

# Idaho Career Ready Students Proposal

## Summary Page

General Information		
Project Name		
School Name		
LEA Name		
Project Type		
<input type="checkbox"/> Capital Construction Costs	<input type="checkbox"/> New Program Support	<input type="checkbox"/> Existing Program Support & Upgrades
Legislative Priorities		
<input type="checkbox"/> Capital Investments for In-Demand Careers	<input type="checkbox"/> Supporting Rural Schools	
<input type="checkbox"/> Addressing Regional & Community Needs	<input type="checkbox"/> Addressing Challenges Accessing Resources	
Summary		
Meeting Date		
Committee:		
Council:		
Final Award		
<input type="checkbox"/> Fund as Submitted	<input type="checkbox"/> Do Not Fund	<input type="checkbox"/> Fund w/Modifications _____

## GRANT APPLICATION

General Information	
School Name	
District Name	
School Address	
Point of Contact & Direct Phone Number	
Point of Contact Email	

## PROJECT INFORMATION

Benefits to the Community/Region/State
Please describe how your community, region, or the state will benefit from an ICRS grant:

Industry Partners
Please identify any partnerships with local industry or other stakeholders including, but not limited to, financial support or donations, equipment, instructor(s), technical help, etc.

**Is this request to support a new or existing program**

	This request supports an existing program, pathway, or cluster within the district.
	This request supports a program, pathway, or cluster that is new to the district.

**Grant Request**

Please list the items needed to support the ICRS grant request:

	<b>Total Amount</b>	<b>Summarize resources and how they will be used to support the ICRS grant.</b>
Curriculum	\$	
Travel	\$	
Consumables (materials & supplies)	\$	
Equipment	\$	
Capital Costs for Building Programming & Construction	\$	
IDCTE Approved Program w/o Added Cost Funds	\$	
Other Expenses	\$	
<b>Grand Total</b>	\$	

November 30, 2023

Allison Duman, Program Coordinator  
Idaho Career Ready Students  
Idaho State Department of Education



Dear Allison and members of the Idaho Career Ready Students Committee,

Attached, please find our application for the Idaho Career Ready Students grant program. This proposal is being submitted by the University of Idaho on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC). The IFNRC is a new consortium comprised of the Forest Products industry, the University of Idaho College of Natural Resources, and 8 school districts. working to address critical needs for both students of rural Idaho and the forest products industry. The objective of our proposal is to fill key infrastructure, equipment and curriculum gaps needed to provide Idaho 7-12 students with the necessary skills and abilities needed to move into a variety of forestry and natural resources career paths, particularly in logging and forest products. While we recognize that it is unusual for the University to be applying to this program, we do so on behalf of our industry partners and schools statewide who have identified a need for shared building, equipment, resources and new curriculum to support this workforce training area that is of critical importance to our state economy.

The challenges facing Idaho youth today are many. Our state's youth live in areas heavy with forests and natural resources all around them. Creating a learning environment to support those students is not a simple task. How do we get rural students in Idaho to be Career Ready Students?

Our grant proposal is not for a single solitary school district. It has the capabilities to reach 10% of all high school aged students in the next 3 years and potentially 33% by year 5. In 2021/2022 nearly 50,000 students, almost half of the total high school aged students, participated in a CTE course. Many of those students have been very loosely associated with a natural resources or forestry course through other means. This proposal would connect previously missed curriculum with those students. Natural resource education is growing nationwide. Forestry is a massive part of that. The University of Idaho is strategically placed to host local schools for training opportunities multiple times per year. The new building in this proposal and the equipment associated with it, will be the hub for all forestry-based education, certificate earning, and job exploration for all Idaho youth.

The University of Idaho has already funded many of the educational opportunities that students will have moving forward. The University of Idaho Experimental Forest (UIEF) and the College of Natural Resources (CNR) have invested over \$1.5 million in state-of-the-art logging equipment to be used in educational opportunities. \$700 thousand was acquired through an Idaho Workforce Development Council (IWDC) grant for workforce training equipment over the last year, led by Dr. Ryer Becker. This equipment, which includes 4 simulators, will be on a trailer going around to Idaho schools, educational fairs, and several regional logging and forestry conferences to provide training and generate interest in logging and forest products career pathways. Our ICRS proposal leverages and builds on and complements this existing IWDC funding for the youth of Idaho and our strong forest products hiring needs among logging contractors, mills, and related industries.

The portable sawmill we are requesting will serve students statewide. It will be transported to as many districts as possible so they can have this career learning opportunity, following the same model being used with logging equipment simulators funded recently through IWDC. Some districts will have their own and the teachers will require training. We will help to facilitate that through a statewide professional development effort. The mill housed at the University of Idaho is for those that do not have one of their own. This provides more opportunities for smaller districts and urban areas that otherwise would not have this type of exposure. In addition, the planer combo will be used for additional training with all districts and for our Forest Products CDE to be hosted at the facility each year. The UIEF has hosted the statewide FFA Forestry CDE on the UI Experimental Forest for over 30 years each June. That event will also be based at the new IFNRC facility in the future with substantially improved equipment and tools.

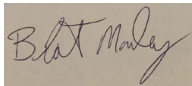
Our proposal includes both paid time and a vehicle for Blake Manley, who will serve as the primary IFNRC point of contact maintaining regular communications among school districts, the forest products industry and the university. Mr. Manley will serve as point of contact on responsibilities with forestry and forest products CTE program curriculum development and sawmill workshops and instruction for participating schools.

One of the exploding portions of forestry nationwide is the use of drones for planning logging operations, assessment of log inventories at logging jobsites, and scanning of inventories at mills. We have included a set of drones for educational use by high school students who otherwise would not have this opportunity. These will be used in conjunction with the building on the UIEF for training and taken to schools for increased exposure statewide. Technology is developing quickly in the forest products industry. For Idaho students to be career-ready, they need skills and hands-on experience with cutting-edge technology.

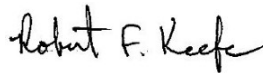
This proposal is aimed at meeting our youth where they are and helping them to get wherever they may be going in the future. Our goal is absolutely not to channel students to

the University of Idaho, although the 2-year A.S. Forest Operations and Technology degree may be a career pathway for some, our goal is to provide tools and knowledge to Idaho 7-12 students that have never before been offered on this scale. The Idaho Forestry and Natural Resources Collaborative is a first step toward providing new levels of educational opportunities for young Idahoans and a true team effort to provide career readiness within forestry and natural resources. We see many more opportunities in the future. If funded, we anticipate working with our unified industry stakeholders, school districts, CTE professionals statewide, and the State Dept of Education to seek out additional funding that further leverages this grant to grow more 7-12 opportunities in this field. We greatly appreciate the support from this Career Ready Students review committee in addressing these efforts. They are critical for our industry's continued growth and contributions to Idaho's economy.

Sincerely,



Blake Manley  
Workforce Training Program Coord.  
University of Idaho Experimental Forest  
College of Natural Resources  
University of Idaho  
875 Perimeter Drive  
Moscow, ID 83844-1133



Robert F. Keefe  
Director  
University of Idaho Experimental Forest  
Associate Professor of Forest Operations  
College of Natural Resources  
University of Idaho  
875 Perimeter Drive  
Moscow, ID 83844-1133

**From:** [Manley, Blake \(bmanley@uidaho.edu\)](mailto:bmanley@uidaho.edu)  
**To:** [Allison Duman](#)  
**Subject:** Reply to our grant  
**Date:** Tuesday, January 9, 2024 5:01:48 PM  
**Attachments:** [CP190021-CNR Princeton-Equip Stor-Review Dwgs-9-20-18.pdf](#)

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Allison,

I want to answer your questions but will also be sending you a document within the next few days detailing other portions.

1. The districts that have already received portions of the ICRS grant are very excited to be tied in with this group. Nearly all of the districts have been awarded large sums of money for capital investments such as building upgrades and equipment needed to safely and properly instruct. These districts are very excited for those upgrades. However, they have all been equally excited that we would tie together the teachers, the basics of what they would be teaching, and that the individual schools would have a centralized location for certificates to be earned. All of these schools being together in a joint Forest Products Education effort also creates a network that teachers can work from. Good teachers don't invent each and every lesson plan on their own. They borrow from those that are being successful teaching what they are teaching and in a similar location where they are teaching. This collaborative, and the tools we have requested, offers that to both the districts that have already been awarded and districts that have not been awarded ICRS money.
2. We attached our budget to the original email and I will re-attach it here. Please specify if there is something in that itemized spreadsheet that is not clear.
3. I am getting a digital copy of the blueprint within the week. That will get you exactly what you need for the building.
4. In our humble opinion the curriculum being developed by Idaho people for Idaho is a crucial part to the ongoing success of forest education in our state. We want school districts to access a curriculum that applies to Idaho for free. There are many options out there that can be purchased but that are not made for our forests and our industry. If this doesn't get funded, it won't impact the success of our proposal in the long term. We will find a way, but that way will take longer.

Meaning, the students of Idaho will have to wait. When you look at other successful CTE programs, Agriculture Education for example, the curriculums that they use have been developed already.

5. I believe that the same answer for number 4 applies here. We would find a way, however that way would take significantly longer, which negatively impacts the students of today. Teachers in established programming already have state funding to pay for professional development. The funding for teacher travel would allow these first couple of years grace to get teachers properly trained in what the industry is in need for. Then as the program develops and is part of a recognized program at the state level, funding would be available for these teachers. Our proposal includes equipment to be transported and used throughout the state of Idaho. For example, the portable sawmill. Several districts are interested in being able to use that as a teaching tool in some capacity. If a vehicle is not included in our proposal, how do we transport it from one place to the next? This vehicle is a one time purchase that would benefit the state by allowing access to the materials that this collaboration would have.

I would like to also add that a central coordinator in Oregon was part of the major springboard from fledging group to the 2<sup>nd</sup> largest Career Student Organization in Oregon. I have been working closely with many schools, more each week, that want to be part of offering more career paths to students. This grant would do just that.

Attached is the spreadsheet and a working document of the certifications and credentials that are available currently and in development stages with industry. These are the skills that are currently not being offered that have been recognized as needs by the Forestry Industry, specifically the Forest Products side of it. The blueprints for the building are also attached. The location will change to a location on the forest, but the blueprints will be the same.

Thanks,

Blake Manley

[Certificates.docx](#)

[UIEF ICRS Budget 11 27 23B.xlsx](#)



**Certificate Development**

	Quantity	cost/ea.		
Time to build and Collaboration Meetings with industry, post secondary and secondary teachers (now under Salary)				
Subcontract - Lesley Comes, LLC		Writer (subcontract)	\$	41,581

**Salary and Fringe**

Salary - Blake Manley HS travel and curriculum development	600	\$39.43	\$	23,658
Fringe benefits - Blake Manley	600	\$16.28	\$	9,771
Summer salary - Keefe	40	\$60.88	\$	2,435
Fringe benefits - Keefe	40	\$18.87	\$	755

**Travel**

	School visits			
Per Diem	30	\$55.00	\$	1,650
Lodging (Schools farthest away from hub/Moscow)			\$	2,285

**Other Expenses**

Blades	40	\$115.00	\$	4,600
2 Person Log Carrier	3	\$125.00	\$	375
Peavy	3	\$115.00	\$	345
50' Spencer Tape	5	\$50.00	\$	250
Carpenters Tape	4	\$25.00	\$	100
MS 462 Chainsaw	2	\$1,501.00	\$	3,002
Two Man Crosscut	3	\$400.00	\$	1,200
Chaps	10	\$100.00	\$	1,000
Chainsaw Helmets	5	\$100.00	\$	500
Other Safety Gear, Gloves/Ear Plugs/etc.			\$	3,000
TV monitors and electronics for learning			\$	2,750
Drone for HS Learning	5	\$1,250.00	\$	6,250
Fuel for vehicle (Manley HS travel)	2680	\$3.53	\$	9,460
Stipends - HS teachers	20	\$75.00	\$	1,500

Total direct costs: **\$ 696,467**

**Subtotals**

**\$ 41,581**

**\$ 36,619**

**\$ 3,935**

**\$ 34,332**

**Capital**

Building Construction	\$320,000
Building Electric	\$57,000
Building Septic Install	\$25,000
Building Well	\$35,000
Building Wood Stove and Stovepipe	\$8,000
Woodmizer LT40 hydraulic sawmill w/ debarker	\$70,000
Planer/molder/jointer	\$10,000
Vehicle for Transportation to schools (Manley)	\$55,000

**Total capital: \$580,000**

**Total capital: \$580,000**

**PROJECT COST ESTIMATE SUMMARY**

**CNR Equipment Storage Building  
Princeton, Idaho**

UI Project Number:  
UI Budget Number: (TBD)

Architecture Engineering Services  
University of Idaho  
7/31/2018

**PROJECT FUNDING**

• UI	\$	-
• Central Admin	\$	-
• Net Development Campaign	\$	-
• Net Federal Sources	\$	-
• Department	\$	-
• PBF	\$	-
• Grant, for Equipment	\$	-
• Other	\$	-
<b>TOTAL PROJECT FUNDING</b>	<b>\$</b>	<b>-</b>

**PROJECT COSTS**

• Fees	\$	8,820
• Construction - Contractor	\$	196,268
• Construction - Owner	\$	300
• Furnishings / Fixtures	\$	-
• Additional Miscellaneous Costs	\$	-
<b>Subtotal</b>	\$	205,388
• Project Contingency (3%)	\$	6,162
<b>Subtotal</b>	\$	211,549
• AES Management Fee (3%)	\$	6,346
<b>TOTAL PROJECT COST</b>	<b>\$</b>	<b>217,896</b>

**FEES**

Consulting A/E Services	\$	8,000
Reimbursables Allowance		
Consulting A/E Services - Additional/Other	\$	-
Reimbursables - Additional/Other	\$	-
Administrative Support, UI AES	\$	250
Advertisement, Statesman	\$	-
Advertisement, Spokesman	\$	-
Advertisement, Daily News	\$	-
Printing of RFQ	\$	-
Prints	\$	-
Spec Book Printing	\$	-
IDEQ Permit Fees	\$	-
DBS Plan Check Fees	\$	570
Detail Site Survey	\$	-
Geotechnical Services	\$	-
Construction Materials Testing	\$	-
ACM Lab Analysis Fee		
<b>Subtotal Fees</b>	<b>\$</b>	<b>8,820</b>

**CONSTRUCTION - CONTRACTOR**

1 General Construction	\$	145,000
2 Electrical (allowance)	\$	12,000
3 Plumbing (allowance)	\$	10,000
4 Sewer (allowance)	\$	10,000
5	\$	-
6 DBS Building Permit	\$	1,425
7	\$	-
8	\$	-
9	\$	-
10	\$	-
<b>Subtotal Direct Construction</b>	<b>\$</b>	<b>178,425</b>
Contingency on Items 1 - 10 Above (10%)	\$	17,843
<b>Subtotal Contractor Construction</b>	<b>\$</b>	<b>196,268</b>

**FURNISHINGS / FIXTURES**

Furnishings	\$	-
Artwork	\$	-
Donor Recognition Signage	\$	-
Non-Fixed Equipment	\$	-
<b>Subtotal Furnishings / Fixtures</b>	<b>\$</b>	<b>-</b>

**CONSTRUCTION - OWNER**

Facilities (Support)	\$	-
Key Shop	\$	300
Grounds Shop	\$	-
Interiors Shop (Signs)		
Plumbing Shop	\$	-
Electric Shop (Support)	\$	-
HVAC Shop		
Paint Shop	\$	-
Miscellaneous Materials	\$	-
Fixed, Installed Equipment	\$	-
UI ITS		
Miscellaneous Services	\$	-
Asbestos Abatement (Existing Buildings)		
Lead Paint Abatement (Existing Buildings)	\$	-
Soils Testing/Compaction	\$	-
<b>Subtotal Owner Construction</b>	<b>\$</b>	<b>300</b>

**ADDITIONAL MISCELLANEOUS COSTS**

Chiller Plant Capacity Contribution	\$	-
Move / Swing, Etc.		
<b>Subtotal Miscellaneous Costs</b>	<b>\$</b>	<b>-</b>

January 29, 2023

Allison Duman  
Idaho Career Ready Students Program  
Idaho Department of Education



Dear Mrs. Duman,

I am writing to provide additional details about the budget for the capital building request included for storage of the portable sawmill and Idaho Forest and Natural Resource Collaborative (IFNRC) forest products facility included in our previously submitted ICRS proposal.

