PennState
Physical Plant

Office of Physical Plant
Physical Plant Building
University Park, PA 16802-1118

Date: April 26, 2019

Subject: **Request for Proposals (RFP) – Architect/Engineering (A/E) Team Selection**
Liberal Arts Research and Teaching Building (LARTB)
University Park, PA

To: Bohlin Cywinski Jackson (BCJ)
ENNEAD Architects LLP (ENNEAD) + Bower Lewis Thrower Architects, Ltd. (BLTa)
Frederick Fisher and Partners (FF&P)
FXCollaborative Architects, LLP
Grimshaw Architects
Henning Larsen and DLR Group
Jacobs Engineering Group, Inc. (Jacobs)
KieranTimberlake
Kohn Pedersen Fox Associates PC (KPF)
The S/L/A/M Collaborative, Inc. (SLAM)
WILSON HGA
ZGF Architects LLC (ZGF)

REQUEST FOR PROPOSALS - PART 1
PROJECT INFORMATION and OWNER REQUIREMENTS

The Pennsylvania State University (PSU) wants to thank the 54 A/E teams that submitted Letters of Interest for this important project. After careful review of the submitted Letters of Interest, PSU would like to congratulate the above **12 teams** who were selected to continue to the next step in the process; invitation to respond to this Request for Proposal (RFP).

The A/E Selection process is as follows. **Proposal responses are due in my office by Noon on May 16, 2019.** The Screening Committee will review the Proposal responses to determine the Short-list of three (3) teams to continue to the next stage in the process. On, or before **May 31, 2019** the Short-List/ Interview Notice will be posted to this website. **In-person interviews will occur on June 26, 2019 at The Penn Stater Hotel and Conference Center in State College, PA. Please plan accordingly, this date will not change.** Non-Binding Fees for your entire A/E Team will be requested of the three Short-Listed teams, which will be due just prior to the in-person interviews. The results of the A/E Team selection process will be announced at the Board of Trustees meeting on **July 19, 2019** and will be posted to this website.

Participation in this RFP and selection process is voluntary and at no cost or obligation to PSU. PSU reserves the right to waive any informality in any or all Proposals, and to reject or accept any Proposal or portion thereof. PSU reserves the right to modify dates as/if it deems necessary.

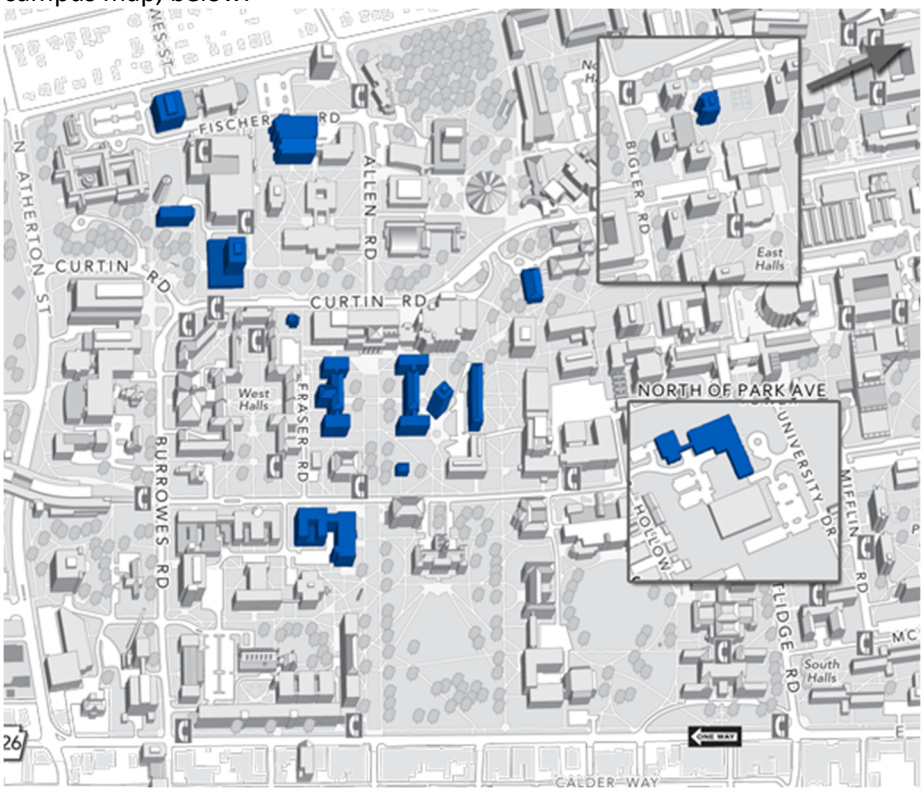
Confidentiality and Non-Disclosure. News releases pertaining to this project will not be made without prior approval from PSU, and then only in coordination with PSU. The contents of all A/E selection process correspondence are to remain confidential, and as such, not be made public.

A. PROJECT OVERVIEW

This project creates the new home to a number of the departments within the College of the Liberal Arts and for the Population Research Institute and School of International Affairs. The completed facility seeks to be a "Hub for Social Sciences at Penn State". With the assistance of this project, the College and affiliated units, will continue to be recognized as a leader in education and research.

PSU's College of the Liberal Arts is one of the premier Liberal Arts institutions in the world and contains numerous top ten nationally ranked programs. Penn State is currently ranked fifth by the Consortium of Social Science Associations (COSSA) in federal dollars for social and behavioral science research. Most importantly, research done by faculty in Penn State's College of the Liberal Arts has positive effects on the lives of people everywhere, thus fulfilling the promise of a land grant university and achieving the highest aspirations of scholarly work. More information regarding the College of Liberal Arts can be found at www.la.psu.edu.

The College of the Liberal Arts spans 14 buildings throughout the University Park campus- see campus map, below.



Among the prominent Departments in the new building are the number one ranked Anthropology Department and the highly-ranked and research-active Department of Sociology and Criminology.

Anthropology is the study of human diversity, cultural complexity, and evolution. Our transdisciplinary program at Penn State integrates social and evolutionary approaches to understand variability in the human condition and address fundamental challenges we face in the world today.

Penn State Criminology is one of the nation's top programs in this area. Our undergraduate program promotes an understanding of crime and the criminal justice system and how they are related to

human behavior, social environments, and government policy. The graduate program provides training in theory, methods, statistics, and substantive issues related to criminology, and all students received extensive mentoring from department faculty.

Ranked among the top programs in the nation, Penn State Sociology offers undergraduate students a broad liberal arts education with courses in family, religion, government, and race, class, and gender, among other areas. The graduate program provides academic rigor with the flexibility to study a wide range of topics, and faculty advisors actively mentor and guide students through their intellectual development.

The School of Public Policy in Penn State's College of the Liberal Arts brings together expertise from across the University to educate the next generation of problem solvers and leaders.
From climate change to health care, there are some big questions to answer and some significant challenges to address. Public policy tackles them by creating professionals who can unite subject matter experts and decision makers at all levels of government. The flexibility of Penn State's Master of Public Policy program allows students to choose an existing specialization or design a concentration to meet their career goals. Current focus areas include data/science analytics, health policy, children and family policy, labor and employment relations, information technology, international policy, and criminal justice.

In addition to finding efficiencies/synergies between the various programs planned for the new building, the new LARTB will help PSU address major deferred maintenance backlog, through the demolition of the existing Oswald Tower and removing labs, and other high-intensity uses, out of the Carpenter Building.

B. PROJECT-SPECIFIC INFORMATION AND PROGRAM

The new LARTB has now been approved as a new freestanding facility with an anticipated Total Project Cost of $112.6M and is 134,800 gross square feet (gsf) / 87,600 assignable square feet (asf). This breaks down as follows: $82M Total Construction Cost (including demo of Oswald), $22.3M soft costs and owner contingency, $8.3M for Furniture, Fixtures and Equipment (FF&E).

An increase to the project size and budget has been formalized, as the project was previously $92M and 110,000 Gross Square Feet. The project funding was identified in PSU's 2018-2023 Five Year Capital Plan. The building will contain general-purpose classrooms, instructional laboratories, dry (data driven) and wet (fume hood) research space, museum/collections space, faculty and graduate student offices, and administrative support areas. The various Departments identified in the building program will be relocated from their current locations, in various other facilities, into the new building upon completion. No project swing space will be required.

The new building will be located on a prominent "campus edge" site, located between the Donald H. Ford Building and Mateer Building, along W. Park Ave. The site offers visual opportunities of the building on numerous sides. Site constraints and opportunities include: Proximation to other Liberal Arts programs; existing campus buildings (including the tall, adjacent Ford Building); active existing pedestrian pathways and road network; "campus edge" condition; limited area for service access; a number of mature trees on the site; building setback requirements and height limitations.

PSU will email a diagram showing the site's zoning and setback requirements to the Long-Listed teams, which is our interpretation of the University Planned District (UPD) Subdistrict. The file is

titled: *LARTB Site Zoning Conditions.* The selected A/E team would work with PSU and the local municipalities to verify and/or clarify this UPD interpretation.

A Building Programming Document (including project goals/narratives, tabular programs, room data sheets, and utility scoping information) was completed in March 2015. Since 2015, among other changes the project, the project site has changed, and three additional programs have been added to the building. So, various aspects of this RFP supersede the 2015 Program, including: project size; site; and program. An excerpt of this Program document is provided for your reference: "*New Social Sciences Building - Program Statement*", dated March 16, 2015.

The Program Breakdown by Department/ Unit is as follows:

Original Program (from 2015)	
General-purpose classrooms	10,600 asf
Sociology and Criminology	16,240 asf
Population Research Institute*	5,795 asf
Anthropology	30,180 asf
Shared collaboration / instructional	8,725 asf
Added Programs (in 2019)	
Political Science	11,300 asf
School of Public Policy	1,500 asf
School of International Affairs*	3,260 asf
Total:	87,600 asf

*Units are affiliated with, but not formally within, the College of the Liberal Arts

The three *Added Programs, above,* have not been programmed yet. Programming those elements and doing a thorough program validation of the entire program will be the responsibility of the selected A/E Team. Refer to RFP *Part 1, Section D - PROJECT DELIVERY METHOD and PROJECT DELIVERY REQUIREMENTS* - for more info.

