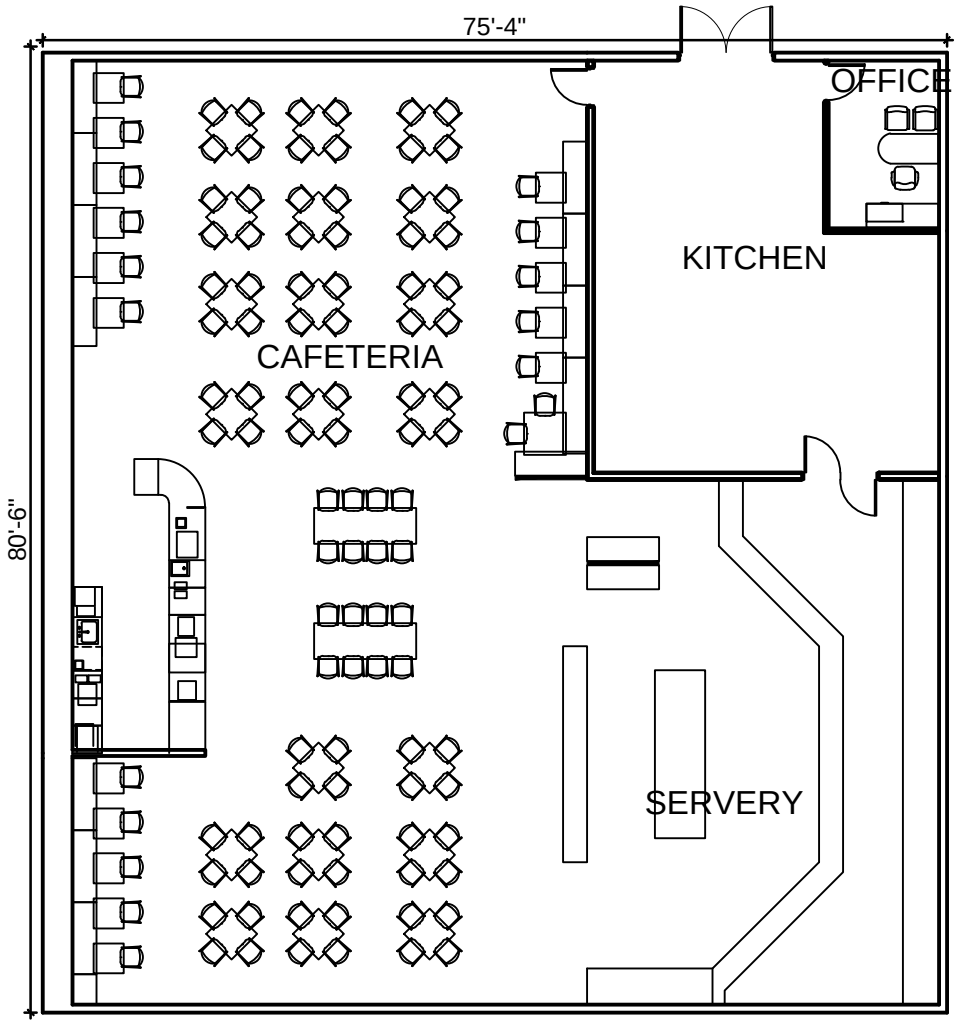
LOB.01 (1000 SQ FT)