The cost of this building, which is absolutely critical for coordinating and supporting high school forest products training statewide, was estimated using the following methods.

First, to save cost, we are using the exact building design for an existing structure in Princeton, Idaho that currently serves as the main shop building for University of Idaho Experimental Forest operations. Our existing UIEF building was designed in late 2018 and constructed in 2019. I have included the initial cost estimate developed at the University of Idaho. During construction, additional costs associated with a concrete pad and other items added cost, and the final actual building cost was approximately \$267,000. We added 20% (approx.) to that cost to account for inflation in building supplies and other costs as of 2024. Our new, proposed building will require installation of electrical utility lines 0.25-0.5 miles from a neighboring property and we estimated \$53,000. While expensive, the benefit of our planned site location is that it is on the main University of Idaho Experimental Forest where trees, logging equipment and other heavy equipment to support the facility are housed. We estimated 35,000 for drilling a well at this remote site and \$25,000 for septic, and \$8,000 for a large wood stove and stove pipe. This brings the total building construction cost for the Idaho Forestry and Natural Resources Collaborative Forest Products Facility to \$445,000, not including the sawmill and other forest products equipment.

The University recognizes that the primary role of this building is to support Idaho high schools and the ICFNR. As Idaho's Land Grant institution, we are tasked with supporting forestry education statewide and see this as an obvious connection with prior investments of over \$1.5 million the University has made in new logging equipment (grapple skidder, processor, feller-buncher) acquired in the last 24 months to support our 2-year and 4-year forestry degrees. There is a tremendous economy of scale and benefit to Idahoans overall utilizing this equipment, the Experimental Forest, and staff resources (Blake Manley) to support our forestry and forest products education efforts with both ICFNR member schools, additional school districts we expect to join ICFNR in the future, and the University of Idaho. The UIEF has hosted the Idaho FFA Forestry CDE for over 25 years using only our own resources and I have personally administered the CDE for 13 years. This building will provide the facility we need to support and strengthen our existing efforts and new, planned high school forest products career training statewide.

Sincerely,

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Robert F. Keefe  
Associate Professor of Forest Operations  
Director, University of Idaho Experimental Forest  
875 Perimeter Drive, Moscow, ID, 83844-1133  
[robk@uidaho.edu](mailto:robk@uidaho.edu)

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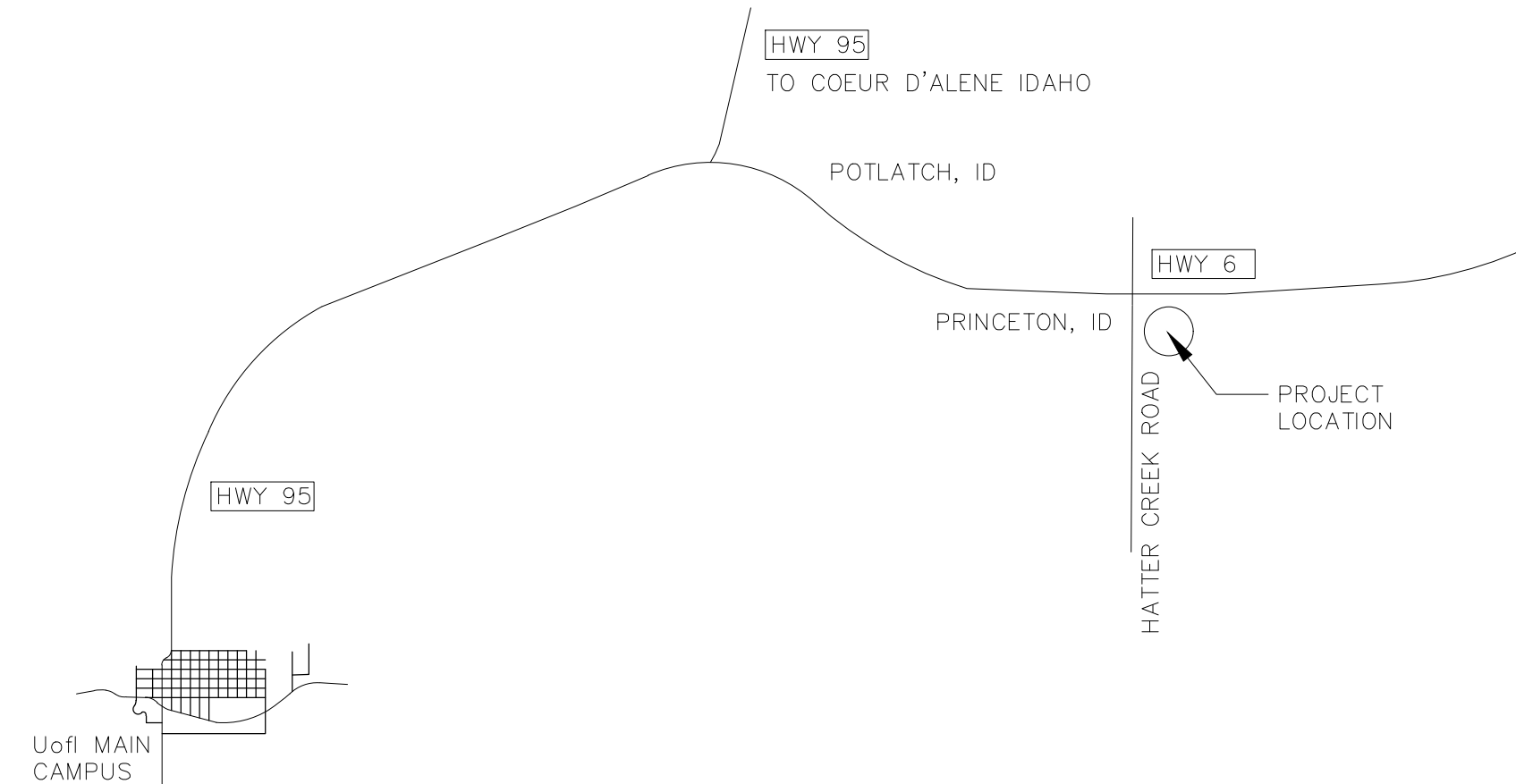
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Robert F. Keefe  
Associate Professor of Forest Operations  
Director, University of Idaho Experimental Forest  
875 Perimeter Drive, Moscow, ID, 83844-1133  
[robk@uidaho.edu](mailto:robk@uidaho.edu)

# EQUIPMENT STORAGE BUILDING PRINCETON - COLLEGE OF NATURAL RESOURCES

UNIVERSITY OF IDAHO  
Moscow, Idaho

UI CP#190021  
August 21, 2018



**VICINITY MAP**  
N.T.S.

**INDEX OF DRAWINGS**

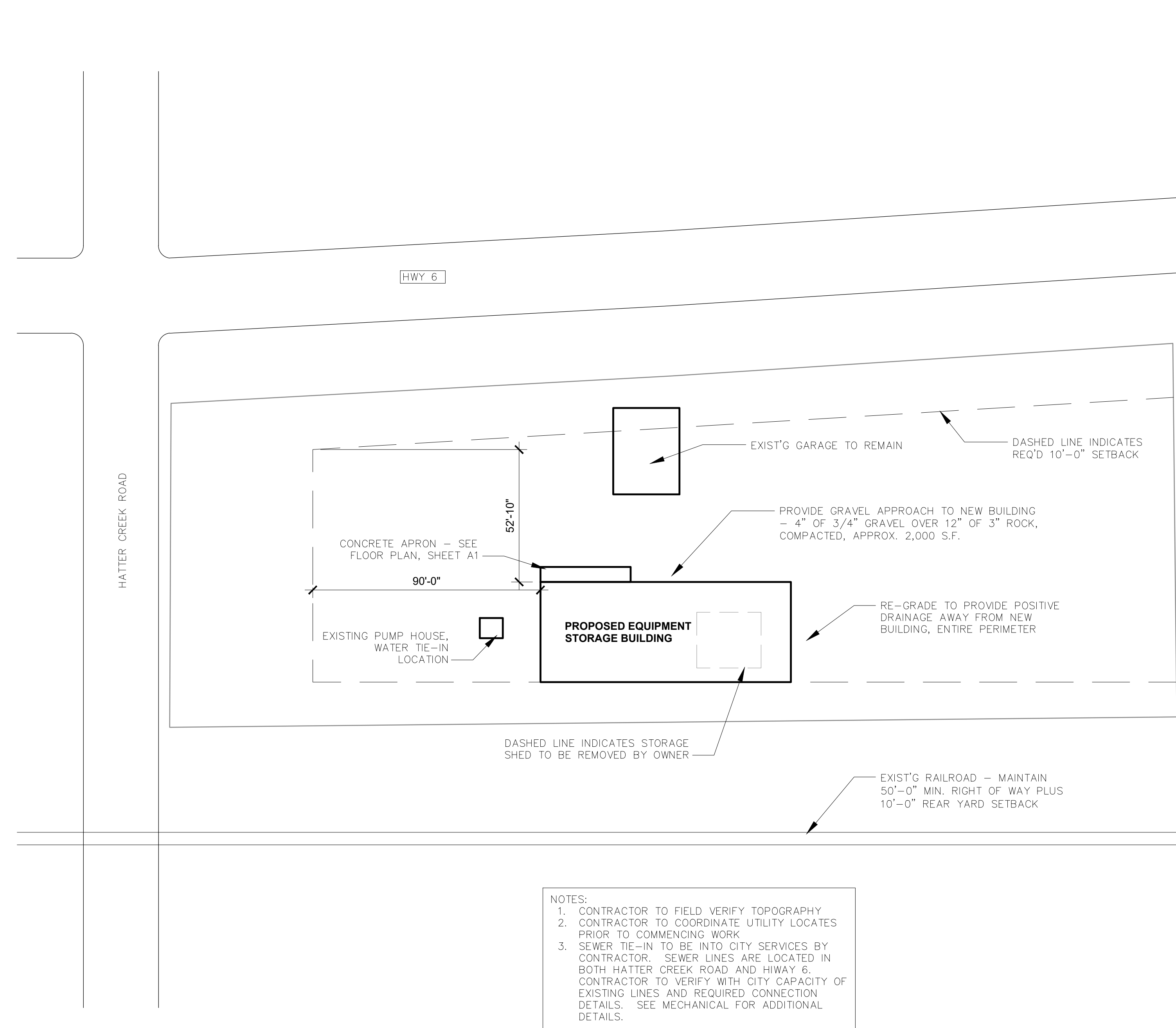
- T1.0 TITLE SHEET, VICINITY MAP, INDEX OF DRAWINGS, GENERAL NOTES, SITE PLAN
- A1.0 FLOOR PLAN, ENLARGED PLAN, TYPICAL RESTROOM ACCESSORIES MOUNTING HEIGHTS, SPECIFICATIONS
- A2.0 ELEVATIONS, SECTIONS, WALL SECTION
- M0.0 LEGEND AND SYMBOLS
- M1.0 GENERAL NOTES
- M2.0 EQUIPMENT SCHEDULES
- M3.0 SCHEMATICS
- M4.1 FIRST FLOOR HVAC
- M5.0 HVAC DETAILS
- M6.0 UNDERSLAB PLUMBING
- M6.1 FIRST FLOOR PLUMBING
- M7.0 PLUMBING DETAILS
- EX.X ELECTRICAL
- EX.X ELECTRICAL

**DEFERRED SUBMITTALS**

1. CONTRACTOR TO SUBMIT STAMPED ENGINEERED SHOP DRAWINGS OF THE BUILDING LAYOUT, STRUCTURAL MEMBERS, AND CONCRETE FOOTINGS AND SLABS TO THE STATE OF IDAHO DIVISION OF BUILDING SAFETY PRIOR TO THE COMMENCEMENT OF WORK. AN APPROVED SET OF PLANS MUST BE KEPT ON THE JOB SITE AT ALL TIMES.

**GENERAL NOTES**

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND REGULATIONS OF THE STATE OF IDAHO AND OTHER AUTHORITIES HAVING JURISDICTION.
2. CONTRACTOR SHALL CHECK ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE UNIVERSITY OF IDAHO AES PROJECT MANAGER PRIOR TO COMMENCING WORK.
3. DO NOT SCALE DRAWINGS.
4. REVIEW DRAWINGS AND IDENTIFY WORK NOT IN THE CONTRACT (N.I.C.).
5. PROVIDE BARRIERS, FLAGMAN, FLASHERS, ETC. FOR THE PROTECTION OF THE PUBLIC WHEN NECESSARY (DURING AND AFTER WORK HOURS).
6. PROVIDE POSITIVE DRAINAGE AND SLOPE AWAY FROM THE BUILDING TO DIRECT THE RUNOFF OF STORMWATER.
7. COORDINATE ACCESS TO THE SITE AND CONTRACTOR'S STAGING AREA WITH THE UNIVERSITY OF IDAHO AES PROJECT MANAGER. THE CONTRACTOR SHALL CONFORM WITH THE CITY OF MOSCOW WORK HOUR AND NOISE RESTRICTIONS. OTHERWISE, THE CONTRACTOR MAY WORK BETWEEN THE HOURS OF 6:00 A.M. AND 9:00 P.M. UNLESS OTHERWISE PERMITTED BY UI CONSTRUCTION MANAGEMENT. WEEKEND WORK IS PERMITTED.
8. PRIOR TO ANY EXCAVATION, CONTRACTOR TO VERIFY LOCATION OF UNDERGROUND UTILITIES, CONTACT CALL BEFORE YOU DIG AT: (800) 342-1555.
9. CONTRACTOR TO PROVIDE STAMPED ENGINEERED SHOP DRAWINGS OF THE BUILDING LAYOUT AND STRUCTURAL MEMBERS TO THE AUTHORITY HAVING JURISDICTION AS A SUBMITTAL PRIOR TO THE COMMENCEMENT OF WORK.
11. ALL SHUTDOWNS OF UTILITIES REQUIRE NOTIFICATION & COORDINATION WITH THE UNIVERSITY OF IDAHO AES PROJECT MANAGER.
12. CONSTRUCTION WASTE AND EXCAVATION OVERBURDEN SHALL BE HAULED OFF AND AT THE EXPENSE OF THE CONTRACTOR. CONTRACTOR TO DISPOSE OF CONSTRUCTION WASTE AT AN APPROVED LANDFILL.
13. THE CONTRACTOR AGREES TO ASSUME SAFE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF THE PROJECT.



- NOTES:**
1. CONTRACTOR TO FIELD VERIFY TOPOGRAPHY
  2. CONTRACTOR TO COORDINATE UTILITY LOCATES PRIOR TO COMMENCING WORK
  3. SEWER TIE-IN TO BE INTO CITY SERVICES BY CONTRACTOR. SEWER LINES ARE LOCATED IN BOTH HATTER CREEK ROAD AND HWY 6. CONTRACTOR TO VERIFY WITH CITY CAPACITY OF EXISTING LINES AND REQUIRED CONNECTION DETAILS. SEE MECHANICAL FOR ADDITIONAL DETAILS.

