



Portland State
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Facility Evaluation and Site Analysis

FINAL REPORT

May 8, 2015



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Executive Summary

The USGS Oregon Water Science Center (ORWSC) and Portland State University (PSU) have a 5 year term collaborative agreement which includes a cooperative research agreement for ORWSC to operate in a PSU-owned building at the edge of PSU's urban campus. Increased collaboration and interaction between the ORWSC and PSU, specifically the School of the Environment, would provide benefit to all parties. The current cooperative research agreement term of the existing ORWSC building is nearing its end and both PSU and ORWSC are interested in exploring alternative locations options. To this end, PSU hired IDC Architects (IDCA) to evaluate the existing conditions and space needs of the USGS ORWSC and assess available space on campus for potential co-location with one or more functions of the School of the Environment.

Existing Conditions and Project Context, Key Findings

The current space is adequate for accommodating the existing headcount of 95 people, with associated lab, parking, receiving, gear storage, and other support functions. However, the space has a number of weaknesses that impede USGS workflow and collaboration with PSU. The following highlight key areas for improvement:

- A ground-floor reception area with conference rooms outside of security would improve the public face of the ORWSC and facilitate interaction with PSU personnel. An improved reception area would also increase security, which has been problematic due to the current distance of reception from the building entrance.
- Covered staging/shipping and receiving area with adjacent decontamination, shower, personal equipment lockers and equipment storage areas would dramatically improve material flow and allow employees to make better use of limited office/cubicle space.
- Lab space could be optimized by providing better storage areas for items currently stored in the lab (batteries, for example), and separating dirty-lab space and parts-per-billion lab space.
- The current space is perceived as adequate, but inefficient. Quiet office space and access to daylight are strongly valued by employees, as are flexibility and diversity of spaces – some single-offices, team offices, and cubicles.

Best Practices, Key Findings

IDCA interviewed USGS personnel representing several similar USGS-University collaborations and developed a best-practices memo. The following illustrate key findings explained more completely in Section 3.

- Collaboration on science/research is crucial to cooperative agreements through USGS (as opposed to GSA-managed lease agreement).
- Strong research-driven relationships between USGS and Universities can lead to increased funding opportunities for both institutions.
- Involving additional federal, state or local agencies or NGOs may increase likelihood of additional funding (such as Congressional support).
- Long-term 30 year commitments are preferred by both University and USGS personnel, but 5-year agreements appear to be standard.
- Financial vehicles available when California and Arizona Water Science Centers' cooperative programs began are not likely to be available today.
- Co-location of USGS personnel (same floor or same region of the building) is helpful but not required.
- Public area outside of security perimeter increases opportunities for collaboration with university personnel and public outreach.
- Proximity of USGS offices to University is critical to collaboration.
- Adequate storage, parking and loading on-site saves considerable staff-hours.
- Dedicated IT system is required by USGS.

Space Planning, Key Findings

Complete space planning diagrams and explanations can be found in section 5.0. The space plans take into account the areas for improvement found during the survey of existing conditions, and present options for single-level or two-level buildings, using corridor or race-track layouts. Key Findings are

- Closer to SOE offices and labs
- Closer to USGS parking at Montgomery and SW 12th
- Approximately 27,300 sf
- At least 55% of area on ground floor
- No more than 2 floors

The most significant item to arise from discussions of the space plan was the need for (and difficulty obtaining) adequate parking, loading, and shipping/receiving space. The City of Portland places severe restrictions on surface parking and sidewalk cuts within the downtown core. Since loading and parking space are crucial to ORWSC's operations, "grandfathered" sidewalk cuts, traffic patterns, and feasibility of structured parking areas needs to be prioritized during future space planning and location analysis. The idea of "decoupling" the interpretive and data sections of ORWSC was raised, but the decision was made not to diagram options for decoupling at this time.

Vehicular access to the freeway and staff access to public transportation were also key findings to be considered in the location analysis.

Location Analysis, Key Findings

The following three location scenarios were proposed by PSU:

- Existing site - phased construction to increase area on the site and take advantage of the existing parking, loading dock, and access.
- Budget block - bounded by SW 4th Ave, Lincoln Street, SW 5th Ave, and about SW Jackson Street. Assume that the Art Building is torn down and replaced with a building on the entire site.
- SE corner of Honors block - assume about a 1/4 block to 1/3 block development on the block bounded by SW Market St, 11th Ave, SW Mill Street, and 12th Ave.

A detailed SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis for each site can be found in section 6.0. Site location and condition, building adjacencies, potential collaborative partnerships and overall footprint were considered as part of this review.

Recommendations and Considerations

Site Alternate "C" "The Honors Block" appears to be the most advantageous location for a new USGS facility on the PSU campus.

A complete summary of our recommendations can be found in section 7.0. It is based solely on the proximity and physical conditions of each site. We did not consider the site development schedule expectations or funding sources in this analysis process.

1.1 Project Background and Scope

Project History

The USGS Oregon Water Science Center (ORWSC) and Portland State University (PSU) established a collaborative program in June 2007. ORWSC's office and laboratory space is currently located in a PSU-owned building at the southeast end of campus. This current building is marginally adequate for the ORWSC's current needs, but has a number of weaknesses that impede workflow and collaboration with PSU.

In the interest of increasing collaborative opportunities, and taking advantage of the pending cooperative research agreement renegotiations, both PSU and ORWSC are interested in exploring alternative options for housing the ORWSC on campus. These options may involve renovation of existing space or construction of a new building.

IDCA Scope of Services

PSU hired IDC Architects to evaluate the existing conditions and space needs of the USGS ORWSC and assess available space on campus for potential co-location with one or more functions of the School of the Environment. IDCA is to determine program and space planning requirements only to the extent necessary to make recommendations for a future home for the ORWSC program. The following tasks were included in this scope:

Task 1: Schedule and facilitate a kick-off meeting with USGS and PSU SOE stakeholders. Kick-off meeting should include a comprehensive tour of ORWSC and SOE facilities to better understand functions, activities, spaces, critical adjacencies, and current challenges that would improve the scientific process and increase collaboration.

Task 2: Evaluate existing USGS ORWSC program and facilities through interview stakeholders, findings from tours conducted in Task 1, follow-up communications, and document review.

Task 3: Conduct a best practices study of other USGS - University partnerships for best practices to apply to the USGS PSU/SOE relocation activity.

Task 4: Prepare and deliver a space plan document that includes summaries of space needs, space characterization, and adjacencies; illustrated through diagrams and matrices.

Task 5: Prepare commentary and analysis for each scenario, with a focus on the spatial and contextual (based on previous four tasks) fit, including the qualitative analysis of the trade-off of each option.

Task 6: This report, summarizing the process, space planning and colocation options findings, and including all deliverables.

Guiding Project Principles

Both USGS and PSU value the collaboration between their organizations. PSU wishes to continue leasing space to USGS on campus. Enhanced collaboration between USGS and the School of the Environment (SOE) is a must.

PSU and USGS have emphasized that this space planning effort will be very USGS-centric. Although it will be important for SOE personnel to have closer proximity and enhanced collaboration with USGS, this space-planning project does not include any SOE space.

Conditions of Satisfaction

The following list was created by IDCA with agreement by ORWSC and USGS, to define the ultimate goals of this project:

- Recommend a new home on the PSU campus for the ORWSC that is the right size, accommodates the required lab and office space and allows for improved collaboration with SOE.
- Space must allow convenient movement and processing of field samples from USGS vehicles into the lab and accommodate waste removal.
- Provide a document that records best practices of how similar USGS facilities have collaborated with other universities both physically and financially to realize the greatest level of cooperation.
- Collaboration between USGS and PSU is a high priority and a requirement of their Cooperative Research Agreement. Recommendations and design elements should consider enhancing collaboration among PSU, USGS and the public.

2.1 Task 1 Memo Summary

2.1.1 Guiding Project Principles

Both USGS and PSU value the collaboration between their organizations. PSU wishes to continue leasing space to USGS on campus. Enhanced collaboration between USGS and the School of the Environment (SOE) is a must.

PSU and USGS have emphasized that this space planning effort will be very USGS centric. Although it will be important for SOE personnel to have closer proximity and enhanced collaboration with USGS, this space planning project does not include any SOE space.

2.1.2 Conditions of Satisfaction

The following list is gleaned from what IDCA has heard from conversations with PSU and USGS in preliminary conversations and during the kick off meeting held Feb 13, 2015.

- Recommend a new home on the PSU campus for the ORWSC that is the right size, accommodates the required lab and office space and allows for improved collaboration with SOE.
- Space must allow convenient movement and processing of field samples from USGS vehicles into the lab and accommodate waste removal.
- Provide a document that records best practices of how similar USGS facilities have collaborated with other universities both physically and financially to realize the greatest level of cooperation.
- Collaboration between USGS and PSU is a high priority and a requirement of their Cooperative Research Agreement. Recommendations and design elements should consider enhancing collaboration among PSU, USGS and the public.

2.1.3 IDCA Scope of Services

IDCA will evaluate the existing conditions and space needs of the USGS ORWSC and assess the space for potential co-location with the SOE. Guiding the level of detail for this project, it is understood that IDCA is to determine program and space planning requirements only to the extent necessary to make recommendations for a future home for the ORWSG program.

A complete copy of the Task Memorandum can be found in the Appendix.

3.1 Task 2 Memo Summary

3.1.1 Inventory of Existing Program Functions and Spaces

The current space can accommodate desks for 96 people 7 of which are visitors from other USGS offices. Some of the visitors will not be included in the move to a new location. For planning purposes we will assume a head count of 95 people.

Parking/Site

- USGS currently has 6 interior parking spaces for USGS vehicles in the north end of the first floor of the current building. It is not necessary for the parking to be interior and it could be consolidated with the exterior parking.
- The interior spaces tend to turn over once or twice per day. As USGS staff arrives, they will take a USGS vehicle for field work and park their personal car in its space for the day.
 - There are also 8 exterior parking spaces on the south side of the building. At least two of them need to be left open for staging and loading dock access. 6 open parking spaces is the bare minimum for this area. USGS prefers 10 spaces to maximize flexibility. USGS vehicles are rotating all day long on most days through these spaces so they must be dedicated to loading/unloading of USGS field vehicles. All of the loading/ unloading of samples and equipment happens through this parking lot and loading dock.
- Most staging of equipment and pallet shipments have to happen outside of the loading dock door. A covered staging area would be ideal to protect the shipments. Palettes are moved with a manual pallet jack.
- Ideal exterior parking would include:
 - Deep spaces for the long USGS vehicles.
 - Space for two shipping containers for secure water-tight equipment storage.
 - Convenience power outlets.
 - A hose bib for decontamination of equipment.
 - A covered area for staging shipments of palletized equipment and materials. This area could be inside within the shipping/ receiving area.
- There are two additional parking areas located near the parking garages on the west side of campus. Multiple sections store equipment in these locations. It is a 15 minute walk between the ORWSC and this remote parking and can add 30 minutes to employee's work day. Closer proximity to this parking area would increase efficiency.
- Bicycle parking – Convenient bicycle parking is important to USGS. Currently several parking spaces in the building are dedicated to bike parking. Currently PSU provides 35 bike passes to USGS annually. Approximately

50% of staff (45 people) in the summer and 20% (18 people) in the winter commute by bicycle.

- Convenient visitor parking should be considered. There are 2-3 people per day visiting the ORWSC from different government agencies and private industry. Up to 20 visitors may attend a seminar.
- Trash and recycling containers are currently kept in the basement parking area. In the future the trash and recycling should be equally convenient. A large amount of aluminum foil and plastic bags are used as packaging of field samples when they are shipped to ORWSC so trash/recycling should be convenient to shipping/receiving and the lab.

Shipping/Receiving and Storage

- There is an 8'x8' overhead coiling dock door raised approximately four feet above grade. One dock door is adequate although two would be more convenient. To improve efficiency we will plan for two overhead doors. At least one should be equipped with a dock leveler. One of the doors could be at grade but at least one should be a raised dock. An exterior man door would also be convenient.
- The loading dock needs close proximity to the lab, the equipment storage area and battery charging/storage. The samples, equipment and batteries can be heavy and are usually bulky and awkward.
- Currently decontamination takes place in the storage room at a small counter with a dish washer and a double basin sink near the telecom equipment. Ideally there would be a dedicated decontamination area adjacent to loading where equipment and gear such as waders, wetsuits and regulators could be washed in cleaning solution, scrubbed, rinsed and dried.
 - Cleaning solutions tend to be bleach or Betadine solutions.
 - The space would be fitted with pegs for hanging gear, a hose bib with flexible spray nozzle, a floor drain and water resistant finishes.
- There is a small electronic repair shop, close to the loading dock, where some batteries are charged.
- Battery storage should have ventilation. Currently "bad" batteries and charged batteries ready for field use are stored in a wooden cabinet just inside the loading dock door. There is a larger battery storage room in the northwest corner of the laboratory.
 - This inconvenient location requires field staff to enter the lab to retrieve batteries, potentially disrupting work and contaminating the room.

- Battery storage and charging should be consolidated with immediate access to the equipment room and or the shipping/ receiving area.
- There is currently a shower located in room 115D near the center of the building on the first floor. It is well used by field staff and by bike commuters. It would be more convenient near the shipping/receiving area. We will plan for 2 bathrooms with a shower in each, located adjacent to the locker area.
- Ideally, for security and convenient alert of shipments, there would be transparency from an office area where multiple people could view the exterior loading dock area.

Postal Service, and parcel, and small chemical deliveries are made to the reception area.

Laboratory

- There is currently a single laboratory in the building (Room 125). It appears to be appointed with:
 - Approximately 120 linear feet of bench
 - 4 deep basin sinks
 - 2 (6') Chemical Fume hoods
 - 3 bench mounted furnaces
 - 1 ice machine
 - 2 upright freezers
 - 2 double door refrigerators
 - 1 Fluorescence / Absorbance Spectrometer
 - 1 centrifuge
 - 1 lyophilizer with pump
 - 1 water bath
 - 1 floor mounted scale
 - 2 or more bench mounted scales
 - 1 combination safety shower/eye wash
 - 2 flammable storage cabinets (vented)
 - A number of other small benchtop pieces of equipment
- The fume hoods and the freezers are approximately 8'-6" tall.
- There are approximately eight tall plywood cabinets near the entry door of the lab that contain equipment that could be stored elsewhere.
 - The perception is that the cabinets are in the lab currently because there is nowhere else for them to go.
 - Some of the cabinets may contain laboratory set-ups in tubs so they can quickly be moved on or off the benches.

3.0 TASK 2

- Some tall cabinets should remain in the lab for glassware and sample storage.
- The bottle wash room (125A) is for storage of clean plastic bottles, bags and aluminum foil.
- The battery room (125B) is used for storage and recharging. It was located here to take advantage of the lab exhaust, but it is in an inconvenient location because access requires people to walk through the lab, increasing contamination and disturbance.
- The casework is mostly an assortment of metal cabinets with epoxy resin counter tops. There are a few examples of wood casework, lumber tables, and collapsible steel tables with plastic laminate tops.
- The floor appears to be vinyl composition tile. The walls are gypsum board with resilient base. The ceiling is 2x4 suspended acoustic tile in a simple metal T-bar system.
- According to Mary Janet, the chemicals used in the room include:
 - Acetone
 - Methanol
 - Sulfuric Acid
 - Hydrochloric Acid
 - Nitric Acid
 - Bases
- One criticism is that there are lots of low-level analyses, and contamination could be better controlled. A separate “Parts per Billion” (PPB) lab accessed through the main lab would help control the contamination. This lab would in part test for trace metals so the finishes and furnishing selection should minimize metal. Approximately 25% of current lab footprint could be isolated as this metal sensitive PPB lab.
- There are incompatible materials in the lab that should be considered in placement of storage cabinets in a new lab space.
- The Watershed Ecology Section (WES) team uses bench mounted rock tumblers to process samples. It is loud and can be dirty work that creates vibration. It can be disturbing to other groups and should not be in the lab. It is currently done in the Equipment Storage Room but ideally would have its own acoustically isolated “Dirty Lab” room with enough bench space for four rock tumblers (about the size of a toaster) and a sink. The space should also have space for a floor mounted “Ro-tap” sieve shaker that is about 24” in diameter. Additional space should be provided for sturdy shelves for 20 five- gallon buckets of rock samples. In addition, an 8’x 8’ flex space for occasional experiments using a variety of equipment should be set aside and could be part of the same room.

- Ideally, for safety purposes, there would be transparency between the PPB lab and the main lab and between the main lab and an office area or common space.
- Some lab work requires use of teflon churns and field auto samplers that hold several gallons of water. They are filled in the field set into a larger vessel with handles and then double bagged in large trash bags. They are shipped back to the lab where the plastic is removed for the sample to be processed. Currently this work is done at the north end of the lab which increases chances of lab contamination. Ideally there would be an area immediately outside the lab or just inside the lab door where the bags could be removed to minimize the contamination in the lab. This area should include space for recycling/trashing the bags.
- Lab waste is disposed as follows:
 - Liquid chemicals are diluted and poured down the drain consistent with city of Portland requirements.
 - Liquid waste that cannot be poured down the drains are collected in the lab and occasionally transported under protocol to a chemical waste site.
 - Non-hazardous solid waste such as plant material and occasional fish tissue are bagged and put into the trash.
 - Past experiments have included Carbon 14 stakes. The small quantity of used stakes were disposed through PSU’s environmental health and safety team.
 - Most water samples are prepped in the lab and sent to other USGS labs for analysis. The remote labs dispose of the waste.
 - Soil and rock samples are donated for landscaping or returned to the field.

Equipment Storage

- The equipment storage room (130) is crowded with shelves and each shelf is filled with equipment coolers, buckets, gear, charts, and files stacked to approximately ten feet above the floor. The space also houses a caged area for telecom equipment, several electrical panels, switches, meters and an air-handling unit, which appears to serve the adjacent laboratory.
- Storage of equipment and gear also happens in the office cubes. Most field personnel store equipment at their desks because they believe it is less likely to be used by others, misplaced, or have the calibration altered. USGS management is not opposed to staff having dedicated gear because it tends to improve efficiency. However, office space would be more efficient if storage was consolidated in a central location and large, individually assigned lockers were provided for the personalized equipment and gear.