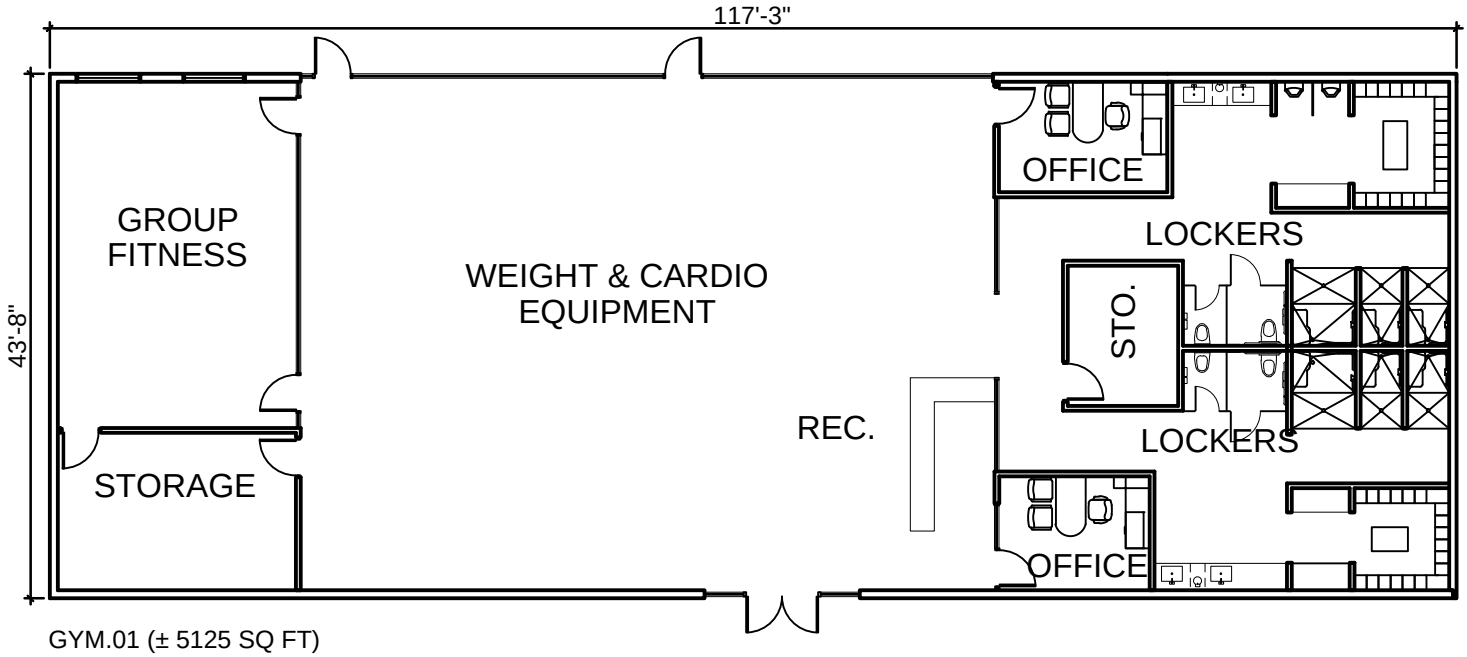
BDG.01 (± 2500 SQ FT)



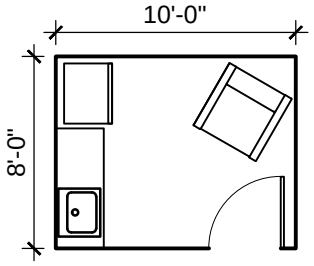
LIB.01 (3200 SQ FT)



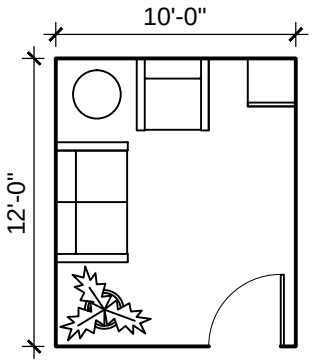
CAFE.01 (± 6000 SQ FT)



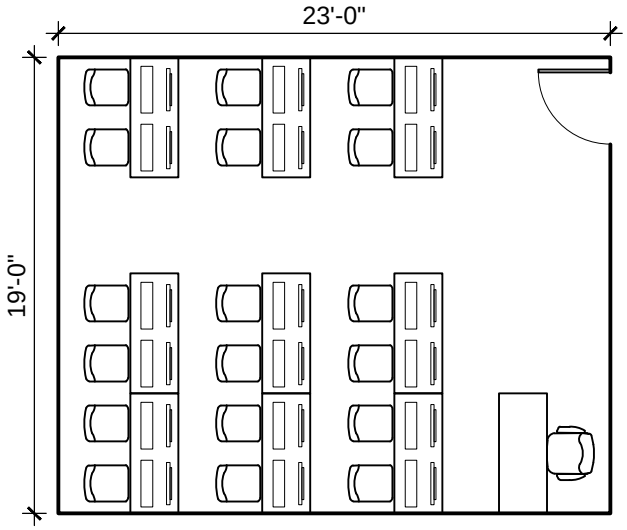
GYM.01 (± 5125 SQ FT)



