

PROGRAM VERIFICATION MEETING NO. 1 – PHYSCIS / SEPTEMBER 14, 2017

MEETING START TIME: 8:00 a.m.
 MEETING END TIME: 10:00 a.m.

PRESENT:

University of Wisconsin – La Crosse

| | | |
|------------------|-------------------------|--|
| Scott Schumacher | Planning & Construction | sschumacher@uwlax.edu |
| Eric Barnes | Physics | ebarnes@uwlax.edu |
| Eric Gansen | Physics | egansen@uwlax.edu |
| Shawna Sallmen | Physics | ssallmen@uwlax.edu |
| Steve Harris | Physics | sharris@uwlax.edu |
| Bob Allen | Physics | allen.robe@uwlax.edu |

Design Team

| | | |
|---------------|------------------|--|
| Mike Adler | River Architects | m.adler@river-architects.com |
| Jeff Kocinski | SmithGroupJJR | jeff.kocinski@smithgroupjir.com |
| Marilee Lloyd | SmithGroupJJR | marilee.lloyd@smithgroupjir.com |

NOTES:

1. The departmental offices were reviewed and discussed. The following items were noted:
 - a. Office listing approved as indicated.
 - b. Offices may not want to be located on Level 1.
 - c. Suite arrangement not preferred.
 - d. Lab Support Staff:
 - Student workers also to be included in this area.
 - Locate closer to Phase 1 if possible.
 - e. Instrumentation Specialist:
 - Locate closer to Phase 1 if possible.

2. The Computational Computer Lab was reviewed and discussed. The following items were noted:
 - a. 20 student stations.
 - b. Adjacency desired to Phase 1 laboratories.
 - c. Vision is to have the lab available after hours via access control.
 - d. Desktop computers at each student station.
 - e. Audio-visual setup similar to that of a classroom.
 - f. No water or other lab services required – dry lab.
 - g. No light control required.

3. The Faculty/Student Research (Theorists) area was reviewed and discussed. The following items were noted:
 - a. Computational space to accommodate 10 computer stations.
 - b. Desire to have space be one room, not three as previously programmed.
 - c. 3 faculty.
 - d. 5-7 students.
 - e. 960sf.

- f. Provide maximum writing surfaces – whiteboards and chalkboards.
 - g. Area needed for resource materials.
 - h. Location not critical. Split decision on whether to be with the departmental offices or isolated elsewhere.
 - i. Daylight and views are not critical. Writing surfaces and wall space is more important.
4. The Planetarium was reviewed and discussed. The following items were noted:
- a. Currently used as a teaching lab at times but mainly used for public functions.
 - b. May or may not be needed but it was advised to leave it in the current program for now.
 - c. 24' diameter dome currently – 30' desired (33' x 33' needed for access around).
 - d. 70 kindergarten students at a time – if less due to the dome size, that's ok.
 - e. Need vestibule type space to prevent light leak issues.
 - f. Office space needs to be provided adjacent to planetarium.
 - g. First floor location would be preferred.
 - h. Theater style seats desired.
 - i. Audio-visual system needed.
 - j. Storage area required.
 - k. Single projection from center floor area.
5. The Observatory area was reviewed and discussed. The following items were noted:
- a. Telescopes and observation platform are a combined space.
 - b. 50+ people (100 max) including waiting.
 - c. Shawna Sallmen provided a detailed breakdown with requirements. See attached.
 - d. Elevator access required.
 - e. Waiting area needed. Area would be outside but not part of the main platform area.
 - f. Storage Room needs climate control for telescope storage.
 - g. Light control – need something more architectural rather than curtains to block stadium lighting and street and pedestrian lighting.
 - h. Piers need to be isolated from vibration.
 - i. Not often used in winter, but on occasion.
 - j. Power and data required to each pier.
 - k. Light control from waiting area and stair.
 - l. Red lights required at viewing platform to provide enough light for people to safely get around without affecting the telescopes
 - m. The team discussed a retractable cover over the telescopes, this would protect the piers during the winter or other inclement weather. The telescopes are removed and stored in a secure and environmentally stable location (adjacent to platform).
6. The Student Organization space was reviewed and discussed. The following items were noted:
- a. File cabinets.
 - b. Office size space.
 - c. Locked door.
 - d. Work area.
 - e. Not a meeting space.
 - f. Doesn't need to be located within the department.
 - g. It was determined during the Design Committee meeting that all departments will share a common area of 320sf. This area will include lockable storage cabinets for each department.