For planning purposes some people will require gear lockers for clothing and others will require lockers for clothing and equipment:

- Twenty-five 2’x2’x6’ ventilated gear lockers
- Thirty-six 4’x4’x8’ lockers, wire mesh partitions with shelves and hooks

Computer/IT

- Existing room 237 is a secure storage room. It is used for storage of some equipment but also houses the back-up tapes. It is crowded and ideally would be larger, approximately 225 sf. This room needs to be physically separate and not adjacent to the computer server room. If the room is constructed of rated walls it could be adjacent.
- The existing computer server room (room 233) is over 400 sf and only needs to be around 300 sf. The computer server room is 17kw and has dedicated HVAC. Ideally the room would be equipped with a non-water fire extinguishing system although the current space has conventional fire sprinklers.
- Both computer server room and secure storage should have a higher level of security than the rest of the facility.
- The computer section works with all other sections equally. They do not require any particular adjacency to other sections.
- Large deliveries only happen two or three times per year so close proximity to the shipping/receiving is not required.
- Darius works on many computers all day long and needs a large office to accommodate many machines on tables within his office.
- There are 3 people in the section including Darius and a Publication Specialist. An occasional volunteer or intern joins them. Also the section needs an additional cube space or bench that will be used as a shared equipment lab. Therefore, the computer section needs one large office, one small office and 3 other cubes.
- Currently the computer Section’s area is home to a large color plotter it does not really belong to the department. It just happens to be located there.
- There are 3 large desk-top color printers, 9 black and white desk-top printers and 2 large copy machines distributed around the ORWSC. They are located for convenience on desk-tops or in corners of offices wherever they fit. Ideally there would be dedicated spaces for the printers and copiers. One space per section is not necessary but they should be located conveniently for all of the sections. One would contain the large plotter.

Reception

3.0 TASK 2

- The main building entry is located in the middle of the West façade on the first floor. Reception for USGS is up the stairs, and down the corridor through a closed door.
- Currently, during office hours there is nothing to stop the public from entering the building and wandering through the offices. Property has been stolen due to this arrangement.
- For security reasons and for a stronger public face, USGS prefers to have a reception desk located adjacent to the main entry. Ideally one person's desk in addition to the receptionist would have a view of the reception area for times when the receptionist is not at the desk.
- There is a collection of posters, awards, maps, photographs, display cases, electronic displays and hand-out racks located throughout the current facility. Dar envisions the maps and photos distributed on the walls of the new facility but the display and handouts should be located near the reception to enhance the public component of a new location. One large display case will hold old instruments and photos. Two large screen TVs will cycle upcoming event notifications, images of USGS work, photographs, and potentially video. Three hand-out racks will be placed on the walls in the public access area near reception. Ten feet of wall space should be reserved for a copper printing plate display. For planning purposes we will account for an additional 100 sf called Museum/Outreach in the schedule of areas.

Conference

- The existing facility has one large meeting space, the Willamette Library in which approximately 50 people can meet. The Santiam and Deschutes conference rooms can each hold 8 to 10 people. The Santiam room is only accessible through the Willamette Library. Some small meetings of 2- 5 people are held in Section Chief offices.
- Generally there is a consensus that more conference rooms are needed.
 - There is a need for a large space holding a minimum of 60 people.
 - It would be conveniently flexible if that room could be divided into two rooms for 30 people each to accommodate simultaneous smaller training and seminars.
 - IDCA suggests having the number of conference rooms match the number of sections so each section could have a meeting simultaneously.
 - According to our interviews, two sections have approximately 30 people. So having two of the conference rooms sized to hold 30 occupants is appropriate.

- Since there are frequent visitors who attend meetings and “brown bag” lectures, it would be beneficial to have access to a large conference room and perhaps a small one from the non-secure side of the reception desk.
- Conference rooms should all be appointed with provisions for teleconference, video conferencing, white boards, tackable surface, and projection.

Office Space

- The current space has a variety of office sizes and configurations.
 - There are many single occupant offices that should be retained for team leads and section chiefs at a minimum. There are also a number of medium sized rooms that contain 3 to 5 cubes.
 - Some USGS staff need near silence to do their writing and modeling work so single occupant and medium sized multiple occupant spaces are convenient for acoustic separation.
 - The medium sized offices also add to the ability to collaborate or mentor for similar tasks when silence is not required.
 - Open office cubical arrangements for 5 or more are acceptable to most people as long as the acoustic concerns are addressed.
- Generally this variety of office spaces is desirable and should be designed into the new space. However, there is general acknowledgement from USGS management that the space could be used more efficiently, if there were more consistent office sizes and arrangement.
 - Larger areas of open office with regularly sized/spaced cubes, and file furniture improves space efficiency.
 - Open office space should be augmented with “Quiet Rooms” and more conference rooms that people can use to have a personal phone call or lengthy conversations. A few rooms, perhaps 1 per section, should also be designed for 3-4 cubes to provide the small team isolation. To accompany the open office areas we will plan for 1 quiet room per 20 cubes.
- The current distribution of personnel on the second floor is intentionally unconsolidated. People from each section are scattered across the floor with the hope of better interaction and potential collaboration between sections. In general, personnel report that they appreciate the arrangement for personal interaction reasons but the effect on collaboration is dubious.
- Management and interviewees expressed a strong preference for all office space to have access to daylight and views of the exterior. Unoccupied spaces such as storage and computer rooms should be located on interior walls or walls without windows to maximize office exposure to light and views.

- There are no special requirements for the office space for any of the sections. Standard system furniture and finishes would be appropriate. Computer intensive work does not require low glare space. Direct light can be a problem but is easily controlled with blinds on the windows.
- USGS management is also interested in an office design model that would place open offices adjacent to windows and closed offices on the inboard walls with glass in their doors and side lights that would allow them to “borrow” light and views through the open office space.
- For planning purposes the following closed offices will be assigned:
 - Section Chiefs will have 165 sf closed offices
 - Team Leads and Specialists will have 110 sf closed offices
 - 4 person offices for each section:
 - 1 for admin
 - 0 for Computer
 - 4 for Data (PFO)
 - 2 each for the other sections

Break Rooms

- There are several break room areas in the existing facility. They are all used but some are awkward and uncomfortable and have no seating.
- One or more convenient central break areas with seating and daylight/views would be ideal and would increase cross-section interaction.

3.1.2 USGS Facility Policies

Under the current agreement the ORWSC does not have to comply with General Services Administration (GSA) policies. However, Dar has provided facility guidelines to IDCA for reference. In particular GSA's guideline of 180 square feet per person (with some exemptions for library, lab, and certain core facilities and circulation) is a good benchmark to which we can compare our area.

Other relevant facility policies are:

- Only trained personnel are allowed to work in the lab. Others must be escorted in special circumstances.
- USGS must have a dedicated IT infrastructure to maintain a “firewall” between it and other organizations.
- Guests must check in at reception, wear a visitor's badge and be escorted by USGS personnel.

3.1.3 Partnership, Interaction and Collaboration between PSU and SOE

There are a variety of ways that USGS and SOE interact:

- Volunteer students can work with the USGS in a limited capacity.
- “Pathway” program, employs PSU students and recent graduates at USGS for work in the field, lab and office.
- The experience the students gain by volunteering and through paid opportunities via the Pathway program makes them qualified candidates to become USGS employees after graduation.
- Some USGS staff are Adjunct Professors at PSU.
- USGS staff have been guest lecturers at PSU.
- There are some professional research collaborations between SOE and PSU.
- USGS personnel attend the PSU lecture series on subjects related to their work.
- Although not currently active, opportunities were identified to share access to research equipment between laboratories.

3.1.4 Existing and Future Collaboration and Synergies between PSU and SOE

There are a number of ways that the two organizations collaborate and find synergy:

- Students are a rich source of curious energetic manpower for USGS. Additionally, the students earn money and gain hands-on experience. PSU Grad-students who are employed at USGS are a powerful link between the organizations.
- The two organizations have written research grant applications together which opens both PSU and USGS to grants and other funding opportunities that the individual groups would not be eligible to pursue otherwise.
- It appears that some equipment is shared although to a limited degree. Sharing equipment that is not currently used full time may be an excellent bridge between the two organizations as long as individuals are trained to ensure safety and standard operating procedures are followed.
- Closer proximity between the organizations should increase attendance at seminars and will increase chance meetings that could lead to collaboration.
- Sharing spaces, even limited non-lab or non-office spaces like break rooms, and conference areas could increase interaction.

3.1.4 Future Program Spaces

Dar Crammond acknowledges that there are some inefficiencies in the existing building due to the layout that was in place when USGS moved in. His general feeling is that the program should be able to fit in the same size space or smaller if they are able to gain some efficiencies. Dar does not anticipate growth in the number of people at ORWSC.

The following new dedicated spaces were identified during the tour and interviews as beneficial to efficiency, quality operations and public outreach:

- Decontamination
- Covered staging area
- Lockers
- PPB Lab
- Dirty Lab
- Additional conference rooms – target 1 for each of the 6 sections which would add a total of 3.
- Museum/Outreach

USGS operations also acknowledged that their current structure and facility program is subject to change as the research charter of the ORWSC may change in the future. Further, the work and the structure of the USGS ORWSC is episodic by season, specific grant, or other factors. In this vein, space planning activities will best serve all parties by planning in flexibility for the program to be reconfigured wherever possible.

A complete copy of the Task Memorandum can be found in the Appendix

Document amended on May 8, 2015: as part of the Project Next Steps, the ratio of private offices to open offices needs to be relooked at: especially for senior scientists, which in turn may affect the overall area required.

4.1 Task 3 - Summary

4.1.1 Research Methods

Initial background research was conducted using publicly available information, to gain an understanding of the types of collaborations existing between USGS and Universities. After discussions with Dar Crammond at ORWSC, the team determined that direct cooperative research agreements between USGS science or research centers and Universities were the best focus for primary-source research. Seven of these programs were identified for further study.

Contact information was provided by ORWSC and initial contact was made by Dar Crammond. Amy Maule (IDCA) interviewed the contacts by phone and email over the course of one week (Feb. 10-17).

Preliminary notes were discussed at the project Kick-off meeting held on February 13, 2015. Discussion at the kick-off meeting also informed these best practices.

4.1.2 Background

The USGS has a long history of cooperative research-driven relationships with universities. These relationships come in a variety of forms, many of which involve other local, state and federal agencies as well as non-governmental organizations (NGOs). The OWSC is part of the USGS Cooperative Water Program, a program that partners with local, State and Tribal agencies to monitor and assess water in every state. OWSC and Portland State University established collaborative program in 2007, and OWSC moved into a building on PSU's campus shortly after the program began.

Other types of collaborative arrangements between USGS and Universities include "Cooperative Research Units" and "Cooperative Ecosystem Studies Units." The Cooperative Research Units program began in 1935. They are long-term collaborations between USGS, a host University, a State natural resource agency and the Wildlife Management Institute. They are staffed by USGS personnel and hosted at the university. The Cooperative Ecosystems Studies Unit network is a consortium that allows many federal agencies, universities and NGOs to collaborate on long-term or short-term research projects with lower indirect costs.

The collaboration between OWSC and PSU does not currently involve other state or local agencies. Through discussions with OWSC, the project team decided to limit primary-source research to USGS-University collaborations with the most direct relevance to OWSC and PSU's situation. This included the science centers listed below.

4.1.3 Summary of Key Findings

- Collaboration on science/research is crucial to cooperative agreements through USGS (as opposed to GSA-managed lease agreement).
- Strong research-driven relationships between USGS and Universities can lead to increased funding opportunities for both institutions.
 - Opportunity for USGS personnel to be included in PSU research grants.
 - Opportunity for PSU research projects to benefit from federally funded research allocations.
- Involving additional federal, state or local agencies or NGOs may increase likelihood of additional funding (such as Congressional support). Partners might include:
 - The National Park Service
 - Other regional USGS functions
 - PSU's Institute for Sustainable Solutions
 - The Nature Conservancy (TNC)
 - Oregon Water Resources Congress (OWRC)
 - City of Portland Bureau of Environmental Services (BES)
 - Oregon Department of Geology and Mineral Industries (DOGAMI)
 - The Center for Coastal Margin Observation & Prediction (CMOP)
- Long-term commitments are preferred by both University and USGS personnel, but 5-year agreements appear to be standard.
 - Because University funding tends to come from the state and state funds are raised with bonds, Universities are better able to commit to capital expenditures if long-term commitment from USGS is assured (greater than 5 years).
 - USGS sees risk from agreements that must be renegotiated each year.
- Financial vehicles available when California and Arizona Water Science Centers' cooperative programs began are not likely to be available today.
- Co-location of USGS personnel (same floor or same region of the building) is helpful but not required.
- Public area outside of security perimeter for collaboration with PSU personnel and public outreach.
- Proximity of USGS offices to University is critical to collaboration.
 - The primary goal of USGS/University cooperative programs is to foster collaboration between students, faculty and USGS. USGS offices need to be no more than a short walk from university offices to maximize collaboration.
- Adequate storage, parking and loading on-site saves considerable staff-hours.
- Dedicated IT system is required by USGS.

A complete copy of the Task Memorandum can be found in the Appendix

5.1 Task 4 - Summary

The following key findings and recommendations are illustrated by the diagrams on the following pages.

5.1.1 Space Plan – Key Findings

- The nexus, common to all diagrams, is the shipping/receiving (S/R) and equipment room.
 - 5 out of 7 sections use S/R for staging and loading equipment before leaving to do field work.
 - Larger S/R area with better access to the equipment room, integrated decontamination and staging would benefit everyone.
- ORWSC could work in a single story linear arrangement with a central S/R, although Data section remains isolated.
- “Racetrack” circulation on a single story would reduce Data section isolation.
- Ratio of open office to closed office is <1:3.
 - Not ideal for concentric arrangement with open office on perimeter
 - Combined office area may be most efficient use of space

5.1.2 Space Plan - Recommendations for New Space

- Closer to SOE offices and labs
- Closer to USGS parking at Montgomery and SW 12th
- Approximately 27,300 sf
- At least 55% of area on ground floor
- No more than 2 floors
- Lab and storage area on ground floor 12’ to13’ clear from floor to bottom of structure
 - Lab: Allows for 8’-6” equipment, indirect lighting, mechanical duct space
 - Equipment Storage: Allows for current shelves to be relocated and used to same density
- 2 loading docks and adjacent parking for 16 large pick-up trucks
- 70% of program is office type space; new location should have ample windows for light and views.

5.2 Task 4 - Schedule of Areas

5.2.1 Schedule of Areas

CH2M HILL reviewed current ORWSC space floorplans and GSA requirements, followed by extensive staff interviews to develop a schedule of areas for a new ORWSC layout. This space reflects slightly increased area needs as described in the Task 2 memo, but ORWSC’s mission and space requirements are not expected to grow significantly in the future.

The following represents a preliminary design estimate. A more complete consideration of office space requirements should be completed prior to making space or design decisions. Particular attention should be paid to the use of private offices vs. cubical designs for various employee functions.

“Grossing factor” is a multiplier used to determine the amount of actual building area required to house the amount of functional space listed. The grossing factor is smaller for offices than for lab space, since labs usually more venting, plumbing, and other infrastructure than offices.

- ORWSC Sections and areas
 - Admin/Management = 1,665 sf
 - Data = 2,122 sf
 - Environmental Quality = 1,295 sf
 - Comp/Publication = 1,010 sf
 - Gen Hydrologic = 1,835 sf
 - Water/Environment = 1,265 sf
 - Lab / Equipment Storage = 3,487 sf
 - Support = 6,188 sf
 - Subtotal = 18,867 sf

- Grossing factor = 1.4 to 1.45
 - GSA for offices = 1.33
 - NIH for labs = 1.54 to 2.0
 - ORWSC is ~ 70% office type and 30% lab type space

• ORWSC Space estimate = 26,400 to 27,300 sf

The complete Schedule of Areas can be found in the appendix.

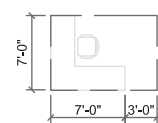
5.2.2 Form Factors

Form Factors are used to establish reasonable area per space in the Schedule of Areas. They are based on size of a module multiplied by the number of tasks being performed with the addition of circulation space. The form factors illustrated here were used in creating this schedule of areas.

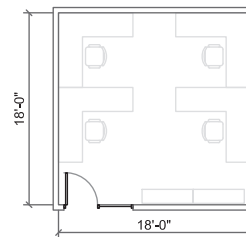
Module

The amount of area required for an individual to perform a specific task. This area contains space for the casework, furniture, and equipment needed along with floor area required for standing/sitting to perform this function.