**SITE PLAN**  
SCALE: 1" = 30'-0"

**University of Idaho**  
Architectural & Engineering Services  
Moscow, Idaho 83844-2281  
(208) 885-7250

**PRINCETON**  
**EQUIPMENT STORAGE BUILDING**

DATE: 09/20/2018  
PROJECT NUMBER: ARCHIVE  
PROJECT NUMBER:

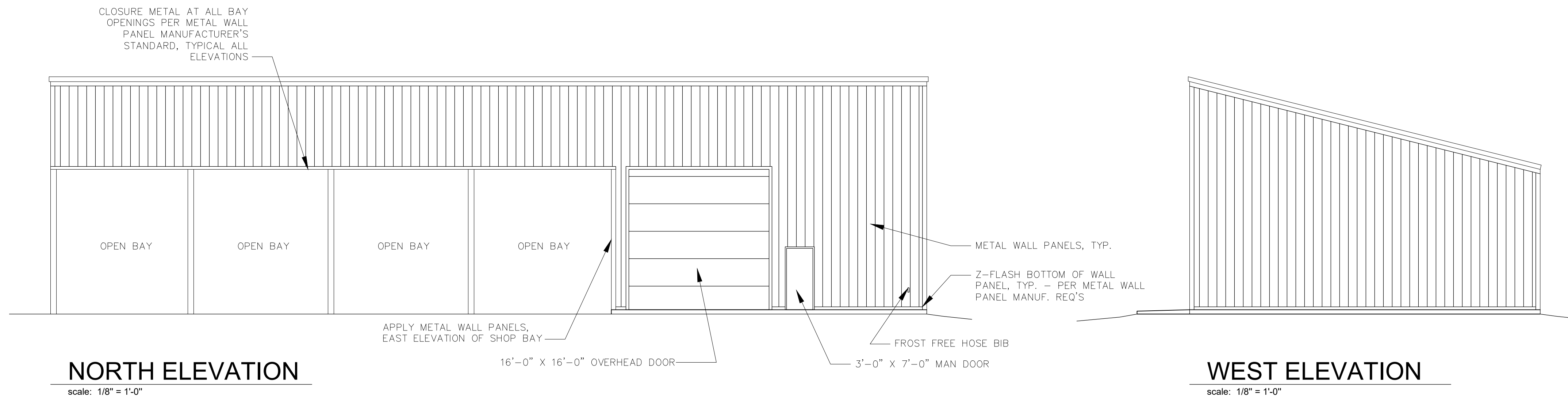
DRAWN BY: RGE  
PROJECT MANAGER: RGE  
DIRECTOR, ARCH. & ENG. SVCS: R. PANKOFF

CAD FILE NAME: CNR-Princeton-Equipment Storage.dwg

- SHEET CONTENTS**
- o CONCEPT PLAN
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  - o
  - o
  - o

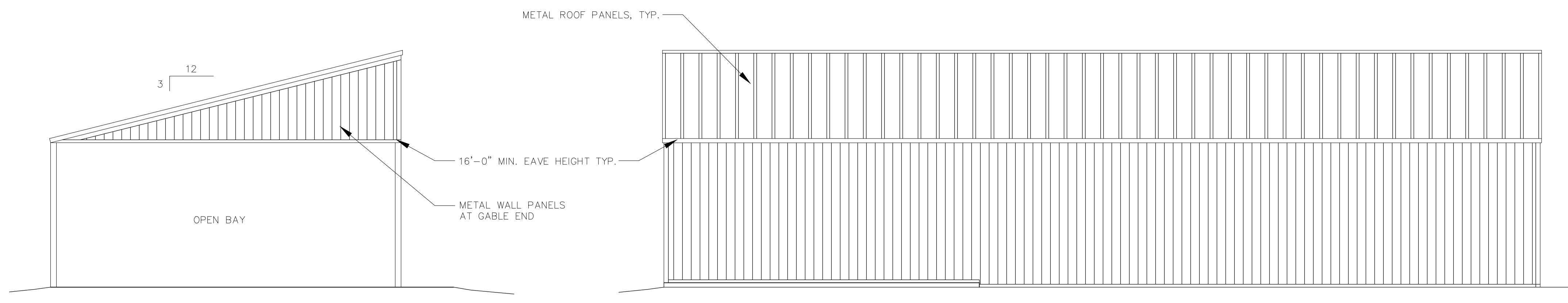
**SHEET NUMBER**  
**T1.0**





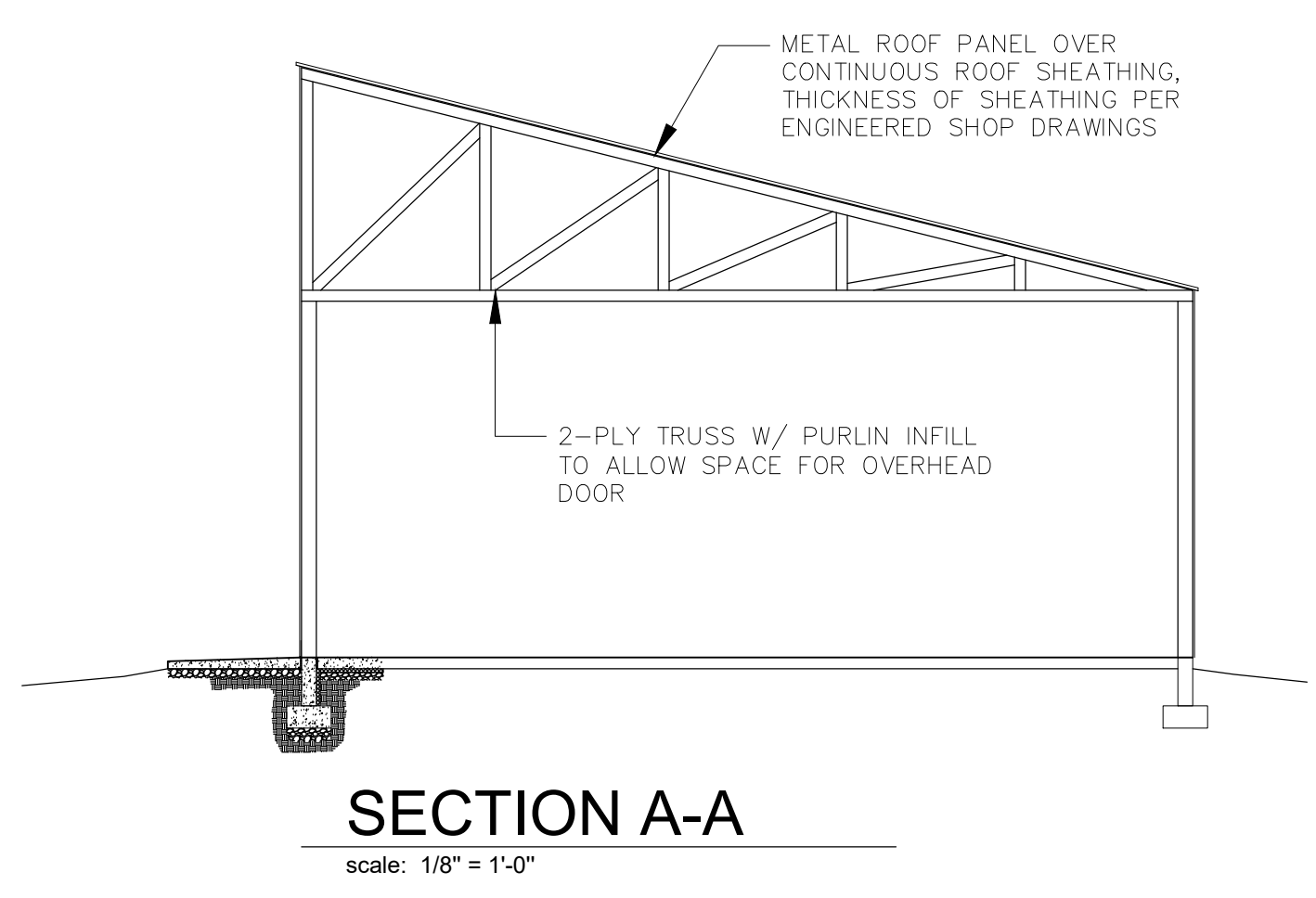
**NORTH ELEVATION**  
scale: 1/8" = 1'-0"

**WEST ELEVATION**  
scale: 1/8" = 1'-0"

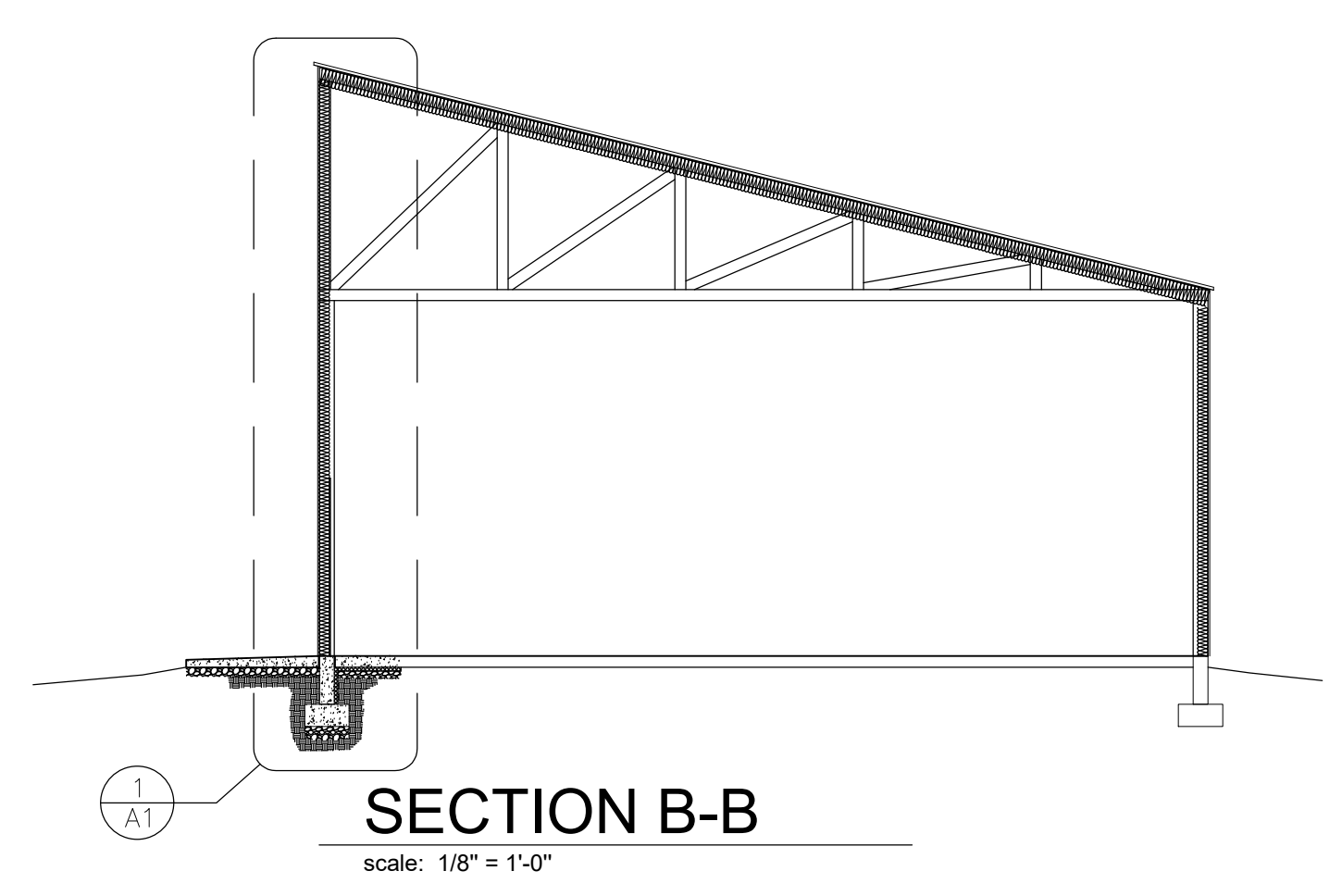


**EAST ELEVATION**  
scale: 1/8" = 1'-0"

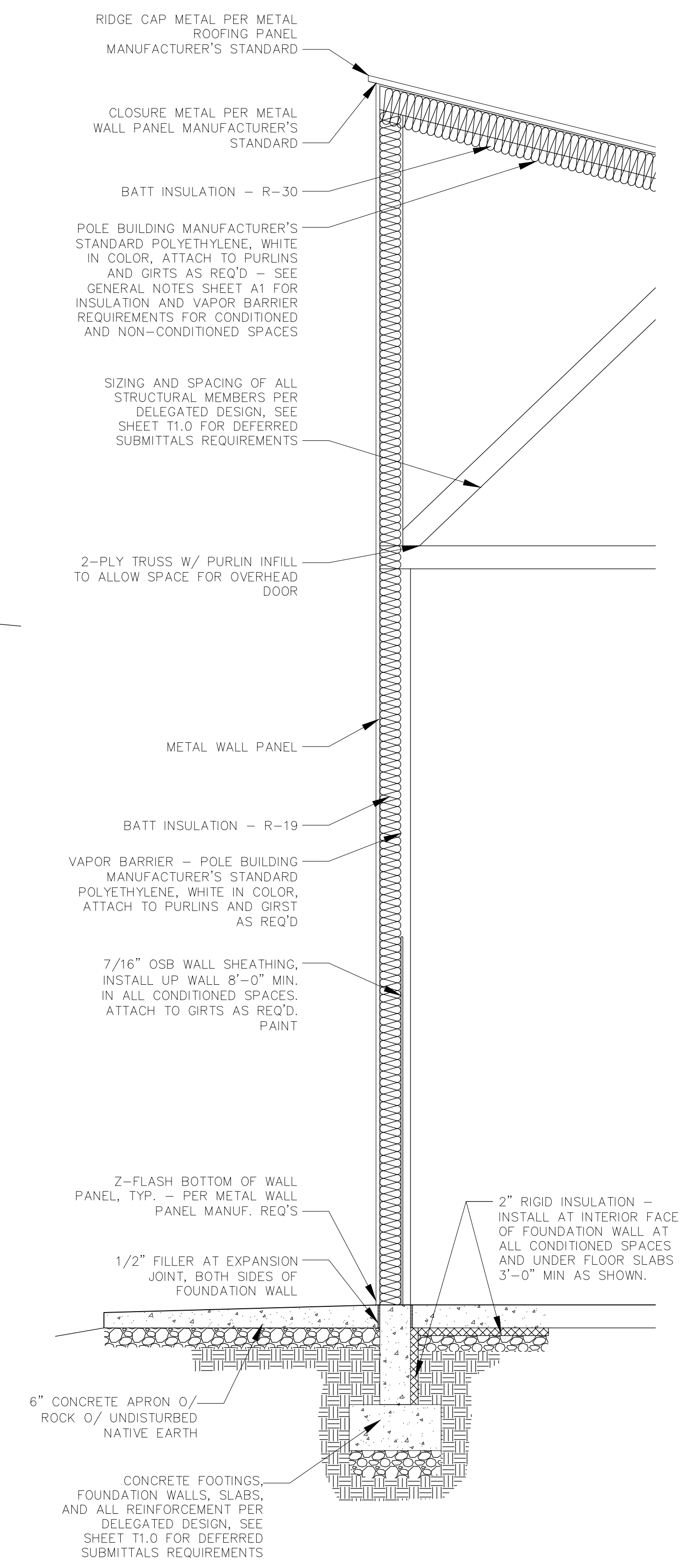
**SOUTH ELEVATION**  
scale: 1/8" = 1'-0"



**SECTION A-A**  
scale: 1/8" = 1'-0"



**SECTION B-B**  
scale: 1/8" = 1'-0"



**WALL SECTION**  
scale: 1/2" = 1'-0"

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<b>PRINCETON</b>	
<b>EQUIPMENT STORAGE BUILDING</b>	
ISSUE DATE: 09/20/2018	DATE FILED: CNR-Princeton-Equipment Storage.dwg
PROJECT ARCHIVE	PROJECT NUMBER: R. PANKOPF
DRAWN BY: RGE	PROJECT MANAGER: RGE
PROJECT MANAGER: RGE	DIRECTOR ARCH. & ENG. SVCS: R. PANKOPF