A critical role of the selected A/E Team will be to work with PSU and project stakeholders to finalize the project goals and then work to deliver a new facility that meets these goals.

The project goals are expected to include the following (refined since the Request for LOI):

1. Create a great place for Penn State students and faculty, a "Hub for Social Sciences", that helps to expand their skills and enhances their experience at the University. Centralize and inspire closer connections between several related College of the Liberal Arts Departments - Anthropology (currently located in Carpenter Building), Sociology and Criminology (currently in Oswald Tower Building), Political Science and School of Public Policy (currently in Pond Lab); as well as associated Departments of the Population Research Institute (Oswald Tower) and the School of International Affairs (Lewis Katz Building). We seek an A/E team who can create and test building planning and programming concepts to better clarify and then drive to support this goal.

2. Provide flexible, state-of-the-art instructional and research laboratories and to support applied learning and cutting-edge research. Provide new general-purpose classrooms, and related informal learning spaces, that support problem- and discovery-based learning and

emerging pedagogies. Develop shared collaboration and instructional spaces to inspire closer connections between departments.

3. The building will be a welcoming place that is accessible to all and a place where all people are comfortable and not intimidated. In the design, consider strategic use of exterior/interior transparency to showcase unique aspects of the building and/or to entice people into the facility.

4. Provide a facility to strengthen the College's educational programs and to efficiently address spatial deficiencies, both in quality and quantity of space. PSU is seeking architecture and programming consultants that can drive our formation of optimal grossing factors and teams that innovate efficiencies in the planning and design of similar facilities.

5. Improve access, visibility, and enhance the role of the Matson Museum of Anthropology within the College/University to support teaching/learning and expand research exhibitions to reach a broader audience.

6. Especially given the prominent core campus and campus edge site location, the building should be a positive contributor to the campus and broader master plan, both short- and long-term.

7. In keeping with Penn State's commitment to environmental sustainability, this facility will be a high- performance building and will, at a minimum, attain LEED Certification. The project may consider additional sustainability or high-performance innovations.

C. A/E TEAM SELECTION PROCESS and PROJECT SCHEDULE MILESTONES

• **RFP Issued to Long-Listed Teams:**	**April 25, 2019**
• Optional Site Tours:	To be determined
• **Submission of A/E Proposals Due:**	**Noon (Eastern Standard Time) on May 16, 2019**
• Post Short-List results + Interview notice:	May 31, 2019
• **A/E Team Interviews:**	**June 26, 2019 (The Penn Stater in State College PA)**
• Board of Trustees Selection of Team + website notice of results:	July 19, 2019
• **Contract Award / Letter of Intent:**	**August, 2019**
• Construction Start Date	August, 2021
• **Construction Completion**	**July 2023**
• Final Occupancy	August to September, 2023
• **Oswald Tower Abatement / Demolition Start Date**	**September 2023**
• Oswald Tower Demolition / Site Restoration Complete	May 2024

D. PROJECT DELIVERY METHOD and PROJECT DELIVERY REQUIREMENTS

Penn State University and the Office of the Physical Plant (OPP) require a high level of collaboration and LEAN principles to ensure project success. **The final selected A/E design team must establish a process for the design, documentation, and execution of the project.**

PSU anticipates executing the Architect-Engineer contract shortly after confirmation at the **July 2019 Board of Trustees meeting.** Construction is anticipated to begin in **August 2021,** with planned occupancy of the new building between **August and September 2023.**

The successful A/E Team will work in conjunction with PSU's selected third-party Construction Manager (CMaR) throughout the design and construction phases. The A/E team and CMaR will separately develop parallel cost estimates, which will be reconciled at the end of project phases. Confirmation of being within the project budget is required before PSU will allow the A/E Team to proceed to each subsequent project phase. Design-Assist construction partners are anticipated for this project.

The selected A/E Team will begin this project with a validation of the aforementioned program. The program to verify will include tabular/space program, space adjacency diagrams, site impact diagrams, and room data sheets that provide detailed room-by-room info. PSU will work with the selected A/E to determine the level of program validation required. Depending on the approach of the specific design team, the program validation phase could be combined with a Concept Design or Schematic Design Phase. We are interested in finding synergies and space/planning efficiencies between the programs in the building, especially since the three *Added Programs* (listed on the Departmental Program, above) has not been programmed and could require more space than currently envisioned.

After program validation, PSU typically follows industry-standard design Phases (Schematic Design, Design Development, Construction Documents, Bidding Phase, and Construction Administration) in accordance with Penn State's standard 1-P agreement. **If your team proposed altering these project phases to meet the project's schedule, describe this in Proposal Section 3.** The project budget and cost estimate(s) are aligned before advancing to the next phase of the project.

Given the importance of this project, Penn State will require at least three (3) distinct design options be developed for PSU's review and approval. These options will be developed at least to a Concept Design level and may be developed Schematic Design level. We ask that you describe your approach to developing options in Proposal Section 3.

It is important to note that PSU has created a Project-specific Building Systems and Utility Scoping Document for the project, titled: *"SCOPING DOCUMENT".* This document will be emailed to the Long-Listed Teams.

E. RFP ATTACHMENTS and PENN STATE STANDARDS

- **Excerpt from the Program Document**, titled "*New Social Sciences Building - Program Statement", dated March 16, 2015.*
- **Project-specific Building Systems and Utility Scoping Document**, titled "*SCOPING DOCUMENT", dated December 18, 2018.* This will be separately emailed to the Long-Listed firms.
- **LARTB Site Zoning Conditions.** This will be separately emailed to the Long-Listed firms.
- **Form of Agreement.** Included is the link to our Form of Agreement 1-P: https://wikispaces.psu.edu/display/OPPDCS/Division+00+-+Procurement+and+Contracting+Requirements.

Please review this agreement to ensure that your firm accepts all terms and conditions as written. In submitting a proposal for this project, you acknowledge that you concur, without exception, with all terms, conditions and provisions of Form of Agreement 1-P.

- **Design Phase Deliverables.** Reference this document under the heading *00 51 00 MISCELLANEOUS FORMS* at the following link: https://wikispaces.psu.edu/display/OPPDCS/Division+00+-+Procurement+and+Contracting+Requirements

- **Office of the Physical Plan (OPP) Standards.** The web sites www.opp.psu.edu and https://wikispaces.psu.edu/display/OPPDCS/Design+and+Construction+Standards provide information regarding specific design submission requirements and standards, of the University. Please review to ensure that your team is able to deliver a compliant building.

- **OPP High Performance Standards.** The University has a commitment to environmental stewardship with a focus on University and campus-wide carbon reduction and total-cost-of-ownership. Our projects require maximum consideration of potential sustainable and energy-efficient designs and specifications for architectural, site, utility, structural, mechanical, electrical, and plumbing disciplines. Refer to the following link for the University's high performance standards that exceed building code minimum requirements: https://wikispaces.psu.edu/display/OPPDCS/01+80+00+PERFORMANCE+REQUIREMENTS

  A part of this is PSU's High-Performance Building Design Standards: Building projects shall comply with ASHRAE Standard 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings, 2010 version AND as superseded by more stringent requirements of ASHRAE Standard 189.1 Standard for the Design of High-Performance Green Buildings, 2011 version. The standard defines a minimum requirement of LEED Certified for this project. The project will consider additional sustainability or high-performance measures and innovations.

F. SITE TOURS AND PRE-PROPOSAL SUBMISSION CONTACT

We encourage you to visit the campus and proposed project site. In order to further allow the A/E Teams to discuss the project with representatives of the user group(s), we will schedule site tours of the non-public existing spaces. We encourage you to also visit the new project site and other publicly accessible spaces on your own time.

The tours are not mandatory, and the tour dates are being finalized. Teams will be allowed to bring three (3) people maximum to the tour. Contact Facility Project Manager Chad Spackman (cws4@psu.edu), as soon as possible, to schedule a tour date.

Also, contact Chad Spackman with any additional questions regarding the project or the project program.

Contact Greg Kufner, University Architect, for any questions related to campus planning, design, or general questions on the A/E selection process questions.

Please do not wait until the tours to ask any questions that may be time-sensitive to your Proposal submission.

REQUEST FOR PROPOSALS - PART 2
PROPOSAL REQUIREMENTS

Deliver fifteen (15) hard copies of your proposal and one (1) digital copy on a thumb drive to:

Shipping Address (Note that this address has changed):
Greg Kufner, AIA, NCARB
The Pennsylvania State University
One Benedict House
University Park, PA 16802

Hard copies of your Proposals are due May 16, 2019 at Noon, Eastern Standard Time. A PDF version of your proposal should be included on a thumb drive with your submission. Proposals received after this date and time may be automatically rejected. Proposals shall be provided in an 8.5"x 11" format. Limit submission to fifty (50) single-sided pages maximum (25 double-sided), plus two-page cover letter. Double-sided printing is encouraged. 10-point type minimum font.

A cover letter shall be provided from the proposed leader of the Prime (contract holding) A/E Team. The cover letter should be two-page maximum. The cover letter should include, at least, the following:

A. Legal name of the Prime A/E Team. If separate, legal name of Architect of Record (stamping)
B. Primary office location of Prime A/E Team and Architect of Record, if applicable
C. Contact information for A/E team's main point of contact (name, address, phone, and e-mail)
D. A concise summary as to why your team is best suited for this project
E. Statement of certification that all information provided in your submittal is accurate

Collate and bind proposals according to the following Proposal Sections:

Proposals shall follow the below format, in the order stated to ensure that all pertinent information necessary for evaluation is included and easily comparable by Selection Committee. The cover letter, table of contents, and divider pages will not count towards the RFP page limitation. **We encourage you to be as brief as possible without sacrificing accuracy and completeness.**

* **Note 1: As applicable throughout the proposal, provide professional credit to architectural partners (including design architect, architect of record, academic/lab planning partners) for all projects discussed within the proposal and for all project images shown.**

PROPOSAL SECTION 1 – TEAM STRUCTURE

A. Identify your entire proposed design team including: Prime (Contract Holding) firm, Lead Design firm (if different), architectural partners (as applicable), building system engineering firms, lab/academic planning consultants, and proposed specialty consultant firms. **If your team proposes an architectural partner – either as an Architect of Record (stamping architect) or Associate Architect (where the Prime firm remains lead designer and Architect of Record) – identify the roles and split/ sharing of project responsibilities for all firms involved.** As you finalize your proposed team, please note that it is required that a Pennsylvania registered architect stamp the final construction and bidding documents.

