



United States Department of Agriculture
Agricultural Research Service

STATEMENT OF WORK

**Demolish Three Buildings at Ohio State
University (Thorne Complex)**

**1680 Madison Avenue
Wooster, Ohio**

Prepared by: tlg
March 23, 2023

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1.0 PROJECT:

Project Title: Demolish Three Buildings at Ohio State University (Thorne Complex).

2.0 PROJECT CONTACTS:

CONTRACTING OFFICER (CO): TBD Email

CONTRACTING OFFICER'S REPRESENTATIVE (COR) TBD Email

ADMINISTRATIVE OFFICER (AO):

Jim Hampton

USDA-ARS

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Peoria, IL 61604

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ENGINEERING PROJECT MANAGER and CONTRACTING OFFICER REPRESENTATIVE (EPM) and (COR):

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3.0. SCOPE OF SERVICES:

The Contractor shall provide all professional services necessary for the accomplishment of the contract project and such required services shall be in accordance with requirements as described herein.

a. The Contractor shall provide services for the following tasks marked by an "X":

Provide a technical and cost proposal to complete the project in accordance with project requirements.

Complete the project in accordance with project requirements.

The Scope includes the demolition and removal of up to three buildings (depending on bid options taken), including slabs, foundations, footings, and utilities in their entirety, along with restoration of the impacted areas.

4.0 PROJECT REQUIREMENTS:

The Contractor shall furnish a technical and cost proposal to provide services for the demolition and disposal of the buildings located at OSU Campus, as described below:

- a. The Contractor must work with site personnel to ensure project is accomplished in a timely manner.
- b. The Contractor's work shall adhere to the criteria stated within these project requirements and specifications.
- c. Davis Bacon Wage Rates apply to all construction contracts more than \$2,000.00. Employee payroll logs for the project will be required to verify wage rates are being adhered to.
- d. Projects in excess of \$150,000 will require a bid bond. Additional Payment and Performance bonds will be required for projects exceeding \$35,000. Obtaining and the cost of these bonds is the responsibility of the Contractor. Proof of Insurance is also required.
- e. See 01 01 00 specifications for bidder site visits.

4.1 Bid Schedule:

- a. The Base Bid project is to demolish the USDA Plant Pathogen Greenhouse in its entirety, and as indicated further in the Statement of Work. The building is approximately 5,937 square feet. See existing drawings and photos for additional information.
- b. Bid Option 1 is to demolish the USDA Vector Virus Greenhouse in its entirety. The building is approximately 460 square feet and is attached to an OSU facility. See existing drawings and photos for additional information.
- c. Bid Option 2 is to demolish the USDA Insectary in its entirety. The building is approximately 1575 square feet. See existing drawings and photos for additional information.
- d. Note: Each building is vacant. Water and steam are currently shut off. Electricity is still on. There are natural gas lines underground. All utility cut-off work must be coordinated by the Contractor with OSU Facilities Planning.
- e. Note: Square feet approximations are not field verified and are provided as a reference and not to be used solely for Contractors' estimating purposes.

4.2 Description of Work:

The Project is to demolish buildings in their entirety as indicated below:

- a. Completely demolish and remove building, structures and utilities, including all appurtenances related or connected thereto. Demolition shall include removing the building, foundations, footings, steps, and all utilities as indicated in attachments to this Statement of Work (SOW).
- b. During demolition, provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations. Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.
- c. Contractor shall inspect the site and buildings to complete an assessment for demolition before the demolition starts. Contractor shall determine where debris will be disposed of and what containers and methods will be used for demolition debris.
- d. Contractor is responsible to provide testing for asbestos, lead-based paint, and other hazardous materials in accordance with Federal and State requirements. If hazardous materials are found, Contractor shall remediate materials in accordance with Federal, State, and local regulations.
- e. Contractor is responsible to coordinate with Ohio State University (OSU Facilities Planning) for various utility demolition, use of streets and roadways, and the like. This coordination shall flow through USDA AO contact listed above in 2.0.
- f. Trees that are damaged by the Contractor shall be repaired and treated accordingly. All broken limbs shall be sawed off evenly and cut faces painted with an appropriate

compound. All repairs and treatments shall be done in accordance with the forestry regulations of the authority having jurisdiction and at Contractor's expense. On completion of work, leave site in clean condition.

- g. All furniture, equipment, material, and debris shall be removed and disposed of by the Contractor.
- h. Contractor shall perform a metal sweep of the restored demolition site and the roads used to haul the demolished material offsite prior to Final Completion.

4.2.1 Existing Utilities:

- a. Contractor shall remove, cap, and not damage existing utilities to remain for use by OSU. Utilities below grade shall be removed also. No deleterious materials of any kind shall be left in demolished foundation areas to be backfilled. Take special care at existing steam tunnel to not impair existing service.

4.3 Pre-Construction Phase Services:

a. Pre-Construction Submittals

Prior to Construction Notice to Proceed (NTP) the following submittals must be submitted to the Contracting Officer (CO) for approval:

1. Work Hours, per Section H.30 entitled, MAXIMUM WORKWEEK – CONSTRUCTION SCHEDULE. The work hours will include the daily starting and stopping time, and days of the week the Contractor proposes to carry out the work.
2. Scheduling.
3. Construction Cost Proposal presented in a cost break-out format resembling a Contractor's Schedule of Values (CSV). The CSV shall break out the work by labor and materials for each division of work CSI format—either by 16 or 50 Divisions.
4. Quality Control Plan.
5. Environmental Protection Plan.
6. Accident Prevention Plan/Safety Plan.
7. The Contractor shall provide to the CO a list of contract personnel of the general and subcontractors, who will be emergency contacts, including address, and telephone numbers for use in an emergency. As changes occur and additional information becomes available, the Contractor shall update the list.
8. Contractor is responsible for damage to adjacent items or property damaged during demolition. The Contractor is responsible for making repairs to meet or exceed conditions prior to damage.

9. The Contractor is responsible for visiting the site prior to submitting a bid to observe existing conditions. No additional compensation will be provided for conditions that would be visible during an on-site visit.

4.4 Government Furnished Equipment\Services:

- a. The Government will furnish a reasonable amount of electricity and water to assist the Contractor with their demolition and project management efforts. This must be coordinated with OSU Facilities Planning.

5.0 GENERAL REQUIREMENTS:

5.1 Permits: Where governing regulations and imposed codes and standards require notices, permits, licenses, inspections, tests, and similar items or actions in order to lawfully proceed with the required work, the Contractor shall obtain items and take those actions in accordance with the regulations of the governing authority. The costs of such permits, licenses, inspections, etc., are the obligation of the Contractor. Submit copies of demolition, hauling, and debris disposal permits and notices for record purposes. Include description of proposed haul routes.

5.2 Demolition Plan: Submit a comprehensive demolition plan, describing the proposed sequence, proposed fenced-in area, methods, and equipment for demolition, removal, and disposal of the building. A Pre-Demolition Meeting shall occur at the job site prior to commencement of demolition. Contractor shall provide detailed meeting minutes to the CO of what was discussed, questions raised, answers provided, and other topics of discussion. The demolition plan shall include a sketch of the fencing, gates, etc.

5.3 Quality Control: Selected Contractor shall field verify all existing conditions that may impact the work and alert the CO immediately if conditions are discovered that differ from the SOW. Contractor shall point out discrepancies between work identified in this SOW and actual field-verified conditions--if they exist, prior to performing work. Items not identified in SOW may be treated as unforeseen conditions and priced in accordance with standard FAR contract clauses. Contractor shall provide (to CO and COR) daily pictures that correspond with each daily field report of the Work underway. The daily pictures and Field Reports shall be submitted daily and are recommended to be included in one document.

5.4 Period of Performance: Period of performance shall be: 150 calendar days after Notice to Proceed is issued by CO. All submittals shall be distributed to and reviewed by the Govt. prior to commencing work at the site. Purchase of materials prior to submittal approvals are at the Contractor's risk.

5.5 Protection of Work and Property/Safety Requirements:

- a. The Contractor shall protect the work, the site, and all existing property and structures within the limits of the construction activities or that may be affected thereby until acceptance of the work. Damage to property (USDA and/or OSU) shall be repaired at the Contractor's expense, to pre-damaged condition to the satisfaction of the CO.