- SHEET CONTENTS**
- o FLOOR PLAN
  - o ELEVATIONS
  - o SECTION
  - o ENL. FLOOR PLAN
  - o

**SHEET NUMBER**  
**A2.0**





## PLUMBING NOTES

- SCOPE OF WORK**
  - THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
  - ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE UNIFORM PLUMBING CODE (2015 EDITION), ALL LOCAL CODES, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
  - THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
  - ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY ENGINEER OR ARCHITECT.
- PERMITS**
  - THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.
- SHOP DRAWINGS**
  - SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT/FIXTURES TO THE ARCHITECT OR ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT THREE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
- DOMESTIC WATER SUPPLY PIPING**
  - UNDERGROUND:** PROVIDE TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS, OR AS OTHERWISE ALLOWED IN TABLE 6-4, UPC 2015.
  - ABOVE GROUND:** PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS, COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE, OR AS OTHERWISE ALLOWED IN TABLE 6-4, UPC 2015.
  - ALL HOT WATER PIPING TO BE INSULATED WITH 1-1/2" FIBERGLASS INSULATION W/ ASJ.
  - ALL COLD WATER PIPING TO BE INSULATED WITH 1-1/2" FIBERGLASS INSULATION W/ ASJ.
- SANITARY/STORM DRAINAGE AND VENT PIPING**
  - ABOVE GRADE:** SCH. 40 GALV. STL. PIPE WITH SCREWED ENDS OR AS OTHERWISE ALLOWED IN TABLE 7-1, UPC 2015. ALL SOLDER TO BE "NO LEAD" TYPE.
  - 3" AND ABOVE:** SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS, OR AS ALLOWED IN TABLE 7-1, UPC-2015
  - BELOW GRADE:** SERVICE WT. CAST IRON WITH BELL AND SPIGOT JOINTS OR AS OTHERWISE ALLOWED IN TABLE 7-1, UPC-2015
  - CVC PIPING SHALL NOT BE USED IN AIR PLENUM CEILINGS AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS, OR FLOORS.
  - DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
  - DRAINAGE PIPING 3" SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/4" PER FOOT, AND PIPING LARGER THAN 3" SHALL BE RUN AT A GRADE OF NO LESS THAN 1/4" PER FOOT.
  - ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.
- MEDICAL GAS, DENTAL AIR AND VACUUM PIPING**
  - OXYGEN, NITROUS OXIDE:
    - 185 PSIG: HARD- OR SOFT-DRAWN SEAMLESS COPPER ASTM B 819 MEDICAL GAS TUBE, TYPE L BRAZED JOINTS, MELTING TEMP > 1000 DEG F
    - 185 PSIG OR 3": HARD- OR SOFT-DRAWN SEAMLESS COPPER ASTM B 819 MEDICAL GAS TUBE, TYPE K BRAZED JOINTS, MELTING TEMP > 1000 DEG F
  - DENTAL AIR, VACUUM AIR, VAC. HARD- OR SOFT-DRAWN SEAMLESS COPPER ASTM B 88 TUBE, TYPE L BRAZED JOINTS, MELTING TEMP > 1000 DEG F
  - PIPING UNDERGROUND WITHIN BUILDINGS OR EMBEDDED IN CONCRETE FLOORS OR WALLS SHALL BE INSTALLED IN A CONTINUOUS CONDUIT.
  - FOR PIPING UNDERGROUND WITHIN A CONTINUOUS CONDUIT ACCESS SHALL BE PROVIDED AT JOINTS FOR VISUAL INSPECTION AND LEAK TESTING.
  - REFER TO UPC 2015, CHAPTER 13 FOR OTHER PROVISIONS THAT APPLY TO MEDICAL GAS, DENTAL AIR AND VACUUM PIPING.
- ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER NATIONAL STANDARD PLUMBING CODE. ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.
- PIPE SUPPORTS**
  - ABOVE GRADE** ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORMED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN CHAPTER 8 OF THE NATIONAL STANDARD PLUMBING CODE.
  - BELOW GRADE** EARTH SHALL BE EXCAVATED TO A MINIMUM DEPTH WITH AN EVEN SURFACE TO INSURE SOLID BEARING OF PIPE FOR ITS ENTIRE LENGTH.
    - INTERIOR: THE PIPE SHALL BE INSTALLED (UNLESS OTHERWISE SPECIFIED) A MINIMUM OF 4 INCHES BELOW THE BOTTOM OF THE SLAB AND SHALL NOT BE IN ANY DIRECT CONTACT WITH THE CONCRETE AT ANY POINT.
    - EXTERIOR: THE WATER PIPE SHALL HAVE A MINIMUM OF 4" OF COVER AND THE SANITARY WASTE PIPE SHALL HAVE A MINIMUM OF 24" OF COVER.
- MISCELLANEOUS**
  - COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
  - DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
  - THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.
- TESTING**
  - PLUMBING SYSTEMS SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE UNIFORM PLUMBING CODE. THE OWNER SHALL WITNESS THE INITIATION AND CONCLUSION OF ALL PRESSURE TESTS.
  - MEDICAL GAS, DENTAL AIR AND VACUUM PIPING SHALL BE TESTED AND CERTIFIED ACCORDING TO UPC 2015, SECTION 1327.
- GUARANTEE**
  - MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE.

## 12. PROJECT CLOSE OUT REQUIREMENTS

- THE DOCUMENTS DESCRIBED BELOW SHALL BE PROVIDED TO THE BUILDING OWNER OR THE OWNER'S AUTHORIZED AGENT WITHIN 180 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
  - RECORD OF THE COMPLETED WORK. SUCH UPDATES SHALL INCLUDE MECHANICAL, ELECTRICAL, AND CONTROL DRAWINGS RED-LINED OR REDRAWN IF SPECIFIED, THAT SHOW ALL CHANGES TO SIZE, TYPE AND LOCATIONS OF COMPONENTS, EQUIPMENT AND ASSEMBLIES.
- CONSTRUCTION DOCUMENTS SHALL BE UPDATED TO CONVEY A RECORD OF THE COMPLETED WORK. SUCH UPDATES SHALL INCLUDE MECHANICAL, ELECTRICAL, AND CONTROL DRAWINGS RED-LINED OR REDRAWN IF SPECIFIED, THAT SHOW ALL CHANGES TO SIZE, TYPE AND LOCATIONS OF COMPONENTS, EQUIPMENT AND ASSEMBLIES.
  - SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT
  - MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT, DEVICE, AND SYSTEM REQUIRING MAINTENANCE
  - NAME AND ADDRESS OF AT LEAST ONE SERVICE AGENCY
  - TEMPERATURE CONTROL SYSTEM INSPECTION SCHEDULE, MAINTENANCE AND CALIBRATION INFORMATION, WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS
  - A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE INCLUDING RECOMMENDED SETPOINTS
- TRAINING OF THE MAINTENANCE STAFF FOR EQUIPMENT INCLUDED IN THE MANUALS SHALL INCLUDE AS A MINIMUM:
  - REVIEW OF OPERATION AND MAINTENANCE MANUALS AND PERMANENT CERTIFICATE
  - HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES
  - TRAINING COMPLETION REPORT.

## HVAC NOTES

- SCOPE OF WORK**
  - THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
  - ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE 2015, ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
  - THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
  - ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.
- PERMITS**
  - THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.
- SHOP DRAWINGS**
  - SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
- FLEXIBLE TYPE DUCT**
  - SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L. CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.
  - USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 10 LINEAR FEET PER RUN.
  - CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.
- REFRIGERANT PIPING**
  - CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICUOUS AND FREE FROM ANY POSSIBLE CONDENSATION. INSULATE REFRIGERANT LINES WITH ARMOUR-FLEX TYPE INSULATION.
  - SHALL BE ACR DRAWN TEMPER COPPER TUBING, WITH COPPER BRAZED TYPE FITTINGS SUITABLE FOR A MAXIMUM WORKING PRESSURE OF 623 PSIG.
  - REFRIGERANT PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE INTERNATIONAL MECHANICAL CODE. THE OWNER SHALL WITNESS THE INITIATION AND CONCLUSION OF ALL PRESSURE TESTS.
- DUCTWORK**
  - THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA AND IMC (LATEST EDITION). ALL DUCTWORK SHALL BE THE LOW VELOCITY, ROUND SPIRAL WRAPPED TYPE, UNLESS SPECIFIED OTHERWISE.
  - CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
  - ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.
  - SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
  - ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH SMACNA AND IMC (LATEST EDITION) AND ACCEPTED GOOD PRACTICE.
  - ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
  - ALL SUPPLY AIR DUCTWORK SHALL BE ROUND SPIRAL AND INSULATED WITH 1" (R3.3 MNI) FIBERGLASS LINER WITH FACTORY APPLIED ACRYLIC COATING LOCATED ON THE INTERIOR OF THE DUCT.
- GREASE DUCT**
  - GREASE DUCT SHALL BE FACTORY BUILT COMMERCIAL KITCHEN GREASE DUCT LISTED AND LABELED IN ACCORDANCE WITH UL 1978
  - GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE
  - SLOPE GREASE DUCT 1/4" PER FOOT TOWARD THE HOOD
- DRAINAGE PIPING (CONDENSATE)**
  - SHALL BE TYPE "K" COPPER PIPE WITH SOLDERED JOINTS. PITCH HORIZONTAL LINES 1/4" IN 1'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR SINK OR INDIRECT WASTE DRAIN.
- HVAC CONTROLS**
  - CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.
- ELECTRICAL**
  - CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.
- PIPE SUPPORTS**
  - ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.
- GAS PIPING**
  - SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS. WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG. THE FULL SIZE OF THE RUNOUT, A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 2" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.
- MISCELLANEOUS**
  - ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.
  - COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
  - DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
  - THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.
- TESTING AND BALANCING**
  - THE HVAC SYSTEM SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A NEBB CERTIFIED PROFESSIONAL. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL. FINAL AIR FLOWS SHALL BE WITHIN 5% OF DESIGN VALUES.
- GUARANTEE**
  - MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE.
- PROJECT CLOSE OUT REQUIREMENTS**
  - THE DOCUMENTS DESCRIBED BELOW SHALL BE PROVIDED TO THE BUILDING OWNER OR THE OWNER'S AUTHORIZED AGENT WITHIN 180 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
    - RECORD OF THE COMPLETED WORK. SUCH UPDATES SHALL INCLUDE MECHANICAL, ELECTRICAL, AND CONTROL DRAWINGS RED-LINED OR REDRAWN IF SPECIFIED, THAT SHOW ALL CHANGES TO SIZE, TYPE AND LOCATIONS OF COMPONENTS, EQUIPMENT AND ASSEMBLIES.
  - CONSTRUCTION DOCUMENTS SHALL BE UPDATED TO CONVEY A RECORD OF THE COMPLETED WORK. SUCH UPDATES SHALL INCLUDE MECHANICAL, ELECTRICAL, AND CONTROL DRAWINGS RED-LINED OR REDRAWN IF SPECIFIED, THAT SHOW ALL CHANGES TO SIZE, TYPE AND LOCATIONS OF COMPONENTS, EQUIPMENT AND ASSEMBLIES.
    - SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT
    - MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT, DEVICE, AND SYSTEM REQUIRING MAINTENANCE
    - NAME AND ADDRESS OF AT LEAST ONE SERVICE AGENCY
    - TEMPERATURE CONTROL SYSTEM INSPECTION SCHEDULE, MAINTENANCE AND CALIBRATION INFORMATION, WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS
    - A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE INCLUDING RECOMMENDED SETPOINTS
  - TRAINING OF THE MAINTENANCE STAFF FOR EQUIPMENT INCLUDED IN THE MANUALS SHALL INCLUDE AS A MINIMUM:
    - REVIEW OF OPERATION AND MAINTENANCE MANUALS AND PERMANENT CERTIFICATE
    - HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES
    - TRAINING COMPLETION REPORT.

1  
M1.0

## GENERAL NOTES

NOT TO SCALE

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PRINCETON  
EQUIPMENT STORAGE BUILDING

ISSUE DATE: 9-14-18	DESIGN BY: EMS	CADD FILE NAME: C:\Data\Covenant Engineering\Clients and Projects\University of Idaho\Princeton Equipment Storage\Princeton Equipment Storage.dwg
ARCHIVE FILE NO: ARCHIVE	PROJECT MANAGER: REDDY ERB	
PROJECT NUMBER: 1001484	DIRECTOR, ARCHT. & ENG. SVCS: R. PANKOFF	

## SHEET CONTENTS

- GENERAL NOTES
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UNIT HEATER SCHEDULE												
NO.	MFG	MODEL	SERVICE	AIRFLOW (cfm)	AIR TEMP RISE (deg F)	FAN		ELECTRICAL				REMARKS
						MOTOR (HP)	HORIZONTAL THROW (ft)	VOLTS / $\phi$ / HZ	CAPACITY (KW)	MCA	MOCP	
UH-1	TRANE	UHAA031ATAD	RESTROOM	175	54	5 WATTS	-	208 / 1 / 60	3.0	14.4	20	WALL MOUNTED, INTEGRAL THERMOSTAT
UH-2	TRANE	UHEC-072BACA	SHOP	700	34	1 / 50	22	208 / 3 / 60	5.6	18.1	35	CEILING MOUNTED, 12 AFF
UH-3	TRANE	UHEC-072BACA	SHOP	700	34	1 / 50	22	208 / 3 / 60	5.6	18.1	35	CEILING MOUNTED, 12 AFF
UH-4	TRANE	UHEC-072BACA	SHOP	700	34	1 / 50	22	208 / 3 / 60	5.6	18.1	35	CEILING MOUNTED, 12 AFF

### 1 UNIT HEATER SCHEDULE

M2.0 SCALE: NONE

PLUMBING FIXTURE SCHEDULE								
NO.	MFG	MODEL	SERVICE	PIPING CONNECTIONS				REMARKS
				TRAP (in)	VENT (in)	COLD WATER (in)	HOT WATER (in)	
F-1	KOHLER	HIGHLINE K-3493-TR	WATER CLOSET, RESTROOM	3"	2"	3/4"	-	WHITE, FLOOR MOUNTED, MANUALLY OPERATED SLOAN FLUSHMATE PRESSURE ASSIST, TANK LOCKS AND K-4836 SEAT
F-2	KOHLER	TRESHAM K-2991-4	LAVATORY SINK, RESTROOM	1-1/4"	1-1/4"	1/2"	1/2"	COUNTER MOUNTED, FAUCET HOLES ON 4" CENTERS, MANUALLY OPERATED FAUCET. MOEN 8413, DRAIN: MCGUIRE 155A
F-3	GUARDIAN	GBF1694	EMERGENCY EYEWASH AND DRENCH SHOWER	-	-	1/2"	1/2"	INCLUDE G3800 LF THERMOSTATIC MIXING VALVE FOR TEPID WATER CONNECTION
F-4	JAY R SMITH	2005Y	FLOOR DRAIN	4"	2"	1/2"	-	NICKEL BRONZE STRAINER, TRAP PRIMER CONNECTION
F-5	WATTS	LFTP300	FLOOR DRAIN TRAP PRIMER	-	-	1/2"	-	
F-6	WATTS	HY-420	NON FREEZE WALL HYDRANT	-	-	3/4"	-	

### 3 PLUMBING FIXTURE SCHEDULE

M2.0 SCALE: NONE

THERMOSTATIC MIXING VALVE SCHEDULE								
NO.	MFG	MODEL	SERVICE	VALVE SPECIFICATIONS				REMARKS
				SIZE (in)	MAX FLOW (gpm)	MIN FLOW (gpm)	OUTLET TEMP (deg F)	
TMV-1	SYMMONS	7-210-CK-D-W	DOMESTIC HOT WATER FIXTURE(S)	3/8"	4.5	0.5	105	INCLUDE COMPRESSION TEE FITTING FOR WATER BYPASS AND WALL MOUNT BRACKET

### 5 MIXING VALVE SCHEDULE

M2.0 SCALE: NONE

EXHAUST FAN SCHEDULE									
NO.	MFG	MODEL	SERVICE	EXHAUST AIR (cfm)	ESP (in WG)	FAN (qty - speed)	ELECTRICAL		REMARKS
							VOLTS / $\phi$ / HZ	MOTOR (watts)	
EF-1	GREENHECK	SP-A70	RESTROOM	74	0.125	1 - 850	120 / 1 / 60	16	