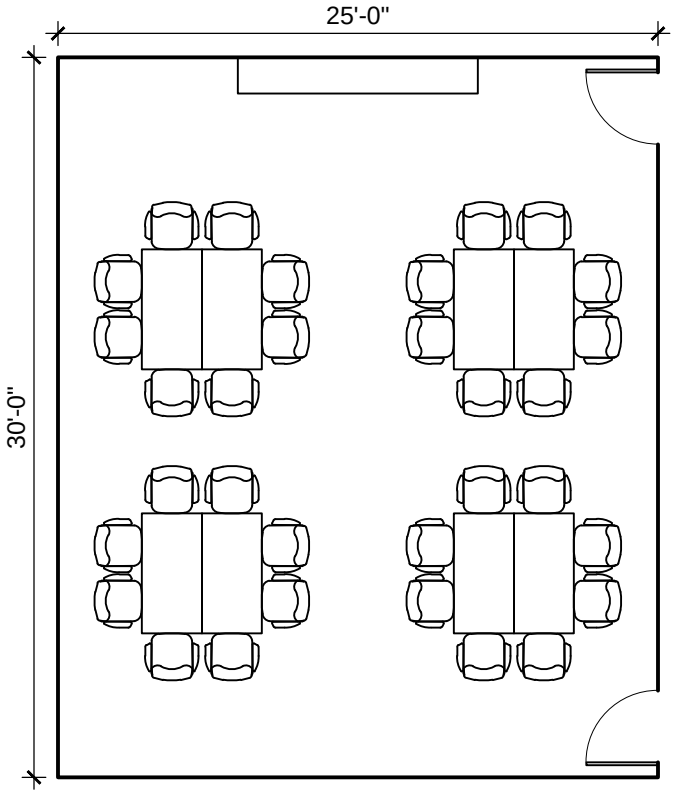
WELL.01 (80 SQ FT)



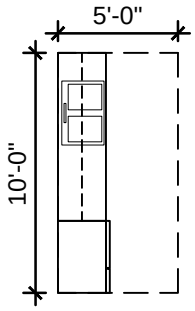
WELL.02 (120 SQ FT)



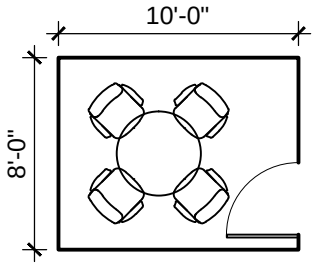
CLAS.01 (± 400 SQ FT)



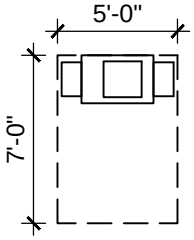
CONF.04 (750 SQ FT)



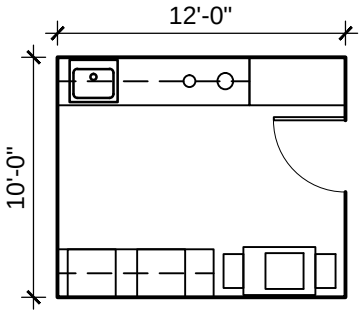
COFF.01 (50 SQ FT)



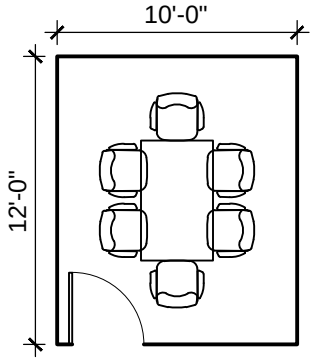
HUD.01 (80 SQ FT)



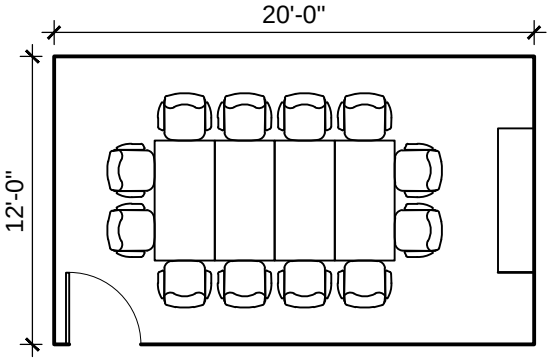
COPY.01 (35 SQ FT)