- b. Safety and health requirements, as they relate to the work, are the exclusive responsibility of the Contractor. The Contractor shall furnish, erect, and maintain barricades, warning lights, signs, guards, or take other precautions as may be required by law or local authorities of the protection and security.
- c. Open depressions and excavations occurring as part of this work shall be barricaded and posted with warning lights when accessible through adjacent property or through public access. Operate warning lights during hours from dusk to dawn each day. All work must comply with OSU Facilities Planning standards.
- d. Provide continuous noise and dust abatement as required to prevent disturbance and nuisance to the public and workers and to the occupants of adjacent premises and surrounding areas. Dampen or cover areas affected by demolition operations as necessary to prevent dust nuisance.
- e. The Contract documents may not represent all conditions at the site and adjoining areas. The known conditions are as indicated and shall be compared with actual conditions before commencement of work and the cost shall be included in the Contractor's proposal.
- f. The Contractor shall furnish all labor, materials, equipment, supplies, transportation, utilities, supervision, *safety equipment, and incidentals for all elements of the work in accordance with this SOW to provide an installation that is complete and usable in every respect, and ready for use by Final Completion date. * Note: Contractor is solely responsible for safety measures and conformance to applicable requirements in accordance with FAR clauses referenced in Solicitation package, as well as State and other Federal requirements.
- g. The OSU campus enforces a no-smoking policy. Parking is available and is shown in this SOW.
- h. Temporary Construction Fence: Contactor shall provide a new self-supporting, 6-foot high chain-link fence system with vision screening. Temporary Construction Fence shall be installed in the locations of outdoor work. Gates shall be provided as needed to facilitate entrance and demolition work. The Contractor shall be responsible for maintaining and repairing the fence to be in good condition throughout the duration of construction.
 - 1. Discontinue vision screening at and near gates as appropriate for clear, safe vision.
 - 2. Barb wire shall not be used on any part of the fence.
 - 3. Provide "no trespassing" signs to meet OSHA requirements
 - 4. Fence Gates: except during working hours, gates shall be kept always locked and shall be protected by a temporary portable wireless security system.
 - 5. Maintain fencing throughout duration of contract and repair or replace at no expense to the Government.

5.6 Hazardous material:

- a. Asbestos, lead-based paint (LBP), and other hazardous material tests and assessments have not been conducted for the Contractors' use. It shall be the Contractor's responsibility to determine if asbestos, lead paint, and/or other hazardous materials are present at the three structures identified to be demolished. If hazardous materials are discovered, all abatement efforts shall comply with applicable Federal, State, and local code requirements as well as current industry standards.
- b. The Contractor shall remediate and dispose of asbestos and/or lead based paint, and other hazardous materials in accordance with all applicable laws and regulations. The Contractor shall make in proper and timely fashion, necessary notifications to relevant Federal, State, and local authorities and shall obtain and comply with the provisions of all permits or applications required by the work specified, as well as make all required submittals required under in accordance with this SOW. The Contractor shall indemnify the Government, their representatives and agents from, and pay for, claims resulting from failure to adhere to these provisions. The costs for permits, applications, and the like are to be assumed by the Contractor.
- c. Workers who will have the potential of lead and/or asbestos exposure shall have proof of successfully completing a training course which covers the topics required by 29 CFR 1926.62. The Contractor is also advised that training in other areas may be required by OSHA and are responsible to ensure that all training requirements for appropriate trades and procedures are met.
- d. Contractor shall specify an on-site supervisor or competent person who is fully qualified in all aspects of safe work practices and procedures with lead containing materials and have (or will have) completed a training course within the previous year prior to the commencement of lead related work. The lead training course will cover all topics required by 29 CFR 1926.62 as well as training in relevant Federal, State, and local regulatory requirements, procedures, and standards (including 454 CMR 22.00), supervisory techniques, and proper disposal procedures.
- e. Contractor shall hold the USDA and its consultants harmless for claims, damages, losses, and expenses arising out of the Contractor's hazardous materials related work including releases from any incidental disturbance of existing hazardous materials, on-site or off-site spills of hazardous materials, or from non-compliance with the Contract Documents and regulatory requirements.

5.7 DISPOSAL OF REMOVED MATERIALS AND DEBRIS:

- a. Dispose of removed materials, waste, trash, and debris in a safe, acceptable manner in

accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction.

- b. Burying of trash and debris on the site will not be permitted. Burning of trash and debris at the site will not be permitted.
- c. Remove trash and debris from the site at frequent intervals so that their presence will not delay the progress of the work or cause hazardous conditions for workers and the public.
- d. Removed materials, trash, and debris shall become the property of the Contractor and shall be removed from the project site and be disposed of in a legal manner. Location of disposal site and length of haul shall be the Contractor's responsibility.
- e. Unless State or local regulations require a higher percentage, the Contractor shall submit a Waste Management Plan that achieves end-of-project diversion (recycling nonhazardous construction and demolition waste) rate of 50 percent by weight of total non-hazardous solid waste generated by the work. Practice efficient waste management in the use of materials in the course of the work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Any hazardous materials must be excluded from the construction waste stream calculations.
- f. Identify target waste diversion goal and list anticipated type and whether it will be salvaged, recycled, or disposed of in landfill. The diversion goal should be an estimated percentage of total diversion targeted for achievement by project completion, e.g., 5 tons diverted out of 10 total tons of C&D waste = 50% estimated total rate of diversion.

5.8 TEMPORARY FACILITIES:

- a. Temporary utilities (water and electricity) may be furnished to the Contractor by the Government, if so requested. The Contractor shall maintain and protect all such utilities during the course of construction and shall repair or replace any items damaged through its own negligence.
- b. Should the Contractor require power or utility shutdowns during demolition, the Contractor shall obtain approval for such shutdown from the CO three working days prior to the need.

5.9 Cleanup: The construction site shall be always kept clean and free of debris. Restore areas disturbed as nearly as possible to the original appearance and condition and to match adjacent areas. Upon completion of the project, and prior to final inspection, the Contractor shall remove from the premises all unused material, trash, and debris resulting from the work to the satisfaction of the COR.

5.10 Final Payment/Contract Closeout:

The following documents are REQUIRED PRIOR TO FINAL PAYMENT (other documents may also be required):

- a. Release of liens.
- b. Employee payroll\time sheets.
- c. Invoice.

6.0 PROJECT SCHEDULE/SUBMITTALS: A project schedule is required prior to commencement of work and shall be updated as requested by the CO. Submittals are more thoroughly discussed in the specifications.

7.0 CAMPUS MAP: [OARDC Visitor Map June 16 2017 HiRes.pdf \(osu.edu\)](#)

8.0 STATEMENT OF WORK: This SOW is a compilation that includes a brief written description of the work, specifications, pictures (that may or may not include additional written descriptions), existing drawings, and FAR Solicitation and Contract clauses that are identified in the complete Solicitation package. The information is complementary. If there is a conflict, the more stringent description shall govern unless otherwise determined by the CO.

NOTE: The existing drawings provided are **not** "as-built" (redline) drawings and should not be relied upon to necessarily depict actual as-built conditions in the field and are provided for reference only. The "Engineer's Notes" are also provided for reference only.

The SOW is in PDF format. Note that attachments can be minimized or maximized in size for greater clarity.

END

SECTION 01 01 00
GENERAL
REQUIREMENTS

1.1 GENERAL REQUIRMENTS

- A. Contractor shall completely prepare the site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work as required by the contract documents.
- B. Visits to the site by Bidders may be made only by appointment with the USDA/ARS (ARS) Administrative Officer (A/O), Jim Hampton. Phone number: 330-263-3774. Email: jim.hampton@usda.gov
- C. All employees of general contractor and subcontractors shall comply with ARS security management program, obtain permission of the ARS A-O, and must be identified by project and employer by wearing ARS--issued identification badges at all times on ARS property, and restricted from unauthorized access.
- D. Prior to commencing work, the general contractor shall provide proof that an OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2) will maintain a presence at the work site whenever the general or subcontractors are present.
- E. Training:
 - 1. All employees of the general contractor or subcontractors shall have the 10- hour OSHA certified Construction Safety course and /or other relevant competency training. Supervisors shall have completed the 30-hour OSHA training.
 - 2. Submit training records of all such employees to the Contracting Officer for approval before the start of work.

1.2 STATEMENT OF BID ITEM(S)

- A. GENERAL CONSTRUCTION: Work includes removal of existing structures and certain other items.

1.3 PROJECT COORDINATION:

- A. Construction Project Schedule:
 - 1. The Contractor will submit a project schedule to the Contracting Officer for approval within 5 days after receiving the Notice to Proceed. The Contractor will not begin actual work until the project schedule has been approved by the Contracting Officer.
 - 2. The Contractor shall submit one electronic copy and one paper copy of the 012 updated construction project schedule with each progress payment request.