### 2 EXHAUST FAN SCHEDULE

M2.0 SCALE: NONE

WATER HEATER SCHEDULE								
NO.	MFG	MODEL	SERVICE	WATER HEATER		RECOVERY		REMARKS
				CAPACITY (gal)	INPUT CAPACITY (kW)	40 DEG F (gph)	90 DEG F (gph)	
WH1	AO SMITH	PROLINE EMT-6	RESTROOM, POINT OF USE	6	1.4	-	7	

### 4 WATER HEATER SCHEDULE

M2.0 SCALE: NONE



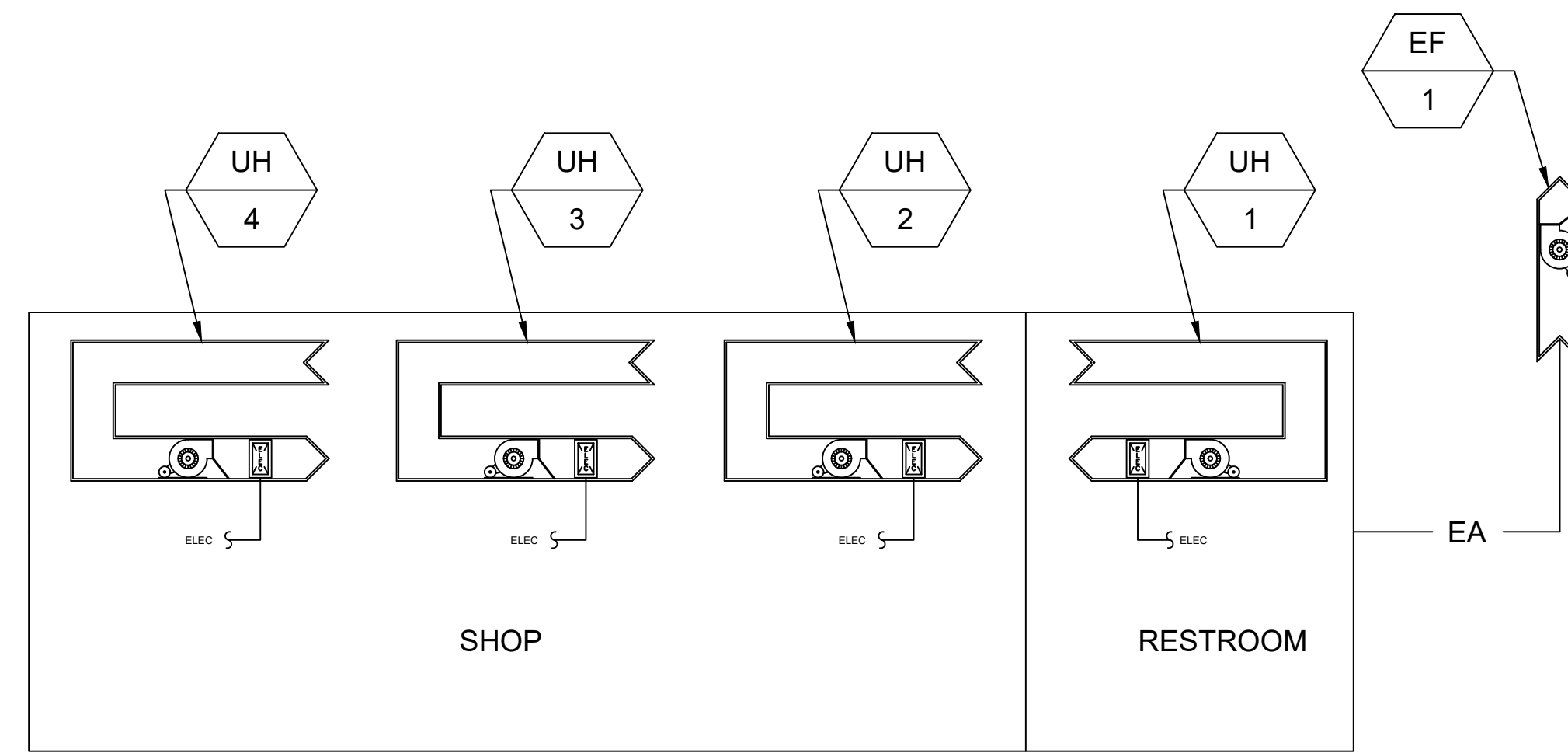
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**PRINCETON**  
**EQUIPMENT STORAGE BUILDING**  
ISSUE DATE: 9-14-18  
ARCHIVE FILE NO.: ARCHIVE  
PROJECT NUMBER: 1001484  
DRAWN BY: EMS  
PROJECT MANAGER: REDGY ERB  
DIRECTOR, ARCH. & ENG. SVCS: R. PANKOFF

#### SHEET CONTENTS

- o EQUIPMENT
- o SCHEDULES
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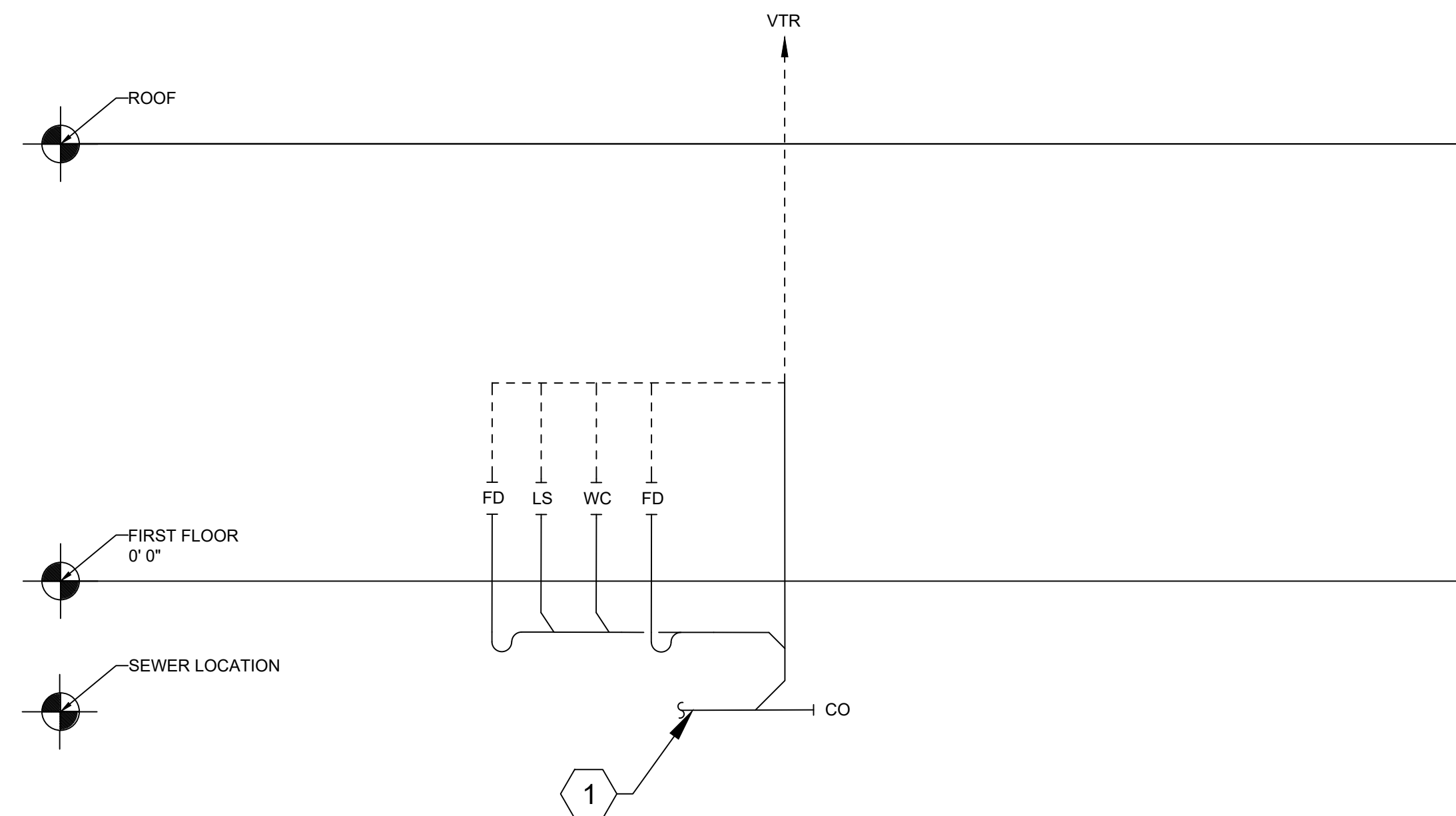
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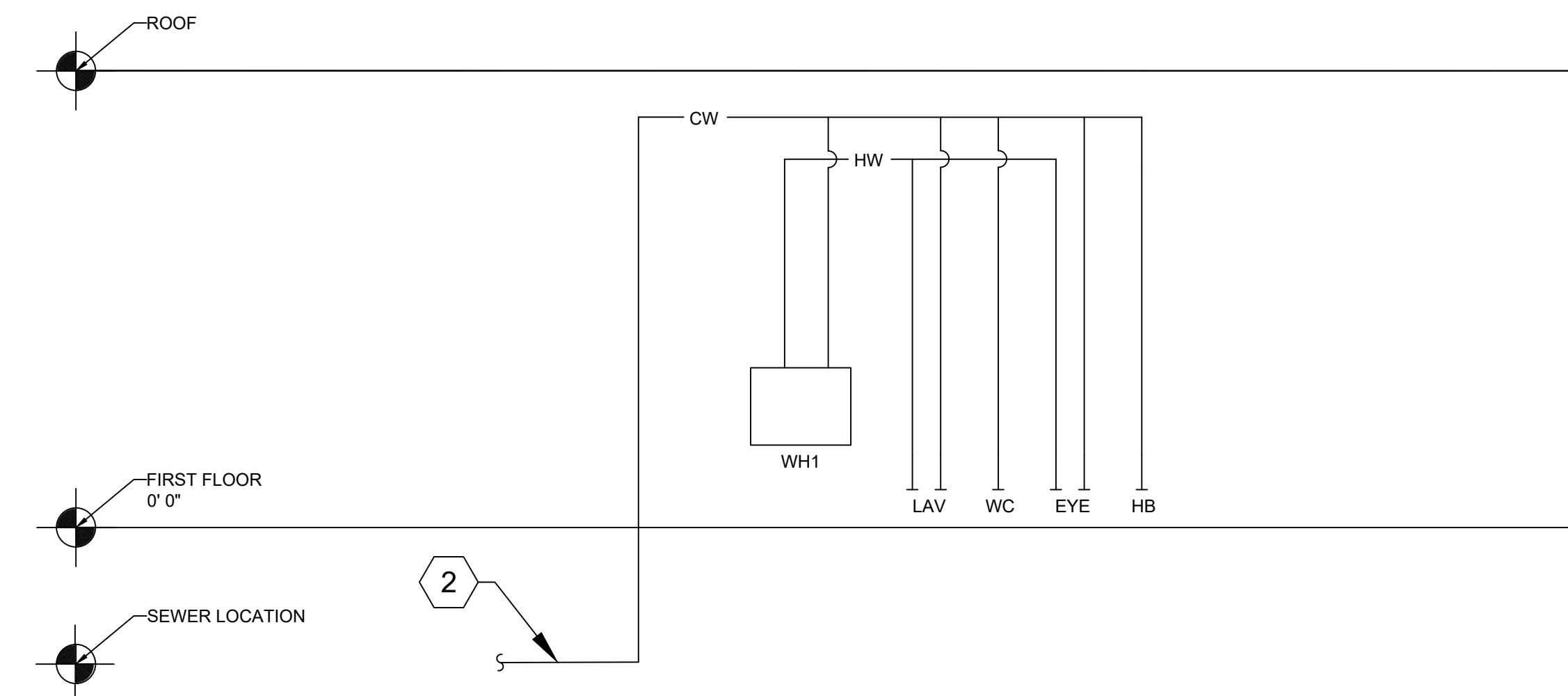
1 HVAC SYSTEM SCHEMATIC  
M3.0 SCALE: NONE

### SHEET NOTES

- 1 CONNECT COLD WATER SUPPLY TO EXISTING WELL, FIELD VERIFY SIZE AND LOCATION
- 2 CONNECT SEWER TO EXISTING CITY SEWER LINE IN HATTER CREEK ROAD, FIELD VERIFY SIZE AND LOCATION



2 SANITARY SEWER RISER DIAGRAM  
M3.0 SCALE: NONE



3 WATER RISER DIAGRAM  
M3.0 SCALE: NONE

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<b>PRINCETON</b>	
<b>EQUIPMENT STORAGE BUILDING</b>	
CLASS FILE NAME: C:\Data\Covenant Engineering\Clients and Projects\University of Idaho\Princeton Design\dwg\m3.0.dwg	DRAWN BY: EMS
ISSUE DATE: 9-12-18	PROJECT MANAGER: REDGY ERB
ARCHIVE FILE NO: ARCHIVE	DIRECTOR, ARCH. & ENG. SVCS. R. PANKOPF
PROJECT NUMBER: 1001484	

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## SHEET NOTES

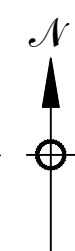
- 1 BATHROOM EXHAUST FAN SHALL BE INTERLOCKED WITH LIGHT SWITCH
- 2 MOUNT ELECTRIC UNIT HEATERS ACCORDING TO MANUFACTURER'S INSTRUCTIONS, 12' AFF MAX