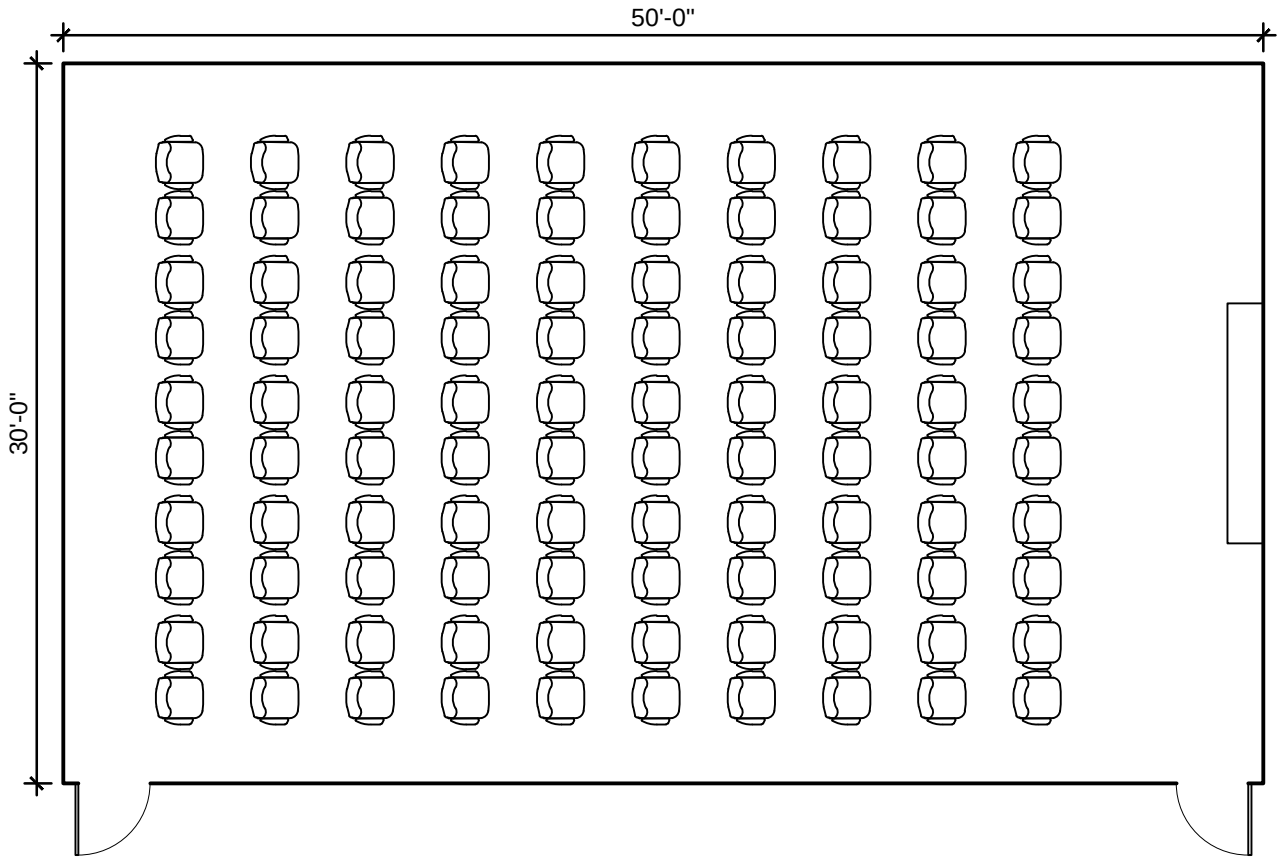
COPY.02 (120 SQ FT)