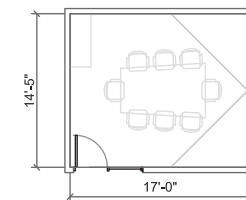
CUBICLE
70 SQFT



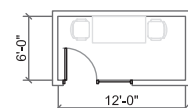
GROUP OFFICE
324 SQFT



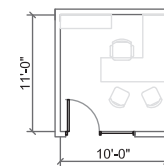
CONFERENCE ROOM
247 SQFT



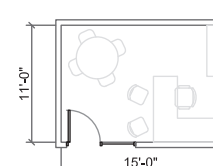
QUIET ROOM
72 SQFT



SMALL OFFICE
110 SQFT

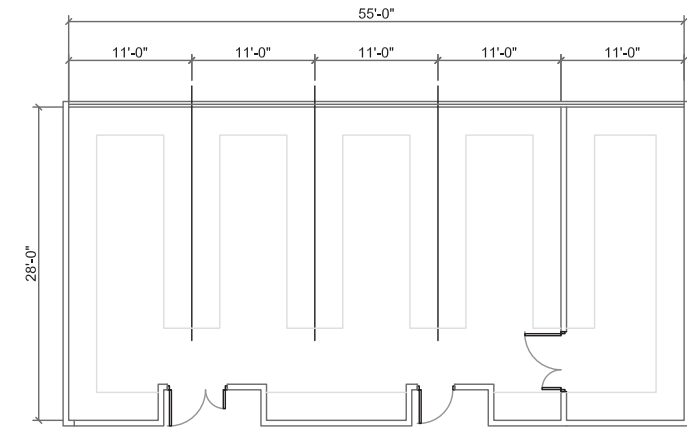


LARGE OFFICE
165 SQFT



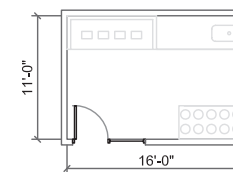
WATER QUALITY LAB

1540 SQFT



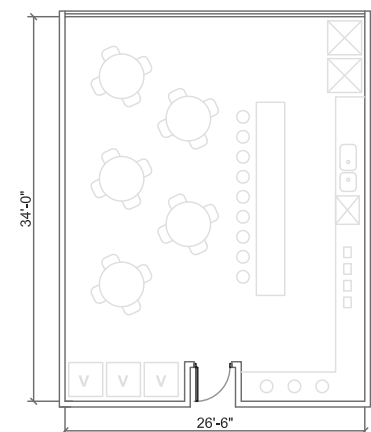
DIRTY LAB

176 SQFT

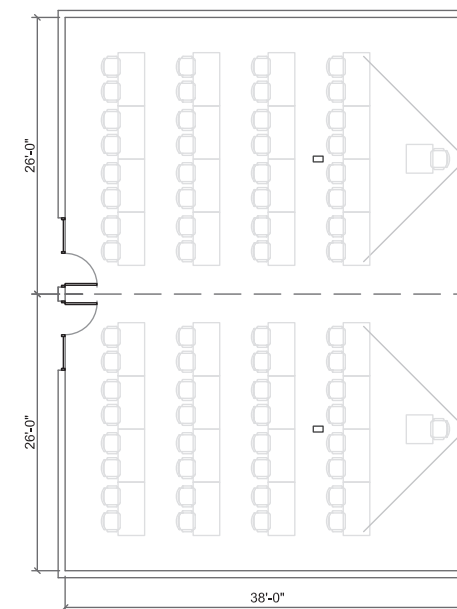


BREAKROOM

901 SQFT



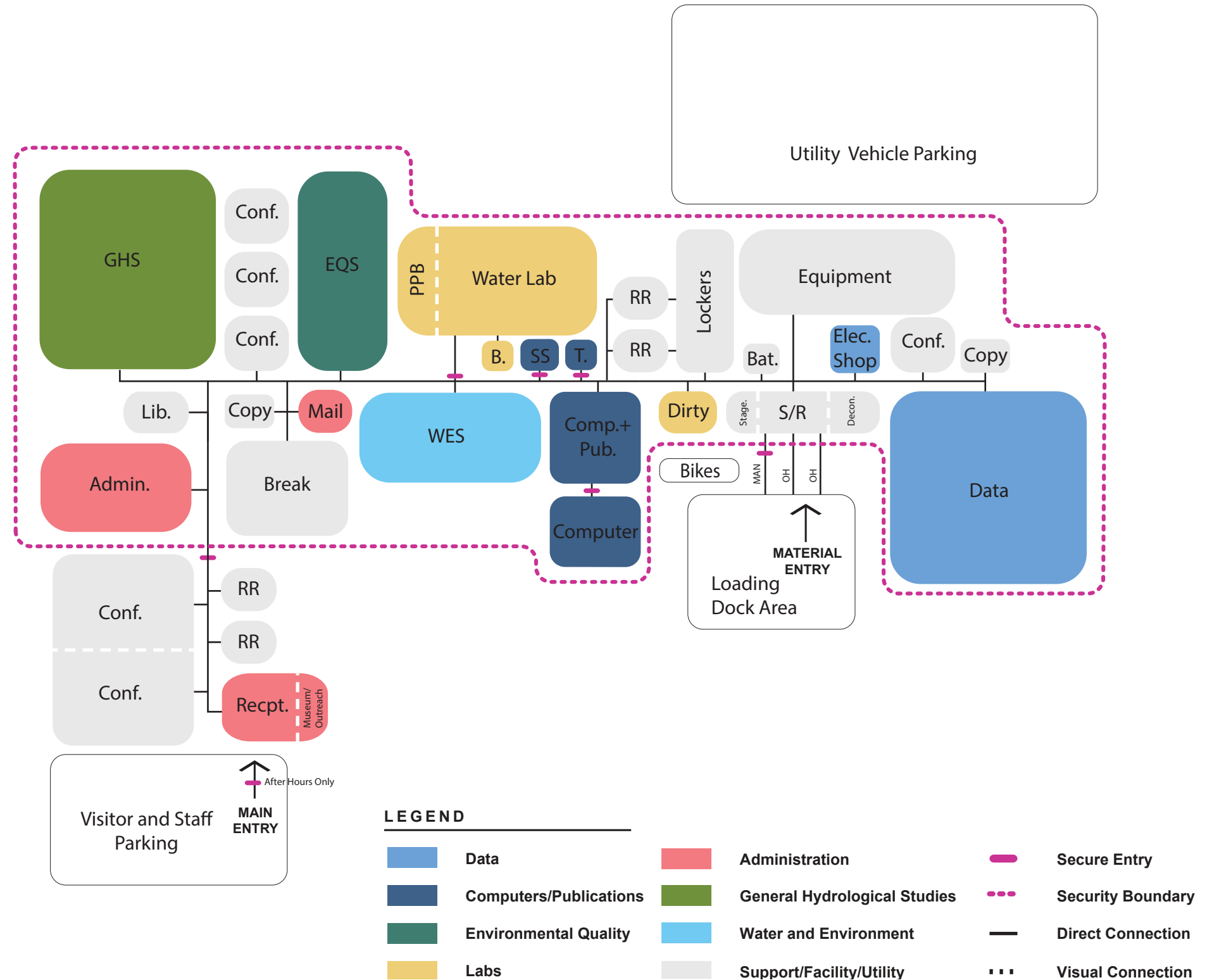
SEMINAR ROOM
988 SQFT



5.3 Task 4 Adjacency Diagram - Baseline

This adjacency diagram illustrates the relative size and required proximity of each group or function to other groups or functions as established during staff interviews. For example, the Data group needs to be close to the shipping/receiving area, while the Reception area needs to be close to the main entry and conference rooms. Security boundaries and entries are also shown. Adjacency diagrams are not floorplans - they are not intended to illustrate the shape of the building or specific shape or size of rooms just the relationship of one area to another.

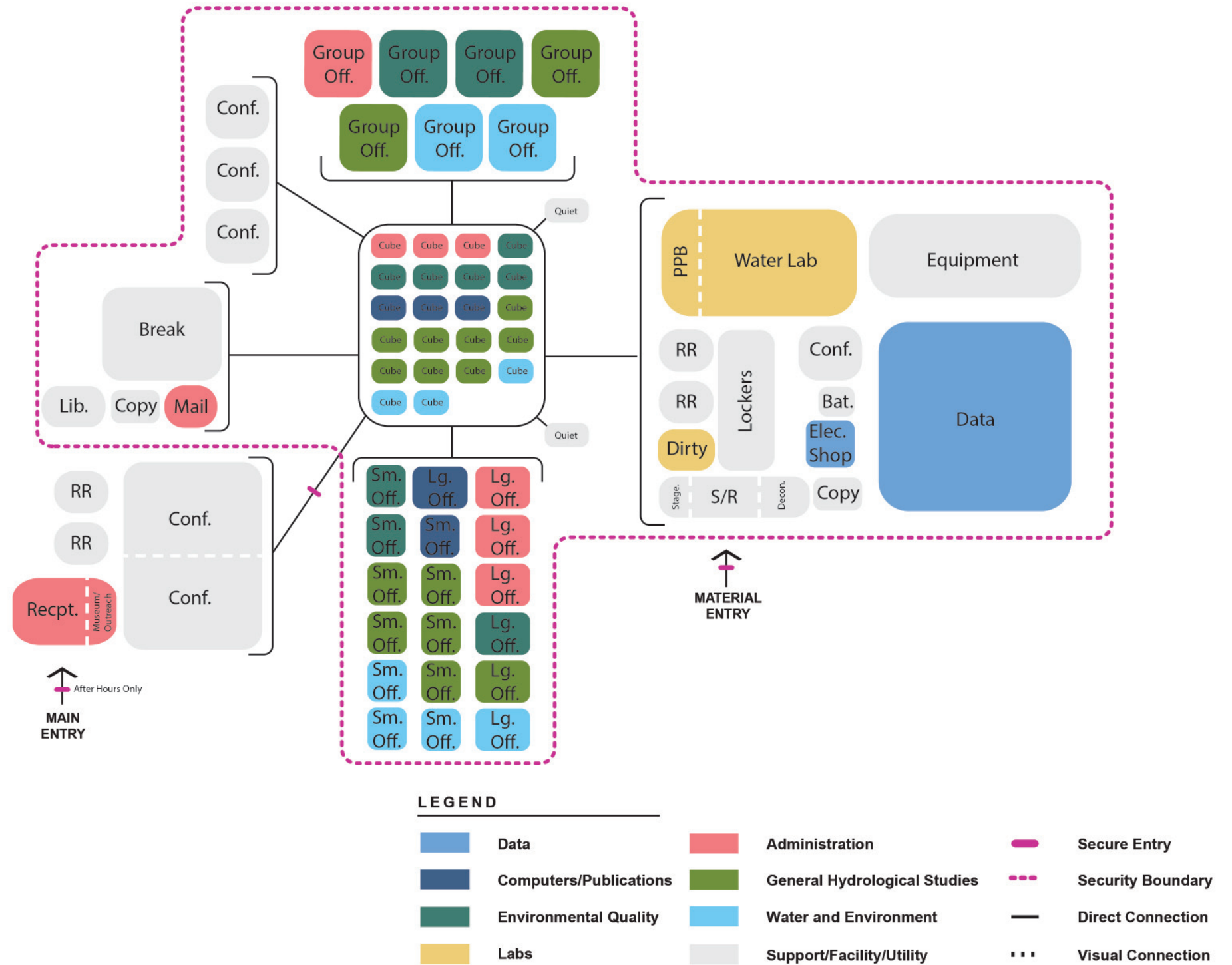
The figure to the right shows suggested adjacencies if each group is collocated with other members of the group – GHS with GHS, WES with WES, etc.



5.4 Task 4 Adjacency Diagram – Combined Office Alternate

This diagram illustrates an intermingled group adjacency layout. This arrangement increases socialization or cross-pollination between groups. Note that the Data group has not been included in the combined arrangement because the job functions of the Data group are more specialized and have different adjacency requirements.

This diagram also illustrates the approximate number and proportionate size (not physical arrangement) of offices, shared offices and cubes. This is based on preliminary data which should be reevaluated as decisions are finalized regarding the number of offices, shared offices and cubes.

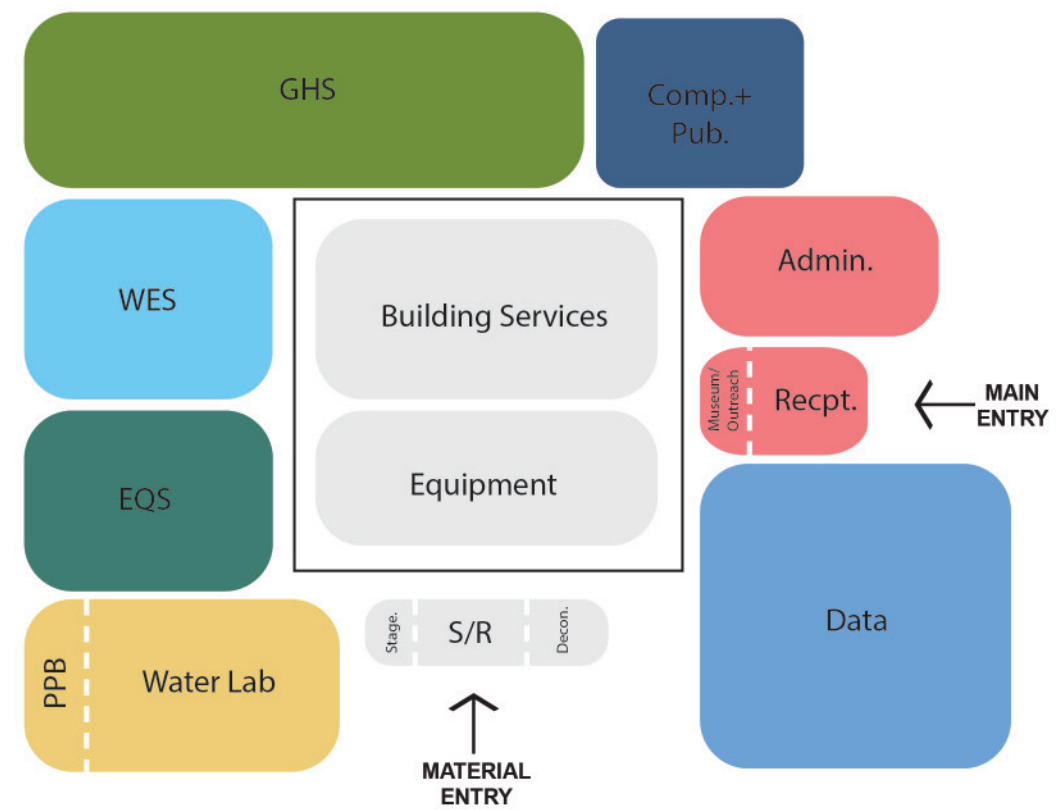


5.5 Task 4 Adjacency Diagram – Racetrack Alternate

This diagram illustrates a “racetrack” arrangement - offices are arranged around the outside of a central core, allowing the Data group to be less remote from the other groups. This layout maximizes daylight available to offices, while placing equipment storage and services in the center of the building.

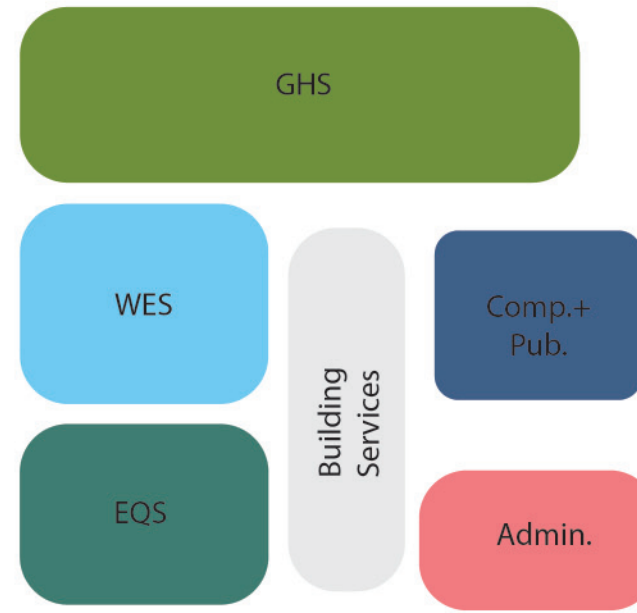
LEGEND

- | | |
|---|--|
| Data | Administration |
| Computers/Publications | General Hydrological Studies |
| Environmental Quality | Water and Environment |
| Labs | Support/Facility/Utility |



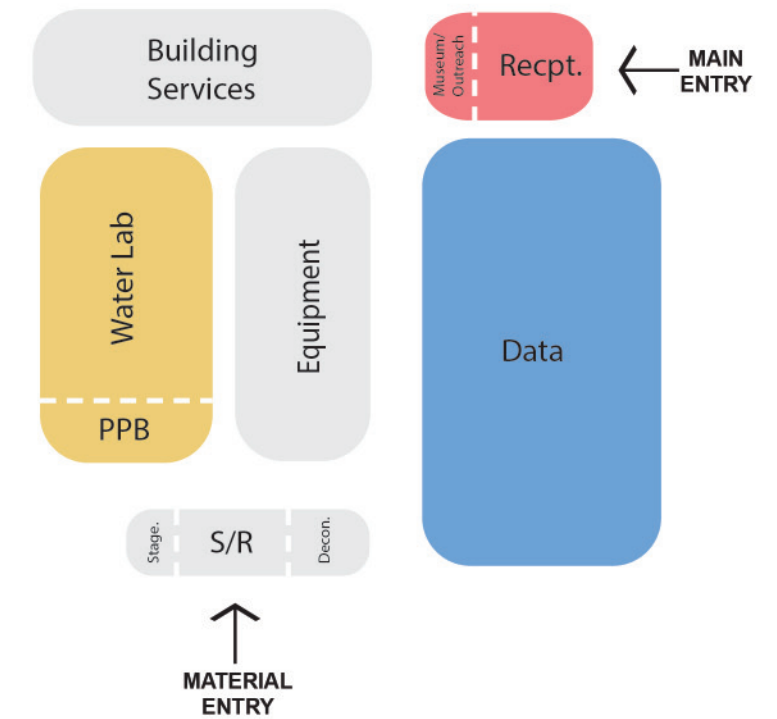
5.6 Task 4 Adjacency Diagram – Two Story Alternate

This diagram illustrates a possible two-story arrangement, where lab, equipment, loading and reception areas are located on the ground floor with office and support area on the second floor.



LEGEND

- | | |
|--|---|
| Data | Administration |
| Computers/Publications | General Hydrological Studies |
| Environmental Quality | Water and Environment |
| Labs | Support/Facility/Utility |



5.7 Task 4 Equipment / Material Flow

Material flow diagrams illustrate how materials (samples, equipment, gear and vehicles) travel throughout the building. Material flow diagrams help identify necessary functional adjacencies to improve efficiencies and prevent congestion. This diagram illustrates the flow of materials within the ORWSC.