B. Contract Inspector's Daily Report:

Contractor shall submit to the Contracting Officer a daily report listing the names of all those present on the job site each day, along with their Job Classification, hours of work and a brief description of the work performed by

each on that day. The Contract Inspector's Daily Report is to be submitted at the beginning of work each day for the previous day's work and shall be maintained throughout the term of the contract. The Daily Report must show photos depicting the work described and shall be submitted no later than 9:00 a.m.(EST) the following morning.

C. Contractor's Contact Log (Form SF-1413):

The contractor shall provide the Contracting Officer a list of all sub- contractors in a table format listing at least the following (which apply): Company Name, Company Address, Name of Contact person(s), Telephone Numbers, Fax Numbers, and E-mail address. The Contractor shall update the list immediately when subcontractors change or are added.

D. Formal Meetings:

Any meeting (deemed formal by the contractor, the COR, or the Contracting Officer) will have the minutes of said meeting prepared by the contractor (and a copy provided to the Contracting Officer). The minutes shall include: Date, Name of Attendees (with contact info), Old Business, and New Business subjects (or narratives). Regardless of who requests a meeting (the COR or the Contractor or the Contracting Officer) the contractor may be required to provide hard copy pictures of the issues to be discussed. Issues discussed will also include an action/completion date.

E. Contractor shall provide submittals in accordance with this specification, the statement of work, and any other specifications associated with this contract.

1.4 SAFETY SUBMITTALS

A. Contractor shall submit a "site specific" Safety Plan to the Contracting Officer that describes how the contractor is to comply with all applicable OSHA standards and NFPA codes pertaining to demolition work to include, but not limited to: General Safety and Health Provisions, Occupational Health and Environmental Controls, Personal Protective and Life Saving Equipment, Hand and Power Tools, Welding and Cutting, Electrical, Scaffolds, Fall Protection, Excavations, Demolition, Stairways and Ladders, Toxic and Hazardous Substances, Confined Space Entry, Lockout/Tag-out, Respiratory Protection, Hearing Protection. Safety Plan shall identify Contractor and sub-contractor employees who are authorized/qualified to perform electrical work. No work shall proceed until written approval of the Safety Plan by the Contracting Officer. Safety Plan shall describe how the Contractor and/or sub-contractors are to secure equipment, supplies, tools, and chemical products. Contractor and/or sub- contractor equipment, supplies, tools, and chemical products are to be always under the control of the Contractor, equipment, supplies tools, and chemical products found not to be under the control of the Contractor or sub- contractor may be confiscated and delivered to the Contracting Officer.

B. The Contractor shall inspect the entire construction site daily, including days without

construction work if there are NFPA 101 Life Safety Code deficiencies existing while⁰¹⁵ construction work is shut down, the results of that inspection shall be documented on the attachment "DAILY INSPECTION FORM", and the form is to be signed and submitted to the Contracting Officer.

- C. Contractor and sub-contractors shall notify in writing the Contracting Officer at least one week prior to executing high risk work. High risk work includes, but is not limited to, tasks requiring Lockout/Tag Out, live electrical work, hot work, work at heights, trenching/shoring, crane operations, and confined space entry. Contractor's Competent Person shall provide the Contracting Officer written weekly documented safety inspection results.

1.5 CONSTRUCTION SECURITY REQUIREMENTS

A. Contractor Personnel

1. Each employee shall be furnished with a badge by the Government for access to construction site. This badge must be worn to be always clearly visible while on the work site and all badges must be returned to the A/O prior before final payment will be approved.

B. Security Procedures:

1. Contractor's employees shall not enter the project site without appropriate badges. They may also be subject to inspection of their personal effects when entering or leaving the project site.
2. For working outside the "regular hours" as defined in the contract, The Contractor shall give ten (10) day notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
3. No photography of ARS premises other than the project site is allowed without written permission of the Contracting Officer.
4. ARS reserves the right to close or shut down the project site and order the Contractor's employees off the premises in the event of a national emergency or Government shutdown. The Contractor may return to the site only with the written approval of the Contracting Officer.

1.6 FIRE SAFETY

- A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.

1. American Society for Testing and Materials (ASTM):
 - E84-2007Surface Burning Characteristics of Building Materials
2. National Fire Protection Association (NFPA):
 - 10-2006Standard for Portable Fire Extinguishers 30-2003
 -Flammable and Combustible Liquids Code
 - 51B-2003Standard for Fire Prevention During Welding, Cutting and Other Hot Work
 - 70-2005National Electrical Code
 - 241-2004Standard for Safeguarding Construction, Alteration, and Demolition

Operations

3. Occupational Safety and Health Administration (OSHA):
 - 29 CFR 1926Safety and Health Regulations for Construction
- B. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.

- C. Perform other construction, alteration, and demolition operations in accordance with 29 CFR 1926.

1.7 OPERATIONS AND STORAGE AREAS

- A. The Contractor shall confine all operations on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers, and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- C. Working space and space available for storing materials shall be as determined by the Contracting Officer.
- D. Whenever it is required that a connection/disconnection fee be paid to a public utility provider for the service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.

1.8 DISPOSAL AND RETENTION

All items demolished shall become property of the Contractor and shall be removed by Contractor from ARS property.

1.9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which is not to be removed and which does not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so and shall avoid damaging vegetation that will remain in place. If limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workers, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in

performing the work. If the Contractor fails or refuses to repair the damage promptly, the
Contracting

Officer may have the necessary work performed and charge the cost to the Contractor.

(FAR 52.236-9)

1.10 USE OF ROADWAYS

- A. For hauling, use only established public roads and roads on ARS property and, when authorized by the Contracting Officer, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.

1.11 TEMPORARY TOILETS

- A. Provide for use of all Contractors' workers ample temporary sanitary toilet accommodations with suitable sewer and water connections; or, when approved by Contracting Officer, provide suitable dry closets where directed. Keep such places serviced regularly, clean and free from flies and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean. Provide hand-washing stations at the temporary toilets.

1.12 AVAILABILITY AND USE OF UTILITY SERVICES

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Should existing services be inadequate for the Contractor's purposes without interfering with ARS operations, the Contractor shall provide and pay for their own services. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
- B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

1.13 TESTS

- A. Conduct final tests required in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.

1.14 HISTORIC PRESERVATION

Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of, or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the Contracting Officer verbally,

and then with a written follow up.

1.15 CONSTRUCTION WASTE MANAGEMENT

A. Procedures.

1. Of waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled.
2. Waste disposal in landfills shall be minimized to the greatest extent possible.
 - a. Waste Diversion Goals.
 - (1) Demolition: Minimum 10% of total project waste shall be diverted from landfill.
 - b. The following waste categories, at a minimum, shall be diverted from landfill:
 - (1) Green waste (biodegradable landscaping materials).
 - (a) Inert material (concrete, asphalt, masonry).

B. Description of Work.

1. Includes:
 - a. Waste Management Plan development and implementation.
 - b. Meetings to discuss goals, issues, and training for the Waste Management Plan.
 - c. Techniques to minimize waste generation.
 - d. Sorting and separation of waste materials.
 - e. Reuse of salvaged materials on site.
 - f. Salvage of existing materials and items for reuse or resale.
 - g. Recycling of materials that cannot be reused or sold.
 - h. Record keeping of receipts and records of salvaged, recycled or land filled materials.
2. Related Elements:
 - a. Site Demolition.

C. Definitions.

1. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial and industrial waste resulting from construction, remodeling, repair and demolition operations.
2. Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.
3. Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, or repair and demolition operations.
4. Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.
5. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).
6. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert materials are taken for the purpose of filling an excavation, shoring or other soil engineering operation.
7. Inert Fill: A facility that can legally accept inert waste, such as asphalt and concrete exclusively for the purpose of disposal.
8. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, soil and concrete that does not contain hazardous waste or soluble pollutants at concentrations more than water-quality objectives established by a regional water board and does not contain significant quantities of decomposable solid resources.
9. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.
10. Permitted Waste Hauler: A company that holds a valid permit to collect and transport solid wastes from individuals or businesses for the purpose of recycling or disposal.
11. Recycling: The process of sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.