7. The Shop was reviewed and discussed. The following items were noted:
 - a. Clean side. (Dry, computer based functions)
 - b. Dirty side. (Slightly wet – single sink dusty shop like environment,.
 - c. Counter space.
 - d. Sink. – Dirty side.
 - e. Power including 220. Dirty side for equipment (drill press, lathe)
 - f. Basement location ok.

8. Testing Areas were reviewed and discussed. The following items were noted:
 - a. One per floor if possible.
 - b. Physics would not need a specific space for testing.

9. Shared Printing was reviewed and discussed. The following items were noted:
 - a. Physics needs access to a large format printer.

10. The Science Education Methods Lab was reviewed and discussed. The following items were noted:
 - a. Physics 106 taught in this room currently.
 - b. 2.5-hour classes held by Physics only.
 - c. Specialized equipment along with special prep and take-down requirements.
 - d. Physics would like their own space.
 - e. Would be similar arrangement as Physics Studio Lab.
 - f. Same floor level location as Physics Studio Lab preferred.

11. The Classrooms were reviewed and discussed. The following items were noted:
 - a. 50-55 student classrooms are often used by Physics (40 to 57).
 - Typical lecture.
 - No special equipment .
 - No prep space.
 - b. Storage/prep areas adjacent to classrooms would be helpful.
 - c. Prep space adjacent to large lecture halls is required.

12. The current space tabulation with edits made during the meeting is included on the following page for review along with the notes we received about the rooftop observatory spaces.

Meeting Notes by: River Architects

This constitutes our understanding of the issues presented. Contact River Architects, Inc. via phone at (608) 785-2217, or e-mail m.adler@river-architects.com if there are any discrepancies.

| Department | Space Type | UNIT NO. | UNIT | NO. OF O | NO. OF ASF / OCC | ASF / SPA | NO. OF SPACES | TOTAL ASF | PHASE 2 PH2 - P.V1 LAB NOTES |
|------------|---------------|----------|--------------------------------------|-------------|---------------------|--------------|------------------|-----------|---|
| Physics | Office | 8A | Department Chair's Office | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Office | 8B | Ranked Faculty Office | 1 | 120 | 120 | 9 | 1,080 | 1,080 |
| Physics | Office | 8C | Future Ranked Faculty Office | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Office | 8D | Lecturer – Part Full Time | 3 | 60 | 180 | 3 | 540 | 540 |
| Physics | Office | 8E1 | Academic Department Associate | 1 | 80 | 80 | 2 | 160 | 160 |
| Physics | Office | 8E2 | Student Workers | 1 | 35 | 35 | 1 | 35 | 35 |
| Physics | Office | 8E3 | Reception Area | 4 | 25 | 100 | 1 | 100 | 100 |
| Physics | Office | 8E4 | Lateral Files | 2 | 11 | 22 | 1 | 22 | 22 |
| Physics | Office | 8F | Workroom | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Office | 8G | Office Storage | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Office | 8H | Lab Support Staff | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Office | 8I | Student Workers (Lab Prep) | 1 | 35 | 35 | 1 | 35 | 35 |
| Physics | Office | 8I1 | Instrumentation Specialist | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Instructional | 8R | Computational Computer Lab | 20 | 40 | 800 | 1 | 800 | 800 For instruction and non-scheduled for lab write ups, workstations with dedicated PCs and AV for instruction, dry lab |
| Physics | Research | 8T | Faculty/Student Research (Theorists) | 3 | 320 | 960 | 1 | 960 | 960 dry lab with computers and boards, chalk and white, some storage for books, have 10 pcs total, +5 students |
| Physics | Research | 8V1 | Planetarium (two sibry space) | 70 | 15 | 1,050 | 1 | 1,050 | 1,050 24' dia. currently, 30' next dome, theater seating, entry vestibule to prevent light leak, 50 people fine |
| Physics | Research | 8V2 | Storage | 1 | 500 | 500 | 2 | 240 | 240 |
| Physics | Research | 8V3 | Prefunction/Welcome Area | 1 | 500 | 500 | 1 | 500 | 500 |
| Physics | Research | 8V4 | Display Cases | 10 | 4 | 40 | 1 | 40 | 40 |
| Physics | Research | 8V5 | Office | 1 | 120 | 120 | 1 | 120 | 120 |
| Physics | Research | 8W1 | Telescopes | 6 | 60 | 360 | 1 | 360 | 360 Combined with 8W2, slide off roof for 3 scopes |
| Physics | Research | 8W2 | Observation Platform | 50 | 15 | 750 | 1 | 750 | 750 uncovered, 60+ people, ADA compliant, 100 MAX occ. |
| Physics | Research | 8W3 | Waiting Area | 20 | 15 | 300 | 1 | 300 | 300 combined with 8W1 & 8W2, prevent light leak, red lights |
| Physics | Research | 8W4 | Storage (for telescopes) | 1 | 120 | 120 | 1 | 120 | 120 climate controlled |