KEY NOTES

SAMPLES: WATER, TISSUE, PLANTS, SOIL

- 1 Containers stored in equipment storage or lab
- 2 Containers moved to field vehicles through S/R
- 3 Vehicles leave for field
- 4 Vehicles return from field
- 5 Samples go to dirty lab for storage or water quality lab (WQL) refrigerators or freezers for storage
- 6 Samples processed in dirty lab
- 7 Samples prepped in WQL
- 8 Some samples processed in WQL
- 9 Some samples staged in dry or wet ice for shipment to other USGS labs. When they return, go to step 5
- 10 Samples archived
- 11 Lab waste sent to trash or disposal site
- 12 Containers cleaned and returned to equipment room or stored in lab
- 13 Chemicals delivered to reception and moved to lab

EQUIPMENT: DEVICES, COOLERS, BUCKETS, KAYAKS

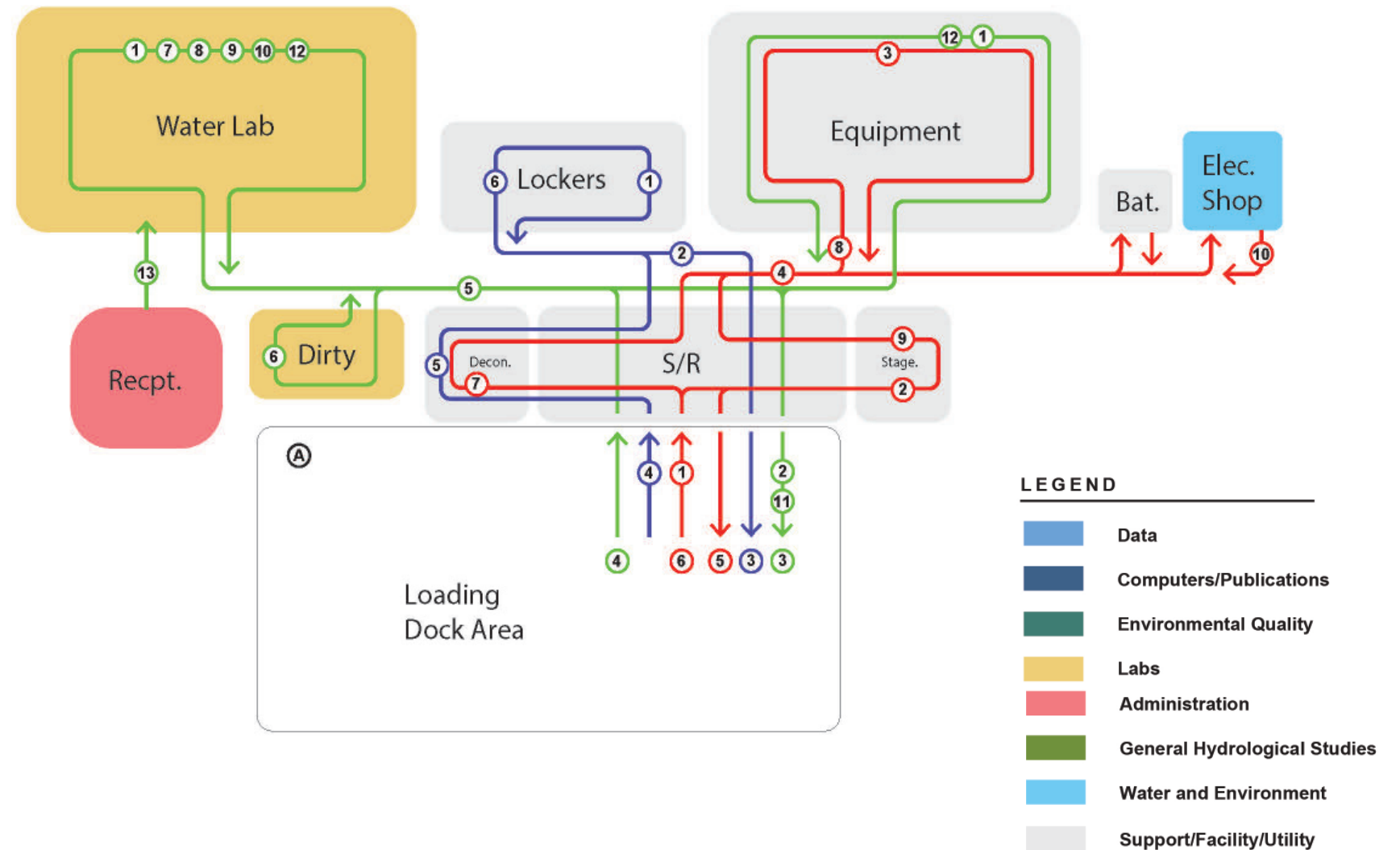
- 1 Borrowed from other USGS facility arrives on pallets
- 2 Pallets are unpacked in staging
- 3 Stored in equipment storage (permanent or borrowed)
- 4 Moved to S/R. Batteries retrieved from battery room, loaded onto field vehicles
- 5 Vehicle leaves for field
- 6 Vehicle returns from field
- 7 Equipment decontamination
- 8 Equipment back to storage, batteries back to battery room
- 9 Some equipment packed in staging area for shipment to other USGS facilities
- 10 Some equipment passes through electrical shop for repairs then goes back to storage

GEAR: WADERS, CALIBRATED DEVICES, WETSUITS

- 1 Stored in lockers
- 2 Moved to field vehicles through S/R
- 3 Vehicle leaves for field
- 4 Gear returns from field
- 5 Gear decontaminated
- 6 Stored in lockers

VEHICLES

- A Trash and recycling containers



6.1 Task 5 - Summary

The following three location scenarios were proposed by PSU. Each site is analyzed in detail in the following sections (6.2 - 6.4).

- Site A: Existing USGS Building site - Phased construction to build additional area on the site as allowed by current zoning while preserving current uses, existing on-site parking, and site access (curb cuts).
- Site B: "Budget Block" – Former Budget Rental Car site partially owned by TriMet bounded by SW 4th Ave and Lincoln Street on two sides and the site currently occupied by the PSU owned Art Building and its' Annex (to be demolished). Proposed larger new Academic building as allowed by zoning preserving existing on-site parking and site access (curb cuts)
- Site C: SE corner of the "Honors Block" – assumes a proposed new building on the PSU owned lot to occupy about 1/3 block of the block bounded by SW Market St., 11th Ave., SW Mill Street, and 12th Ave

Zoning

A preliminary review of Portland Oregon's zoning code raised the following considerations relative to the three sites under consideration. A more thorough code analysis should be conducted prior to design.

All development sites fall within the "Downtown, University District" requiring all new development to go through City of Portland design review

- Site A CXd = Central Commercial with "Downtown, University District Design Overlay" (Design Review)
- Site B CXd = Central Commercial with "Downtown, University District Design Overlay" (Design Review)
- Site C RXd = Central Residential with "Design Overlay" (Design Review) Generally 100+ residential units per acre, with allowed retail, institutional or their uses'

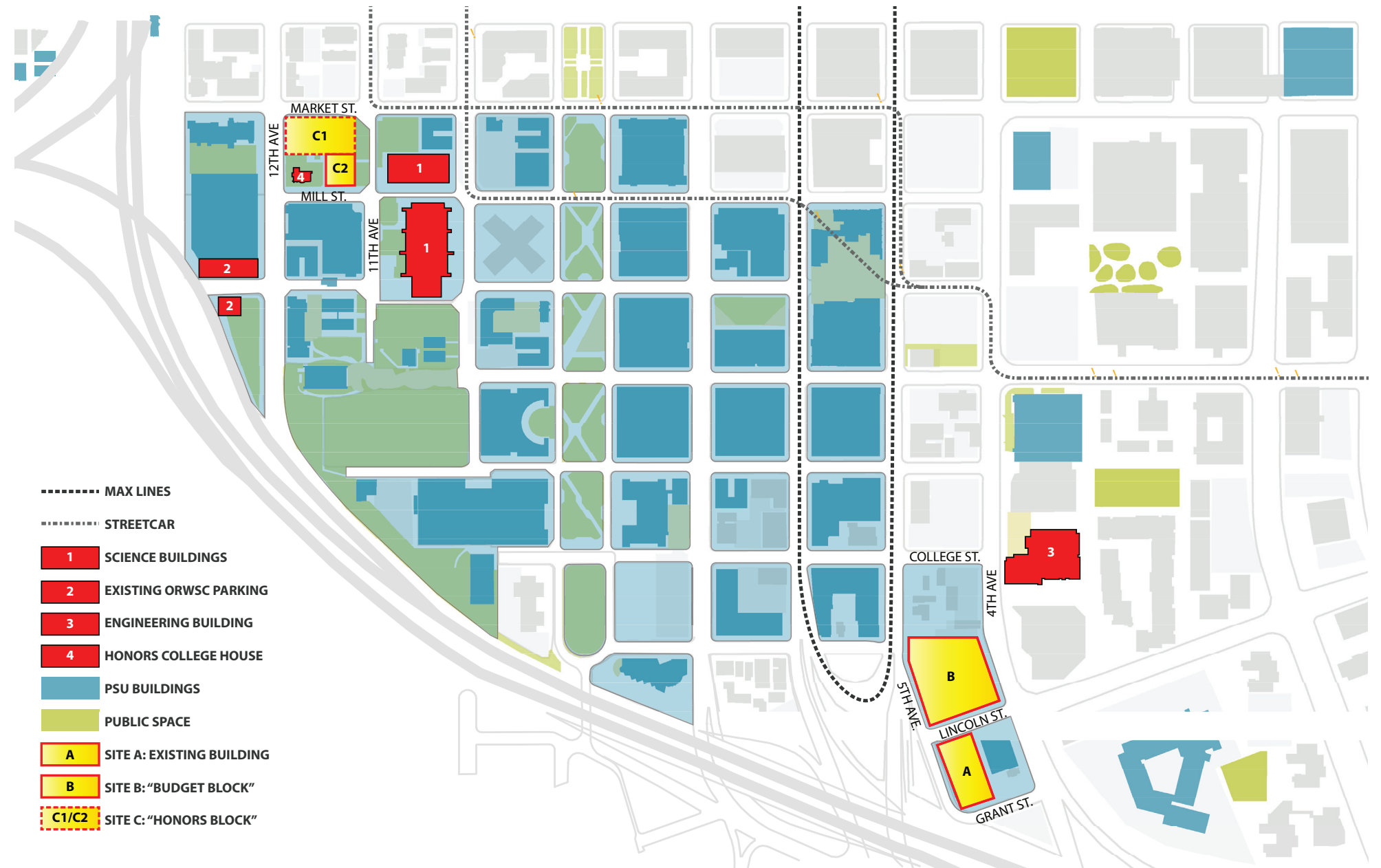
(Zoning designation to be changed to CXd by Fall 2016)

All sites allows for a Floor Area Ratio (FAR) of 6:1

Site A and C maximum height of 125'

Site B maximum height of 125' more with bonuses

Preliminary Analysis: Zoning maps 3228 and 3128, Zoning Code 33.510, maps 510-2 and 510-3 revised March 1, 2015



6.2 Task 5 – Development and Parking Considerations

Parking Requirements

Parking is known to be a crucial factor in this project. ORWSC must be able to load and unload multiple vehicles at a shipping/receiving area and store several vehicles on-site, in addition to the parking area currently located on Montgomery and 12th.

Based on preliminary code review, it appears that all three sites share similar parking restrictions, but the presence of existing curb cuts and proximity to light rail may either improve or complicate parking.

- All sites fall under Parking Sector UD1 requirements.
- Sites with existing surface parking is grandfathered in at a ratio: 1 parking space per 1,000 Square Feet of Net Building Area, up to 20 spaces (conditions apply).
- Surface parking is prohibited on the portion of a site within 100 feet of a light rail alignment (~1/2 of a Portland block).
- Structure Parking: "Parking access near or on a light rail alignment. Motor vehicle access to any parking area or structure is not allowed within 75 feet of a light rail alignment, unless the access is approved through Central City Parking Review."
 - It is presumed that existing curb cuts can remain and be utilized.
- "Redevelopment of surface parking lots. When development occurs that removes parking spaces in surface lots, the parking spaces will automatically be added to the Parking Reserve except as provided..."

For more detail, see Portland zoning maps 3228 and 3128, Portland zoning code section 33.510, maps 510-2 and 510-3, and 33.510.263 - Parking in the Core Area & maps 510-8 and 510-9.

-  Site Boundary
-  Potential Area
-  USGS Area
-  Retail Area

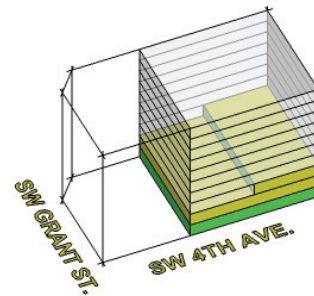
Maximum Building Height Assumption Notes

NOTE 1: Assumes 6,000 SF less of allowable building area due to Honors College House which is currently existing on site

NOTE 2: Assumes lot area and allowable building area specific to available SE corner of block

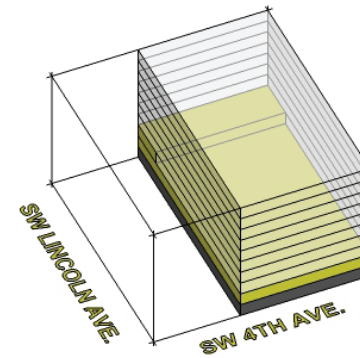
MAXIMUM BUILDING HEIGHT ASSUMED

SITE A - Existing



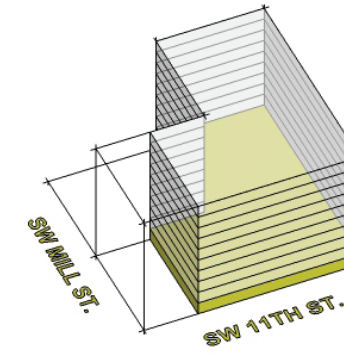
• Lot Area:	21,093 SF
• Allowable Building Area:	126,558 SF
• Stories:	10
• Area Per Floor:	12,655 SF
• Potential Area:	106,558 SF
• USGS Area:	30,000 SF
• Retail Area:	0 SF
	<hr/>
	126,558 SF

SITE B - Budget Block



• Lot Area:	42,600 SF
• Allowable Building Area:	255,600 SF
• Stories:	10
• Area Per Floor:	25,560 SF
• Potential Area:	219,210 SF
• USGS Area:	30,000 SF
• Retail Area:	6,390 SF
	<hr/>
	255,600 SF

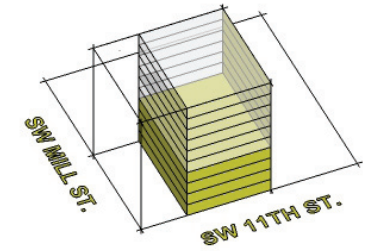
SITE C1 - Honors Block



• Lot Area:	40,000 SF
• Allowable Building Area:	234,000 SF
• Stories:	10
• Area Per Floor:	23,400 SF
• Potential Area:	204,000 SF
• USGS Area:	30,000 SF
• Retail Area:	0 SF
	<hr/>
	234,000 SF

NOTE 1

SITE C2 - Honors Block

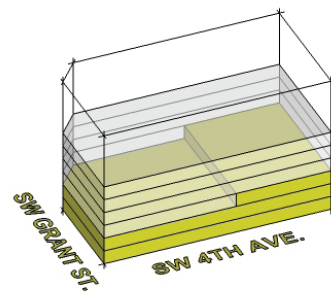


• Lot Area:	12,000 SF
• Allowable Building Area:	72,000 SF
• Stories:	10
• Area Per Floor:	7,200 SF
• Potential Area:	42,000 SF
• USGS Area:	30,000 SF
• Retail Area:	0 SF
	<hr/>
	72,000 SF

NOTE 2

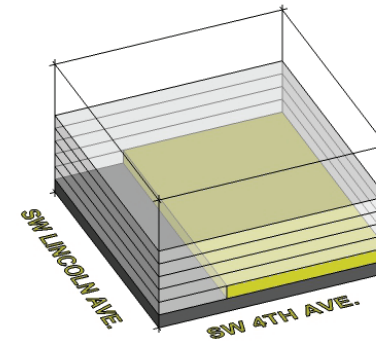
MAXIMUM LOT COVERAGE ASSUMED

SITE A



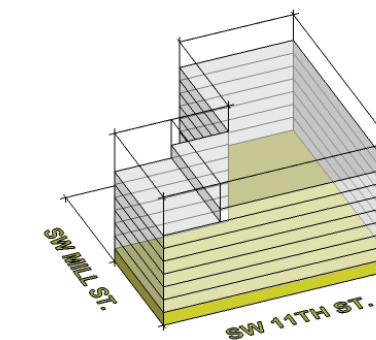
• Lot Area:	21,093 SF
• Allowable Building Area:	126,558 SF
• Stories:	6
• Area Per Floor:	21,093 SF
• Potential Area:	96,558 SF
• USGS Area:	30,000 SF
• Retail Area:	0 SF
	<hr/>
	126,558 SF

SITE B



• Lot Area:	42,600 SF
• Allowable Building Area:	255,600 SF
• Stories:	6
• Area Per Floor:	42,600 SF
• Potential Area:	214,950 SF
• USGS Area:	30,000 SF
• Retail Area:	10,650 SF
	<hr/>
	255,600 SF

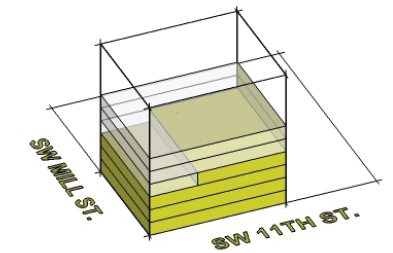
SITE C1



• Lot Area:	40,000 SF
• Allowable Building Area:	234,000 SF
• Stories:	8
• Area Per Floor:	30,000 SF
• Potential Area:	204,000 SF
• USGS Area:	30,000 SF
• Retail Area:	0 SF
	<hr/>
	234,000 SF

NOTE 1

SITE C2



• Lot Area:	12,000 SF
• Allowable Building Area:	72,000 SF
• Stories:	6
• Area Per Floor:	12,000 SF
• Potential Area:	42,000 SF
• USGS Area:	30,000 SF
• Retail Area:	0 SF
	<hr/>
	72,000 SF

NOTE 2

6.3 Task 5 – Site A: Existing Location

The existing 2-story building, home of ORWSC is wholly owned by PSU. The Chase Building, to the east, is privately owned and PSU currently leases classroom and office space on the 2nd through 6th floors.

The existing ORWSC could be renovated or demolished and reconstructed in phases, to increase size (additional stories) and improve layout. Alternate scenarios for the temporary housing of the ORWSC functions to be considered as part of any further study of this site.

6.3.1 Strengths

1. Existing building has a raised exterior loading dock
2. Existing building has parking under the building
3. Grandfathered curb cut access points in place
4. The building location has good vehicular access to I-405 and good connectivity the Max line and other regional transit
5. Site is currently owned by PSU simplifying funding and development scenarios
6. Benefit of continuity – same location benefits customer base and existing personnel

6.3.2 Weaknesses

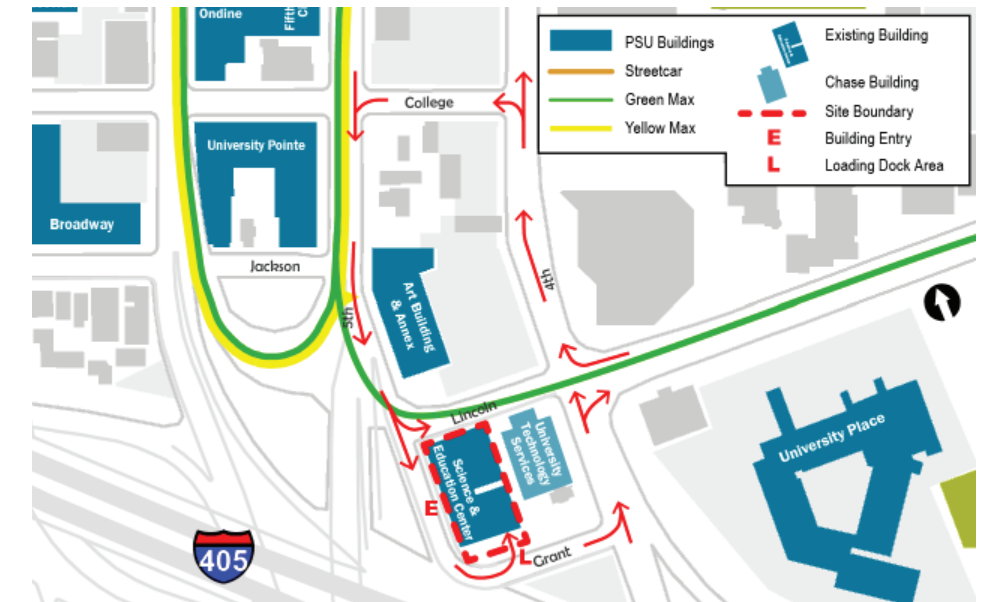
1. Site is remote to SOE and other PSU programs
2. Maintaining or temporarily relocating operations a challenge
3. Existing “Front Door” is not in a very visible location
4. The site is constrained on all four sides by either existing roads or other buildings. Additional area can only be gained by vertical expansion; multiple stories
5. The location is remote to existing 12th Ave utility vehicle storage

6.3.3 Opportunities

1. Opportunity to expand vertically based on current codes in place
2. Adjacency to new Max line and bus transit is beneficial to commuting personnel
3. Partnership with “other” party could supply another funding source to increase building area
4. Good transit connectivity enhances collaborative opportunities

6.3.4 Threats

1. Distance from other PSU programs/functions makes it less attractive for Academic development
2. No obvious financial partner makes major tear down / rebuild project potentially less likely
3. Construction likely to be required to be done in phases because the building is currently occupied by ORWSC. Phased construction will be inconvenient at best
4. Location remote from the SOE will lessen opportunities for collaboration



6.4 Task 5 – Site B: Budget Block

The western portion of this site is occupied by the PSU Art Department in two separate two-story high buildings. TriMet currently owns the former Budget Car Rental portion of the site. PSU has a signed letter of agreement from PDC for the transferring of this portion of the site to PSU. Any new building on that portion of the site will be required to generate tax-revenue through commercial uses (retail, rental housing, etc.)