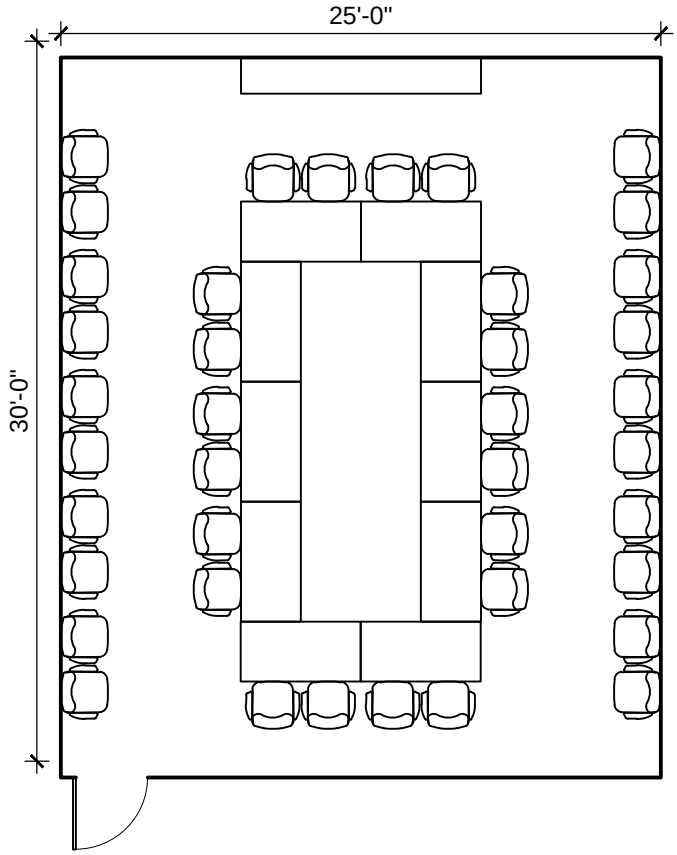
CONF.01 (120 SQ FT)



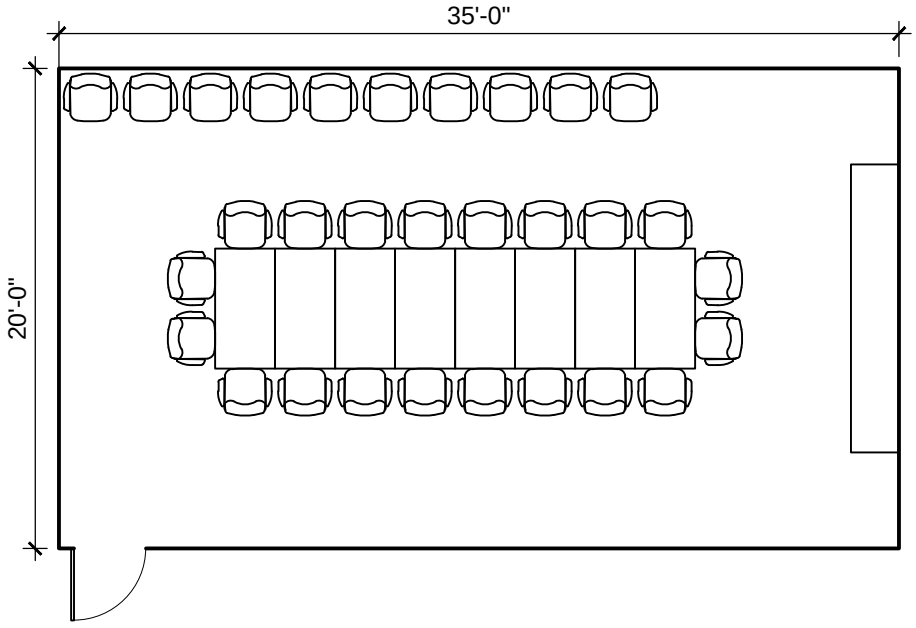
CONF.02 (240 SQ FT)



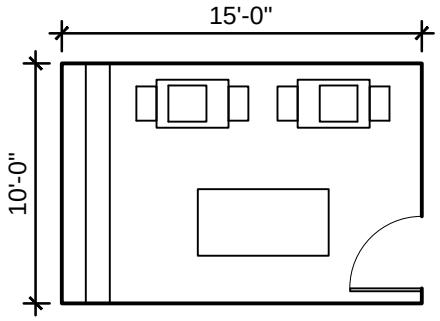
CONF.06 (1500 SQ FT)



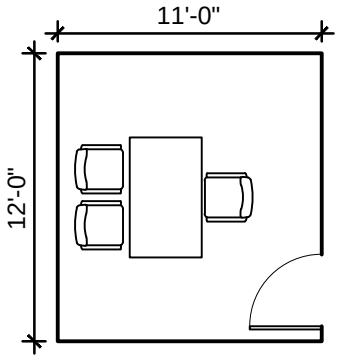
CONF.05 (750 SQ FT)