Provide insights into the firm's unique qualifications/ characteristics, firm personality, design ethos/ philosophy, client notations of previous project success, etc.

For each firm, identity the firm differentiators, size of firm, each firm's qualifications and experience on similar projects, and clearly identify each firm's role on this project. Identify past collaboration between prime firm and key engineers/consultants, including number/ value of projects, and the added benefit the key consultants provide to your team. It is encouraged to create A/E teams that demonstrate previous successful collaboration and execution of projects similar to this project. While we appreciate firms with experience at PSU we do not have a preferred vendor list and encourage the selection of high-quality engineers and specialty consultants. If proposed architectural/engineering/consultant firms do not have PSU experience, convey how your team has previously incorporated owner's design standards similar to the Penn State Design and Construction Standards.

B. **Provide team organizational chart.** Include all firms and consultants and provide the name and role of key team members. Clearly identify which team members are designated for leadership positions on the team. Please highlight Diverse Business Enterprise Program (DBE) representation on your team. Refer to RFP Section 2.F., below.

C. **Provide role descriptions and resumes of key team members identified in the Organizational Chart**. Include registrations/ certifications, educational background, years of experience, and relevant project experience. Relevant project experience should include project size/cost, program type, project overview, and define what each team member's role was on each project listed on their resume. Emphasize each team member's most relevant experience and ideally highlight that the team member has had comparable roles on similar projects. Include at least two client references for each key team member. If possible, please avoid using Penn State employees as references. **Include resumes for, at least, the following key team members. If individuals are serving multiple roles, identify multiple roles on Organization Chart and on resumes.**

1. Principal in Charge (Project Team Lead)
2. Lead Design Architect (Lead Designer)
3. Project Manager (PSU's day-to-day point of contact)
4. Project Architect (Architectural Technical Lead)
5. Construction Administration Leader (Construction oversight leader)
6. Lab Planner and/or academic programmer/planner
7. Lead Interior Designer
8. Lead Landscape Architect
9. Sustainability Leader and/or energy modeler
10. Lead Mechanical, Electrical, Plumbing/FP, Structural, Civil, design engineers
11. Cost Estimator

PROPOSAL SECTION 2 – TEAM QUALIFICATIONS

A. Provide a summary of qualifications and expertise of the firms with specific emphasis on:

1. Design Excellence, including national recognitions.
2. Distinguishing factors of team differentiation.
3. Experience delivering programs, studies and projects of a similar scope, scale, and complexity. **(See Note 1)**

4. Expertise in the planning, design, and delivery of state-of-the-art academic, research, and workplace facilities. Highlight team experience and/or insights into Liberal Arts, Social Sciences, and programs related to those envisioned in LARTB. **(See Note 1)**

B. **Identify a maximum of <u>ten (10) example projects</u> within approximately the last ten (10) years, which BEST exemplify qualifications and expertise listed above for the proposed team.** Include brief description of each project, project gross square feet, project budget, final project cost, and completion date of project and a client reference(s). **Show illustrative representation of the example projects, particularly those highlighting the work of your team's proposed Lead Design Architect, captions encouraged. (See Note 1)**

   (Optional) If important to your team, discuss any of the example project(s) that are highly relevant to our project, in more detail. Include insights into what made these project(s) successful, including how those design intentions were translated into a meaningful and synthesized/successful solution.

C. **Project Relevancy Matrix.** Develop a matrix that illustrates the similarities between the example projects and this project. Please be as specific to our project, as possible.

D. **People-Projects Matrix.** Develop a matrix to show the participation of key individuals from your proposed team on the example projects. List individual's role on example projects.

E. **Diverse Business Enterprise.** The Pennsylvania State University is committed to and accountable for advancing diversity, equity, and inclusion in all of its forms. Therefore, we encourage the participation of Minority Business Enterprises, Women Business Enterprises, Veteran Business Enterprises, Service-Disabled Veteran Business Enterprises, and LGBT Business Enterprises (collectively referred to as Diverse Business Enterprise (DBE) for Design Professionals.

   Submitting A/E team are encouraged to include at least one (1) certified DBE design professional firm as part of their team. If the proposing firm itself is a current Diverse Business Enterprise, the firm should state that fact in their proposal. Below is a partial list of acceptable certifying agencies:

   1. * Department of General Services Bureau of Small Business Opportunities (DGS BSBO)
   2. Federal Department of Transportation
   3. National Minority Development Council (NMSDC) or its affiliates
   4. Southern PA Transportation Authority (SEPTA)
   5. Women Business Enterprise National Council (WBENC)
   6. Pennsylvania Unified Certification Program (PA UCP)
   7. National Women Business Owners Corporation (NWBOC)
   8. Minority Business Enterprise Council (MBEC)
   9. National Gay and Lesbian Chamber of Commerce (NGLLC)
   10. U. S. Department of Veteran Affairs (VOB/SDVOB)

   * Or comparable state agencies or regulating bodies in other states or local jurisdictions.

F. List errors and omissions insurance coverage limits of the lead/ prime entity of the candidate team. Provide information on errors and omissions claims in the last (7) seven years.

G. Provide historic breakdown of project performance for Prime Firm and Architect of Record (as applicable). Include list of projects, delivery method, history of project budgets compared to completed construction cost, history of change orders, average response time to RFIs, and any other key project metrics you deem most relevant to this project.

H. Acknowledgment of your review and acceptance of the attached Form of Agreement 1-P, ensuring that your firm accepts all terms and conditions as written. In submitting a proposal for this project, you concur, without exception, with all terms, conditions and provisions of this Form of Agreement.

PROPOSAL SECTION 3 – PROJECT APPROACH AND SCHEDULE

A. **Describe your team's proposed design approach for this project. Given the importance of this project, the awarded A/E team would be required to provide at least three (3) distinct design options be developed for PSU's review and approval.** Options will be developed at least to a Concept Design level and could be developed to Schematic Design level. Be as specific to our project as possible. Discuss, at the least, your approach to the following:

1. Project visioning and project mission/goal setting. And, your approach to then establishing a design process that works to achieve the project vision and goals.
2. Validating the project program and gaining knowledge of the project brief. Additionally, describer any programming/building planning tools, benchmarking tools, and/or other firm-specific methodologies to assist in the design of our project.
3. How the initial project phase leads into the Concept Design and/or Schematic Design Phase of the project.
4. Developing building planning options and/or overall building design schemes. Approach to developing programmatic 'blocking and stacking' options that explore gallery and/or programmatic adjacencies.
5. Working with PSU to analyze, compare/contrast different design options.
6. Developing the interior/ exterior "look and feel" of the new building, particularly the level of advancement at the various project phases.
7. Use of BIM, "predictive modeling", analytical/ digital tools, and other technologies.

B. **Approach to project delivery.** At least, describe your team's overall approach to:
1. Achieving the project schedule.
2. Identify key risks to project schedule and strategy for mitigating such risks.
3. Planning, managing, and executing the project.
4. Consensus building and guiding stakeholders through decision-making process(es).
5. Creating a collaborative environment between architects, building/site planners, engineering consultants, and PSU/OPP stakeholders.
6. Working with PSU's third-party Construction Manager at Risk (CMaR) throughout design and construction phases. Describe previous success delivering projects with a CMaR. Identify potential innovative strategies that you consider using in the design, procurement, and construction of the project, while maintaining quality and uncompromised project goals (example: Design Assist).

C. **Approach to Cost Control.** Delivering our project on budget is critical. So, provide your approach to manage costs through all design and construction phases, especially considering currently escalating construction costs. Additionally, provide the following:

1. Highlight your process of cost estimating, scope/budget alignment and cost/quality control through the design and construction phases.
2. Define critical factors with respect to the project budget.
3. Provide your impression of the project budget.
4. Identify key risk to project budget and strategy for mitigating

D. **Approach to MEP and building system design.** Narrative approach to MEP planning/ design/ delivery of facility that will contain programs and space types as noted herein. Be specific with your experience and highlight your project type expertise. Refer to the Project-specific Building Systems and Utility Scoping Document, titled: "*SCOPING DOCUMENT".*

E. **Approach to Sustainability.** After reviewing PSU's High-Performance Standards, describe your team's approach to driving towards PSU's sustainability goals on the project, including exceeding our standards. Highlight your experience meeting similar high-performance standards and describe overall team commitment to sustainable design (including number of completed LEED projects). Among other applicable topics, discuss your team's approach and experience applying advanced sustainability measures, ability to apply best practice in sustainable design, applications of creative innovations to obtain the optimum performance for projects, and experience using energy models to drive design thinking.

F. **Briefly describe your approach to Penn State reviews, PSU design reviews**, and jurisdictional reviews. Anticipated jurisdictional reviews will include State of PA Labor & Industry. Local municipal reviews/ permits may be required, and the professional shall be responsible for securing these permits with assistance of the University. Any fees associated with permits shall be paid for by the Professional and will be reimbursed by the University.

G. **Approach to Prevention Through Design (PtD).** Safety is essential to the University during the construction and post occupancy maintenance / operation of the facility. Therefore, the University is stressing implementation of Prevention through Design on this project. Share your thoughts, experiences, and approach to PtD. The LEED v4 Pilot credit for PtD will be mandatory for this project.