1  
M4.1

FIRST FLOOR, HVAC

SCALE: 1/4" = 1'  
0 2 4 8



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(208) 885-7250

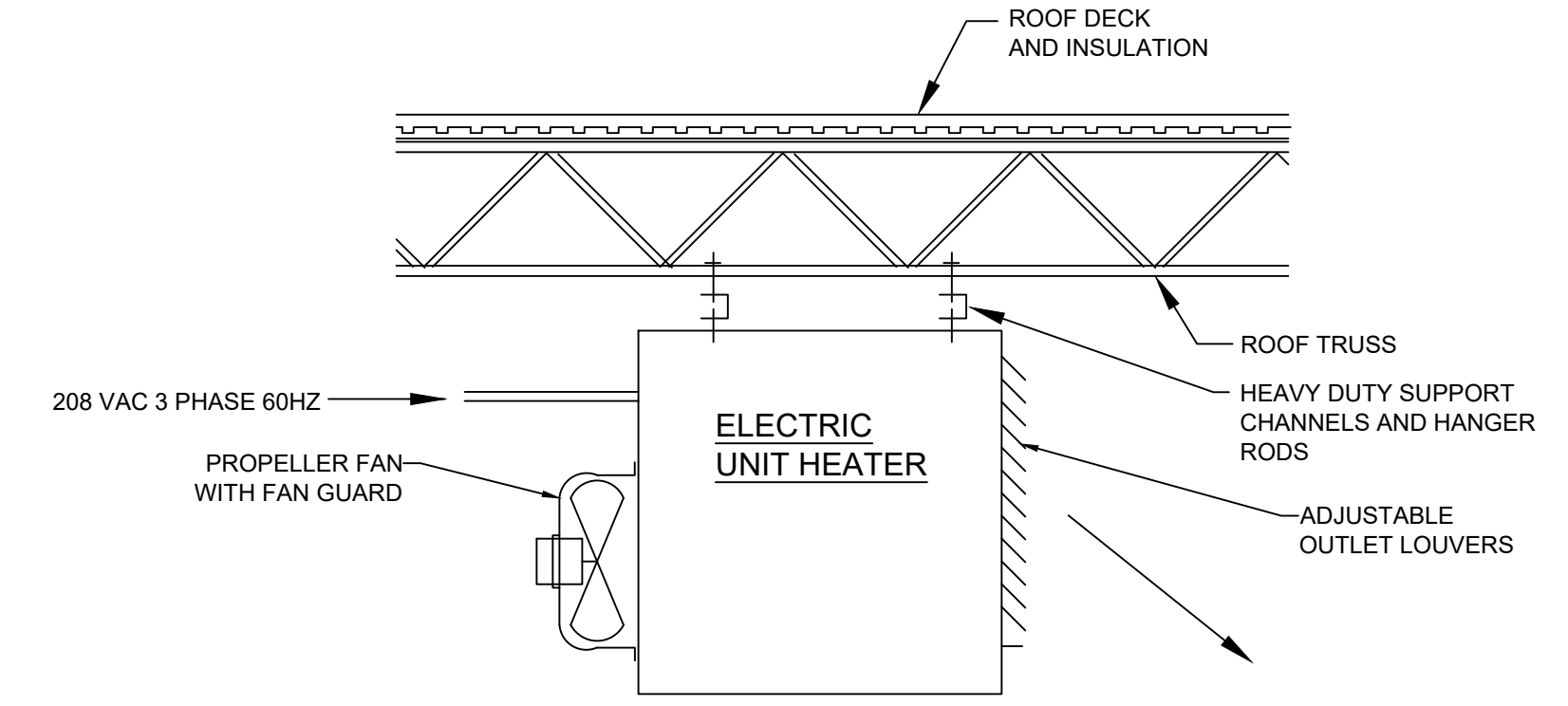
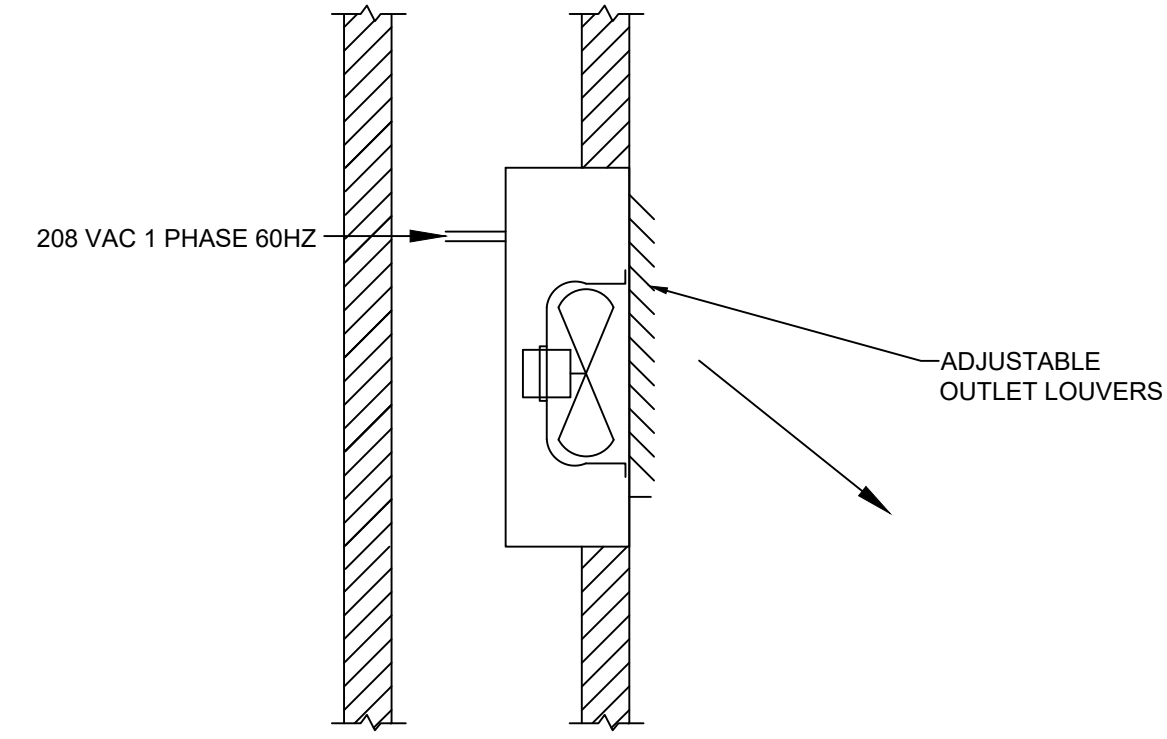
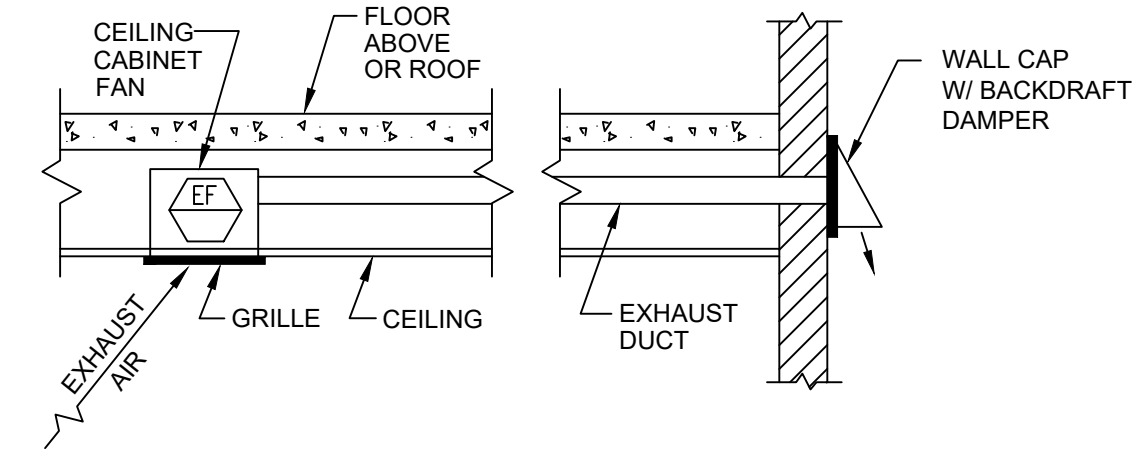
**PRINCETON**  
**EQUIPMENT STORAGE BUILDING**

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ISSUE DATE: 9-14-18  
ARCHIVE FILE NO: ARCHIVE  
PROJECT NUMBER: 1001484  
DRAWN BY: EMS  
PROJECT MANAGER: REDGY ERB  
DIRECTOR, ARCH. & ENG. SVCS: R. PANKOPF

### SHEET CONTENTS

- o FIRST FLOOR
- o HVAC
- o
- o
- o

M4.1



1 BATHROOM EXHAUST FAN  
M5.0 SCALE: NONE

2 BATHROOM HEATER  
M5.0 SCALE: NONE

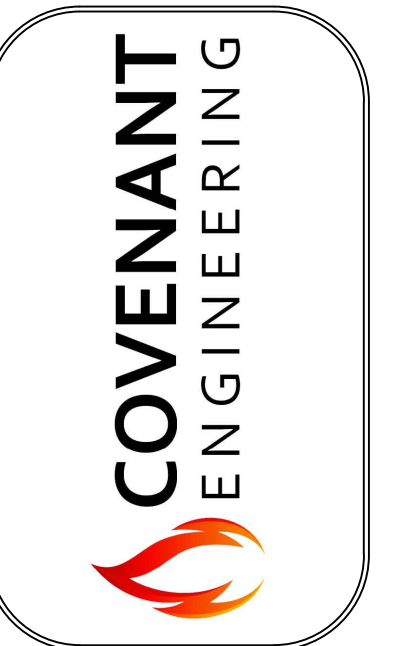
3 ELECTRIC SHOP HEATER  
M5.0 SCALE: NONE

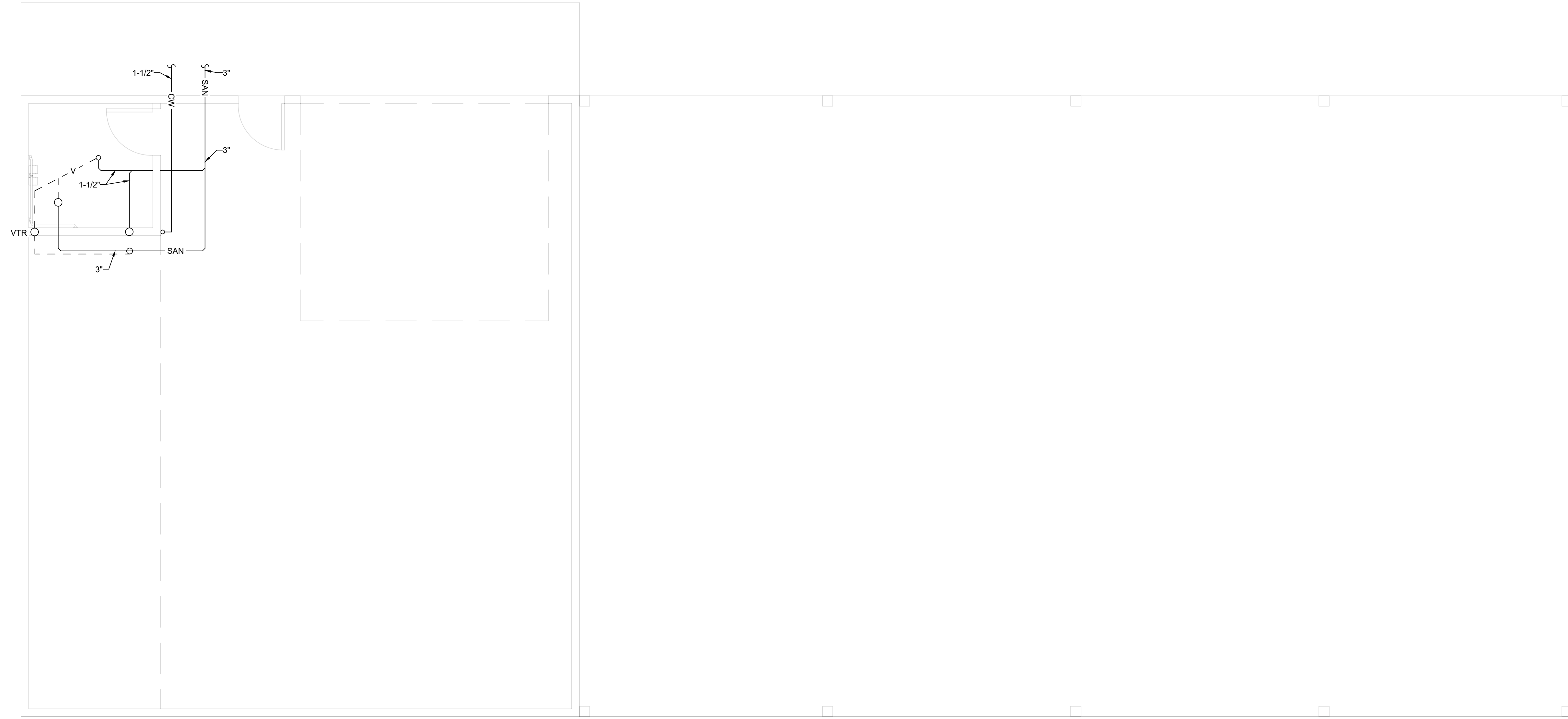
**University of Idaho**  
Architectural & Engineering Services  
Moscow, Idaho 83844-2281  
(208) 885-7250

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PROJECT NUMBER: 1001484	DIRECTOR, ARCHT & ENG SVCS: R. PANKOPF

<b>SHEET CONTENTS</b>	
o HVAC DETAILS	
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M5.0

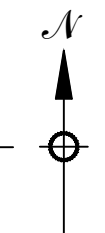




1  
M6.0

**UNDERSLAB, PLUMBING**

SCALE: 1/4" = 1'  
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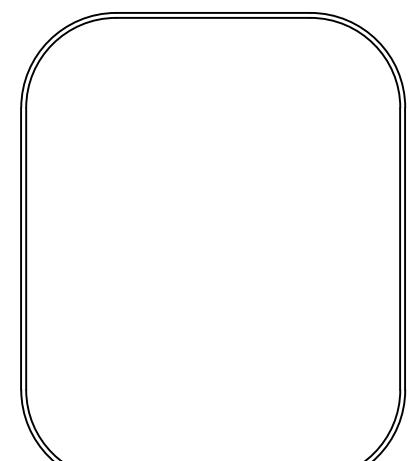
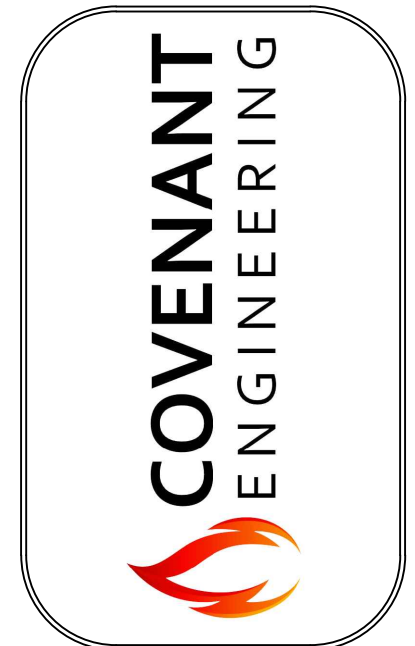


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<b>EQUIPMENT STORAGE BUILDING</b>	
ISSUE DATE: 9-14-18	DRAWN BY: EMS
ARCHIVE FILE NO: ARCHIVE	PROJECT MANAGER: REDGY ERB
PROJECT NUMBER: 1001484	DIRECTOR, ARCHT. & ENG. SVCS. R. PANKOPF
<small>         CLASSIFICATION:          C:\Data\Covenant Engineering\Clients and          Projects\University of Idaho\Princeton          Equip\Drawings\M6.x.rvt       </small>	

<b>SHEET CONTENTS</b>	
o	UNDERSLAB
o	PLUMBING
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**M6.0**

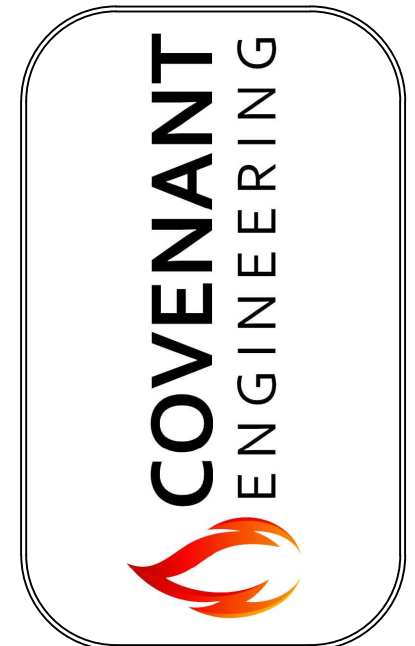
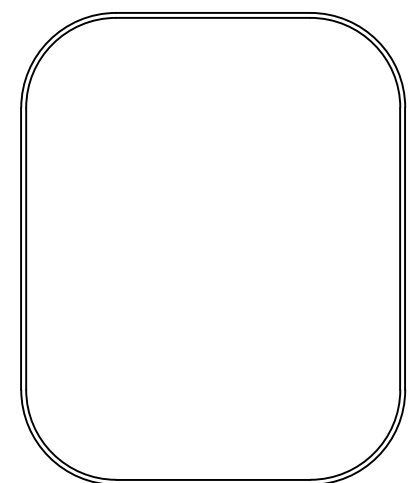
**University of Idaho**  
Architectural & Engineering Services  
Moscow, Idaho 83844-2281  
(208) 885-7250





1 FIRST FLOOR, PLUMBING

M6.1 SCALE: 1/4" = 1'