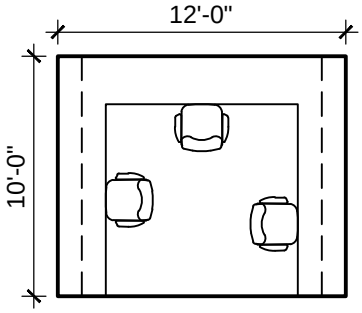
CONF.03 (750 SQ FT)



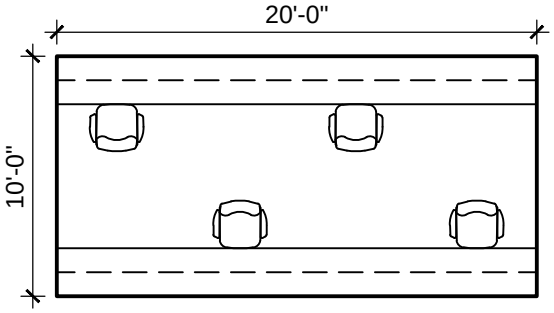
WKRM.01 (150 SQ FT)



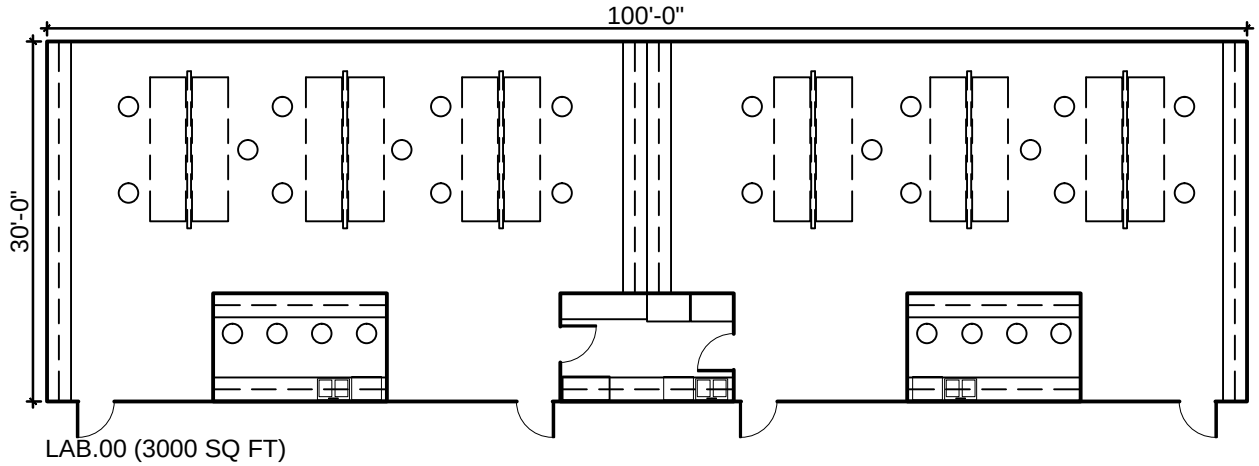
INTV.01 (132 SQ FT)



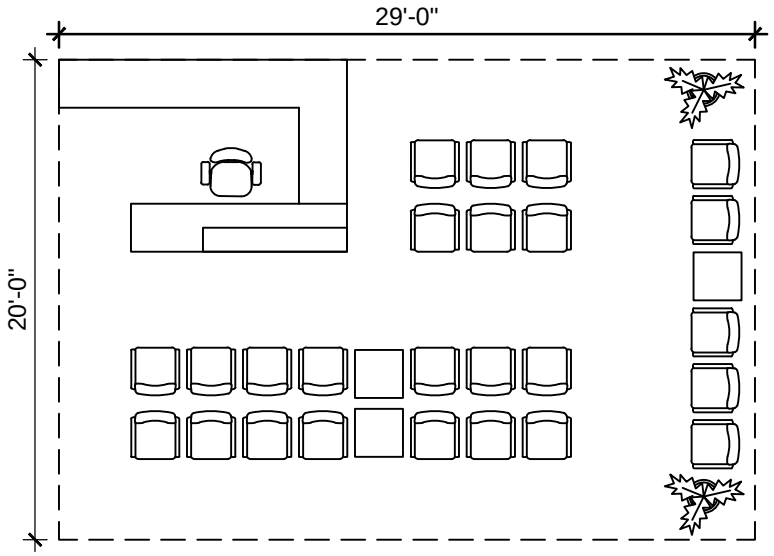
LAB.00 (132 SQ FT)