H. **Project Staffing/Workload.** Verify the entire A/E team's availability to successfully staff the project, immediately, given our project schedule and other A/E Team workload.

I. **Graphic Schedule.** Create a graphic project schedule showing phase durations, owner engagement and review periods, and identify critical path items, milestones, and schedule drivers. This can be printed on an 11x17 fold-out and will only count as a single page.

PROPOSAL SECTION 4 – PROJECT-SPECIFIC KEY DRIVERS AND IDEAS

A. **Project Understanding and Drivers.** Demonstrate your understanding of the project. Provide observations of the project program, project goals, or other provided information.

Describe key project drivers, critical design elements, and potential constructability considerations your team has identified as a priority for this specific project. Discuss how you addressed similar issues on other projects.

B. **Project Insights.** Provide your thoughts specific to design of facilities, like described in this RFP. Provide your team's vision of what, beyond purely functional issues, constitutes the essence of project, such as we envision. Discuss potential key issues in the design of LARTB.

C. **Program and Programmatic Goals.** Delivering a facility that successfully accommodates the various Departments and programs, within state-of-the-art facilities, is of the upmost importance. Describe your programming, planning, benchmarking tools and methodologies that your team will use to test, and ultimately achieve, the stated project goals.

   Provide firm-specific core values, design principles, etc. regarding key space types, including the following. Feel free to reference precedent project examples. **(See Note 1)**

   1. Dry and Wet Research Laboratories
   2. Instructional Laboratories
   3. General purpose classrooms
   4. Informal Learning spaces (student working and study space)
   5. University workplace environments
   6. Museum and/or Collection spaces, ideally similar to our program.
   7. Optional: Highlight experience with projects that support Liberal Arts, Social Sciences, and programs related to those envisioned in LARTB.

D. **Provide your initial design ideas, thoughts or considerations regarding our specific project.** We are not seeking design solutions. We would rather you convey your "design thinking" or unique insight you have regarding our project. Considerations may include your thoughts/opinions related to:

   1. The project site, master planning and/or campus-making aspects
   2. Building siting, massing, and/or environmental considerations
   3. Any other design considerations and/or inspirations

(OPTIONAL) PROPOSAL SECTION 5 – ADDITIONAL PROJECT IMAGERY

A. **(Optional) Additional Project Imagery.** If pages remain within your proposal, please feel free to include additional project images. Photo captions are strongly encouraged.

In closing, thank you for your participation in the A/E Team Selection process for this exiting project. We understand the commitment that each team puts into their submissions. The Screening Committee reciprocates this effort in our detailed review and analysis of each Proposal. We look forward to learning more about the Long-Listed A/E Teams and their project-specific approaches to determine which three (3) Short-Listed teams continue to the In-Person Interviews.

Kindest Regards,

Greg Kufner, AIA, NCARB

University Architect
The Pennsylvania State University (Note: shipping address for Proposals listed above)

CC: Screening Committee

EXCERPT

Departments of Sociology, Anthropology and the Population Research Institute

New Social Sciences Building Program Statement

College of the Liberal Arts

University Park

March 16, 2015

TABLE OF CONTENTS

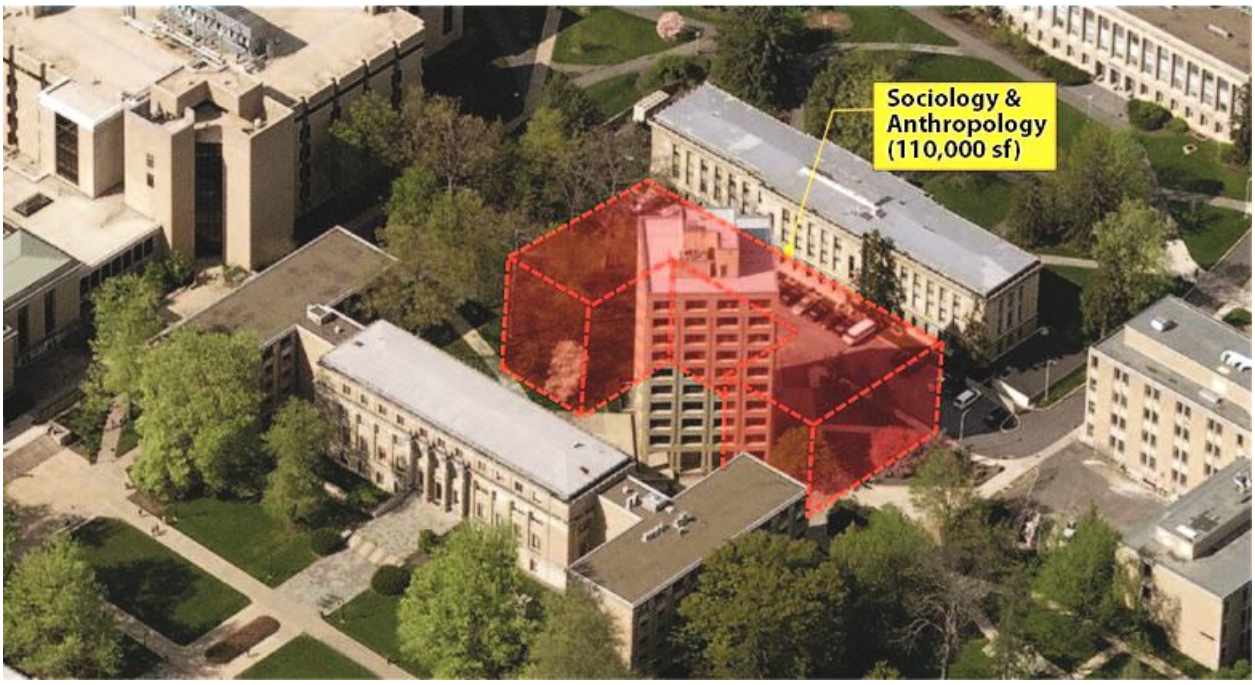
PROJECT INFORMATION

PROJECT DESCRIPTION

This project will demolish Oswald Tower, vacate Carpenter Building and construct a new building to house the Department of Sociology and Criminology, Department of Anthropology and the Population Research Institute. Oswald Tower now houses Sociology and Criminology and the Population Research Institute, and Carpenter is now the home of Anthropology.

This new building, currently called the Social Sciences Building, was planned for two phases. The first phase consists of the demolition of Oswald tower and the construction of new space for Sociology and Criminology and the Population Research Institute. The second phase consists of the construction of new space for Anthropology. Ideally, both phases should proceed simultaneously, as this project is conceived as one building with some shared facilities rather than two separate and connected buildings. The Social Sciences Building will be constructed on the existing site of Oswald Tower once this building is demolished.

The first phase includes 35,000 gross square feet (GSF) with 20,000 assignable square feet (ASF). The second phase provides 55,000 GSF with 34,000 ASF for a total of 90,000 GSF and 54,000 ASF. A total of $20 million dollars has been allocated in the five-year capital plan for the first phase, and the second phase was initially estimated to cost around $30 million dollars. After the program committee was charged, a significant change occurred to the scope of this project. At the direction of our Provost, a floor of general classrooms and instructional space has been added to this project along with the goal to maximize the size in this central campus location. This brings the total project to a total of 110,000 Gross Square Feet with approximately 71,500 Assignable Square Feet. The current estimated cost for the entire project is $80 million but the final estimated cost of the project will be validated during the design process. The entire project will be designed at one time, even if the construction is separated into phases.



NEW SOCIAL SCIENCES BUILDING VISION, GOALS, AND OBJECTIVES

Vision

Create an environment that will foster the fusion of ideas, scholarship, scientific discovery, and knowledge in the study of human civilizations, societies and populations in the past and present.

Goals and Objectives

Construct a building in which faculty, students and staff will desire to work and collaborate.

Provide a signature exterior and interior appearance that demonstrates that the departments are nationally recognized as leaders in their disciplines.

Create exterior spaces to link adjacent buildings in a pedestrian-friendly, welcoming and encouraging manner with a setting that highlights the quality of the programs.

Create an open, bright and comfortable environment that is conducive to educational experiences for the students and faculty.

Construct state of the art instructional and research laboratories to support applied learning and cutting edge research.

Build shared collaboration and instructional spaces that will inspire closer connections between the departments, faculty and students.

Establish open environments in appropriate locations to serve the building community, and separate quiet spaces and offices to promote individual and small group scholarship

Provide a welcoming environment with a clear way of finding services for visitors and the building community.

Establish visual clues and design characteristics that signal entry into separate departmental facilities and spaces.

Display and install technology applications throughout the spaces to launch the building community towards more connectivity, discussion and discovery.

Provide a means of exhibiting our research to a wider university and public communities through an expanded role for the existing anthropology museum in a reduced spatial footprint.

BACKGROUND AND HISTORY

Building Histories and Background Information

John W. Oswald Tower

John W. Oswald Tower was constructed in 1973 and contains 45,900 GSF with 20,208 ASF and is dedicated to John W. Oswald, the thirteenth president of Penn State.

This building is in very poor condition and is inefficiently designed, as only 44% of the building space is assignable. It is a tall nine story tower with a basement sited between two historically significant buildings, Burrowes and Pond. There is no option to add to this building, because to update and correct all the buildings deficiencies would require at least a $15 million investment. The masonry on the façade, including the base concrete entrance, stairways and overhang of Oswald Tower, is disintegrating with pieces of the building crumbling to the ground. The existing single pane windows are in need of replacement and all of the hardware is broken or failing. In addition, all the HVAC, mechanical and plumbing systems and equipment are antiquated and beyond repair. Some of the HVAC equipment is installed as part of the concrete internal construction, making repair and replacement almost impossible without substantial rebuilding and high cost. The existing building no longer supports the programs necessary for modern Sociology and Criminology and Demographic instruction and research. This building was not constructed for longevity nor is it of any historic or architectural value. After considering the cost to bring this building up to current codes, knowing that it would never satisfy the programmatic requirements of the departments, and validating that Oswald Tower was not built to make best capacity use of this site, it was determined that best plan is to demolish this building and construct a new one on the site.