6.4.1 Strengths

1. This site is one of two sites currently being considered for development funding as part of the 2017 legislature request
2. Sloped site may allow for on-site parking and commercial functions facing SW 4th Avenue
3. Larger site (with demolition of Art Building and Annex) will allow for a larger more significant building on this site
4. The building has good vehicular access to I-405 and as well as the Max line and other mass transit
5. Site offers great views for occupants to the north and the east

6.4.2 Weaknesses

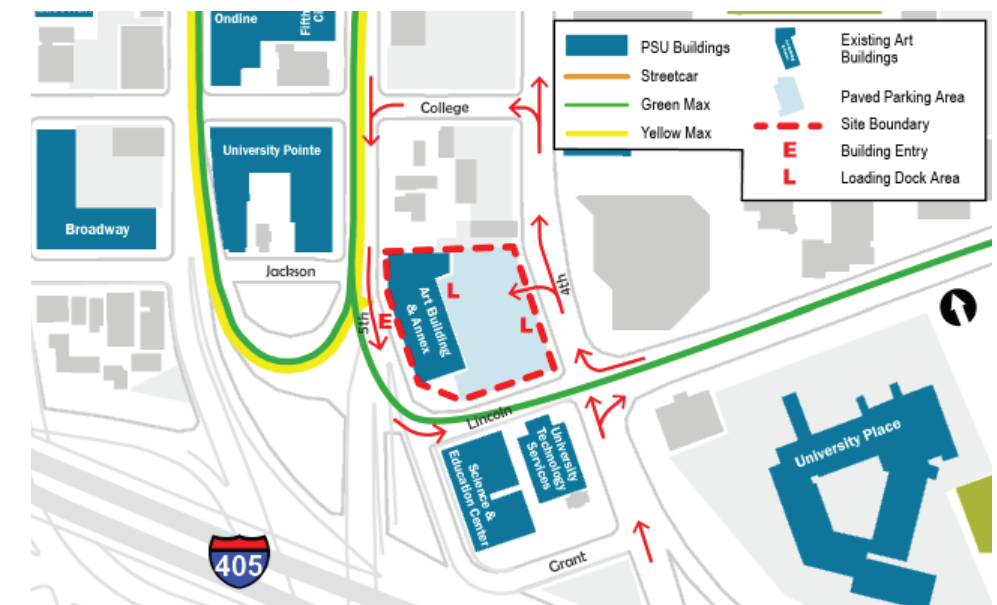
1. Site is remote to SOE and other PSU programs.
2. Light Rail Transit is located one side, which may make it more difficult to access
3. The existing Art Buildings will need to be demolished to allow for the larger anticipated new building
4. Vehicular access on the West side is off SW 5th Ave; shared with substantial bus and Max line traffic
5. The location is remote to existing 12th Ave utility vehicle storage

6.4.3 Opportunities

1. Ability to design an optimal facility as part of new site construction
2. Adjacency to new Max line and bus transit is beneficial to commuting personnel
3. This site has already been identified to be redeveloped as a significant PSU project.
4. Site is considered a “Gateway” to the PSU campus with the potential of giving USGS greater exposure and visibility
5. With existing use and curb cut access, parking and a loading dock could be more easily incorporated.
6. Development at a scale to offer the opportunity to relocate SOE to this building
7. Proximity to College of Engineering could allow for further collaboration
8. Good transit connectivity enhances collaborative opportunities

6.4.4 Threats

1. Location remote from the SOE will lessen opportunities for collaboration.
2. Any new building on the site will be required to generate tax-revenue through commercial uses (retail, rental housing, etc) Those functions/needs may conflict with USGS needs and functionality
3. Competition for space with other PSU departments



6.5 Task 5 – Site C: Honors Block

The “Honors Block” is a full city block. A portion of the otherwise empty block at the SW corner is occupied by historic home which houses the administrative functions of PSU’s Honors College. The Honors College has stated that they are looking to develop the northern portion of the block with a mixed-use building.

Mill Street, to the south, is a vacated City street that provides access to an existing parking garage across the street. SW 11th Ave is a pedestrian mall.

6.5.1 Strength

1. Ideal location to foster collaboration between the SOE and USGS
2. Proposed site is adjacent to Science Buildings 1 and 2, and near to all the sciences programs
3. Good vehicular access from SW Mill St.
4. Adjacent to current USGS vehicular parking and storage area
5. Central location on PSU campus with easy access to freeway and major streets (12th and Mill)
6. Wholly owned by PSU
7. Sufficient area of block is vacant to allow for ease of development

6.5.2 Weakness

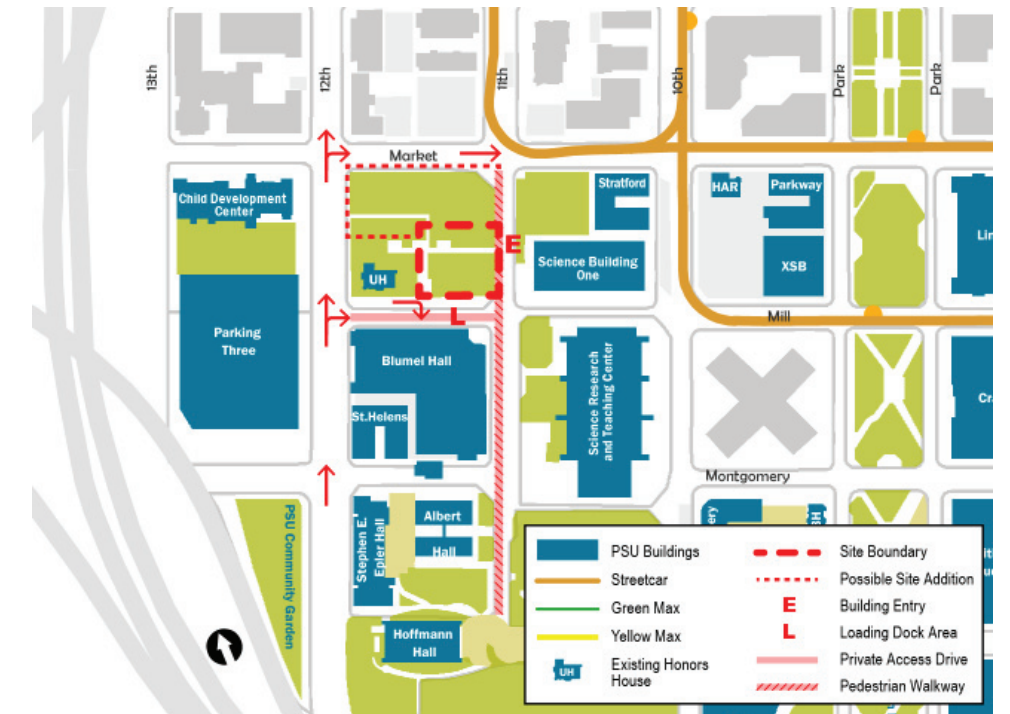
1. Smaller site footprint would necessitate a multi-story facility
2. On-site parking would require more costly structured parking
3. Development of site identified by PSU as lower on priority list

6.5.3 Opportunity

1. Immediately adjacent to PSU parking structures
2. Sloping site may offer opportunity for on-site parking
3. Ability to partner with Honors College and attract a developer to develop mixed-use project across entire site may prove to be cost-beneficial
4. Location adjacent to two parking structures may minimize need for some on-site parking
5. Site could be a “Gateway” to the PSU campus giving USGS greater exposure and visibility
6. Proximity to streetcar allows for easy access to waterfront

6.5.4 Threats

1. The block currently expected to be shared with the PSU Honors College facilities; possible conflict of functions and ability to expand
2. Possible negative neighborhood response to loss of existing mature trees and open area



7.1 Recommendations and Considerations

7.1.1 Recommendation

Site Alternate “C” “The Honors Block” appears to be the most advantageous location for a new USGS facility on the PSU campus. Some of the key advantages include

- Ideal proximity to the SOE program and Science Buildings 1 and 2
- Largely vacant site offers great facility planning flexibility
- Proposed site is wholly owned by PSU
- Existing adjoining parking sites for USGS vehicles and personnel

Note: Although this is clearly most ideal site, the schedule of funding requests to the state legislature and current availability of sites has purposefully not been given weight as a part of this recommendation.

It should be noted that Site Alternate “B”, “The Budget Block” is currently being discussed for development due to the recently signed DDA with Portland Development Commission.

7.1.2 Additional Considerations

Meetings with SOE indicate a strong desire to include other agencies (Federal, State, Local, NGO/Nonprofits) in collaborations. Such collaborations could increase funding opportunities and research synergies.

Dr. Yeakley raised the idea of a shared “field station” on the Willamette or other mutually agreed upon location.

- Shared facilities with ORWSC, SOE and possibly other groups
- Staging location for research
- Storage area for boats and other equipment
- Gathering area for classes and outreach events

Office Spaces: “Form Factors” employed for preliminary space planning assumed larger areas of open or shared office spaces. ORWSC has raised concerns that those kinds of spaces may not foster the most collaborative and productive work environment. Areas allocated for offices functions should be re-evaluated as part of the next phase of design.

7.2.1 Alternate Considerations

If additional drivers; such as Schedule, Proximity, or Funding Source are added to the selection process, different sites become the most advantageous. The results of this supplemental analysis can be broken down these ways:

Schedule as the principle driver:

Site Alternate A “The Existing USGS Building Block” appears to be the most advantageous location for a new USGS facility on the PSU campus

- Proposed site is wholly owned by PSU
- Internal funding, either PSU, USGS, or some combination of the two, would be used to finance a simple interior renovation project
- Zoning is currently in-place to allow for expansion

Proximity as the principle driver:

Site Alternate C “The Honors Block” appears to be the most advantageous location for a new USGS facility on the PSU campus

- Site is directly across from Science Building 1 and 2
- Site adjacent to the Streetcar with direct access to the waterfront
- In close proximity to existing utility vehicular storage

Site Alternate B “The Budget Block” is a viable second choice

- Proposed development at a scale to be able to include collaborative space to strengthen relationship with SOE
- In close proximity to College of Engineering
- May be able to accommodate some on site storage of utility vehicles
- Create new “out of the box” synergies with building tenants

Funding Source – Public funding as the principle drivers:

Site Alternate B “The Budget Block” appears to be the most advantageous location for a new USGS facility on the PSU campus

- Currently in consideration to be part of 2017 legislative development funding

Funding Source – Private funding as the principle drivers:

Site Alternate C “The Honors Block” appears to be the most advantageous location for a new USGS facility on the PSU campus

- Ability to partner with Honors College to establish relationship with developer to create mixed use facility

7.3.1. Next Steps

The following is a list of next steps to be taken as part of the final decision process:

- Track the 2017 Oregon Legislative capital projects funding decision which could have a direct impact of project schedule
- Recommend additional conversations with College of Engineering relevant to Sites A & B due to proximity
- Investigate further possible collaboration with College of Art
- Define extent of desired shared facilities with SOE. (Single Lab, Multiple labs, Integrated offices) Good, Better, Best
- Support PSU in the creation of a Site Master Planning / Conceptual Design study for marketing and additional funding purposes
- Re-evaluate the Schedule of Areas in regards to the ratios of private office to open office configuration
- Continue to investigate funding models that allow PSU to use the USGS contribution as match against state bonds

8.1 Appendix Summary

8.1.1 Meeting Minutes

Meeting minutes were submitted to ORWSC and PSU teams after each meeting and have been attached as follows.

- Kickoff Meeting, February 13, 2015
- Progress Meeting, March 6, 2015
- Progress Meeting, April 6, 2015


8.1.2 Schedule of Areas

The complete Schedule of Areas is attached here, as discussed in section 5.2.

8.1.3 Memorandum

Memorandum submitted upon completion on each task

- Communication, Schedule Plan and Kick-Off Meeting (Task 1)
- Existing Conditions and Project Context (Task 2)
- Best Practices Research (Task 3)



MEETING NOTES

Subject: USGS Space Plan Kick Off

Attendees:

CH2M HILL

- Scott Barton-Smith
- Nate Monosoff
- Amy Maule
- Nathan Corser

PSU

- Jason Franklin
- Rani Boyle
- Alan Kolibaba
- Mark Sytsma
- Drake Mitchell
- Yangdong Pan
- Alan Yeakley

Meeting Date: 2/13/2015
 Location: CH2M Office & USGS
 Project Number: 6556197
 Date: 2/20/2015
 Distribution: Attendees

USGS

- Dar Crammond,
- Matthew Dale
- Mary Burbank

Kick Off Meeting at IDCA/CH2M HILL Office:

1. Introductions, roles and responsibilities
2. Guiding principles
 - 2.1. USGS centric approach
 - 2.2. Goals to enhance connectivity, interaction, and collaboration, and recommend a site at PSU for USGS relocation (from PSU selected candidates)
 - 2.3. Space planning process and best practices to start conversations on structural/organizational, financial, and contractual relationships between PSU and USGS
 - 2.3.1. IDCA scope limited to physical space planning and highlighting best practices, but the process will spark these conversations.
 - 2.3.2. Commentary from Jason: Need to pursue longer term agreements (~30 yr terms) to make development / finance partnerships work.
3. Review of IDCA scope and process/approach
 - 3.1. Schedule of Areas, Ideal Adjacency Diagrams, and Material and People Flow diagrams,
 - 3.1.1. Commentary: the traffic and equipment flow is perhaps more important and impactful for USGS than the material flow. Field equipment use is somewhat variable and seasonal but there is substantial field work occurring all year round.
 - 3.2. Additional partnerships to consider or review, Cascade Volcano Observatory Center, Western Fisheries Research Center (PSU-USGS to pursue)

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4. Review of Tasks and schedule – all parties agree on next date and time for progress meeting March 6th, 9am.
5. Best Practices Preliminary Findings
 - 5.1. Look at City of Portland Archives “condo agreement” with campus Rec center (PSU-USGS to pursue)
 - 5.2. Requests to follow up:
 - 5.2.1. Long-term agreements at OSU (Forest and Rangeland Ecosystem Science Center – Marty Fitzpatrick). Check with Dar about whether he wants IDCA to pursue this.
 - 5.2.2. Terms of contracts at South Carolina – renting office space. Check with Dar – this may be USGS task, not IDCA.
 - 5.2.3. Acquire more information about 30-year agreement in Sacramento (Dar/USGS to pursue)
6. General Comments:
 - 6.1. Graduate students are currently the largest bridge between USGS and PSU
 - 6.2. Close proximity is the biggest factor in fostering collaboration.
 - 6.3. Shared spaces (non-technical) work well. For example, shared break rooms and conference rooms would create opportunities for PSU and USGS personnel to cross paths creating the opportunity for interaction. Shared equipment rooms or “checkerboard” lab layouts could also contribute to collaboration.
 - 6.4. USGS/PSU relationships
 - 6.4.1. USGS professionals teaching at PSU
 - 6.4.2. PSU professors researching with USGS
 - 6.4.3. Students working with USGS
 - 6.4.4. Participate and attend PSU and USGS sponsored seminars.
 - 6.5. Collaboration is really about the \$, USGS funding is challenging, working together will need to lead to increased funding stability/opportunity for USGS, and not competition for funding between USGS and PSU.

Tour of USGS Building

7. Tour of existing spaces
 - 7.1. Key takeaways:
 - 7.1.1. Flexibility and diversity of space are key – allows for rearrangement, grouping of people depending on projects or current staff. Some staff need single offices, some prefer group offices, and some find cubes adequate.
 - 7.1.2. Storage space – individuals store things like waders and equipment in their cubes/offices. Need lockers or other individually assigned areas to store personal equipment in addition to large storage space outside of the lab for shared equipment.
 - 7.1.3. Showers and equipment decontamination areas should be convenient and adequate in size
 - 7.1.4. Some lab and field equipment can be shared with PSU; other equipment is too sensitive to share.
 - 7.1.5. Training room: 30-40 accommodating laptop computers, presentation room for 60+ people outside of security.

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- 7.1.6. Reception area with strong public face adjacent to main entry would improve security
- 7.1.7. Server room – not part of PSU’s system (federal firewall restrictions).
- 8. Interviews with section leaders took place between 1:00 pm and 4:00 pm
 - 8.1. PFO – Roy and Keith
 - 8.2. EQS - Joe
 - 8.3. GHS – Hank
 - 8.4. WES/Geomorphology – Rose Wallack and Elena Nilsen of the WES/Nilsen Team. Held on Feb 18 and 19 respectively


Next meeting tentatively planned for March 6 at 9am.

End of meeting notes.
All attendees to notify author of any errors or omissions within 48 hours of receipt.