- a. On-site Recycling. Materials that are sorted and processed on site for use in an altered state in the work, i.e., concrete crushed for use as a sub- base in paving.
 - b. Off-site Recycling. Materials hauled to a location and used in an altered form in the manufacture of new products.
12. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of new products. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a solid waste facility permit or be regulated by the local enforcement agency.
 13. Re-Use: Materials that are recovered for use in the same form, on-site or off- site.
 14. Return: To give back reusable items or unused products to vendors for credit.
 15. Salvage: To remove waste materials from the site for resale or re-use by a third party.
 16. Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.
 17. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.
 18. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal or recovering some materials for re-use or recycling.
 19. Facility: A solid resource processing facility that accepts loads of mixed construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing non-recyclable materials.

D. References.

1. Guides. No preference is given to the recycles listed below; they are listed for the convenience of the contractor.
 - a. Concrete, asphaltic concrete.

E. Submittals.

1. Waste Management Plan. Prior to any waste removal, the Contractor shall submit their Waste Management Plan to the ARS. The Plan shall contain the following:
 - a. Analysis of the estimated job site waste to be generated, including types and quantities.

- 024b. Proposed alternatives to land filling. Contractor shall prepare a list of each material

proposed to be salvaged, re-used, or recycled during the project.

- c. Methods handling of materials to be recycled.
- d. On Site:
 - (1) Materials separation
 - (2) Materials storage
 - (3) Materials protection, where applicable
- a. Off site:
 - (1) Provide name of mixed debris recycling facility; include list of materials to be recycled.
- e. Procedures. A description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
- f. Landfill Options. The name of the landfill(s) where trash will be disposed of.
- g. Meetings. Contractor shall conduct Construction Waste Management meetings. Meetings shall include the Subcontractor, the Project Manager and representatives as designated by the Contracting Officer. At a minimum, waste management goals and issues shall be discussed at pre-bid meetings, pre-construction meetings and regular job-site meetings.
- h. Transportation. A description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated facilities, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials. Waste Management Plan Implementation.
 - (1) Manager. The contractor shall designate an on-site party (or parties) responsible for instructing workers and subcontractors and overseeing and documenting results of the Waste Management Plan for the project.
 - (2) Distribution. The contractor shall distribute copies of the Waste Management Plan to the Contracting Officer and Location Manager.
 - (3) Instruction. The contractor shall provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse and return methods to be used by all parties at appropriate stages of the project.
 - (4) Hazardous Wastes. Hazardous wastes shall be separated, stored, and disposed of according to local, state, and federal regulations.

2. Reports.

- a. The Contractor shall submit, at end of job, a Waste Management Progress Report. The report shall contain the amount (in tons or cubic yards) of material land filled from the project, the identity of the landfill, the total amount of tipping fees paid at the landfill and the total disposal cost. Include legible copies of manifests, weight tickets, receipts and invoices. Manifests shall be from recycle and/or disposal site operators that can legally accept the materials for the purpose of reuse, recycling, or disposal.

- b. For each material recycled, reused, or salvaged from the project, provide the following:
- (1) Amount (in tons or cubic yards).
 - (2) Date removed from the job site.
 - (3) Receiving party.
 - (4) Transportation cost.
 - (5) Amount of any money paid or received for the recycled or salvaged material. Net total cost or savings of salvage or recycling each material. Attach manifests, weight tickets, receipts, and/or invoices. Indicate the project information, including project title, name of company completing form, and beginning and ending dates of period covered by summary form.

DAILY INSPECTION FORM

INSTRUCTIONS: This form is to be utilized when hazards are posed by NFPA 101 deficiencies or construction activities are in progress. Remediation must be implemented upon project start and continuously enforced through project completion to provide a level of life safety comparable to that described in the Life Safety Code. Submit completed forms to the Contracting Officer.

Project Name:	Project Number:
Construction & Impact Description:	Construction Location: Affected Areas:
Project COR:	Project Start Date:
Project Competent Person (CP):	Estimated Duration:
	Completion Date:
Contractor:	
GC Supervisor:	Telephone:
Contractor CP:	

Inspection Period: Responses:	SUN	MON	TUE	WED	THR	FRI	SAT
1. Are exits readily accessible and provide unobstructed egress?							
2. Have alternate exits been established if required due to inaccessibility of existing exits?							
3. If alternate exits have been established, are personnel in the area informed and aware of their relocation?							
4. Are the existing and relocated exits clearly marked and able to be seen in the event of a fire or emergency?							
5. Are evacuation routes posted with follow-up inspections required by construction impact changes in escape routes?							
6. Are written procedures and guidelines posted in the immediate and adjacent areas for what to do and who to call in the event of a fire or emergency?							
7. Are personnel in immediate/adjacent areas aware and informed in procedures and guidelines to follow in the event of fire or emergency?							
8. Is there free and unobstructed access to services for emergency personnel (eg, fire, medical, security)?							
9. Are fire alarm (eg, pull station), detection (eg, smoke/heat), suppression (eg, sprinkler, extinguisher) systems in working order, protected and unobstructed with locations							

identified?							
10. If the fire alarm, detection, suppression systems are impaired or temporarily non-functional, has a fire watch for the area, as required or necessary, been trained and established?							
11. If the fire alarm, detection, suppression systems are impaired, have measures been taken to provide temporary equivalent equipment and/or systems for adequate protection? Note date for equivalent measures.							
12. If the fire alarm, detection, suppression systems are impaired, are equivalent equipment/systems inspected and tested at least monthly?							
13. If temporary fire alarm, detection, suppression systems are installed, are personnel in the area aware and trained on how to operate or utilize them in the event of fire or emergency?							
14. Has the "No Smoking" policy been posted, implemented and enforced in the construction area?							
15. Are temporary partitions built to be fire/smoke tight with fire retardant noncombustible material and inspected daily for integrity?							
16. Is construction site access restricted to authorized personnel only including warning signs and secured at the end of each day?							

Inspection Period: Responses:	SUN	MON	TUE	WED	THR	FRI	SAT
17. Is construction area hazard surveillance conducted daily?							
18. Is construction area storage, waste, debris and excess materials being daily managed properly to reduce fire or safety hazards?							
19. Are construction activities and materials prosecuted, handled, stored, and secured in an orderly and safe manner?							
20. Is the generation, spread and exposure of construction dust, fumes, noise, odor, smoke controlled with appropriate fume, odor, vapor ventilation provided to control noxious, infectious, toxic exposure and store/protect flammable/combustible products?							
21. Has a GC Safety Manager been designated with routine site safety meetings conducted to ensure awareness of Life Safety Code?							
22. Is personnel protective equipment (e.g., safety glasses, ear plugs, hard hats) required and being used?							
23. If there are hand/safety rails, scaffolding or ladders required, are they in place, in good condition and being used in a safe manner?							
24. Are the construction site (buildings and exterior grounds) hazards (e.g., fall/trip) guarded and free of potential safety violations?							
25. Do electrical panels, temporary wiring, extension cords (3 wire grounded type), tools, and equipment appear to be installed, utilized, and functioning in a safe manner?							
26. If there are temporary electrical outlets provided, do they have ground fault protection at the receptacle/panel?							
27. If hazardous equipment/systems need to be de-energized, are applicable "Lockout/Tagout" procedures being followed?							
28. Are utility services (e.g., electrical, steam, water, waste, gas) properly secured at the end of each day?							
29. If there is any hot work (welding, soldering, cutting) being performed within the construction site, have additional fire safety precautions been taken and necessary equipment provided?							
30. If there is any hot work (welding, soldering, cutting) being performed on the construction site, has Contracting Officer been notified? Has the Hot Work Permit been approved?							

31. If hazardous products are present, are they limited to the amount needed and used daily?							
32. Are hazardous products disposed according to EPA requirements?							
33. Are all hazardous products present or being used (e.g., flammable, combustible, corrosive, noxious) labeled with MSDS information readily available?							
34. If infection control is required, are the appropriate policies and procedures known and being followed?							
35. Are all safety incidents documented and reported to the Contracting Officer?							
Contractor CP Initials Performing Daily Inspections:							

Inspection Comments/Findings: (PROVIDE DETAILED EXPLANATION OF EXCEPTIONS/DEFICIENCIES)

Signature/Date:
Project CP

GC Safety Manager

END OF 01 01 00

SECTION 02 08 10

ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALSPART 1 GENERAL

1.01 REFERENCES

The publications listed below form a part of this specification. This list is not all inclusive; state and local regulations may have applicable requirements not identified. The publications are referred to in the text by the basic designation only.