Oswald Tower currently houses the Department of Sociology and Criminology and the Population Research Institute. The building contains faculty, staff and graduate student offices, as well as support spaces such as computing and meeting spaces. This building also houses the main office and offices for the faculty and staff of the Population Research Institute.

President John W. Oswald, a native of Minnesota, did his undergraduate work in botany at DePauw University, Greencastle, Indiana. A Phi Beta Kappa scholar, he received his Ph.D. from the University of California in 1942. Following graduation, Dr. Oswald attended Navy Officer Training school at Notre Dame and Northwestern Universities. He served as a PT boat captain in the Mediterranean theater and later as executive officer of the Motor Torpedo Boat Ferrying Command in New Orleans. In 1946, Dr. Oswald returned to the Davis Campus of the University of California as assistant professor of plant pathology. He became chairman of the department of plant pathology at the Berkeley Campus in 1954 and began concurrent service as an administrative officer in the office of the chancellor in 1958. In 1962 he was named vice president for administration in the statewide system for the University of California. Dr. Oswald was named president of the University of Kentucky in 1963 where he led the establishment of fifteen branch campuses.

In 1968, Dr. Oswald returned to the University of California as executive vice president of the nine campus system. He became president of Penn State in 1970. Enhancement of the physical plant of the University system during Dr. Oswald's tenure included several structures and improvements at University Park: Carpenter Building (1971); Noll Laboratory (1971); Museum of Art, (1972); Liberal Arts Tower, (1972); Business Administration Building, (1973); Milton S. Eisenhower Auditorium, (1974); Herman G. Fisher Plaza, (1974); Faculty Building, (1975); Indoor Sports Complex, (1980); Human Development East Building, (1980); Ag Arena, (1983, groundbreaking). Other completed work was: Intramural Building, Walker Building and an extension to the Hetzel Union Building. Private funds were attracted to assist in a campus landscaping program. The Liberal Arts Tower was renamed the John W. Oswald Tower in July 1986 by the Board of Trustees in honor of his presidency although he had no ties to the College of the Liberal Arts.

C. Ray Carpenter Building

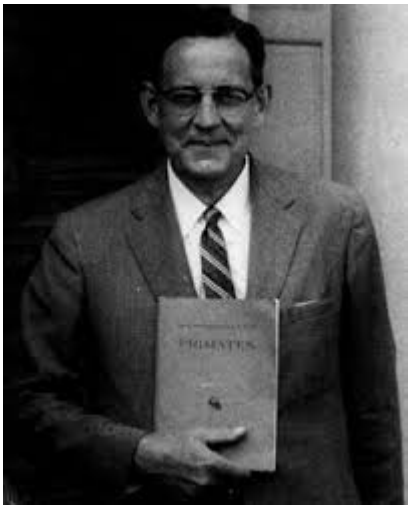
Carpenter Building was constructed in 1970 and contains 41,929 GSF with 22,999 ASF. The building is named for Clarence Ray Carpenter, who was a research professor of psychology and anthropology from 1940-1970.

This building is also in very poor condition and has not had a major building-wide renovation since it was constructed. Carpenter is a five story rectangular building with a basement and mechanical penthouse. It no longer supports the program needs of the Department of Anthropology, as this discipline now requires sophisticated life science laboratories for instruction and research. The Carpenter Building needs to have all the HVAC, mechanical systems, and plumbing replaced along with new windows and finishes throughout the building. It is prone to floods from burst pipes, which in recent years have destroyed lab facilities and shut down power to the entire building, jeopardizing research activities that require constant power (e.g., freezers with irreplaceable specimens).

It was determined that it made much more sense to build new modern offices, teaching and research facilities for Anthropology and reassign Carpenter Building to other uses. In addition, the department was located far from the rest of the Liberal Arts departments with common missions and research ventures. A new building with Sociology and Criminology and the

Population Research Institute will bring Anthropology closer to the majority of the Liberal Arts College departments, closer to the center of Life Science activity in the Life Sciences and Millennium Buildings, and will bolster new collaborations between social science and life science departments in the future.

The Carpenter Building now houses the main office for the Department of Anthropology along with the offices, meeting and classrooms, instructional and research laboratories and support spaces for the faculty, staff, students, post docs, and graduate students. Carpenter Building is also the home of the Matson Museum of Anthropology.



C. Ray Carpenter

C. Ray Carpenter was a research professor of psychology and anthropology at Penn State from 1940-1970. He studied primate behavior, produced primate films and videotapes, and researched communication processes. He was responsible for the establishment of Penn State University as a depository for the Psychological Cinema Register and for developing an internationally known collection of psychological, psychiatric and animal behavior films. His other major research interest was in the communication processes. He was concerned with the application of various educational technologies to instructional communication in colleges and universities. In the 1940s, Carpenter began pioneering studies in the use of motion pictures as teaching tools. He wanted to determine how films could best be integrated into classroom instruction and what qualities made them most effective. Eventually he became equally curious about the use of television for instruction.

While at Penn State, Professor Carpenter contributed many special qualities to the Anthropology and Psychology departments. As Research Professor in both departments from 1965-1970, he guided their development to accommodate his precocious notion that human behavior is fundamentally similar to the behavior of other animals and thus should be studied simultaneously, utilizing similar methodology and paradigms. He, more than anyone, is responsible for the Penn State Anthropology Department's continuing commitment to quantitative field and laboratory-based research; that is, science as opposed to humanism, separating Penn State's department from many others. Most importantly, through the compelling example of his own successful studies, he demonstrated the value of melding the behavioral sciences with evolutionary theory.

PROGRAM INFORMATION

Sociology and Criminology Department

The Sociology and Criminology department is composed of distinguished faculty who are leaders in their fields and who provide an exceptional education for their undergraduate and graduate students. The department has nationally recognized strengths in the areas of criminology, demography, family sociology, social inequality, sociology of religion, and quantitative methods. The National Research Council recently ranked Penn State among the top ten sociology programs in the country. The department ranks highly on two specific dimensions of particular interest to students considering graduate study. The first is the "research activity" dimension which measures among other things, the number of faculty publications, citation counts, and grant activity. The department also ranks highly on "student support and outcomes" covering such aspects as financial support, time to degree, and likelihood of degree completion. In addition, the Criminology program consistently places among the five best graduate criminology programs nationally. Penn State's Sociology and Demography Dual-degree program is in the top four population science graduate programs as well. Faculty and students study topics ranging from the causes of growing levels of obesity in America, to the relationship between employment and juvenile delinquency, to trends in global gender inequality.

The reputation of the department rests on its commitment to rigor in the analysis of social phenomena. The department offers challenging and rewarding programs of graduate study toward Master's and Doctoral degrees in Sociology and Criminology. Students who pursue the

M.A. and Ph.D. degrees are exposed to an exciting intellectual and professional environment. Although located in a major university, the graduate programs remain intimate in scale. A low student-to-faculty ratio promotes frequent interaction between students and leading scholars in theory, methods, and a wide range of substantive specialties.

The programs attract students from all over the world and from a variety of academic backgrounds. Some students enter with professional experience; others have completed M.A. degrees elsewhere before coming to Penn State or enter the graduate programs directly upon completing their undergraduate work. This diversity contributes to a stimulating atmosphere for learning.

The department faculty and staff are committed to excellence in teaching, research, and service. They serve Penn State undergraduates by offering a top-notch liberal arts education. Graduate students are provided teaching and mentoring to help them become independent and productive researchers and teachers. The department remains in close contact with many of its alumni by providing an engaged sociology and criminology community.

Faculty research has been supported by funding from many government agencies and nonprofit organizations, including the National Institutes of Health, the National Science Foundation, the National Institute of Justice, the National Institute of Mental Health, The Ford Foundation, the Pennsylvania Commission on Sentencing, the John D. and Catherine T. MacArthur Foundation, and the Templeton Foundation.

The Sociology and Criminology Undergraduate Programs

The Sociology and Criminology programs currently have over 800 majors. Sociology courses focus on the basic institutions of society, such as family, education, religion, the economy, and government, as well as dimensions of social inequality, such as class, gender, and race. Criminology course provide broad knowledge about crime and justice, and social research methods related to understanding them. The department offers Bachelor of Arts and Bachelor of Science degrees in both Sociology and Criminology. Both programs are also intended to provide students with a broad liberal arts education and a focus on research methodology, analytical techniques, and areas of substantive interest within the discipline.

The Graduate Programs in Sociology and Criminology

During a typical year, over 70 students are engaged in full-time graduate training in sociology and criminology at Penn State. These programs are for students who intend to pursue the Ph.D.

and who are interested in graduate training that emphasize research, teaching, and scholarship. Both graduate programs provide training in theory, methods, statistics, and substantive issues.

Doctoral students in sociology typically specialize in the department's areas of major strength, including: demography, the family, quantitative methods, sociology of education, sociology of religion, social movements and social theory, stratification and race/ethnic/gender inequality, and urban and community sociology.

Penn State's Criminology graduate program is one of the nation's top programs. Students study a wide range of topics in criminology, including: justice system decision making (such as sentencing); relations of gender, race, and age to crime; violence and victimization; violence and mental disorder, criminal careers; organized crime; deterrence; communities and crime; juvenile delinquency; and evaluation of programs and policies in the justice system.

The dual-title Ph.D. option in demography provides a unique opportunity for our graduate students and links the department to the Population Research Institute.

Affiliated Centers and Programs

Association of Religious Data Archives (ARDA)

The Association of Religion Data Archives (ARDA) strives to democratize access to the best data on religion. Founded as the American Religion Data Archive in 1997 and going online in 1998, the initial archive was targeted at researchers interested in American religion. The targeted audience and the data collection have both greatly expanded since 1998, now including American and international collections and developing features for educators, journalists, religious congregations, and researchers. Data included in the ARDA are submitted by the foremost religion scholars and research centers in the world. Currently housed in the Social Science Research Institute, the College of the Liberal Arts, and the Department of Sociology at the Pennsylvania State University, the ARDA is funded by the Lilly Endowment, the John Templeton Foundation, Chapman University and the Pennsylvania State University.