Requirements for 8W1 – 8W4:

Goal: Handicap accessible rooftop site suitable for public outreach, and expanded observational opportunities for students

- o **REQUIRES elevator all the way to roof**
- o **REQUIRES no stairs between elevator / rooftop observing spaces / storage**
- o Including waiting area, must accommodate up to 70 people

Components:

- Covered locked observing area with slide-off roof
 - o Optionally divided into 2 spaces: 1 covered and 1 not, but both with limited access (lockable), telescope piers connected to non-vibrating foundation, and walls to mitigate light pollution
 - o Room Data sheets suggest 8W1 ('Telescopes') = covered area with slide-off roof, 8W2 ('Observation Platform') = uncovered observing area for extra telescopes / equipment
- 8W3 (Waiting Area) = uncovered area for public / students to wait for observing
- 8W4 (Storage) = rooftop storage for telescopes and related equipment

I. Equipment Requirements for rooftop observing spaces

- **8W1:** 3 piers connected to non-vibrating foundation (telescopes are vibration-sensitive)
- **8W2:** 3 piers connected to non-vibrating foundation

II: Special Lighting Requirements for rooftop observing spaces:

- **ALL ROOFTOP** lighting (even that not associated with observing spaces) must be able to be turned off (ON/OFF switch) for night-time observing
- **8W1,2,3, & 4:** These spaces require red lighting placed low to the ground, to avoid light pollution
- **8W1,2,3, & 4:** General full-cutoff lighting should also be in place for aid in night-time setup / teardown, but must have ON/OFF switch
- Observing areas (**8W1, 8W2**) should not be affected by light when people enter / exit roof and/or storage room
- **8W1 & 8W2:** Walls around observing areas high enough to block surrounding campus lights (minimize glare for observing) but not so high as to overly limit the accessible sky
- **8W1:** Request a fiber optic link to astronomy teaching lab to attach a heliostat to (pipe sunlight into lab room for observing)

III: Architectural Requirements for rooftop observing spaces:

- **8W1,2,3,& 4:** No stairs between any of the spaces 8W1-8W4, or between those and the elevator
- **8W1:** Slide-off roof must protect telescopes / piers when in place, roll off to provide view of sky during observing sessions
- **8W1 & 8W2:** Extremely rigid floor, with isolation of telescope piers from the floor.
- **8W1:** Floor will sometimes be exposed to outside (not while raining / snowing).
- **8W2 & 8W3:** Floor will be exposed to elements at all times
- **8W1 & 8W2:** Walls around observing areas high enough to block surrounding campus lights (minimize glare for observing) but not so high as to overly limit the accessible sky

Examples of Rooftop observatories:

Luther College (Decorah, IA) has a rooftop observatory with a rollback roof:

<http://astronomy.luther.edu/rooftop.htm> (see pictures below)

Other Roll-off observatories & pictures:

- o http://www.sunrivenaturecenter.org/html/photo_gallery.html

(Sunriver Nature Center Observatory, Sunriver, Oregon)

- o Sommers Bausch Observatory of the Univ. of Colorado has a roll off roof approximately 20 x 40 feet. It covers telescopes & binoculars