A. Code of Federal Regulations (CFR)

29 CFR 1910.134	Respiratory Protection
29 CFR 1910.141	Sanitation
29 CFR 1910.145	Accident Prevention Signs and Tags
29 CFR 1926.1101	Asbestos, Tremolite, Anthophyllite, Actinolite
29 CFR 1926.59	Hazard Communication
40 CFR 61-SUBPART A	General Provisions
40 CFR 61-SUBPART M	National Emission Standard for Hazardous Air Pollutants (NESHAP) for Asbestos

1.02 REQUIREMENTS

A. Description of Work

The contractor shall be licensed for asbestos abatement planning and asbestos abatement in Ohio.

Contractor shall obtain all permits and make all required notifications to the State and or

County. Contractor shall provide all postings as required during the demolition and pay all associated fees for permitting and disposal.

1.03 SUBMITTALS

Submit the following:

- A. Statements
 - 1. Asbestos hazard abatement plan.
 - 2. Testing laboratory.
 - 3. Private qualified person documentation.
 - 4. Landfill approval.
 - 5. Employee training records for ACM workers and persons on the property.
 - 6. Medical certification requirements.
 - 7. Copies of permits.
- B. Respiratory Protection Program.
- C. Hazardous waste manifest.
- E. Asbestos Hazard Abatement Plan.

Submit a detailed plan of the safety precautions including equipment and work procedures to be used in the removal and demolition of materials containing asbestos. The plan shall be prepared, signed, and sealed by the Private Qualified Person (PQP). Such plan shall include but not be limited to the precise personal protective equipment to be used, the location of asbestos control areas, planned air monitoring strategies, and a detailed description of the method to be employed to control environmental pollution. The plan shall also include (both fire and medical emergency) response plans. The Asbestos Hazard Abatement Plan must be approved in writing prior to starting any asbestos work. Once approved by the Contracting Officer, the plan will be enforced as if an addition to the specification.

F. Testing Laboratory

Submit the name, address, and telephone number of the testing laboratory selected for the sampling, analysis, and reporting of airborne concentrations of asbestos fibers along with evidence that the laboratory selected holds the appropriate Florida state licenses and/or permits and certification that the laboratory is American Industrial Hygiene Association

(AIHA) accredited and those persons counting the samples have been judged proficient by current inclusion on the AIHA Asbestos Analysis Registry (AAR) and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program.

G. Private Qualified Person Documentation

Submit the name, address, and telephone number of the Private Qualified Person (PQP) selected to prepare the Asbestos Hazard Abatement Plan, direct monitoring and training, and documented evidence that the PQP has successfully completed training in and is certified as a Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer as required by 40 CFR 763 and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The PQP shall be appropriately licensed in the State of Florida as an asbestos supervisor and designer.

H. Landfill Approval

Submit written evidence that the landfill for disposal is approved for asbestos disposal by the

U. S. Environmental Protection Agency and state and local regulatory agency(s). Submit to the Contracting Officer, waste shipment records and hazardous waste manifest, prepared in accordance with federal regulations, signed and dated by an agent of the landfill, certifying the amount of asbestos materials delivered to the landfill, within working 3 days after delivery. Final payment will not be made until the completed manifest from the landfill has been received by the Government.

I. Notifications

Notify the Contracting Officer and other appropriate Government agencies in writing 10 working days prior to the start of asbestos work as indicated in applicable laws, ordinances, criteria, rules, and regulations.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.01 WORK PROCEDURE

- A. Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61-SUBPART M, and as indicated in the approved asbestos hazard abatement plan.

END OF SECTION
02 08 10

SECTION 02 41 16
STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Structure Demolition:
 - 1. Demolition of designated building structures.
 - 2. Demolition of designated site improvements including paving, curbing, site walls, and utility structures.
 - 3. Demolition of below-grade foundations and site improvements to depth to avoid conflict with new construction or site work. Footings shall be removed to a depth of one foot below the footing elevation.
 - 4. Removal of hollow items or items which could collapse.
 - 5. Salvage of designated items.
 - 6. Protection of site work and adjacent structures.
 - 7. Disconnection, capping, and removal of utilities.
 - 8. Pollution control during building demolition, including noise control.
 - 9. Removal and legal disposal of materials.
 - 10. Protection of designated site improvements and adjacent construction,
 - 11. Interruption, capping or removal of utilities as applicable.
 - 12. Backfilling foundation areas and bringing grade to match existing.

- B. Hazardous Materials:
 - 1. Removed as a part of this contract. Contractor is required to obtain their own hazardous material testing prior to performing demolition work.

1.2 SUBMITTALS

- A. Submit under provisions of Statement of Work.
- B. Schedule: Submit for approval demolition schedule, including schedule and
- C. Site drawing indicating the lines of demarcation and methods for capping utilities to be abandoned and maintaining existing utility service.
- D. Fill materials and lawn restoration procedures, soil amendments, and seed.

1.3 QUALITY ASSURANCE

- A. Codes and Regulations: Comply with all current Local, State, and Federal governing codes and regulations, including but not limited to:
 - 1. AHERA (Asbestos Hazard Emergency Response Act).

2. ANSI (American National Standards Institute.)
3. AHRI Guideline K (2009) (Air-Conditioning, Heating and Refrigeration Institute).
4. ASSP A10.6 (American Society of Safety Professionals)
5. CFR (Code of Federal Regulations) 40 CFR 61, 40 CFR 82, 49 CFR 173.301
6. EPA (Environmental Protection Agency).
7. NESHAP (National Emission Standards for Hazardous Air Pollutants).
8. CAA (Clean Air Act).
9. OSHA (Occupational Safety Health Act).
10. ASTM D2487.
11. AASHTO M 145 and T 180.
12. Ohio State Dept. of Health.
13. OEPA (Ohio Environmental Protection Agency).
14. And other health and safety codes in effect at the time of contract award.

- B. Use experienced workers. Workers performing asbestos-related activities must be certified/ licensed by OEPA.

1.4 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

1.5 SEQUENCING

- A. Immediate areas of work will not be occupied during demolition. The public may occupy adjacent areas.
- B. No responsibility for buildings and structures to be demolished will be assumed by the Government (USDA/Owner) or University.
- C. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 GRASS SEED and AMENDMENTS

- A. Grass seed content shall closely match existing turf. Apply amendments as needed to establish turf..

PART 3 EXECUTION

3.1 STRUCTURE DEMOLITION

- A. Demolition Operations: Do not damage building elements and improvements indicated to remain, if applicable. Items of salvage value shall become the property of the demolition Contractor. Storage or sale of items at project site is prohibited.

- B. Utilities: The Contractor is responsible to make sure all utilities are disconnected from the building prior to the start of any demolition. Locate, identify, disconnect, and seal or cap off utilities in buildings to be demolished. Utilities entering the site such as electrical, natural gas, water and sanitary sewer shall be removed at least to the right of way or at a line of demarcation where USDA structures to be demolished abut OSU buildings to remain in place. Utilities shall be disconnected per utility owner's specifications (OSU). Contractor to provide a site drawing that dimensionally locates all utility disconnects. Coordinate with OSU Facilities Planning department. OSU contact people will be identified in a pre-construction meeting. Note: The existing utility trench can remain in place after utilities are disconnected.
- C. Shoring and Bracing: Provide and maintain interior and exterior shoring and bracing as required.
- D. Occupied Spaces: Do not close or obstruct streets, walks, drives or other occupied or used spaces or facilities without the written permission of the Owner and the authorities having jurisdiction. Do not interrupt utilities serving occupied or used facilities without the written permission of the Owner and authorities having jurisdiction. If necessary, provide temporary utilities.
- E. Operations: Cease operations if public safety or remaining structures are endangered. Perform temporary corrective measures until operations can be continued properly.
- F. Security: Provide adequate protection against accidental trespassing. Secure project after work hours.
- G. Contractor to backfill all excavations with inorganic clean soils compacted in maximum 8" loose lifts to minimum 90% maximum dry density per ASTM D-698.
- H. Site to be filled, leveled, graded, fine graded and seeded. The top 3" of soil shall have an organic content capable of supporting good turf growth. Contractor shall establish the turf as part of this Contract; meaning grass must be established prior to Final Completion and Final Payment.

3.2 SCHEDULE

- A. Items for Protection During Demolition:
 1. Designated site improvements, trees, and plantings.
 2. Adjacent construction.
 3. Campus streets, roadways, sidewalks, and all roadway assets.
 4. Mud build-up on streets must be promptly cleaned by the Contractor, or, in the alternative, the Contractor may clean mud from tires prior to using the streets. Means and methods, as well as execution must comply with OSU campus requirements.
- B. Items to be Salvaged for Reinstallation:

1. N/A.
- C. Items to be Salvaged for Delivery to Owner:
1. N/A
- D. Utilities Requiring Interruption, Capping, or Removal:
1. Electric.
 2. Water.
 3. Gas.
 4. Sewerage.
 5. Steam.
 6. Cable television.