Justice Center for Research

This Center is a collaborative effort of the University's College of the Liberal Arts and University Outreach. The Center is designed to bridge the gap between researchers and practitioners--between the University and the world outside. Pursuing a rigorous research agenda that advances criminological theory and addresses substantive policy issues, the Center uses an engaged university model to transfer this knowledge into effective programs and evidence-based

practices, to the benefit of local, state, national and international communities. By identifying issues and problems where University expertise could be of assistance; by communicating justice research results and theory; and by informing public debate through presentations, panels and publications--the Center fulfills the Penn State missions of teaching, research and service.

Center for Life Course and Longitudinal Studies (C2LS)

The Center for Life Course and Longitudinal Studies (C2LS) was established to foster the development of research and scholarship at Penn State University in the study of the life course. The mission of the C2LS is to focus on the nature and determinants of human life transitions and processes in the unfolding of lives, including the study of age-related development as a social process and the consideration of multiple interdependent environmental influences on individual change. The life course perspective assumes that these developmental transitions and processes occur across the entire life span (from conception to death) and are embedded in social institutions and subject to historical variation and change.

Pennsylvania Sentencing Commission

The Pennsylvania Commission on Sentencing was created by the General Assembly in 1978 for the primary purpose of creating a consistent and rational statewide sentencing policy that would increase sentencing severity for serious crimes and promote fairer and more uniform sentencing practices. The legislation required the Commission to adopt sentencing guidelines that would be "…considered by the sentencing court in determining the appropriate sentence for defendants who plead guilty or nolo contendere to, or who were found guilty of, felonies and misdemeanors" (42 Pa.C.S. §2154). The guidelines were intended to promote sentencing equity and fairness by providing every judge with a common reference point for sentencing similar offenders convicted of similar crimes. Since 1986, the Commission has been designated a legislative service agency. The House and Senate Judiciary Committees have been designated as the standing committees to review regulations issued by the Commission.

Social Science Research Institute

This mission of the Social Science Research Institute mission is to foster research that addresses critical human and social problems at the local, national, and international levels. Researchers are brought together bringing together from different disciplines around emerging areas of study, and by providing consultation, financial support, shared, accessible infrastructure, and services to social scientists at Penn State. Housed within the Office of the Vice President for Research, the SSRI is one of five university-wide research institutes at Penn State.

Social Thought Program

The Social Thought Program at Penn State has served since 1992 as a network of communication and mutually enhanced scholarship for those members of the university community in various disciplines with shared interests in social, cultural and political theories. This joint venture in teaching and research has been developed by means of an interdisciplinary approach to learning that emphasizes an historical understanding of intellectual change. The Program is aimed at graduate students whose academic interests are broad, and is taught by faculty with a similar orientation. It offers a doctoral minor in Social Thought that augments a student's principal field of study. The Program also coordinates public events, informal gatherings, reading groups, and other modes of interaction for young scholars and their faculty colleagues.

World in Conversation Project

The World in Conversation Project relies on student facilitators and the Socratic Method to generate candid dialogue on some of today's most difficult social issues; from race to the Middle East to the college drinking culture.

The World in Conversation Project sponsors more than 1,500 of these dialogues each year, bringing the average number of students they're working with at any time during a given semester to around 3,000. Many of these exchanges are via video conferencing across great distances and through language barriers–both of which present significant logistical challenges.

Also, people in different parts of the world often use different technologies to connect, making device and technology fragmentation a principle concern when trying to host and organize dialogues.

Population Research Institute

The Population Research Institute Research Institute will occupy this new building. See the section on this Institute.

Anthropology Department

Anthropology is the study of past and present humans and their biological and cultural evolution. It is an inherently multidisciplinary subject, which draws upon information from diverse fields including genetics, biology, ecology, medicine, psychology, geology, sociology, and history to shed light on the human condition.

Undergraduate Program in Anthropology

The Department offers three majors:

Anthropology (ANTH)

The ANTH major focuses on biological and cultural variation in human populations through research in three subdisciplines: archaeology, biological anthropology, and cultural anthropology. In addition to class work, students receive practical training in laboratory and field research. Students interested in pursuing careers in academic anthropology or museum work find that our BA program is an excellent primer in current anthropological theory and methods, and thus it is valuable preparation for graduate training in anthropology.

Biological Anthropology (BANTH)

The BANTH major provides an opportunity to develop a strong foundation in research methods, quantitative procedures, and laboratory science. It prepares students with the skills needed to pursue graduate study or careers in professions associated with biological anthropology. These include human DNA research, osteology, biomechanics, skeletal growth and development, and some forensics. Students looking forward to careers in health fields often major in Biological Anthropology, which is offered as a BS degree, but the degree does not include all prerequisites for admission to medical school.

Archaeological Science (ARSCI)

The ARSCI major provides the opportunity to develop a strong foundation in research methods, quantification, field methods, and laboratory procedures. It prepares students with the skills and knowledge needed to pursue careers in Cultural Resource Management, as well as pursue advanced degrees in rigorous graduate programs.

Concurrent Majors

The Anthropology majors are flexible programs that can be combined as concurrent majors with many other fields of study. Concurrent majors can be attractive to students, especially in today's workplace that requires sensitivity to diverse cultural backgrounds. Anthropology students learn many skills such as communication and writing skills, observational skills, experimental design, interviewing experiences, statistical methods, and cross-cultural awareness. Students must satisfy the basic requirements for the colleges and majors involved.

Undergraduate Research

The Department of Anthropology encourages undergraduates to participate in research in the fields of archaeology, biological anthropology, and cultural anthropology. Students can either volunteer to work on projects, typically in research laboratories, or receive course credit for their participation. Students are also provided with opportunities to enroll in the department's summer archaeological field school. Taking part in field and laboratory research is an excellent way for students to gain "hands-on" experience and to apply concepts learned in the classroom. Participation in on-campus laboratory projects is worked out between students and faculty members. Students receiving course credit for laboratory work typically enroll in ANTH 494, but many students also volunteer to gain experience.

Graduate Program in Anthropology

Anthropologists at Penn State conduct research and train graduate students in four broad areas:

The evolution of cultural complexity

Several areas of focus with the faculty include:

1. Research that spans several areas of human population biology, primarily human mortality and fertility, historical demography, land-use changes, and the population ecology of subsistence farming.
2. Research focuses on the origin and development of ranked and state-level societies, especially those in the New World, including how resource control leads to the development of structural inequalities within society. Topics of special interest include exchange systems, specialized craft production, settlement pattern studies, preindustrial urbanism, and warfare, and their relationship to population growth and disease experience. Methodological interests include lithic technology, ceramics, spatial analysis, and lithic use-wear.

3. Research on human osteology that includes four main areas of interest: skeletal growth and development, skeletal structure and function, the population structure of past societies, and the disease experience of past peoples. This work is closely tied to medicine, biomechanics, archaeology, and forensic science.
4. Research with plant and animal remains from prehistoric and historic-period archaeological sites. This work is directed toward unraveling the deep history of human-environmental relationships, including the transition from hunting-and-gathering to agriculture.

The evolutionary biology of humans: fossils, bones, bodies, behaviors and genes

There are many sources of information that inform our understanding of the evolutionary history of human populations. Faculty in the department focus on collecting, analyzing and interpreting a variety of data from fossils to the physical and behavioral characteristics of modern populations. This work includes the following:

1. Research focused on questions about the history of adaptation in primates, including humans, to uncover how we and our close relatives have responded to environmental change through modifications of anatomy, physiology, and behavior.
2. Study of the functional morphology of human phenotypes, including behavior and hormone-behavior relationships, and understanding why human sex differences have evolved.
3. Study of the evolutionary-genetic architecture of recently evolved human traits, including the genetics of both normal and disease phenotypes with a special focus on traits that vary within contemporary populations.
4. Research specializing in bone biomechanics, including the structure, function, and development of cortical and trabecular bone, its relationship to musculoskeletal loading, and its application to behavioral reconstructions of fossil primates and past human populations.
5. Research on human mortality and fertility, historical demography, and long-term changes in population size and its relationship to cultural evolution..
6. Studies in the relationship between the genotype and phenotype using laboratory animals and human populations, focusing on the genetic underpinning and developmental basis for variation in complex traits.

The social and ecological context of humans in the past and present

1. Research in human osteology, including the demographic structure of past populations, long-term trends in settlement patterns and human land use, and warfare among small-scale societies.
2. Research on the origin and development of ranked and state-level societies: ,including social, political, and economic systems; intergroup relations such as trade and warfare, and structural inequalities within organizationally complex societies.
3. Research on plant and animal remains, as well as settlement patterns, oriented toward understanding the origins of agriculture and, more generally, changes in human-land relationships over time.
4. Research on changes over time in human population structure and disease experience as identifiable in skeletal remains.

Anthropology Ph.D. Program

Penn State's doctoral program prepares students for successful careers in archaeology and biological anthropology. Faculty interests and student opportunities are quite diverse, although all share a commitment to empirically based analyses backed by rigorous quantitative methods. The department strives to provide students with personally and professionally enriching field and laboratory experiences, typically as part of ongoing research programs, and to produce scholars who will, in turn, make a difference in society, both within academia and outside of it.

Anthropology Ph.D. students may also choose the dual-title Ph.D. option in demography with the same link to the Population Research Center mentioned above.

Field Projects

Archaeological Field School

A summer field school is offered in most years for undergraduates to gain experience in excavating archaeological sites, organizing the resulting materials, and analyzing those objects and field records. The field school is held in different locations, changing locations and temporal focus after several years of work at a particular site. Artifacts and data on structural remnants collected during the field school season are employed in subsequent semesters to provide students with laboratory-based training. The field school, which provides valuable hands-on training, is recommended for continued graduate studies in archaeology, and it is essential for those contemplating careers in Cultural Resource Management.