USGS-PSU KickOffMeetingMinutes

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MEETING NOTES

Subject: Progress Meeting

Project Name: USGS/PSU Space Planning

Notes by: Scott Barton-Smith

Attendees:

CH2M HILL

Scott Barton-Smith
Nate Monosoff
Amy Maule
Nathan Corser

PSU

Jason Franklin
Rani Boyle
Alan Kolibaba
Mark Sytsma
Drake Mitchell

Meeting Date: 3/06/2015

Location: CH2M Office

Project Number: 6556197

Date: 3/06/2015

Distribution: Attendees

USGS

Dar Crammond,
Matthew Dale

1. Mark S. Suggested moving the break room outside of the security boundary so it can be shared with SOE, increasing interaction and collaboration.
2. Parking is the key issue for selecting a new location. 16 large parking spaces adjacent to a loading dock will be a challenge.
 - 2.1. The city does not allow new surface parking lots downtown. New parking must be "structured", meaning underground or in a floor of the building. Structured parking and loading is a very expensive proposition.
 - 2.2. Adaptive re-use of the existing USGS building should be considered to retain the existing surface parking.
 - 2.3. The loading dock could be underground.
 - 2.4. Jason F. requested recommendations from IDCA on how to address this issue.
 - 2.5. Dar C. stated that 6-8 of the spaces do not need to be adjacent to the dock.
3. The parking discussion lead to the idea of "decoupling" the interpretative sections from the Data section, S/R, equipment storage into separate buildings. Since the collaboration tends to happen between the interpretative sections and the SOE perhaps they could be colocated. The other areas could remain in the existing building or be located in another building that meets the criteria, perhaps the south waterfront. IDCA will not diagram this idea until we learn the candidate sites from PSU. Available sites may make the issue mute.
4. The need for parking, and the prohibition of new surface lots in Portland, does not help the desire to be closer to the SOE. The distance "sweet spot" between USGS and SOE is across the street or perhaps 1/2 block away.
5. The ORWSC's mission and headcount are not growing. The space described in the presentation is larger than the current space but it is intended to better perform the current mission.
6. There is a movement in USGS to consolidate USGS operations in the northwest to Portland. This planning study does not include other USGS functions. Adding more USGS functions will significantly affect the planning. Planning may close other opportunities for collaboration.

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7. Matthew Dale will email the largest size truck that can be expected and the frequency of deliveries from such a truck for planning purposes. Dar's recollection is that palettes are shipped in box trucks, not semi-trucks.
8. Dar will make the presentation available to his staff, collect the comments and send a single list to IDCA. Rani will collect PSU comments and send a single list to IDCA.
9. Next week (March 9-13) is the client review week. PSU and USGS review the PowerPoint presentation and the schedule of areas and provide comments to IDCA.


Next meeting tentatively planned for April 3 at 9am.

End of meeting notes.
All attendees to notify author of any errors or omissions within 48 hours of receipt.

USGS PSU ProgressMeeting-03062015.doc

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MEETING NOTES

Subject: USGS Final Progress Meeting

Attendees:

IDCA/CH2M HILL

- Nate Monosoff
- Amy Maule
- Nathan Corser
- Laurie Keenan

PSU

- Jason Franklin
- Alan Kolibaba
- Mark Sytsma
- Alan Yeakley
- Jonathan Fink

Meeting Date: 4/06/2015
 Location: CH2M Office
 Project Number: 6556197
 Date: 4/06/2015
 Distribution: Attendees

USGS

- Dar Crammond,
- Matthew Dale

Final Progress Meeting at IDCA/CH2M HILL office, April 6, 2015

Nathan Corser presented IDCA's site analysis, to be finalized in project report. The following comments and discussion arose during the presentation.

Project timeline was revised to allow time to incorporate all meeting comments, with the agreement of all present:

- Presentation slides will be revised to incorporate the comments and will be sent by IDCA to all attendees by end of day Tuesday, 4/7/15.
- Review draft of Final project report will be issued by IDCA to USGS and PSU by end of day Friday, 4/10/15.
- USGS/PSU comments due to IDCA by end of day Friday, 4/17/15
- Final report issued by end of day Friday, 4/24/15

Comments:

Existing site SWOT:

- Mention opportunity to increase square footage of existing building through vertical growth.
- Mention benefit of continuity – same location benefits customer-base and existing personnel.
- Close to bus and Max access is more beneficial to commuters than Streetcar.

Budget Block SWOT:

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- Graphics will be edited for inclusion in the Final Report to call attention to separation between TriMet-owned property and PSU-owned property.
- Clarify that a signed agreement exists with PDC to transfer the TriMet portion of the block to PSU contingent upon an approved development plan.
- Clarify that development of this block is one of two options for the 2017 legislative session (not the only option).
- No current connection between the Arts program and USGS, but the two programs would share the new building.
 - Con: potential for conflicting use re. ppb lab, etc.
 - Pro: potential for unexpected collaborations with Arts and others.
- Change "The Gateway" wording to "A Gateway"
- Clarify Gateway as an opportunity – this is part of the current plan for that site. Could be beneficial to USGS to be part of a "Gateway."
- Possible economies of scale through larger site/building.
- Close to bus and Max access is more beneficial to commuters than Streetcar.
- Proximity to Engineering College – collaborations with Engineering already exist.

Honors Block:

- Graphics will be edited for inclusion in the Final Report to show vehicular access on Mill, pedestrian-only on 11th.
- Possibility to develop more of the site? North of SB1? Collaboration with "urban honors" program – make combo building ¾ of block. Would include housing and academic uses. Expand map to indicate possibility of larger picture and clarify language to explain possible collaboration benefits/complications.
 - G-bonds for USGS/science facility would be 2019 but Honors revenue stream is more based on housing and food businesses – could discuss collaboration.
- Threat – mention "significant trees" and de-emphasize loss of open space.
- Add streetcar access to waterfront for connection to labs there (though distance to buss/Max mall is drawback for commuters).
- Opportunity – may not need much on-site parking because of proximity to existing parking.
- Potential to be another "Gateway" area, though not currently planned.
- Emphasize and expand on importance of locational proximity to SOE.

General: (To be incorporated into Final Report)

- Honors site is in the process of being re-zoned to CXd – by fall of 2016. No zoning differences between the 3 sites.
- Height limit may also be increasing to 400' – look into new plan.
- Add footprint size for all sites.
- Recommendations – add more about sharing resources with science departments.
- Consider possibility of SOE relocating some resources to Sites A and B or other area. Possible opportunity to re-vision SOE's location on campus, increase collaboration with Engineering, etc.
- Site evaluation summary page that includes assumptions made regarding current and potential future partnerships, schedule drivers, etc.

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Next Steps:

- Conversations between Planning (Jason) and SOE about their plans and role in the future.
- Conversations between Jason and Dar to solidify understanding about possible funding and agreements with the federal government, 30-year MOA, etc.
- Final report will go to the Provost and head of Planning and then Capital Advisory Committee. Will be part of analysis for 2017 and 2019.
 - Timeline is end of 2015, early 2016 to be included in 2017 planning.
- IDCA can assist in creating visualizations that bring a sense of reality to conceptual building scenarios. IDCA looks forward to helping inspire more conversations like the ones that have come out of this project.
- Examples of similar conceptual design to be issued along with the final report for information and reference.

End of meeting notes.

All attendees to notify author of any errors or omissions within 48 hours of receipt.

USGS PSU ProgressMeeting-04062015.doc

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USGS/PSU Space Planning

Department	Grade	Room Name	Current Room #	Current Area (sf)*	Max GSA Area (sf)**	Required Area (sf)	Notes
Administration/Management		Office	110	125	180	70	In 4 desk room
	Visitor - GS 14 and up	Office	116	150	180	70	In 4 desk room
	Visitor - GS 14 and up	Office	204 Northwest	100	180	70	In 4 desk room
	Visitor - GS 14 and up	Office	245E	100	180	70	In 4 desk room
		Reception	255	633	180	400	
		Museum/Outreach	None	-	-	100	
		Mail Room	257	183		180	
	Director - GS13-15	Office	258	237	180	165	
	Admin Section Chief - GS13-15	Office	259	198	180	165	
							Current Room occupant serving 2 roles (assoc director+WES Section Chief) which will be devided into 2
	Associate Director - GS13-15	Office	260 West	125	180	165	people eventually
		Office	264	173	180	70	
		Office	265	135	180	70	
		Office	267	125	180	70	
	Headcount	Subtotal		2,284	1,980	1,665	
Data aka Portland Field Office (PFO)		Office	100	394	180	70	
		Office	100A North	53	180	70	
		Office	100A South	53	180	70	
		Office	L100	50	180	70	
		Office	101 Northwest	84	180	70	
		Office	101 Southwest	84	180	70	
		Office	101Northeast	84	-	-	Not counted, will not relocate
		Office	101 Southeast	84	180	70	
		Office	102 Northeast	82	180	70	
		Office	102 Southeast	82	180	70	
	Emeritus, Volunteer, Contractor	Office	102 Center Northeast	82	180	70	
		Office	102 Center Southeast	82	180	70	
		Office	102 Center Northwest	82	180	70	
		Office	102 Center Southwest	82	180	70	
		Office	102 Northwest	82	180	70	
		Office	102 Southwest	82	180	70	
	Team Lead - GS12-13	Office	102A	133	180	110	
		Office	102B	133	180	70	
		Office	102C North	66	180	70	
		Office	102C South	66	180	70	
		Office Northeast	102D	91	180	70	
		Office Southeast	102D	91	180	70	
		Office Northwest	102D	91	180	70	

	PPB Lab	None	-	329	329	Includes 8'6" tall equipment		
	Dirty Lab	None	-	176	176			
	Subtotal			3,143	3,532	3,487		
Environmental Quality Section (EQS)	Office	204 Noth Center		100	180	70		
	Office	204 Southwest		100	180	70		
Visitor - GS 11 and up	Office	204 Southeast	100 -				Not counted, visitor that will not relocate	
	Office	206 West	100	180	70			
	Office	206 West Center	100	180	70		In 4 desk room with Skach/GHS	
Team Lead - GS12-13	Office	230 East	100	180	70			
EQ Section Chief - GS13-15	Office	207	98	180	110			
	Office	208	216	180	165			
Team Lead - GS12-13	Office	217	125	180	70			
	Office	218	155	180	110			
	Office	230 West	100	180	70			
	Office	235 North	117	180	70			
	Office	235 South	117	180	70			
	Office	245 North	75	180	70			
	Office	245 Center	75	180	70			
	Office	280 Southeast	100	180	70			
	Office	280 Southwest	100	180	70			
Headcount	Subtotal			1,878	2,880	1,295		
Computers/Publications	Office	230 Center	100	180	70			Ground floor 10,072
Publications Specialist GS12-13	Office	232	98	180	110			
	Computer	233	403		300			
	Telecom	233A	71					
	Office	234	95	180	70			
Comp Section Chief - GS13-15	Office	236	207	180	165			
	Secure Storage	237	160		225			
	Equipment Lab	C238 East	80	180	70			
Headcount	Subtotal			1,214	900	1,010		
General Hydrologic Studies (GHS)	Office	200	172	180	70			
	Office	201	98	180	70			
	Office	202 East	100	180	70			
	Office	256	112	180	70			
	Storage	202A	11					
	Office	203	138	180	70			
	Office	206 East	150	180	70			
GW Specialist - GS12-13	Office	210	189	180	110			
	Office	214	131	180	70			
	Office	216 Northwest	107 -	-			Not counted, will not relocate	
	Office	216 North Center	107	180	70			
Visitor - GS14 and up	Office	216 Southwest	107 -				Not counted, visitor that will not relocate	
	Office	216 South Center	107	180	70			
	Office	216 Southeast	107	180	70			
Section Chief - GS13-15	Office	219	210	180	165			
Visitor - GS11	Office	245 South	100	180	70		In 4 desk room	
	Office	245A North	92	180	70		In 4 desk room with GIS	
	Office	245A Southwest	92	180	70			
							Could be In 4 desk room with Haynes and 2 GIS	
GIS Specialist - GS12-13	Office	245A Southeast	92	180	110		people	
Team Lead - GS12-13	Office	245B	148	180	110			
Team Lead - GS12-13	Office	245C	147	180	110			
SW Specialist - GS 12-13	Office	245D	128	180	110			

Water and Environment Section (WES)		Office	202 West	250	180	70
		Office	204 Northeast	100	180	70
Visitor - GS 14 and up		Office	209	149	180	70 In 4 desk room
SW Specialist + Team Lead - GS12-13		Office	212	153	180	110
Team Lead - GS12-13		Office	215	153	180	110
		Office	230 East	100	180	70
		Office	C252 East	80	180	70
		Office	245F	142	180	70
						Current Room occupant serving 2 roles which will be divided into 2 people eventually: see above in
WES Section Chief		Office	260 East	125	180	165 Admin Department
Team Lead - GS12-13		Office	262	187	180	110
		Office	263	143	180	70
Visitor - GS 14 and up		Office	266	221	180	70 In 4 desk room
		Office	270 West	100	180	70
		Office	270 East	100	180	70
		Office	280 Center	100	180	70
Headcount		Subtotal		2,103	2,700	1,265
Support/Facility/Utility		Shipping /Receiving (S/R)	126	116	116	2 overhead doors plus 10' 240 depth Floor drain, spray hose, water resistant finishes. Scullery sink. 2 freezers. 150 Hooks on wall. 24x24x72, ventilated, 30 for 1,210 DATA +20=50 total
		Decontamination	None	-	-	Can be exterior but must be 60 covered. Size for 2 pallettes
		Lockers	None	-	-	Could combine, min 1 per 300 floor, include printer area
		S/R Staging	None	-	-	Could combine, min 1 per 300 floor, include printer area
		Break Room	102D	362		Could combine, min 1 per 300 floor, include printer area
		Break Room	111	146		Could combine, min 1 per 300 floor, include printer area
		Break Room	268	334		Could combine, min 1 per 300 floor, include printer area
Willamette		Large Conferece room	250	1,016	1,016	988 ~50 Estimate based on existing
		Library	Currently part of 250	-	-	200 area
Santiam		Conference Room	250A	131	-	988
Dechutes		Conference Room	261	228	-	247
						Sized for 8-10. Added to achieve one conference

	Telecom	204A	39 -		PSU space
	Storage	150	32 -		PSU space
	Restroom	111A	77	77	PSU space
	Restroom	115C	18	18	PSU space
	Restroom	115D	67	67	PSU space
	Restroom	128	45	45	PSU space
	Restroom	129	45	45	PSU space
	Restroom	239	138	138	PSU space
	Restroom	241	69	69	PSU space
	Restroom	284	89	89	PSU space
	Restroom	286	95	95	PSU space
	Utility	130A	173	173	PSU space
	Mechanical	220	120	120	PSU space
	Storage office/furniture	231	114 -		
	Mechanical	282	186	186	PSU space
	Mechanical	284A	29	29	PSU space
	Subtotal		1,336	1,151	
Circulation	Corridor	C101	108 -		
	Corridor	C102	110 -		
	Corridor	C103	197 -		
	Corridor	C110	116 -		
	Corridor	C111	44 -		
	Corridor	C201	680	680	Main corridors are exempt in GSA guidelines
	Corridor	C204	448	448	Main corridors are exempt in GSA guidelines
	Corridor	C206	206 -		
	Corridor	C238	271 -		
	Corridor	C250	434	434	Main corridors are exempt in GSA guidelines
	Corridor	C252	315 -		
	Corridor	C255	111 -		
	Lobby	L100	19 -		
	Lobby	L150	214 -		
	Vestibule	V100	74 -		
	Vestibule	V111	48 -		
	Vestibule	V206	70 -		
	Stairs	S101	196	196	Stairs corridors are exempt in GSA guidelines
	Stairs	S150	124	124	Stairs corridors are exempt in GSA guidelines
					Stairs corridors are exempt



MEMORANDUM

USGS/PSU ORWSC Space Planning

Communication, Schedule Plan and Kick-off Meeting (Task 1)

PREPARED FOR: Portland State University
 COPY TO: USGS ORWSC
 PREPARED BY: CH2M HILL
 DATE: February 27, 2015
 REVISION NUMBER: 1 (revisions to be submitted within 1 week)

Guiding Project Principles

Both USGS and PSU value the collaboration between their organizations. PSU wishes to continue leasing space to USGS on campus. Enhanced collaboration between USGS and the School of the Environment (SOE) is a must. PSU and USGS have emphasized that this space planning effort will be very USGS centric. Although it will be important for SOE personnel to have closer proximity and enhanced collaboration with USGS, this space planning project does not include any SOE space.

Conditions of Satisfaction

The following list is gleaned from what IDCA has heard from conversations with PSU and USGS in preliminary conversations and during the kick off meeting held Feb 13, 2015.

- Recommend a new home on the PSU campus for the ORWSC that is the right size, accommodates the required lab and office space and allows for improved collaboration with SOE.
- Space must allow convenient movement and processing of field samples from USGS vehicles into the lab and accommodate waste removal.
- Provide a document that records best practices of how similar USGS facilities have collaborated with other universities both physically and financially to realize the greatest level of cooperation.
- Collaboration between USGS and PSU is a high priority and a requirement of their Cooperative Research Agreement. Recommendations and design elements should consider enhancing collaboration among PSU, USGS and the public.

IDCA Scope of Services

IDCA will evaluate the existing conditions and space needs of the USGS ORWSC and assess the space for potential co-location with the SOE. Guiding the level of detail for this project, it is understood that IDCA is to determine program and space planning requirements only to the extent necessary to make recommendations for a future home for the ORWSG program.

Project Stakeholders, Roles and Contact Information

See attached Team Roster

Communications Protocols

Based on preliminary meetings with Jason Franklin and Dar Crammond:

- USGS contacts are Dar and Mathew and should be copied on all pertinent correspondence.
- PSU contacts are Jason and Rani and should be copied on all pertinent correspondence.
- IDCA contacts are Scott and Nate.
- IDCA will manage communications with USGS and copy Jason and Rani.
- Jason and Rani will manage communications with the School of the Environment and other PSU personnel.

Schedule

The Kickoff meeting was held on Friday, February 13. Notes from this meeting are attached below. Tasks 2 and 3 Memo drafts are being issued as separate documents.