END OF SECTION

Base Bid
Plant Pathology GH









NOTE: Brick building is OSU property and is NOT being demolished. Building weather-tightness must be maintained.

Existing door and transom must be covered with 3/4" painted plywood.



Base Bid
Plant Pathology GH

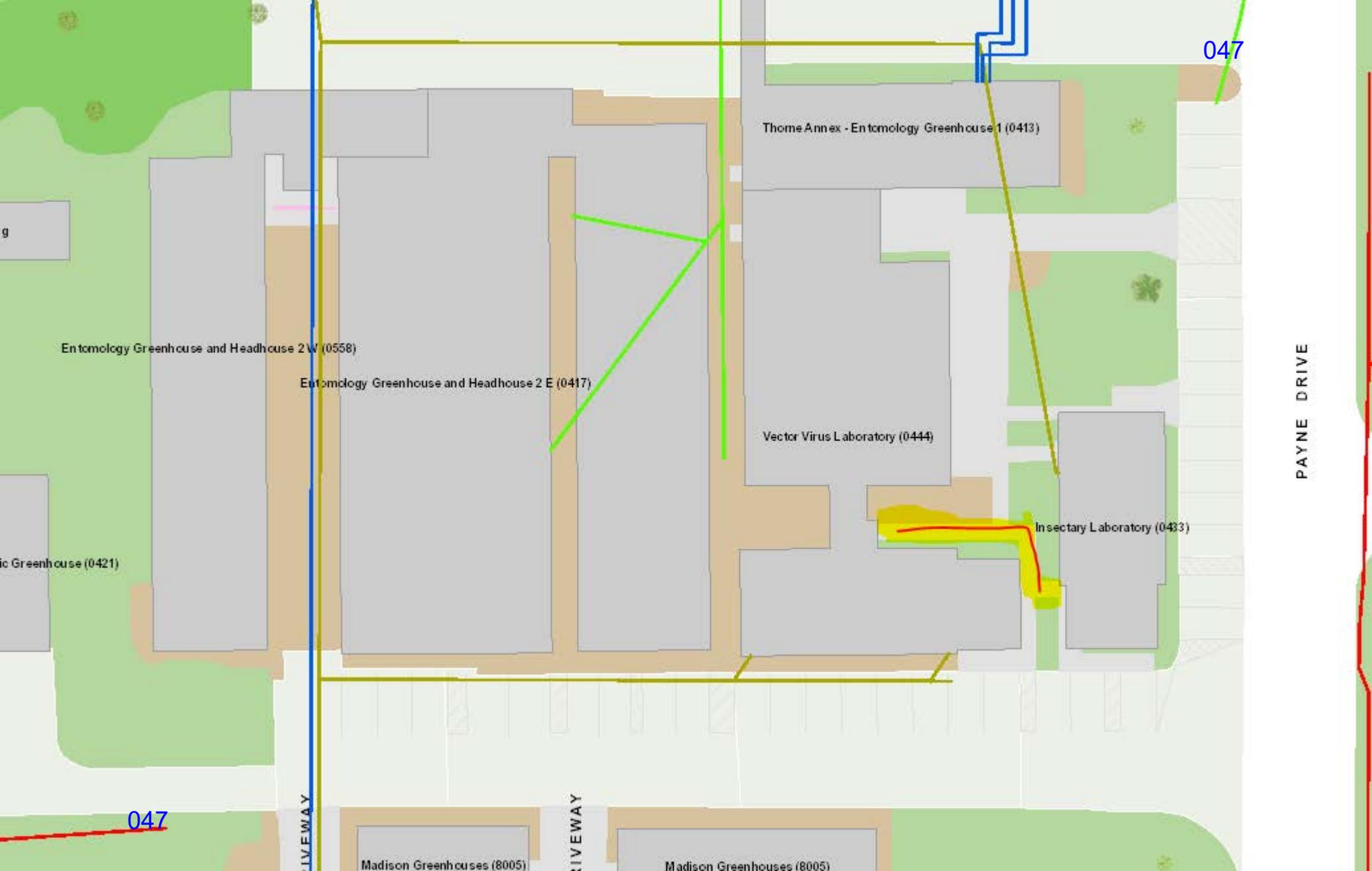


046

Base Bid
Plant Pathology GH

DANGER
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung
Disease Hazard

046



047

Thome Annex - Entomology Greenhouse 1 (0413)

Entomology Greenhouse and Headhouse 2 W (0558)

Entomology Greenhouse and Headhouse 2 E (0417)

Vector Virus Laboratory (0444)

Insectary Laboratory (0433)

ic Greenhouse (0421)

Madison Greenhouses (8005)

Madison Greenhouses (8005)