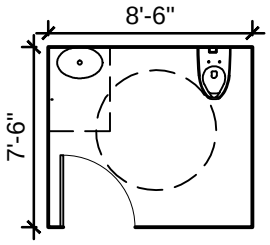
LAB.00 (200 SQ FT)



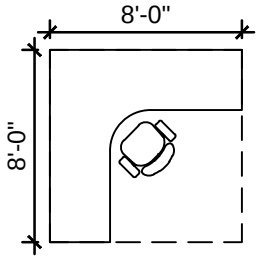
LAB.00 (3000 SQ FT)



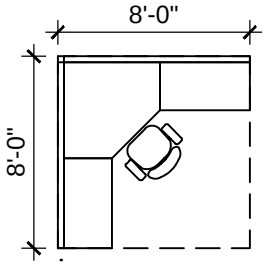
RECP.01 (580 SQ FT)



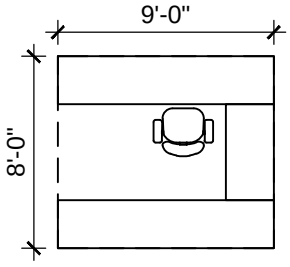
RRM.01 (63.75 SQ FT)



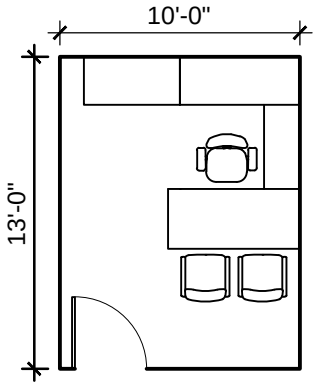
TD.01 (64 SQ FT)



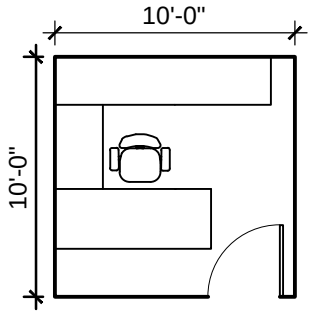
VIS.01 (64 SQ FT)



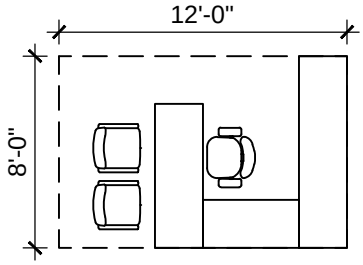
VIS.02 (72 SQ FT)



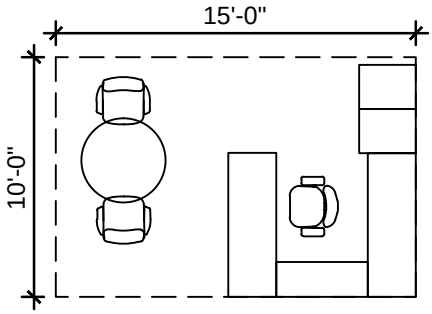
PO.01 (130 SQ FT)



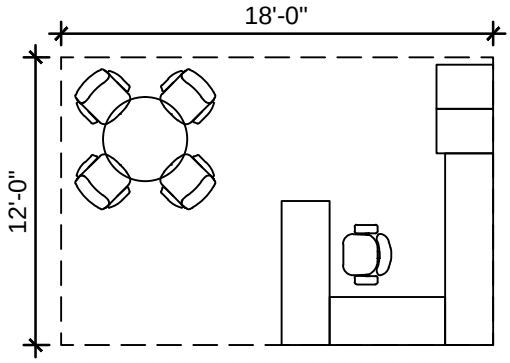
PO.05 (100 SQ FT)



WS.01 (96 SQ FT)



WS.02 (150 SQ FT)



WS.04 (216 SQ FT)

BRIDGERS & PAXTON
CONSULTING ENGINEERS, INC.

Dekker/Perich/Sabatini
architecture interiors landscape planning engineering

dpsdesign.org