See the attached graphic schedule. Milestone dates are as follows:

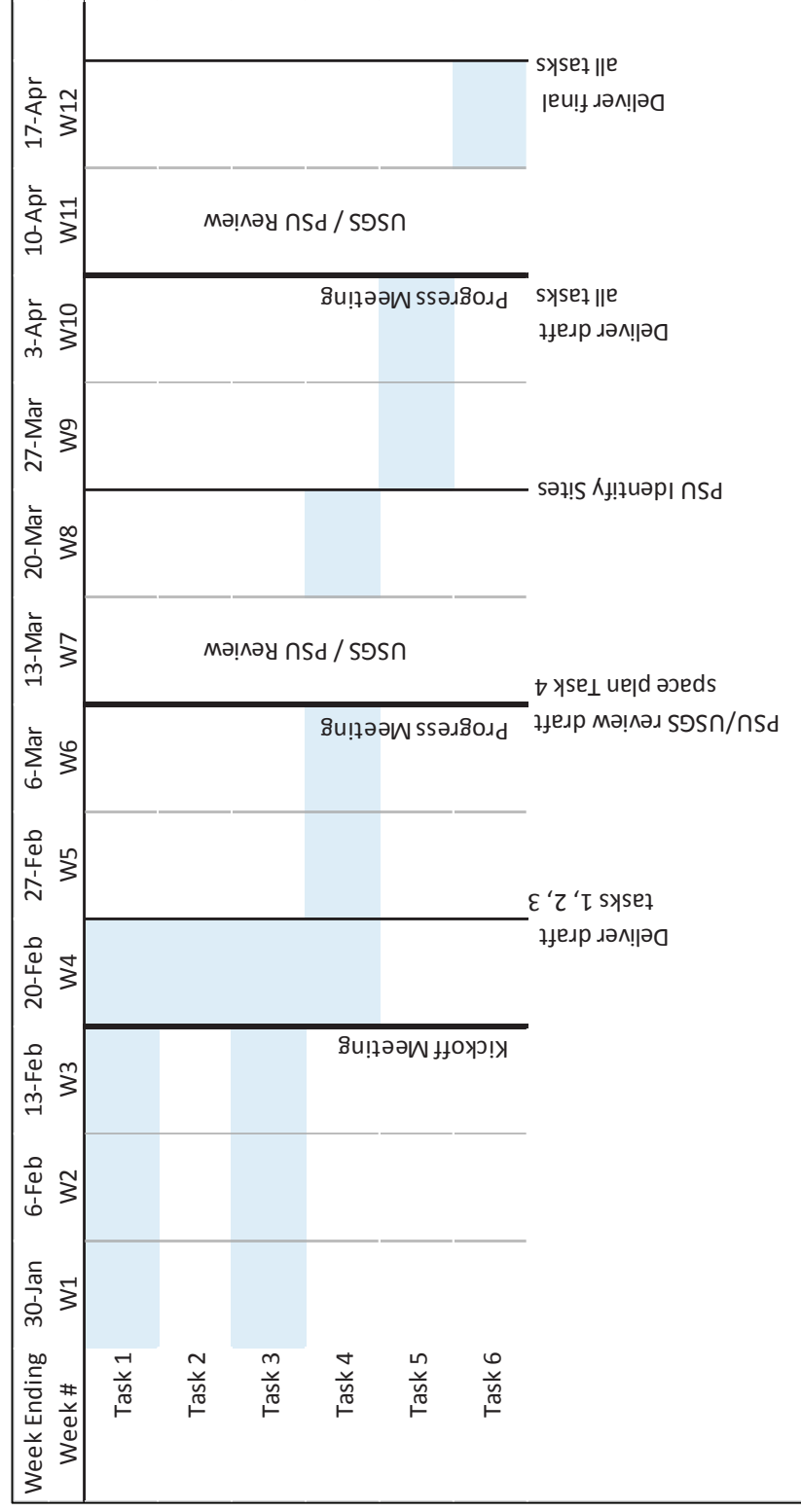
Kickoff Meeting:	13-Feb (complete)
Draft of Tasks 1, 2 and 3	20-Feb
Draft of Task 4	6-Mar
Interim Progress Meeting to present & review tasks to date	6-Mar
PSU USGS review and comment period	Week ending March 13
PSU identify sites for study	20-Mar
Draft of final Deliverable (all tasks)	3-Apr
Interim Progress Meeting to present & review tasks to date	3-Apr
PSU USGS review and comment period	Week ending April 10
Final deliverable (all tasks)	17-Apr

Team Roster

COMPANY	ROLE	LAST	FIRST	PHONE	EMAIL
CH2M	PM	Monosoff	Nate	(503) 736-4201	nate.monosoff@ch2m.com
CH2M	Lead Architect	Barton-Smith	Scott	(503) 872-4817	Scott.Barton-smith@CH2M.com
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CH2M	Designer	Sparling-Beckley	Chase	(503) 872-4487	chase.sparling-beckley@CH2M.com
CH2M	Review	Corser	Nathan	(503) 872-4788	Nathan.Corser@ch2m.com
PSU	Director of Planning	Franklin	Jason	(503) 725-2031	jfrank2@pdx.edu
PSU	Associate Campus Planner	Boyle	Rani	(503) 725-9979	iboyle@pdx.edu
PSU	Associate Dean for Natural Sciences	Mitchell	Drake	(503) 725-2264	drakem@pdx.edu
PSU	Assistant Vice President for Research	Kolibaba	Alan	(503) 725-4491	kolibaba@pdx.edu
PSU	Associate Vice President for Research	Sytsma	Mark	(503) 725-2213	sytsma@pdx.edu
PSU	Director, School of the Environment	Yeakley	Alan	(503) 725-9905	yeakley@pdx.edu
PSU	Department Chair, Environmental Sciences and Management	Pan	Yangdong	(503) 725-8038	bwyp@pdx.edu
USGS	Director	Crammond	Dar (James)	(503) 251-3204	crammond@usgs.gov
USGS	AO	Burbank	Mary	(503) 251-3218	mburbank@usgs.gov
USGS	Financial Specialist	Dale	Matthew	(503) 251-3292	mdale@usgs.gov
USGS	AD	Fuhrer	Greg		gfuhrer@usgs.gov

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Graphic Schedule



2020 SW Fourth Ave, Third Floor www.idcarchitects.com Portland, Oregon 97201 phone 503.224.6040 fax 503.223.1494



MEMORANDUM

USGS/PSU ORWSC Space Planning

Existing Conditions and Project Context (Task 2)

PREPARED FOR: Portland State University
 COPY TO: USGS ORWSC
 PREPARED BY: IDC Architects / CH2M HILL
 DATE: February 27, 2015
 REVISION NUMBER: 1 (revisions to be submitted within 1 week)

Task Summary

IDC Architects discussed the current collaborative relationship between USGS and PSU with personnel from both institutions, however as outlined in the project scope and the guiding project principles, the focus and primary goals of this space planning effort was based on USGS input. Immediately following the kick-off meeting on February 13, 2015, IDCA toured the existing USGS ORWSC facility and interviewed stakeholders from each major division within the center.

Inventory of Existing Program Functions and Spaces

See attached inventory for a list of existing spaces and their sizes. The following narrative characterizes each of the spaces and describes pros and cons based on the tour and interviews with USGS personnel.

Headcount

The current space can accommodate desks for 96 people 7 of which are visitors from other USGS offices. Some of the visitors will not be included in the move to a new location. For planning purposes we will assume a head count of 95 people.

Parking/Site

- USGS currently has 6 interior parking spaces for USGS vehicles in the north end of the first floor of the current building. It is not necessary for the parking to be interior and it could be consolidated with the exterior parking.
- The interior spaces tend to turn over once or twice per day. As USGS staff arrives, they will take a USGS vehicle for field work and park their personal car in its space for the day. There are also 8 exterior parking spaces on the south side of the building. At least two of them need to be left open for staging and loading dock access. 6 open parking spaces is the bare minimum for this area. USGS prefers 10 spaces to maximize flexibility. USGS vehicles are rotating all day long on most days through these spaces so they must be dedicated to loading/unloading of USGS field vehicles. All of the loading/ unloading of samples and equipment happens through this parking lot and loading dock.

- Most staging of equipment and pallet shipments have to happen outside of the loading dock door. A covered staging area would be ideal to protect the shipments. Pallets are moved with a manual pallet jack.
- Ideal exterior parking would include:
 - Deep spaces for the long USGS vehicles.
 - Space for two shipping containers for secure water-tight equipment storage.
 - Convenience power outlets.
 - A hose bib for decontamination of equipment.
 - A covered area for staging shipments of palletized equipment and materials. This area could be inside within the shipping/receiving area.
- There are two additional parking areas located near the parking garages on the west side of campus. Multiple sections store equipment in these locations. It is a 15 minute walk between the ORWSC and this remote parking and can add 30 minutes to employee's work day. Closer proximity to this parking area would increase efficiency.
- Bicycle parking – Convenient bicycle parking is important to USGS. Currently several parking spaces in the building are dedicated to bike parking. Currently PSU provides 35 bike passes to USGS annually. Approximately 50% of staff (45 people) in the summer and 20% (18 people) in the winter commute by bicycle.
- Convenient visitor parking should be considered. There are 2-3 people per day visiting the ORWSC from different government agencies and private industry. Up to 20 visitors may attend a seminar.
- Trash and recycling containers are currently kept in the basement parking area. In the future the trash and recycling should be equally convenient. A large amount of aluminum foil and plastic bags are used as packaging of field samples when they are shipped to ORWSC so trash/recycling should be convenient to shipping/receiving and the lab.

Shipping/Receiving and Storage

- There is an 8'x8' overhead coiling dock door raised approximately four feet above grade. One dock door is adequate although two would be more convenient. To improve efficiency we will plan for two overhead doors. At least one should be equipped with a dock leveler. One of the doors could be at grade but at least one should be a raised dock. An exterior man door would also be convenient.
- The loading dock needs close proximity to the lab, the equipment storage area and battery charging/storage. The samples, equipment and batteries can be heavy and are usually bulky and awkward.
- Currently decontamination takes place in the storage room at a small counter with a dish washer and a double basin sink near the telecom equipment. Ideally there would be a dedicated decontamination area adjacent to loading where equipment and gear such as waders, wetsuits and regulators could be washed in cleaning solution, scrubbed, rinsed and dried.
 - Cleaning solutions tend to be bleach or Betadine solutions.
 - The space would be fitted with pegs for hanging gear, a hose bib with flexible spray nozzle, a floor drain and water resistant finishes.
- There is a small electronic repair shop, close to the loading dock, where some batteries are charged.

- Battery storage should have ventilation. Currently “bad” batteries and charged batteries ready for field use are stored in a wooden cabinet just inside the loading dock door. There is a larger battery storage room in the northwest corner of the laboratory.
 - This inconvenient location requires field staff to enter the lab to retrieve batteries, potentially disrupting work and contaminating the room.
 - Battery storage and charging should be consolidated with immediate access to the equipment room and or the shipping/receiving area.
- There is currently a shower located in room 115D near the center of the building on the first floor. It is well used by field staff and by bike commuters. It would be more convenient near the shipping/receiving area. We will plan for 2 bathrooms with a shower in each, located adjacent to the locker area.
- Ideally, for security and convenient alert of shipments, there would be transparency from an office area where multiple people could view the exterior loading dock area.

Postal Service, and parcel, and small chemical deliveries are made to the reception area.

Laboratory

- There is currently a single laboratory in the building (Room 125). It appears to be appointed with:
 - Approximately 120 linear feet of bench
 - 4 deep basin sinks
 - 2 (6') Chemical Fume hoods
 - 3 bench mounted furnaces
 - 1 ice machine
 - 2 upright freezers
 - 2 double door refrigerators
 - 1 Fluorescence / Absorbance Spectrometer
 - 1 centrifuge
 - 1 lyophilizer with pump
 - 1 water bath
 - 1 floor mounted scale
 - 2 or more bench mounted scales
 - 1 combination safety shower/eye wash
 - 2 flammable storage cabinets (vented)
 - A number of other small benchtop pieces of equipment
- The fume hoods and the freezers are approximately 8'-6" tall.
- There are approximately eight tall plywood cabinets near the entry door of the lab that contain equipment that could be stored elsewhere.
 - The perception is that the cabinets are in the lab currently because there is nowhere else for them to go.
 - Some of the cabinets may contain laboratory set-ups in tubs so they can quickly be moved on or off the benches.
 - Some tall cabinets should remain in the lab for glassware and sample storage.
- The bottle wash room (125A) is for storage of clean plastic bottles, bags and aluminum foil.
- The battery room (125B) is used for storage and recharging. It was located here to take advantage of the lab exhaust, but it is in an inconvenient location because access requires people to walk through the lab, increasing contamination and disturbance.

- The casework is mostly an assortment of metal cabinets with epoxy resin counter tops. There are a few examples of wood casework, lumber tables, and collapsible steel tables with plastic laminate tops.
- The floor appears to be vinyl composition tile. The walls are gypsum board with resilient base. The ceiling is 2x4 suspended acoustic tile in a simple metal T-bar system.
- According to Mary Janet, the chemicals used in the room include:
 - Acetone
 - Methanol
 - Sulfuric Acid
 - Hydrochloric Acid
 - Nitric Acid
 - Bases
- One criticism is that there are lots of low-level analyses, and contamination could be better controlled. A separate “Parts per Billion” (PPB) lab accessed through the main lab would help control the contamination. This lab would in part test for trace metals so the finishes and furnishing selection should minimize metal. Approximately 25% of current lab footprint could be isolated as this metal sensitive PPB lab.
- There are incompatible materials in the lab that should be considered in placement of storage cabinets in a new lab space.
- The Watershed Ecology Section (WES) team uses bench mounted rock tumblers to process samples. It is loud and can be dirty work that creates vibration. It can be disturbing to other groups and should not be in the lab. It is currently done in the Equipment Storage Room but ideally would have its own acoustically isolated “Dirty Lab” room with enough bench space for four rock tumblers (about the size of a toaster) and a sink. The space should also have space for a floor mounted “Ro-tap” sieve shaker that is about 24" in diameter. Additional space should be provided for sturdy shelves for 20 five- gallon buckets of rock samples. In addition, an 8'x 8' flex space for occasional experiments using a variety of equipment should be set aside and could be part of the same room.
- Ideally, for safety purposes, there would be transparency between the PPB lab and the main lab and between the main lab and an office area or common space.
- Some lab work requires use of teflon churns and field auto samplers that hold several gallons of water. They are filled in the field set into a larger vessel with handles and then double bagged in large trash bags. They are shipped back to the lab where the plastic is removed for the sample to be processed. Currently this work is done at the north end of the lab which increases chances of lab contamination. Ideally there would be an area immediately outside the lab or just inside the lab door where the bags could be removed to minimize the contamination in the lab. This area should include space for recycling/trashing the bags.
- Lab waste is disposed as follows:
 - Liquid chemicals are diluted and poured down the drain consistent with city of Portland requirements.
 - Liquid waste that cannot be poured down the drains are collected in the lab and occasionally transported under protocol to a chemical waste site.
 - Non-hazardous solid waste such as plant material and occasional fish tissue are bagged and put into the trash.
 - Past experiments have included Carbon 14 stakes. The small quantity of used stakes were disposed through PSU's environmental health and safety team.

- Most water samples are prepped in the lab and sent to other USGS labs for analysis. The remote labs dispose of the waste.
- Soil and rock samples are donated for landscaping or returned to the field.

Equipment Storage

- The equipment storage room (130) is crowded with shelves and each shelf is filled with equipment coolers, buckets, gear, charts, and files stacked to approximately ten feet above the floor. The space also houses a caged area for telecom equipment, several electrical panels, switches, meters and an air-handling unit, which appears to serve the adjacent laboratory. Storage of equipment and gear also happens in the office cubes. Most field personnel store equipment at their desks because they believe it is less likely to be used by others, misplaced, or have the calibration altered. USGS management is not opposed to staff having dedicated gear because it tends to improve efficiency. However, office space would be more efficient if storage was consolidated in a central location and large, individually assigned lockers were provided for the personalized equipment and gear. For planning purposes some people will require gear lockers for clothing and others will require lockers for clothing and equipment:
 - Twenty-five 2’x2’x6’ ventilated gear lockers
 - Thirty-six 4’x4’x8’ lockers, wire mesh partitions with shelves and hooks

Computer/IT

- Existing room 237 is a secure storage room. It is used for storage of some equipment but also houses the back-up tapes. It is crowded and ideally would be larger, approximately 225 sf. This room needs to be physically separate and not adjacent to the computer server room. If the room is constructed of rated walls it could be adjacent.
- The existing computer server room (room 233) is over 400 sf and only needs to be around 300 sf. The computer server room is 17kw and has dedicated HVAC. Ideally the room would be equipped with a non-water fire extinguishing system although the current space has conventional fire sprinklers.
- Both computer server room and secure storage should have a higher level of security than the rest of the facility.
- The computer section works with all other sections equally. They do not require any particular adjacency to other sections.
- Large deliveries only happen two or three times per year so close proximity to the shipping/receiving is not required.
- Darius works on many computers all day long and needs a large office to accommodate many machines on tables within his office.
- There are 3 people in the section including Darius and a Publication Specialist. An occasional volunteer or intern joins them. Also the section needs an additional cube space or bench that will be used as a shared equipment lab. Therefore, the computer section needs one large office, one small office and 3 other cubes.
- Currently the computer Section’s area is home to a large color plotter it does not really belong to the department. It just happens to be located there.
- There are 3 large desk-top color printers, 9 black and white desk-top printers and 2 large copy machines distributed around the ORWSC. They are located for convenience on desk-tops or in corners of offices wherever they fit. Ideally there would be dedicated spaces for the printers and

copiers. One space per section is not necessary but they should be located conveniently for all of the sections. One would contain the large plotter.

Reception

- The main building entry is located in the middle of the West façade on the first floor. Reception for USGS is up the stairs, and down the corridor through a closed door.
- Currently, during office hours there is nothing to stop the public from entering the building and wandering through the offices. Property has been stolen due to this arrangement.
- For security reasons and for a stronger public face, USGS prefers to have a reception desk located adjacent to the main entry. Ideally one person’s desk in addition to the receptionist would have a view of the reception area for times when the receptionist is not at the desk.
- There is a collection of posters, awards, maps, photographs, display cases, electronic displays and hand-out racks located throughout the current facility. Dar envisions the maps and photos distributed on the walls of the new facility but the display and handouts should be located near the reception to enhance the public component of a new location. One large display case will hold old instruments and photos. Two large screen TVs will cycle upcoming event notifications, images of USGS work, photographs, and potentially video. Three hand-out racks will be placed on the walls in the public access area near reception. Ten feet of wall space should be reserved for a copper printing plate display. For planning purposes we will account for an additional 100 sf called Museum/Outreach in the schedule of areas.

Conference

- The existing facility has one large meeting space, the Willamette Library in which approximately 50 people can meet. The Santiam and Deschutes conference rooms can each hold 8 to 10 people. The Santiam room is only accessible through the Willamette Library. Some small meetings of 2- 5 people are held in Section Chief offices.
- Generally there is a consensus that more conference rooms are needed.
 - There is a need for a large space holding a minimum of 60 people.
 - It would be conveniently flexible if that room could be divided into two rooms for 30 people each to accommodate simultaneous smaller training and seminars.
 - IDCA suggests having the number of conference rooms match the number of sections so each section could have a meeting simultaneously.
 - According to our interviews, two section have approximately 30 people. So having two of the conference rooms sized to hold 30 occupants is appropriate.
- Since there are frequent visitors who attend meetings and “brown bag” lectures, it would be beneficial to have access to a large conference room and perhaps a small one from the non-secure side of the reception desk.
- Conference rooms should all be appointed with provisions for teleconference, video conferencing, white boards, tackable surface, and projection.

Office Space

- The current space has a variety of office sizes and configurations.
 - There are many single occupant offices that should be retained for team leads and section chiefs at a minimum. There are also a number of medium sized rooms that contain 3 to 5 cubes.