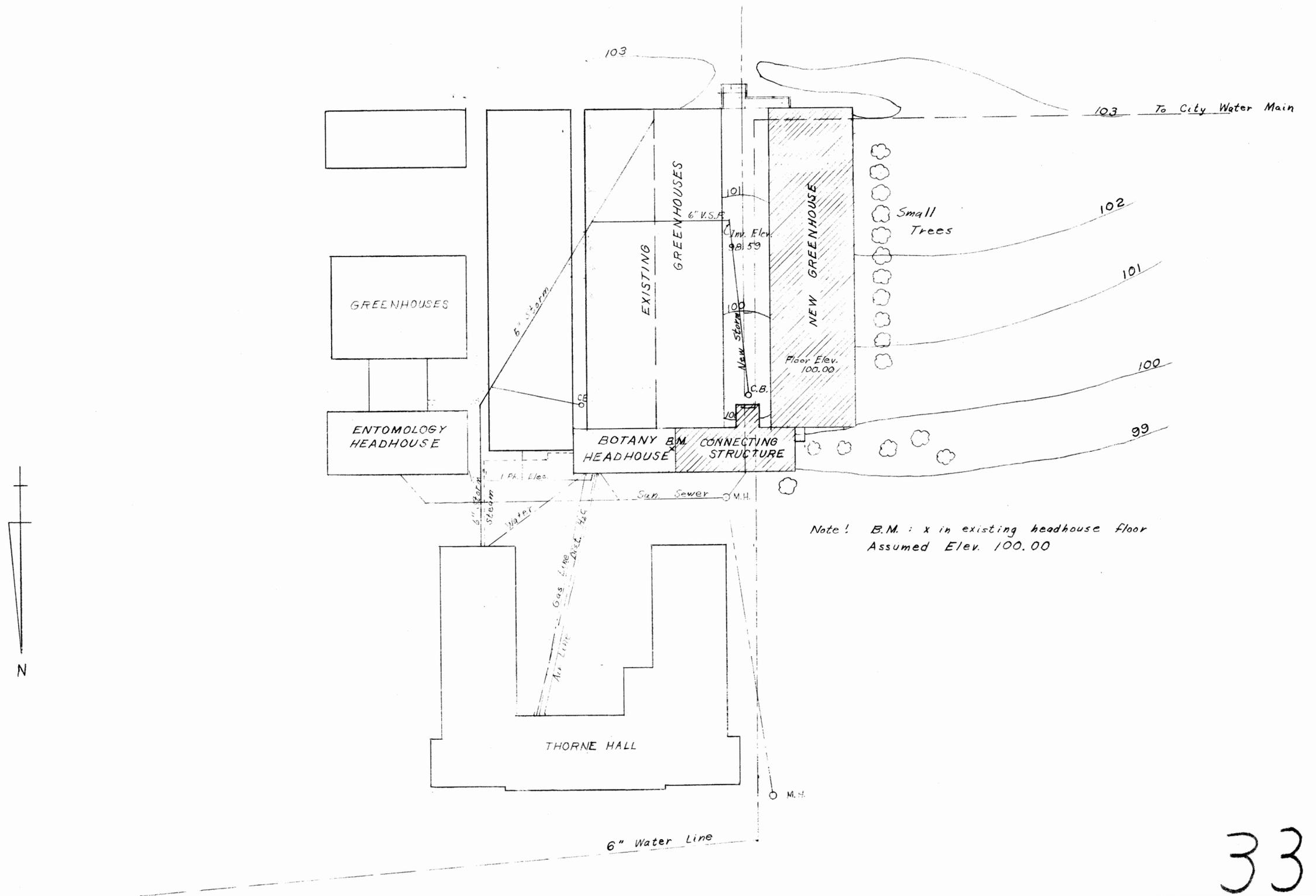
PAYNE DRIVE

LIVERYWAY

LIVERYWAY

047

Base Bid



Note! B.M. : x in existing headhouse floor
Assumed Elev. 100.00

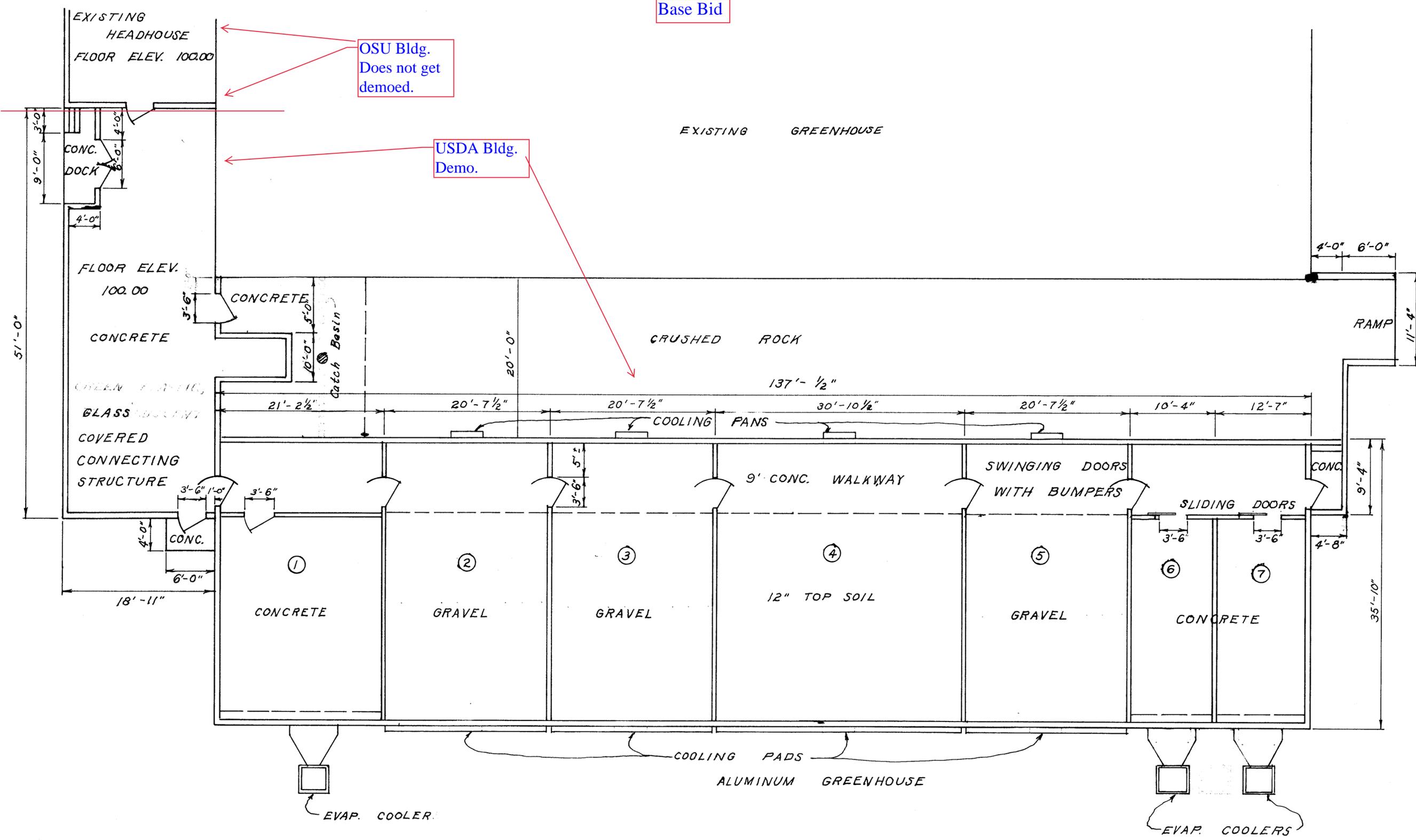
33

BOTANY GREENHOUSE
 & CONNECTING STRUCTURE
 PLOT PLAN
 SCALE: 1" = 30' D.E.G.
 9-9-65 SHEET 1 OF 5

Base Bid

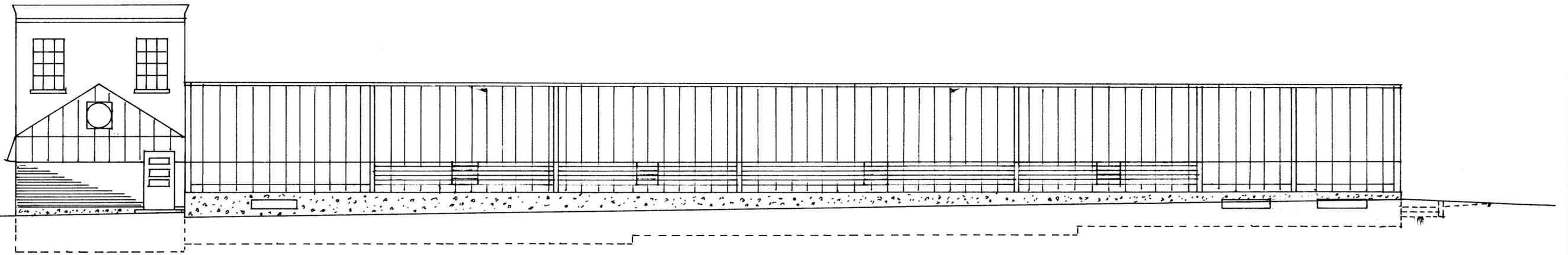
OSU Bldg.
Does not get
demoed.

USDA Bldg.
Demo.