Research Labs

Anthropological Genomics Lab

The focus of research includes human population variation, evolutionary ecology, conservation genomics, and ancient DNA, focusing on past and present humans as well as extant and extinct lemurs. Specific activities include, among others, mapping genes for complex phenotypes, mapping genes for common diseases (e.g. NIDDM, obesity, and hypertension), identifying normal variation in common traits (e.g. skin and hair pigmentation and facial features), and mapping population admixture.

Projects in these labs are broadly motivated by hypotheses about human and non-human primate evolutionary ecology -- how we have adapted to our variable or changing environments. The primary research tools used for these studies often include analyses of genomic-scale data, especially genome sequence data. New sequencing technologies are now helping to facilitate powerful evolutionary genomic analyses of remote and endangered populations and species. We also use this technology for ancient DNA genomic studies. In addition to facilities for the extraction, amplification, and analysis of modern DNA, we have a separate sterile clean lab where we work with the bones and teeth of individuals from extinct species. Many projects also involve the collection of complementary ecological data in the field.

Morphometrics Lab

The long-range goals of the laboratory include quantitative assessment of morphological change in biological organisms through ontogenetic and evolutionary time, determination of the developmental basis of differences in morphology, and determination of the evolutionary (genetic) basis of these developmental patterns. Considerable emphasis is placed on the origin of morphological variation including pathological craniofacial development.

Paleoanthropology Lab

This research focuses on the evolutionary history of Old World monkeys, and the evolution of human skin and skin pigmentation. The latter includes the relationship between worldwide variation in skin pigmentation and vitamin D production.

Functional Morphology Lab

Research in this lab primarily focuses on primate and human functional morphology, the evolutionary morphology of humans and other primates, and bone biomechanics. The research makes use of advanced computational techniques such as high-resolution computed tomography

imaging (microCT), 3D morphometrics, modeling, and visualization to understand the relationships between bone structure and activity patterns in living and extinct humans and nonhuman primates.

Biometry Lab

The research focuses on patterns of response to sex steroids to understand how humans respond physiologically, anatomically, and behaviorally to sex hormones, and why humans evolved these response patterns. Studies include understanding the roles of sex hormones, such as testosterone and estradiol, in shaping human psychology and how exposure to sex hormones during early development, puberty and adulthood affect how humans think, feel and behave.

Anthropology GIS Lab

The GIS lab is dedicated to facilitating the work of researchers and students interested in understanding human societies through time and space, especially the effects of changes in the scale of human societies and the nature of human land use. Scales of analysis range from individual sites (settlements) to local landscapes and entire regions that span millions of square kilometers. Tools include Geographic information Systems, remote sensing and other geospatial technologies to map, reconstruct, and analyze human behavior.

Bioarchaeology Lab

Research includes r refining skeletal age-estimation methods to improve knowledge of ancient population structures and identifying pathological lesions in bones to characterize the disease experience of past populations. This work, especially research on age-estimation methods, has medicolegal, as well as archaeological, significance. A focus on trauma, including intentional injuries attributable to intergroup conflict, provides information about occupational roles within past societies and warfare among separate groups.

Archaeological Materials Labs

Research includes identifying the compositional characteristics of materials to identify trade relationships (artifacts) and diet (bones). Determining how artifacts, such as pottery and stone tools, were produced clarifies ancient production processes.

Paleoethnobotany Archaeology Lab

The work going on in this lab involves primarily research with preserved plant remains from archaeological and paleontological contexts. We work principally with plant macroremains,

including wood, seeds, and fibers. The materials we analyze may be in any of a variety of preservation states (carbonized, waterlogged, or desiccated), but we are especially well outfitted and routinely work with wood charcoal, especially tropical taxa, and waterlogged plant remains of all types. This work addresses questions having to do with paleoenvironment, paleoecology, and past biodiversity, as well as plant domestication and the presence of unique landraces.

Mesoamerican Economy and Archaeology Lab

The research in this laboratory is on the reconstruction and study of ancient economy in pre-industrial societies using archaeological, historic, and ethno-archaeological techniques and approaches. We explore the ways that economy is organized in society at both the household and institutional levels.

Isotopic Lab

Research in this lab focuses on high-precision dating and the compositional characteristics of archaeological materials, both artifacts and bones. This work is oriented toward obtaining better cultural sequences for research focused on the relationship between climatic and environmental change and ancient societies, as well as characterizing materials traded among past populations and the diets of those people.

The Population Research Institute

The Population Research Institute (PRI) is a multidisciplinary center that provides strategic resources in support of innovation and excellence in population research. The center's major goal is to advance the scientific understanding of human population dynamics, including their causes and consequences. To achieve its aims, PRI provides forums for learning and exchange (e.g., working groups, a speaker series, workshops, and symposia), project development assistance and seed funding, and cost-effective state-of-the-art research support services. PRI's infrastructure has been supported continuously by the National Institute of Child Health and Human Development (NICHD) since 1990. Along with generous contributions from the university, the NICHD's support has provided a strong foundation for the development of an innovative population research program at Penn State.

Penn State has been committed to supporting population research for four decades. The University's targeted institutional commitment was first seen in 1972 when the Population Issues Research Center was established under the University's Inter-College Research Program. Major advances in the center's research and training programs were made in the mid-1980s and 1990s. The dual-title degree program in demography was established in 1987 and in 1991 the Population Issues Research Center (renamed as the Population Research Institute) received its first infrastructure support from the National Institute of Child Health and Human Development (NICHD) through a Center Core grant (P30). PRI's infrastructure has been supported continuously by NICHD since 1991.

Currently, PRI has 79 affiliated faculty from 17 different academic departments and five colleges at Penn State. PRI research associates have a clear and demonstrated interest in population science. Their research is concentrated in five areas, described below.

***1) Communities, Neighborhoods, and Spatial Processes*.** This research area focuses on trends and group variations in the distribution of human populations across neighborhoods and communities, the social processes bringing about those spatial patterns, and the consequences of spatial contexts for the health and well-being of individuals. PRI's researchers draw upon the methodological expertise of the Geographic Information Analysis core, as well as the restricted, geo-coded data from the Census Research Data Center (RDC, described below), to make innovations in this area.

***2) Families in Changing Contexts*.** Families are important settings that shape demographic processes (e.g., fertility, migration, morbidity/mortality), and are themselves shaped by larger social and economic forces, such as changing cultural norms, a changing global economy, and the changing nature of the workforce. This primary research area focuses on how families adapt to shifting social and economic conditions, and how the associated shifts in family dynamics and relationships are influencing family member's health and well-being.

3) Health and inequality. Researchers increasingly recognize the linkages between adult health and "upstream" factors stemming from past and continuing exposures to social and economic environments. This research area focuses on how social contexts shape population-level trends and disparities in health and wellbeing. PRI researchers move this research forward by collecting or improving existing measures and data (e.g., through data linkages or validation studies), and by employing interdisciplinary approaches that aim to connect the biological to the social and vice versa.

***4) Complex Population Dynamics*.** Increasingly, highly detailed data collected through innovative research designs are being used to analyze how individual health and well-being unfolds both over time and across social networks. PRI researchers are examining the relationship between complex and time-varying social and developmental contexts (e.g., peer networks, lifelong patterns in socioeconomic status) and outcomes (e.g., substance use, cognitive development, crime, and obesity) through new data collection techniques, the analysis of existing social network data, and the simulation of population dynamics.

***5) Immigration and Immigrant Integration*.** International migration is a major engine of demographic change, bringing about population growth, racial and ethnic diversity, and economic and cultural transformation in host societies. The full impact of these changes is often unclear due to limited data about immigrants and their sending and receiving communities, limited information about immigrant's legal status, and inadequate data for tracking intergenerational change. PRI associates are tackling these and other challenges in their research on immigrant migration flows, health, and socioeconomic incorporation.

PRI faculty associates are uniformly highly productive and nearly all receive external funding; this strength cuts across all levels of seniority. As of October 2014, the 79 faculty research

associates at PRI currently have 33 projects that were awarded $36,345,712 in Total Awarded Costs from the National Institutes of Health (NIH), the National Science Foundation (NSF), other government agencies, and foundations. Over 80% of this funding was from NIH.

PRI's Signature Events

From research conferences to lectures, PRI holds a number of events throughout the year.

National Symposium on Family Issues For more than 20 years, this two-day symposium has focused on key issues facing families. Topics are of multidisciplinary interest, and hundreds attend to discuss and learn about the year's central topic.

DeJong Lecture in Social Demography This annual event features presentations and discussions with prominent scholars on topics in social demography. It is supported by the Gordon F. and Caroline M. De Jong Lectureship in Social Demography Endowment.

PRI Brown Bag Series PRI's popular Brown Bag Series provides a regular forum for PRI faculty, postdoctoral fellows, and graduate students to exchange ideas.

Clifford Clogg Memorial Lecture Series Established in 1996 in honor of Clifford C. Clogg and organized by the departments of Statistics and Sociology, the Clifford Clogg Memorial Lecture Series brings internationally known scholars to Penn State for two days of lectures and informal discussions.

PRI Graduate Student Methodology Workshops Organized by the graduate students in the dual degree program in demography, this annual workshop provides an opportunity for students and faculty to expand their methodological knowledge and interact with both local and national experts.

Research Infrastructure Cores

PRI's research infrastructure cores are NICHD funded and enhance the institute's ability to offer important services to its associates, including grant management, GIA services, communications, and computer software support.

The **Administrative Core** manages PRI's budget and staff, assists with the preparation of grant proposals; grant management; compliance such as PubMedCentral; and general office support. It organizes the Institute's brown bag series and other major events, and other informal activities to encourage interdisciplinary exchange among faculty associates.