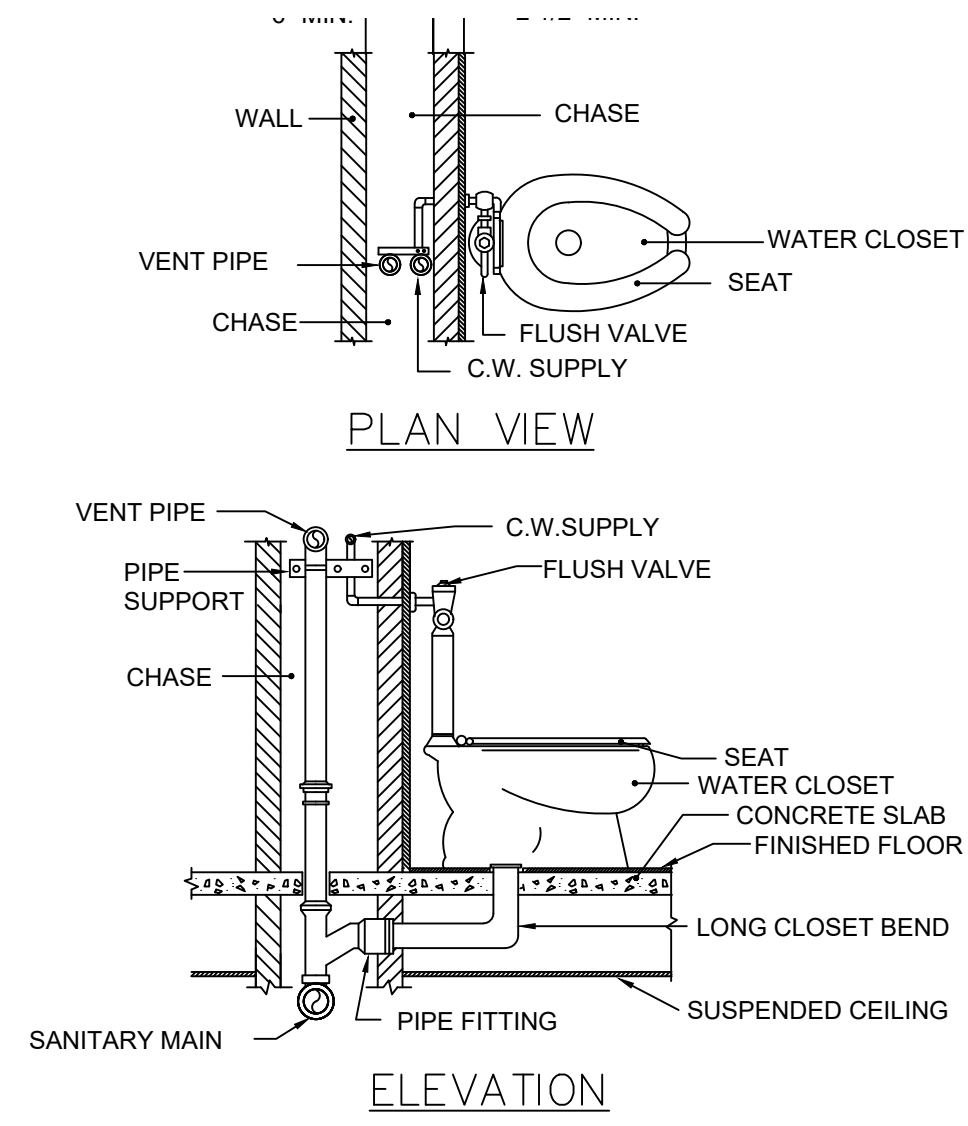
**University of Idaho**  
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 Moscow, Idaho 83844-2281  
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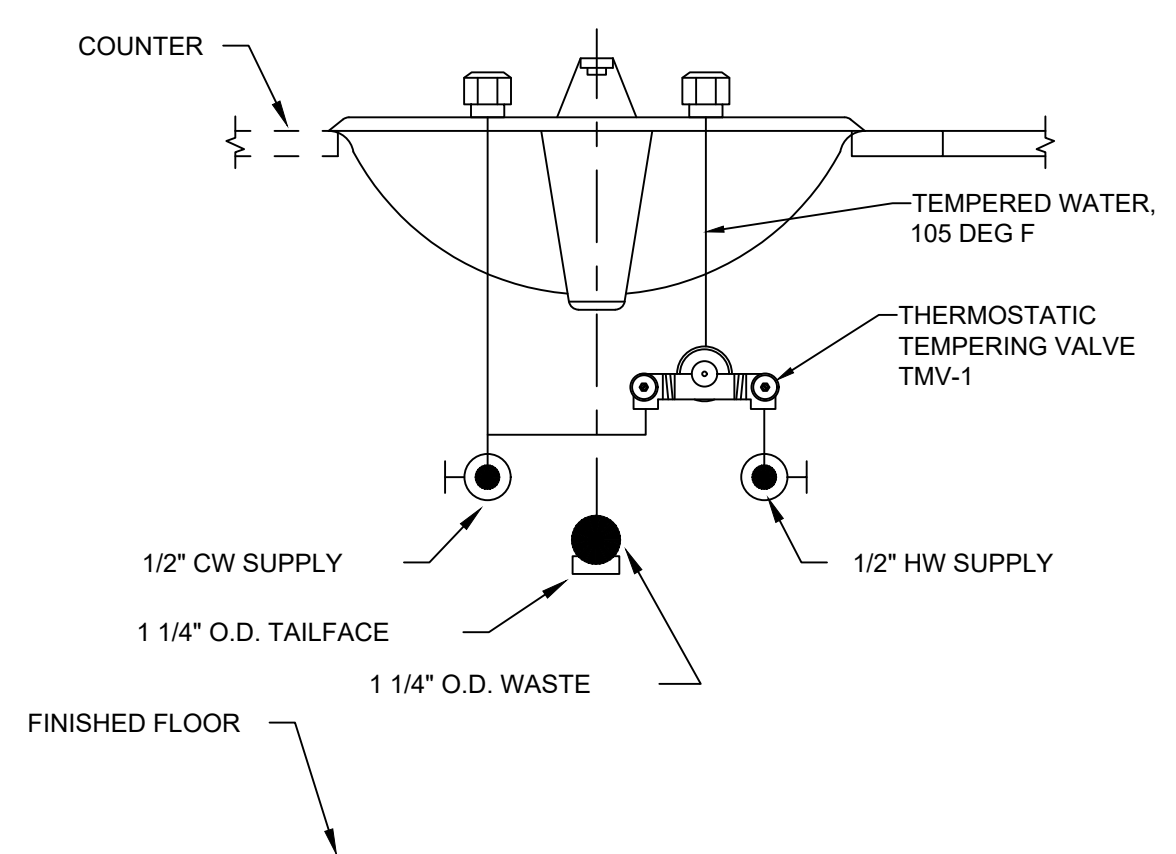
**SHEET CONTENTS**

- FIRST FLOOR
- PLUMBING
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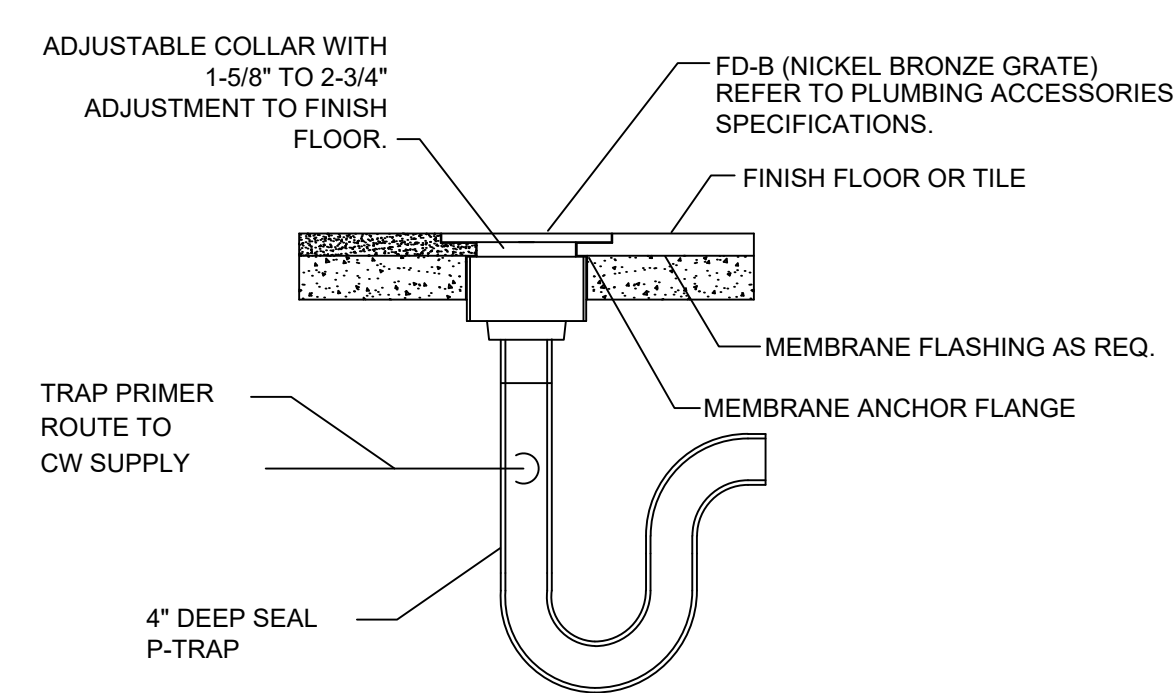
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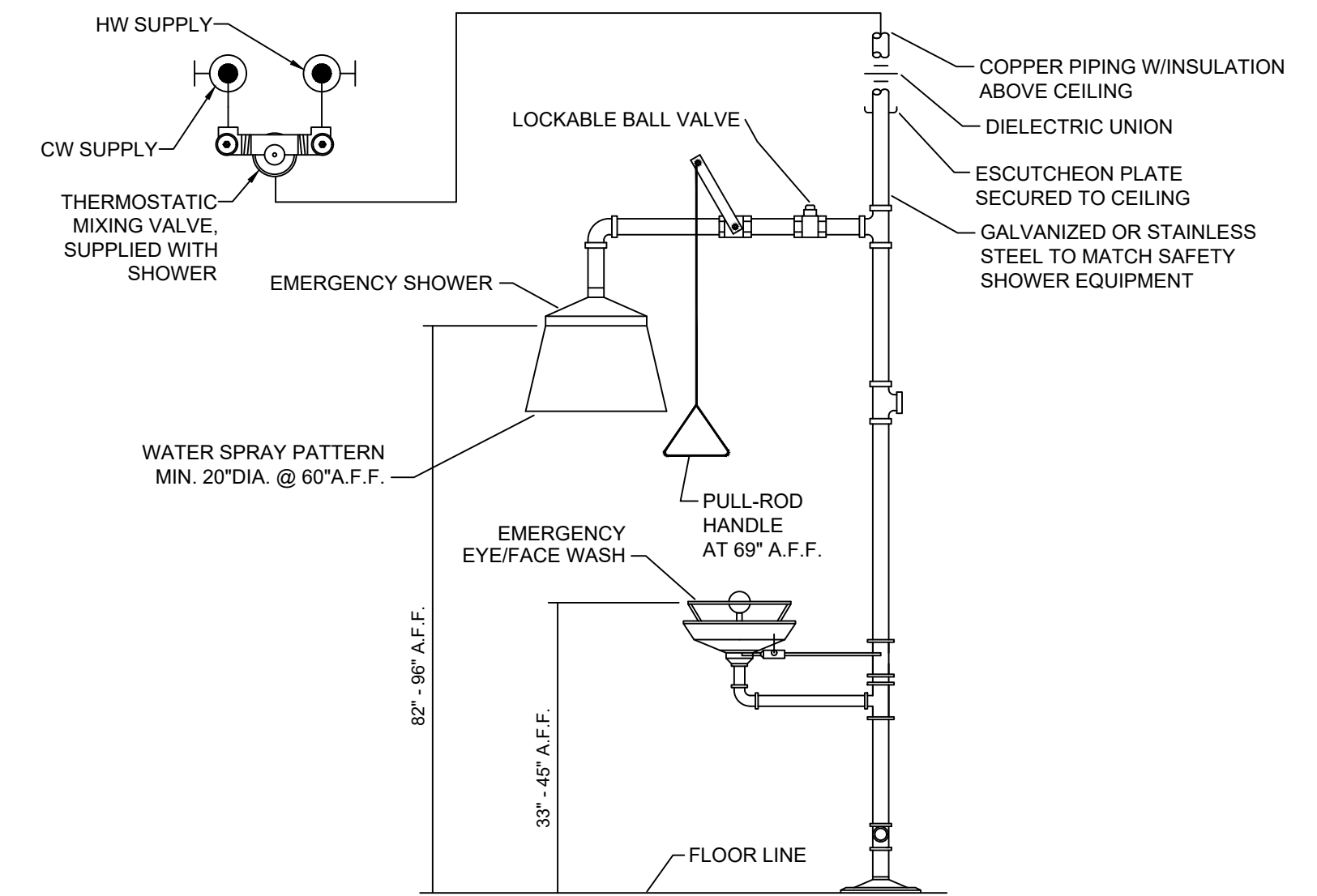
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SCALE: NONE



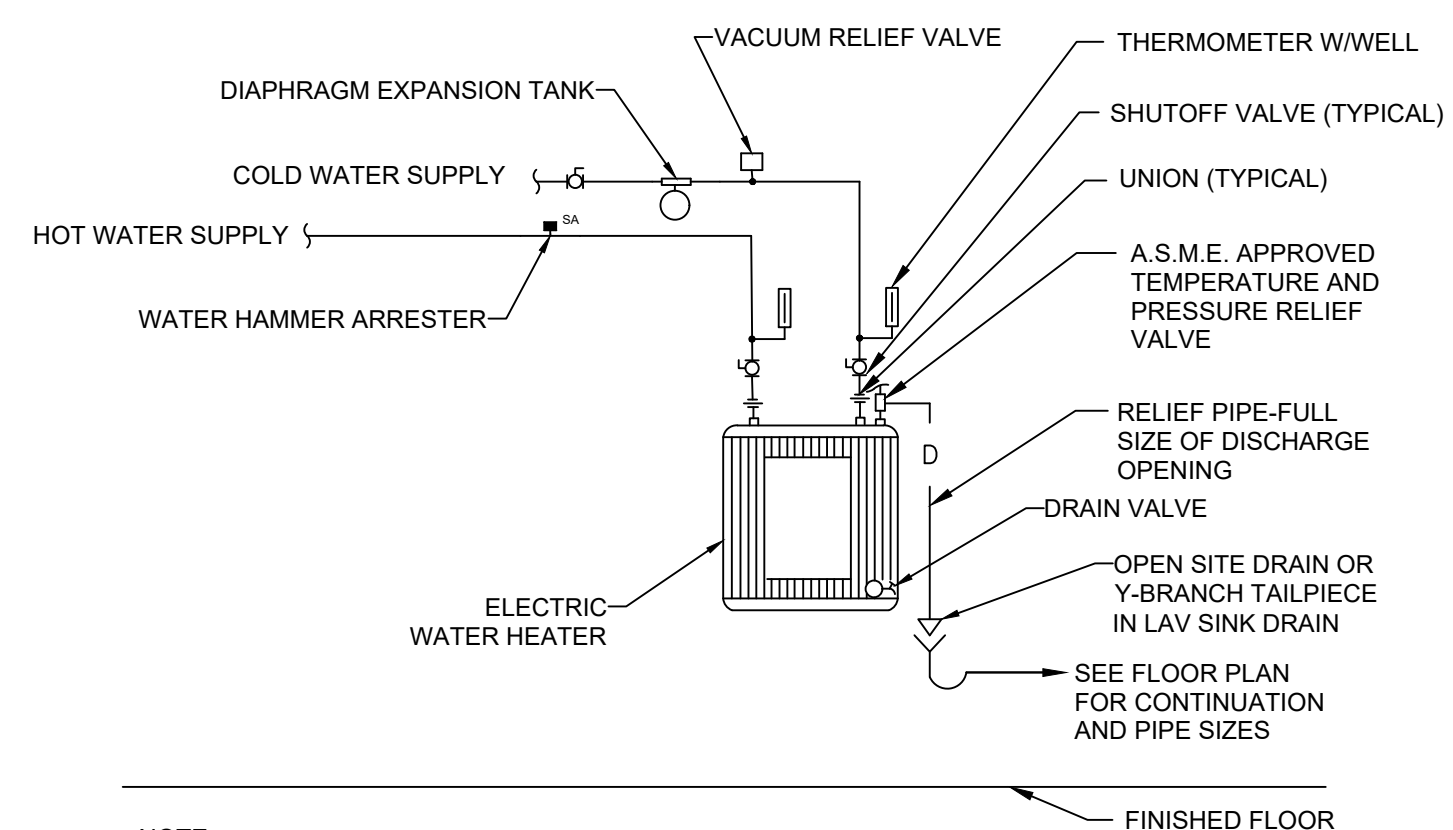
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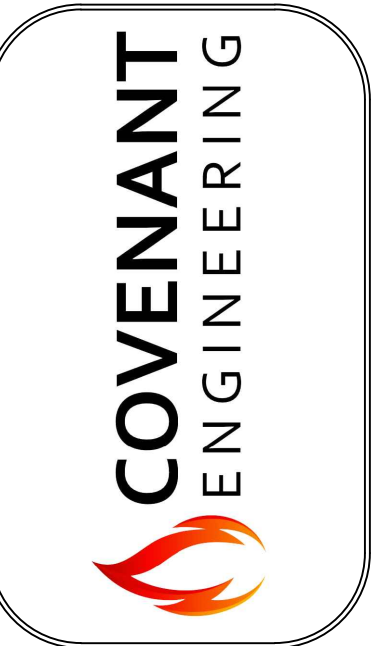
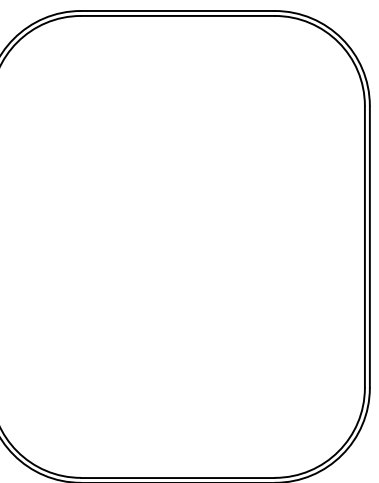
3 FLOOR DRAIN  
SCALE: NONE