- Some USGS staff need near silence to do their writing and modeling work so single occupant and medium sized multiple occupant spaces are convenient for acoustic separation.
 - The medium sized offices also add to the ability to collaborate or mentor for similar tasks when silence is not required.
 - Open office cubical arrangements for 5 or more are acceptable to most people as long as the acoustic concerns are addressed.
 - Generally this variety of office spaces is desirable and should be designed into the new space. However, there is general acknowledgement from USGS management that the space could be used more efficiently, if there were more consistent office sizes and arrangement.
 - Larger areas of open office with regularly sized/spaced cubes, and file furniture improves space efficiency.
 - Open office space should be augmented with “Quiet Rooms” and more conference rooms that people can use to have a personal phone call or lengthy conversations. A few rooms, perhaps 1 per section, should also be designed for 3-4 cubes to provide the small team isolation. To accompany the open office areas we will plan for 1 quiet room per 20 cubes.
 - The current distribution of personnel on the second floor is intentionally unconsolidated. People from each section are scattered across the floor with the hope of better interaction and potential collaboration between sections. In general, personnel report that they appreciate the arrangement for personal interaction reasons but the effect on collaboration is dubious.
 - Management and interviewees expressed a strong preference for all office space to have access to daylight and views of the exterior. Unoccupied spaces such as storage and computer rooms should be located on interior walls or walls without windows to maximize office exposure to light and views.
 - There are no special requirements for the office space for any of the sections. Standard system furniture and finishes would be appropriate. Computer intensive work does not require low glare space. Direct light can be a problem but is easily controlled with blinds on the windows.
 - USGS management is also interested in an office design model that would place open offices adjacent to windows and closed offices on the inboard walls with glass in their doors and side lights that would allow them to “borrow” light and views through the open office space.
 - For planning purposes the following closed offices will be assigned:
 - Section Chiefs will have 165 sf closed offices
 - Team Leads and Specialists will have 110 sf closed offices
 - 4 person offices for each section:
 - 1 for admin
 - 0 for Computer
 - 4 for Data (PFO)
 - 2 each for the other sections
- Break Rooms**
- There are several break room areas in the existing facility. They are all used but some are awkward and uncomfortable and have no seating.
 - One or more convenient central break areas with seating and daylight/views would be ideal and would increase cross-section interaction.

USGS Facility Policies

Under the current agreement the ORWSC does not have to comply with General Services Administration (GSA) policies. However, Dar has provided facility guidelines to IDCA for reference. In particular GSA’s guideline of 180 square feet per person (with some exemptions for library, lab, and certain core facilities and circulation) is a good benchmark to which we can compare our area.

Other relevant facility policies are:

- Only trained personnel are allowed to work in the lab. Others must be escorted in special circumstances.
- USGS must have a dedicated IT infrastructure to maintain a “firewall” between it and other organizations.
- Guests must check in at reception, wear a visitor’s badge and be escorted by USGS personnel.

Partnership, Interaction and Collaboration between PSU and SOE

There are a variety of ways that USGS and SOE interact:

- Volunteer students can work with the USGS in a limited capacity.
- “Pathway” program, employs PSU students and recent graduates at USGS for work in the field, lab and office.
- The experience the students gain by volunteering and through paid opportunities via the Pathway program makes them qualified candidates to become USGS employees after graduation.
- Some USGS staff are Adjunct Professors at PSU.
- USGS staff have been guest lecturers at PSU.
- There are some professional research collaborations between SOE and PSU.
- USGS personnel attend the PSU lecture series on subjects related to their work.
- Although not currently active, opportunities were identified to share access to research equipment between laboratories.

Existing and Future Collaboration and Synergies between PSU and SOE

There are a number of ways that the two organizations collaborate and find synergy:

- Students are a rich source of curious energetic manpower for USGS. Additionally, the students earn money and gain hands-on experience. PSU Grad-students who are employed at USGS are a powerful link between the organizations.
- The two organizations have written research grant applications together which opens both PSU and USGS to grants and other funding opportunities that the individual groups would not be eligible to pursue otherwise.
- It appears that some equipment is shared although to a limited degree. Sharing equipment that is not currently used full time may be an excellent bridge between the two organizations as long as individuals are trained to ensure safety and standard operating procedures are followed.
- Closer proximity between the organizations should increase attendance at seminars and will increase chance meetings that could lead to collaboration.
- Sharing spaces, even limited non-lab or non-office spaces like break rooms, and conference areas could increase interaction.

Future Program Spaces

Dar Crammond acknowledges that there are some inefficiencies in the existing building due to the layout that was in place when USGS moved in. His general feeling is that the program should be able to fit in the same size space or smaller if they are able to gain some efficiencies. Dar does not anticipate growth in the number of people at ORWSC.

The following new dedicated spaces were identified during the tour and interviews as beneficial to efficiency, quality operations and public outreach:

- Decontamination
- Covered staging area
- Lockers
- PPB Lab
- Dirty Lab
- Additional conference rooms – target 1 for each of the 6 sections which would add a total of 3.
- Museum/Outreach

USGS operations also acknowledged that their current structure and facility program is subject to change as the research charter of the ORWSC may change in the future. Further, the work and the structure of the USGS ORWSC is episodic by season, specific grant, or other factors. In this vein, space planning activities will best serve all parties by planning in flexibility for the program to be reconfigured wherever possible.

Document amended on May 8, 2015: as part of the Project Next Steps, the ratio of private offices to open offices needs to be relooked at: especially for senior scientists, which in turn may affect the overall area required.



MEMORANDUM

USGS/PSU ORWSC Space Planning

Best Practices Research (Task 3)

PREPARED FOR: Portland State University
 COPY TO: USGS ORWSC
 PREPARED BY: IDC Architects / CH2M HILL
 DATE: February 27, 2015
 REVISION NUMBER: 0 (revisions to be submitted within 1 week)

Task Summary

IDC Architects performed secondary-source research on USGS-University collaborations, and spoke with Dar Crammond (USGS) at the Oregon Water Science Center (OWSC) to refine the scope of the primary-source research. IDCA then communicated with six Administrative Officers (AOs) at USGS offices. Knowledge gained during the initial research and interviews was used to inform these "Best Practices."

These best practices are intended to highlight important features, strengths and weaknesses of similar collaborative relationships between USGS and Universities. A deeper understanding of these programs will require peer-to-peer conversations between USGS or University personnel at the respective institutions.

Research Methods

Initial background research was conducted using publicly available information, to gain an understanding of the types of collaborations existing between USGS and Universities. After discussions with Dar Crammond at ORWSC, the team determined that direct cooperative research agreements between USGS science or research centers and Universities were the best focus for primary-source research. Seven of these programs were identified for further study.

Contact information was provided by ORWSC and initial contact was made by Dar Crammond. Amy Maule (IDCA) interviewed the contacts by phone and email over the course of one week (Feb. 10-17).

Preliminary notes were discussed at the project Kick-off meeting held on February 13, 2015. Discussion at the kick-off meeting also informed these best practices.

Background

The USGS has a long history of cooperative research-driven relationships with universities. These relationships come in a variety of forms, many of which involve other local, state and federal agencies as well as non-governmental organizations (NGOs). The OWSC is part of the USGS Cooperative Water Program, a program that partners with local, State and Tribal agencies to monitor and assess water in every state. OWSC and Portland State University established collaborative program in 2007, and OWSC moved into a building on PSU's campus shortly after the program began.

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Other types of collaborative arrangements between USGS and Universities include "Cooperative Research Units" and "Cooperative Ecosystem Studies Units." The Cooperative Research Units program began in 1935. They are long-term collaborations between USGS, a host University, a State natural resource agency and the Wildlife Management Institute. They are staffed by USGS personnel and hosted at the university. The Cooperative Ecosystems Studies Unit network is a consortium that allows many federal agencies, universities and NGOs to collaborate on long-term or short-term research projects with lower indirect costs.

The collaboration between OWSC and PSU does not currently involve other state or local agencies. Through discussions with OWSC, the project team decided to limit primary-source research to USGS-University collaborations with the most direct relevance to OWSC and PSU's situation. This included the science centers listed below.

Summary of Key Findings

- Collaboration on science/research is crucial to cooperative agreements through USGS (as opposed to GSA-managed lease agreement).
- Strong research-driven relationships between USGS and Universities can lead to increased funding opportunities for both institutions.
 - Opportunity for USGS personnel to be included in PSU research grants.
 - Opportunity for PSU research projects to benefit from federally funded research allocations.
- Involving additional federal, state or local agencies or NGOs may increase likelihood of additional funding (such as Congressional support). Partners might include:
 - The National Park Service
 - Other regional USGS functions
 - PSU's Institute of Sustainability
 - The Nature Conservancy (TNC)
 - Oregon Water Resources Congress (OWRC)
 - City of Portland Bureau of Environmental Services (BES)
 - Oregon Department of Geology and Mineral Industries (DOGAMI)
 - The Center for Coastal Margin Observation & Prediction (CMOP)
- Long-term commitments are preferred by both University and USGS personnel, but 5-year agreements appear to be standard.
 - Because University funding tends to come from the state and state funds are raised with bonds, Universities are better able to commit to capital expenditures if long-term commitment from USGS is assured (greater than 5 years).
 - USGS sees risk from agreements that must be renegotiated each year.
- Financial vehicles available when California and Arizona Water Science Centers' cooperative programs began are not likely to be available today.
- Co-location of USGS personnel (same floor or same region of the building) is helpful but not required.
- Public area outside of security perimeter for collaboration with PSU personnel and public outreach.
- Proximity of USGS offices to University is critical to collaboration.
 - The primary goal of USGS/University cooperative programs is to foster collaboration between students, faculty and USGS. USGS offices need to be no more than a short walk from university offices to maximize collaboration.

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- Adequate storage, parking and loading on-site saves considerable staff-hours.
- Dedicated IT system is required by USGS.

Detailed Interview Notes

The following USGS employees and programs were interviewed. Detailed contact information is attached.

- Forest and Rangeland Ecosystem Science Center (FRESC), Marty Fitzpatrick (cooperative agreement with Oregon State University)
- Western Fisheries Research Center (WFRC), Chris Cox (University of Washington)
- California Water Science Center (CAWSC), Glen Henz (California State University, Sacramento)
- Arizona Water Science Center (AZWSC), Margaret Gilliland (University of Arizona)
- Northern Rocky Mountain Science Center (NRMSC), Judy O'Dwyer (University of Montana)
- Colorado Water Science Center (COWSC), Donna Hector (University of Colorado)
- South Atlantic Water Science Center (South Atlantic WSC) - Dianna Jarvis (Georgia/South Carolina)

Forest and Rangeland Ecosystem Science Center

The Forest and Rangeland Ecosystem Science Center at Oregon State University (OSU) is housed in an annex portion of an on-campus building.

The building that houses FRESC was originally built on university property by a developer who leased the space to EPA through the General Services Administration (GSA). FRESC initially moved into the building with EPA, using GSA's existing lease agreement. OSU later decided to buy out the developer and turn the building into campus space. OSU remodeled a portion of the building specifically for USGS FRESC. There are other USGS departments housed on OSU's campus, as well as other federal agency groups. The information included here only applies to FRESC.

USGS currently leases the space from OSU (not through GSA) by way of a cooperative agreement based on a collaborative science/research mission. Dr. Fitzpatrick stressed the importance of the research mission of the unit in order to maintain the collaborative agreement between USGS and OSU.

FRESC explored the possibility of a purpose-built facility with a loading dock. OSU was able to pay for a building remodel with the expectation of recouping cost through a lease, but was not able to pay the upfront cost of a new building. Dr. Fitzpatrick reports spending approximately five years working with GSA to acquire funding for a new building but was not successful.

FRESC personnel reside in a separate annex portion of the building, which is separate from the OSU portion of the building. The annex has a locked exterior door and locked interior entrance into the OSU areas. FRESC has access to shared conference rooms, kitchen space and a server room (USGS servers are separated from OSU servers to comply with federal firewall requirements).

Very little equipment is maintained in FRESC's facility. USGS analytical labs reside in the Forestry Science building at OSU. This space is maintained under a different interagency agreement, unrelated to the FRESC cooperative agreement. One federal vehicle has a campus parking permit, but the majority of vehicles are housed off campus at an EPA facility. Loading docks or other loading areas are not required.

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Western Fisheries Research Center

WFRC does not currently have any space on campus. The office is approximately 4 miles from the University of Washington. Students work with USGS, but they conduct work at the off-campus USGS location. No further investigation was done into this collaboration.

California Water Science Center

CAWSC is located in a purpose-built university building on the campus of California State University, Sacramento. The building is also used by other USGS offices and the university's geology department.

The building was built based on a 30-year memorandum of understanding (MOU) and project implementation plan (PIP) between USGS, California State University, Sacramento, (CSUS) and the CSUS Foundation (acting on behalf of CSUS) for the development of a research facility on the CSUS campus. The PIP emphasizes the intent for USGS and CSUS to "work cooperatively in order to strengthen their mutual research effort." The PIP specifies that a new building will be constructed to house USGS and the CSUS Geology Department. Costs are to be recovered through payments to the CSUS Foundation by USGS (fair market rent and operating costs based on the amount of space occupied). The plan was signed in 1994 and amended in 2000.

CAWSC does not share office or lab space with the university, but resides in a physically distinct portion of the building with locking doors and a check-in area for visitors. The building is in the style of an office building and USGS offices are spread across multiple floors. Functional groups are located on the same floors, so day-to-day functions are not impeded, but Mr. Henz believes that a single-floor arrangement could improve cross-group collaboration.

There is no warehouse space or loading dock on site. Heavy equipment is frequently stored in cubicles, since off-site storage is inconvenient to access.

Arizona Water Science Center

The AZWSC is located in a purpose-built building on the University of Arizona (U of A) campus in Tucson, AZ. Public Laws 101-509 and 102-393 set aside funding in 1991 for a building to house USGS, National Weather Service (NWS), and Bureau of Mines.

A 20-year MOU (with automatic additional 10-year renewals) outlined the cooperative agreement between the Arizona Board of Regents (on behalf of the U of A), USGS and NWS. The MOU emphasizes collaborative research between the agencies and the university.

USGS and NWS pay only utilities and maintenance (about \$7 per square foot). Building modifications are to be paid for by the agencies. The USGS cost centers also have a 5-year cooperative agreement with the university.

USGS and NWS share the entire building, with no University office in the building. Conference rooms are occasionally used by the university, when available. ASWSC is able to hire students to perform lab work and other tasks. Campus police provide security for the building.

Ms. Gilliland described the building as "a very lovely place to work" due in part to courtyards and abundant space. However, there are many exterior doors, which make security more difficult, and she believes that the space does not conform to current USGS standards.

The building has storage and loading space, however other development on campus has obstructed the loading dock and short-term parking access. A permanent replacement loading area has not yet been established.

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Northern Rocky Mountain Science Center

Between 2001 and 2009, the NRMSC was housed in an existing building at Montana State University (MSU) in Bozeman. The space was given to USGS at no cost as part of a collaborative research agreement. Offices were not contiguous and were intermixed with classrooms, which caused difficulty during high-traffic times such as between classes. Only offices were dedicated to USGS. University lab space was occasionally used for collaborative projects, or could be rented by the hour. No security other than university security was required and USGS presence was not advertised on the outside of the building.

In 2009, NRMSC moved into a new building due to university space requirements. NRMSC is now housed in a university-owned building at the edge of campus. The building is occupied by MSU, USGS, and Western Transportation Institute (WTI). The lease for USGS and WTI is managed by GSA.

In the new building, USGS offices are contiguous and low-level security includes check-in and escort of all new guests. Collaboration with the university continues to be strong, and appears to be influenced by personnel and politics rather than location.

Being at the edge of campus allows NRMSC to take advantage of the university phone system (data is separate due to federal firewall requirements), while also having a warehouse across a secured parking lot from the building. Current warehouse space is approximately 1200 square feet, but additional space is needed. Due to the size of equipment used at NRMSC, loading docks are not required, but one loading parking space is available.

Colorado Water Science Center

The COWSC is located at the federal campus in Lakewood, Colorado and has no physical space at University of Colorado. No further investigation was done into this collaboration.

South Atlantic Water Science Center

The South Atlantic Water Science Center is a recent merger of Georgia, North and South Carolina Water Science Centers. The South Carolina Water Science Center has offices on university campuses, with five-year cooperative agreements between the universities and USGS and yearly negotiation of the rental agreement.

USGS personnel are collocated with students and university employees in existing university buildings. Lab and common spaces are shared with the university. Offices are locked and USGS has a dedicated warehouse area, but no other security such as guest check-in. There are no loading docks.

Ms. Jarvis reported that colocation and shared lab space has led to strong collaboration with university personnel and students, however it is difficult to plan since the universities often take space back during yearly negotiations.

The Georgia Water Science Center (separate from the South Carolina Water Science Center) is not located on a university campus, but has a configuration worth noting. The office and lab area of the USGS office is behind security, requiring visitors to check in, but an entry atrium, meeting rooms and restrooms are outside security. This allows easy visitor access to public spaces while keeping work areas secure.

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Contact Information

NAME	TITLE	AGENCY	PHONE
Marty Fitzpatrick	Deputy Center Director	Forest and Rangeland Ecosystem Science Center	541-750-1032
Chris Cox	Administrative Officer	Western Fisheries Research Center	206-526-6282
Glen Henz	Administrative Officer	California Water Science Center	916-278-3101
Margaret Gilliland	Administrative Officer	Arizona Water Science Center	520-670-6671 x262
Judy O'Dwyer	Administrative Officer	Northern Rocky Mountain Science Center	406-994-7544
Donna Hector	Administrative Officer	Colorado Water Science Center	303-236-6903
Diana Jarvis	Administrative Officer	South Atlantic Water Science Center	803-750-6182
Amy Maule	Analyst / Interviewer	IDC Architects	503-872-4424

Resources

USGS Cooperative Water Program. <http://water.usgs.gov/coop/>

Oregon Water Science Center. Water Resources of Oregon. <http://or.water.usgs.gov/>

Cooperative Research Units Program Headquarters. <http://www.coopunits.org/Headquarters/>

Cooperative Ecosystems Studies Units. <http://www.cesu.psu.edu/default.htm>

Project Implementation Plan to Establish and Operate Research Support Facilities between the U.S. Geological Survey, Water Resources Division and California State University, Sacramento. June 1994.

Amendment One (1) to Project Implementation Plan. September 15, 2000.

Treasury, Postal Service and General Government Appropriations Act, 1991, Pub. L. No 101-509, 104 Stat. 1409.

Treasury, Postal Service, and General Government Appropriations Act, 1993, Pub. L. No 102-393, 106 Stat. 1743.

Memorandum of Understanding between the Arizona Board of Regents on behalf of the University of Arizona and U.S. Geological Survey and U.S. Department of Commerce National Oceanic & Atmospheric Administration National Weather Service. December 1992.

U.S. Geological Survey. (2014). USGS on Campus (video), USGS Multimedia Gallery. Retrieved March 3, 2015 from <http://gallery.usgs.gov/videos/874#.VPj13fnF9xA>.

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