The **Computer Core** offers research support by providing a professional staff of hardware/software specialists and a state-of-the-art computing environment designed to facilitate demographic research. Members of the staff provide hardware and software support and maintenance services. The staff also maintains the local area network and evaluates new hardware and software for potential use. The state-of-the-art computing facilities at PRI are built from interconnected computing environments including: the center's MS Windows Domain; the center's Windows application servers; Windows and Mac desktops in individual offices; the PRI computer lab housed in Oswald Tower; access to Unix servers; two departmental labs housed in the Department of Sociology; and Penn State's Research Computing and Cyberinfrastructure supercomputing clusters. The network of desktops, servers, and storage provides a robust computing environment for PRI researchers. The network was designed to accommodate mass storage, and manipulation and analysis of large data sets commonly used by demographers.

The **Demographic Methods Core** provides research support services at all stages of the funded research cycle to faculty associates, postdoctoral trainees, predoctoral trainees, research assistants, and students in the dual-degree program in demography. Staff members have extensive experience in providing the services necessary for a successful research project, including research activities related to data access and dissemination, programming and statistical analysis, and geographic information analysis.

Regarding services related to data, the DM core maintains a data archive, which includes CD-ROMs, printed and electronic codebooks, and data files mounted on PRI's network. Additionally, the DM core staff helps researchers access restricted data and remain compliant with restricted data contracts. PRI's data compliance officer has considerable experience in managing restricted data, including large multiple-user licenses for Add Health and NCES data, restricted data rooms, and secure networked access to data. Finally, the DM core provides services for the dissemination of data collected by PRI research projects, either by helping prepare the data for dissemination at national archives (e.g., ICPSR) or by disseminating it locally via PRI's data archive.

With respect to services related to programming and statistics, the Academic Director works closely with staff to provide consultation on the selection and implementation of statistical methods. The DM Core also keeps PRI faculty and students abreast of major new developments in the statistical analysis of population data, enabling them to use the most powerful research designs and statistical methods appropriate for demographic research. Programmers are also available for pre-proposal consultation for hardware and software recommendations, survey design, power analysis, and provide preliminary data extracts, descriptive statistics and NIH minority inclusion tables. PRI programmers can provide programming support in statistical packages such as SAS, Stata, SPSS, and R; data collection software such as REDCap and Microsoft Access; and web-based project and data management through a variety of web services including ColdFusion, PHP and Shiny R applications, and statistical analysis with SASIntrnet.

The DM also provides the expertise, services, and research collaborations necessary for PRI researchers to incorporate geographic information into their research in state-of-the-art ways. Its staff specialize in spatial statistics, advanced spatial analysis, exploratory spatial data analysis (ESDA), and customized programming for Geographic Information Systems (GIS) and/or online visualization. It also provides essential services to support the collection of intensive spatiotemporal data on both individuals and contexts and the construction of contextual and ecological databases, as well as geospatial data acquisition, archiving and management. The DM Core also provides training in GIS and spatial analysis to PRI affiliates and demography students.

Census Research Data Center. Penn State faculty and students have access to the Census Research Data Center (RDC) at the University Park campus of the Pennsylvania State University. The Penn State RDC is housed in second floor of the Paterno Library. An RDC is a secure Census Bureau facility staffed by a Census Bureau employee that provides researchers who have approved research projects with access to confidential data collected by the U.S. Census Bureau and the National Center for Health Statistics (NCHS). The RDC at Penn State opened in Spring 2014, and it serves as a crucial resource to support research among faculty members and graduate students in the areas of economics, demography, statistics, sociology, and the health sciences. The data made available in an RDC are not publicly available and access to restricted use data has become a necessary input in social science research. In addition, the Census Bureau is continually making new data sources available at the RDCs which will make these centers even more valuable and necessary as a research tool in the future.

Graduate Program in Demography

The highly-ranked dual-degree graduate training program in demography has been supported by successive NICHD training grants from 1999 to the present. It earned a No. 4 summary ranking among 120 universities offering demography/population science training, according to the 2010 National Research Council evaluation of the quality of U.S. research and doctoral programs. The program's underlying philosophy is that scientific research and policy questions in demography are best pursued through integrating the study of population structure and dynamics with theories and empirical literatures from other social, economic, behavioral, and biological science disciplines. Students thus acquire a degree in one of seven participating home departments (e.g., sociology, anthropology, human development and family studies, economics) and in demography. The Dual-Degree Demography Program currently includes over 40 Faculty and 70+ Graduate Students spread across up to 10 departments and 5 colleges. Since initiating Ph.D. training in the early 1960s at Penn State, more than 200 Ph.D. degrees have been awarded to students who designated demography/population studies as a major area of study.

SPACE PROFILE TABLE SUMMARY: NEW SOCIAL SCIENCES BUILDING

Type of Space	Stations	ASF Station	ASF Room	#Rooms	Total ASF
General Classrooms					
Classroom	100	20	2000	1	2000
Studio Classroom	50	30	1500	2	3000
Classrooms	40	20	800	4	3200
Classroom with Lab Benches	40	30	1200	1	1200
Commons with Seating - Three areas	45	20	300	3	900
Multi-Media One Button Studio			300	1	300
Sub-Total					**10600**
Common and Shared Spaces					
Mailroom			300	1	300
Lunchroom/Gathering/Seating			900	1	900
Kitchenette/Coffee			150	1	150
Conference Seminar Room 1 - PRI	20	20	400	1	400
Conference Seminar Room 2 - Soci	30	20	600	1	600
Conference Seminar Room 3 - Anthro	40	20	800	1	800
Collaborative Meeting Touch Down/Study			350	2	700
Conference Room - Large/Divideable	100	25	2500	1	2500
Locker Rooms/Showers - M/W/GN			125	3	375
Restricted Data Room			200	1	200
Restricted Data Rooms			100	8	800
Advising Offices	1	150	150	4	600
Finance Office	1	100	100	1	100
Shared Reception for Depart Offices	3	100	300	1	300
Sub-Total					**8725**
Sociology and Criminology					
Department Chair Office	1	250	250	1	250
Associate Chair Office	1	175	175	1	175
Faculty Offices	1	150	150	33	4950
Other Faculty Appt Offices	1	150	150	14	2100
Admin Assist Staff	1	120	120	1	120
Admin Assist Staff	1	100	100	5	500

Additional Offices (Visiting/Emeritus)	2	80	160	3	480
ARDA Project Office	4	40	160	1	160
Post Doc Offices	2	75	150	1	150
Grad Assistants Large Office	5	75	375	8	3000
Grad Assistants Small Office	4	75	300	8	2400
Grad Computer Lab	36	30	1080	1	1080
Testing Room	4	150	600	1	600
Office Service/Supplies			200	1	200
Office Storage/Records			75	1	75
Sub Total ASF					**16240**
Population Research Institute					
Director	1	175	175	1	175
Assist Director	1	150	150	1	150
Faculty Office	1	150	150	10	1500
Staff Office	1	120	120	3	360
Staff Office/IT/Program	1	100	100	12	1200
Office/Miscellaneous	1	100	100	5	500
Post Doc Office	1	100	100	2	200
Grad Student Office	4	80	320	2	640
Office Service/Supplies			150	1	150
Office Storage			200	1	200
Computer Lab	20	30	600	1	600
IT Work Room			120	1	120
Sub Total					**5795**
Anthropology					
Department Chair	1	250	250	1	250
Faculty Offices	1	150	150	18	2700
Other Faculty Appointments	1	150	150	5	750
Museum Curator	1	150	150	1	150
Research Assoc Office	2	75	150	4	600
Admin Assist Office	1	120	120	1	120
Admin Staff Office	1	100	100	2	200
Post Doc Office	2	75	150	10	1500
Grad Student Office	1	75	75	26	1950
Safety Office	1	150	150	1	150
Skype Office	1	40	40	2	80
Lab Tech Office	2	75	150	1	150
Graduate Computer Lab	10	30	300	1	300
Office Record Storage			150	1	150
Department Collections					
Department Collections/Processing Lab			1750	1	1750
Anatomy					

Anatomy Lab/Research and Teaching			800	1	800
Archeology & Human Ecology Suite					
Archaeology Lab			400	1	400
Archaeology & Human Ecology Collab Suite	20		1400	1	1400
Paleoethnbotany and Human Ecology Lab			1100	1	1100
Lithics and Ceramics Lab			500	1	500
XFR and Microscopy Room			150	1	150
Biometric Suite					
Biometric Lab 1			450	1	450
Biometric Lab 2			450	1	450
Biometric Postdoc/Grad Ofc			250	1	250
Psychometric Lab 1			300	1	300
Psychometric Lab 2	5	90	450	1	450
Ecology Lab Suite					
Collaborative Computational Lab	20		2110	1	2110
Shared Ecology Lab			300	1	300
Isotope Ecology Lab			600	1	600
Collaborative Space/Conf Rm			300	1	300
Genetics Lab					
Central Lab			1100	1	1100
Biological Sample Clean Room			150	1	150
Cell Culture Room			150	1	150
Chemical Room/Dark			150	1	150
Cold Room			100	1	100
Freezers and Centrifuge			150	1	150
Lab Kitchen			150	1	150
Histology			75	1	75
Microscope			75	1	75
Procedure Room			200	1	200
GIS Lab					
GIS Lab - Ancient & Modern/Instructional			750	1	750
GIS Lab - Computational			250	1	250
Morphology Lab					
3D Morphometrics Computational Lab	15		1500	1	1500
Osteology Lab			900	1	900
Zooarchaeology			600	1	600
Photograpy Laser Imaging			400	1	400
Fossil/Osteo Storage			320	1	320
Morphology Supply Room			150	1	150
Museum					
Museum Gallery - Open			100	1	100
Museum Gallery - Enclosed Secure			1000	1	1000
Museum Collection - Instructional			100	1	100
Museum Collections Storage- Secure			1200	1	1200

Museum Workspace			250	1	250
Sub Total					**30180**

Summary Space Information	
	ASF
General Classrooms	10600
Common and Shared	8725
Sociology and Criminology	16240
Population Research Inst	5795
Anthropology	30180
Total ASF	71540

71,500 target for 110,000 GSF