4 EYE WASH AND DRENCH SHOWER  
SCALE: NONE



5 ELECTRIC WATER HEATER  
SCALE: NONE



**University of Idaho**  
Architectural & Engineering Services  
Moscow, Idaho 83844-2281  
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<b>PRINCETON</b>	<b>EQUIPMENT STORAGE BUILDING</b>	
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<b>SHEET CONTENTS</b>	
o	PLUMBING DETAILS
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M7.0



# Forest Products Certificates and Industry Recognized Credentials

## Logging Safety

- A. Attend a Logging First Aid and Safety ½ day Meeting
  - a. Put on by ALC and Safety
- B. Complete “Safety in Logging” Course offered through UI
  - a. Possible dual credit with associates degree

## Log Scaling in Idaho Certificate

- A. Complete Logging High School Certification Course
  - a. Correctly Identify the primary commercial species of Idaho
    - i. For log scaling purposes, not by foliage
  - b. Determine Gross scale
    - i. Scribner Decimal C
  - c. Understand common defects (Net Scale)
    - i. Sweep and Crook
    - ii. Checking
      - 1. Frost Crack, Heart Check, Pitch Seam
    - iii. Rot
      - 1. Conk, Stump, Sap, Pocket Rot
- B. Demonstration of Skill
  - a. Within one of the three skill demonstration events a student must demonstrate proficiency to the industry professional at the event, or:
  - b. A student must attend scaling school and pass the written portion of the scalers test.

## High School Logging Proficiency Certification

- A. Submit Supporting Documents of Completion of the UI High School Forestry Curriculum
  - a. Specifically the following sections;
    - i. Logging

- ii. Forest Management
    - iii. Forest Health
  - B. Demonstration of Skills
    - a. A proficiency of skill must be demonstrated in 4 of the following
      - i. Chainsaw Basics, Line Logging Basics, Machinery Operations,
  - C. Safety Logging and First Aid
    - a. Must complete ALC Logger Safety

### **High School Lumber Production Certificate**

- A. Submit Supporting Documentation of Completion
- B. Demonstration of Skills

### **Firefighting**

- A. S130/S190 online through UI CNR
- B. Attend one "Fire School" event

### **HS Forestry and Natural Resources STATE DEGREE**

- A. This certificate would culminate the entire career of a high school student in forestry and natural resources. Similar to the state FFA degree program, this certificate would allow young people to be recognized throughout the entire region of the skill sets they know and the type of person they are.
- B.



Dear School District,

Over the course of the last 6 months a change has enveloped the education world in the state of Idaho. Funding in Career Technical Education has become available through the Idaho Career Ready Students Grant, through which school districts across the state have begun exploring new opportunities for students in their districts.

One of the focuses of these schools has been introducing and enhancing the educational opportunities withing forestry and natural resource education. In order to develop this programming and enhance student experiences, we have formed the Idaho Forestry and Natural Resources Collaborative. This group, made up of industry, school districts and the University of Idaho, are creating professional development opportunities for teachers, new opportunities for students, and a direct connection to industry in local communities.

If your school district is looking to increase opportunities for your students, please respond to this letter of inquisition at [bmanley@uidaho.edu](mailto:bmanley@uidaho.edu) before November 20th. This is a free opportunity to join a collaborative group aiming at helping Idaho youth. This preliminary letter is to fully understand how many districts and schools would benefit from our collaboration and use resources made available by it.

Warm regards,

**Blake Manley**

Program Manager of Workforce Development  
University of Idaho



January 29, 2024

Allison Duman  
Idaho Career Ready Students Grant  
Idaho Department of Education

Dear Mrs. Duman,

The purpose of this letter is to document my strong support for the Idaho Career Ready Students Grant request submitted to the ICRS Grant Committee on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC) by Dr. Robert Keefe and Blake Manley of the University of Idaho College of Natural Resources.

IDL manages over 1 million acres of productive timberland in Idaho. Idaho trust lands are managed to maximize revenue for the benefit of Idaho's public schools and other beneficiaries. Trust land contributions dispersed over \$100 million to these institutions in 2023. Additionally, our Fire Bureau is responsible for coordinating fire suppression and prevention on over 6 million acres of timberlands. Through enforcement of the Idaho Forest Practices Act, the IDL also works with all loggers through education and enforcement of the Idaho Forest Practices Act on private lands statewide. As such, development of a skilled and vibrant logging and forest products workforce is absolutely critical for the continued success of our operations and Idaho's forest products-based economy. This proposal, which will educate Idaho youth about career paths in the forest products industry, will help develop a pipeline of workers to support the continued success and growth of our state forest products industry for future generations.

Planting, thinning, timber harvesting, scaling and marketing forest products are core activities critical for our forestry operations on trust lands. Because this proposal is specifically focused on the introduction of the forest products industry to young people, we are deeply supportive of the effort. I also serve as Chair of the Forestry Stakeholder Advisory Group for the University of Idaho Experimental Forest and look forward to contributing ideas and support to ensure that Dr. Keefe and Mr. Manley's work benefits Idaho communities, youth, and our entire forest industry statewide. I strongly support the efforts of the new IFNRC and its mission to educate young Idahoans about career opportunities and skills development in the forest products sector.

Sincerely,



---

David Greenwood  
Timber Bureau Chief  
Idaho Department of Lands  
[dgreenwood@idl.idaho.gov](mailto:dgreenwood@idl.idaho.gov)

January 29, 2024

Allison Duman  
Idaho Career Ready Students Grant  
Idaho Department of Education

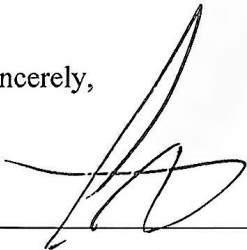
Dear Mrs. Duman,

The purpose of this letter is to document our strong support for the Idaho Career Ready Students Grant request submitted to the ICRS Grant Committee on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC) by Dr. Robert Keefe and Blake Manley of the University of Idaho College of Natural Resources.

Stimson owns and manages over 400,000 acres of timberland in the Inland Northwest and significant acreage in north Idaho. Development of a skilled and vibrant logging and forest products workforce is absolutely critical for the continued success of our business and Idaho's forest products industry. This proposal, which will educate young people about career paths in the forest products industry, will help develop a pipeline of workers to support the continued success and growth of our regional forest products industry for future generations.

Planting, thinning, timber harvesting, hazard management, and marketing forest products are core activities for our business. Because this proposal is specifically focused on the introduction of the forest products industry to young people, we are deeply invested in the effort. Dr. Keefe and Mr. Manley's work will benefit our communities, our youth, and our entire industry. I strongly support the efforts of the new IFNRC and its mission to educate our young people about career opportunities and skills development in the forest products sector.

Sincerely,



---

Andrew Stockwell  
Director of Inland Resources  
Stimson Lumber Company  
[astockwell@stimsonlumber.com](mailto:astockwell@stimsonlumber.com)



**IDAHO FOREST  
PRODUCTS  
COMMISSION**

Post office Box 855  
Boise, Idaho 83701  
Tel: (208) 863-1514  
Toll Free: 800-ID-WOODS  
Equ. (208) 863-1512  
Fax (208) 334-3449  
email: ifpc@idahoforests.org  
plt@idahoforests.org  
www.idahoforests.org

January 30, 2024

David Gabrielsen  
District 1 - (208) 660-3701

Jack A. Buell  
District 2 - (208) 245-2501

Jesse D. Short  
District 3 - (208) 848-2301

Erika Sussi  
District 4 - (208) 271-6591

Trevor Stone  
At-Large - (208) 748-2038

Jennifer Okerlund  
Director

Michelle Youngquist  
Education Coordinator

Superintendent Debbie Critchfield  
Members of the Idaho Career Ready Students Council  
Idaho Department of Education  
Boise, ID 83720


RE: Support for the FNRC - Idaho Career Ready Student Proposal

The Idaho Forest Products Commission (IFPC) supports the grant submission for Forest and Natural Resources Collaborative (FNRC) submitted by University of Idaho College of Natural Resources. The FNRC has a far-reaching, very positive opportunity to provide a framework for all high schools in Idaho seeking to offer or expand an existing forestry and natural resources career technical education (CTE) program of study.

Idaho's Forest Products Industry is a major economic contributor to our state and vital to many rural communities. Our industry is facing an escalating shortage of labor availability without an adequate pipeline of entry-level job seekers and skilled tradespeople. Young Idahoans aren't being exposed to or encouraged to consider and pursue well-paying jobs in the woods and sawmills. Programs like the one being proposed provide an avenue for that exposure.

IFPC is part of a larger, organized effort to identify needs and implement programs to assist our industry and facets within. We cannot do it without programs like the FNRC, a critical component and part of an overall solution we as a group are working towards.

The Idaho Forest Products Commission strongly supports the Forest and Natural Resources Collaborative as a much-needed initiative to prepare students to meet our workforce needs. We urge you to strongly consider approving this grant, which would help maintain and develop a strong forest products industry in Idaho.



Jennifer Okerlund  
Director



3759 Highway 6 P.O. Box 130 Princeton, ID 83857

Phone: (208) 875-1121

Fax: (208) 875-0191

January 30, 2024

Allison Duman  
Idaho Career Ready Students Grant  
Idaho Department of Education

Dear Mrs. Duman

Please accept this letter of support from Bennett Lumber Products Inc. for the Idaho Career Ready Students Grant request submitted to the ICRS Grant Committee on behalf of the Idaho Forestry and Natural Resources Collaborative (IFNRC) by Dr. Robert Keefe and Mr. Blake Manley of the University of Idaho College of Natural Resources.

Bennett Lumber Products owns two sawmills and manages 85,000 acres of sustainably managed timberlands. We are attached to Northern Idaho and all those that live and work here. Our industry is closely tied to our region and depends on dedicated and well educated employees and contractors to produce our products and grow our forests. For that reason, this proposal, which will encourage young people to explore career paths in the forest products industry, is key to the success and continued thriving of our industry and our company for future generations.

Planning and administering tree planting, pre-commercial thinning, forest inventory and timber harvests are core activities for our business. We also market products produced in our sawmills worldwide. Because this proposal specifically focuses on the introduction and training of the forest products industry to young people in our state we are greatly invested in this endeavor. What Dr. Keefe and Mr. Manley are working towards will greatly benefit our local communities and industry. Bennett Lumber Products Inc. whole heartily supports this proposal in its entirety. Bennett Lumber Products will continue to support these new steps toward educating our young people in the forest products sector. Additionally, Bennett Lumber already has a representative on the advisory board for the University Idaho's College of Natural Resources and is part of the IFNRC for which this grant is being submitted.

Thank you for letting Bennett Lumber express its support for this important topic and please feel free to contact us with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Tom Biltonen". The signature is written in a cursive, flowing style.

Tom Biltonen  
Timber Resource Manager  
Bennett Lumber Products Inc.



# ASSOCIATED LOGGING CONTRACTORS, INC.

---

P. O. Box 671 | Coeur d'Alene, Idaho 83816  
Phone 208-667-6473 | [alc@idahologgers.com](mailto:alc@idahologgers.com)  
[www.idahologgers.com](http://www.idahologgers.com)

Superintendent Debbie Critchfield  
Members of the Idaho Career Ready Students Council  
Idaho State Department of Education  
Boise, Idaho 83720

January 29, 2024

## **Re: Support for the Idaho Natural Resources Collaborative (IFNRC) grant proposal submitted by the University of Idaho**

The Associated Logging Contractors of Idaho (ALC) supports this grant proposal. The ALC is a trade organization with over 500 logging and trucking contracting businesses as members who operate in the forested regions of Idaho. We have long supported our Idaho public schools and in particular support programs in our junior and senior high schools that offer skills training that can be applied to our natural resource sector's businesses.

The IFNRC proposal would secure needed funding for creation of an Idaho based curriculum for the skills needed in our forestry, sawmilling, and logging careers. Funding of curriculum through this grant would allow the schools within the IFNRC as well as any Idaho school access to state based and relevant material at no cost to the school districts. In addition, the other components of the proposal would allow for expanded natural resources' careers instruction both on the University of Idaho's Experimental Forest and on location at schools within this consortium and any interested school across the state.

The forest products sector of Idaho adds \$ 2.5 billion to our Gross State Product and \$ 1.738 billion in labor income (*data from 2023*). Our sector employs 17,097 people directly and another 11,793 in support jobs for a total of 28,890 jobs. Our logging and hauling contractor businesses are family owned and operated and are the backbone of our forested rural communities. We are an important component of Idaho's economy, help to sustainably manage our forests while providing the wood and paper products we use every day, and we need skilled workers. Funding for this project from the Idaho Career Ready Students program will help share these career skills and opportunities with our junior and senior high school students.

Thank you for your consideration!

Sincerely,

Shawn Keough  
Executive Director





687 W Canfield Ave Ste 100

Coeur d'Alene, ID 83815

IDFG.com

208.255.3200

January 29, 2024

Superintendent Debbie Critchfield  
Members of the Idaho Career Ready Students Council  
Idaho Department of Education  
Boise, ID 83720

RE: Support for the FNRC – Idaho Career Ready Student Proposal

I am writing in support of the grant submission for Forest and Natural Resources Collaborative (FNRC) submitted by University of Idaho College of Natural Resources. The FNRC would serve every high school in Idaho that seeks to expand their capacity to offer a forestry and natural resources career technical education (CTE) program of study.

In the last several years, the Idaho economy has faced an escalating shortage of labor availability. The forest products industry faces an aging workforce without an adequate pipeline of entry-level job seekers and skilled tradespeople. In addition, youth today often overlook training for skilled jobs such as heavy equipment operators, loggers, truck drivers or other forest operations jobs. At the same time, the industry constantly modernizes, which necessitates a critical need for skilled workers to operate and service modern logging, milling, and manufacturing operations.

For the past 18 months, Idaho Forest Group has convened a group of professionals from the Forest Product Industry as well as secondary and post-secondary education in northern Idaho. Our goal is to understand the options for preparing students for jobs in our industry. Most of the forest products industry operates in rural and remote communities, where a variety of technical education opportunities are not available for grades 9 through 12. This fact amplifies the labor shortage issue our industry faces. The FNRC proposal provides a creative way to address the need for programs and curriculum to prepare Idaho students for career ready skills in the forest products industry.

Idaho Forest Group strongly supports the Forest and Natural Resources Collaborative as a much-needed initiative to prepare students to meet our workforce needs. We urge you to strongly consider approving this grant, which would help maintain and develop a strong forest products industry in Idaho.

Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Tom Schultz". The signature is fluid and cursive, with the first name "Tom" written in a smaller, more compact script than the last name "Schultz".

Tom Schultz  
Chief of Staff