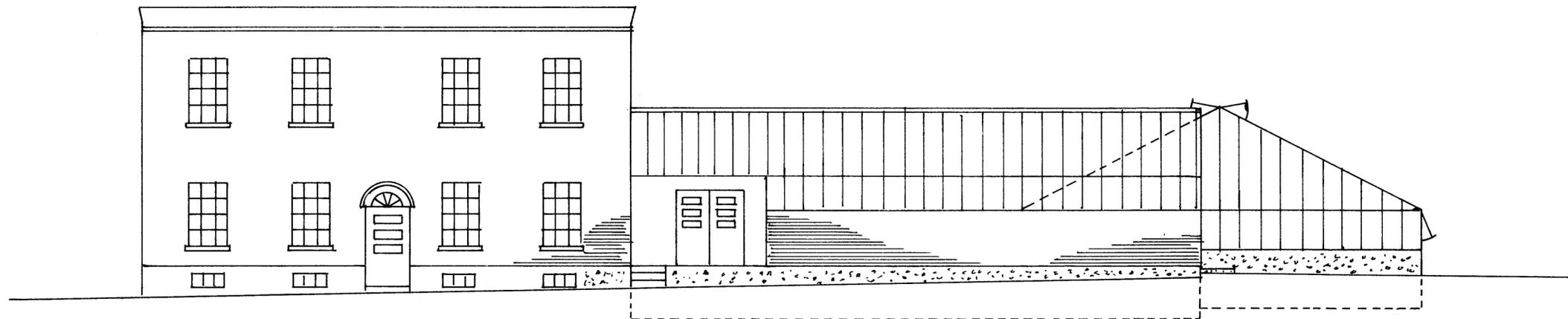


BOTANY GREENHOUSE
 & CONNECTING STRUCTURE
 FLOOR PLAN
 SCALE: 1/8" = 1'-0" D.E.G.
 12-29-65 SHEET 2 OF 5

Base Bid



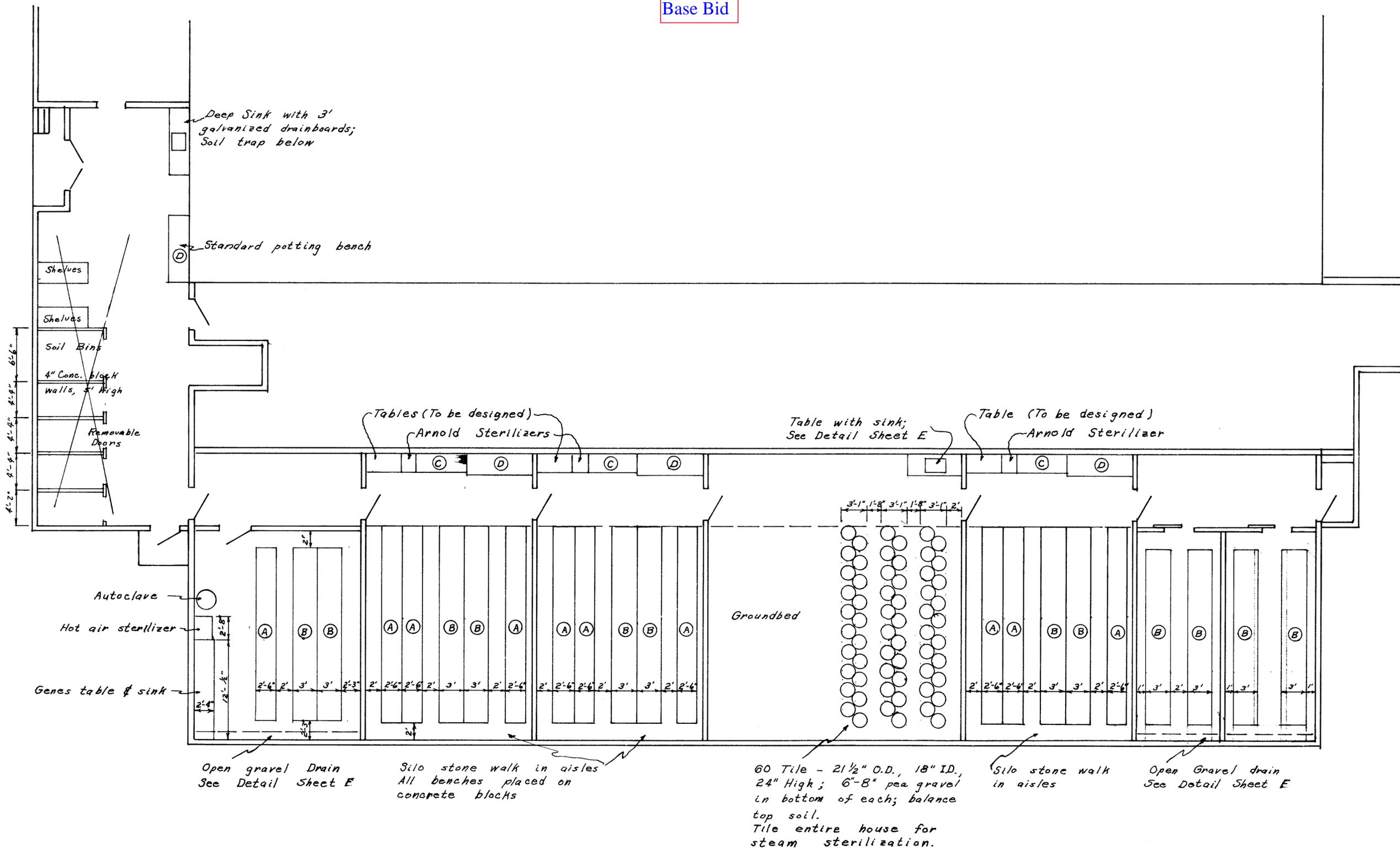
WEST ELEVATION



NORTH ELEVATION

BOTANY GREENHOUSE
 & CONNECTING STRUCTURE
 ELEVATIONS
 SCALE: 1/8" = 1'-0" D.E.G.
 12-29-65 SHEET 3 OF 5

Base Bid



Lighting: Lights over all benches, tiles, and groundbeds as follows:
 A - 6 narrow tube
 B - 8 narrow tube (Groundbed & Tiles.)
 Convenience Lights - 1 in each house and in halls (master switch)

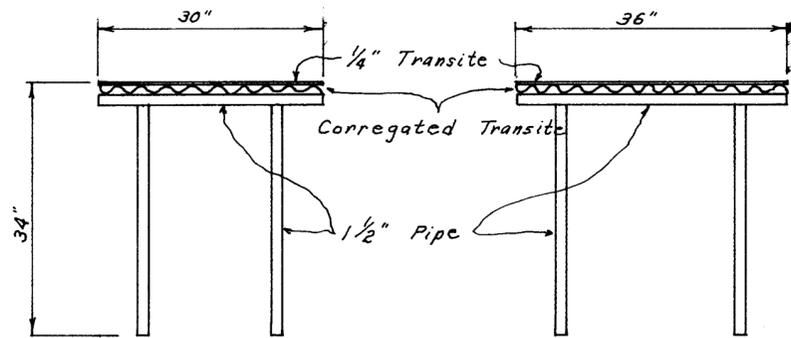
Controls: Heating - 80°F at -10°F; Maximum cooling.
 Automatic ridge vents integrated with cooler.

See Detail Sheet for Benches A, B, C, D, and E

Manual side vents
 Ridge vents tied to existing wind and rain protectors
 Heating controls ± 4°
 Lights - time clocks each house; on-off on basis of 15 minute regulation of day-night cycle
 Energy to each house for two times present load.

BOTANY GREENHOUSE
 & CONNECTING STRUCTURE
 HOUSE LAYOUT
 SCALE: 1/8" = 1'-0" D.E.G.
 12-29-65 SHEET 4 OF 5

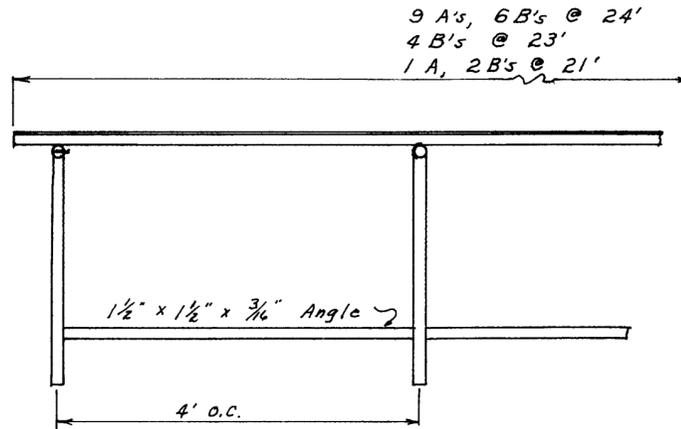
Base Bid



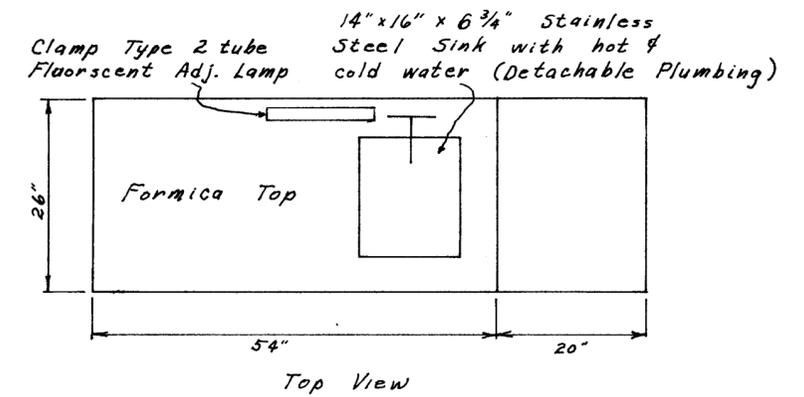
Bench A

Bench B

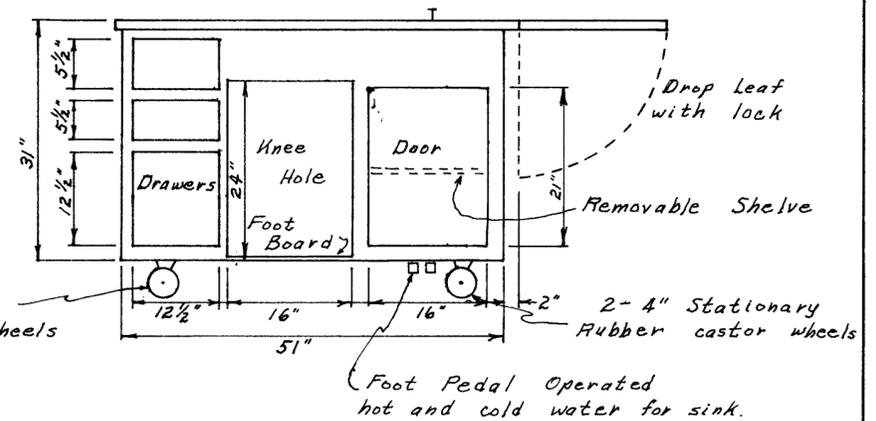
End View



Front View

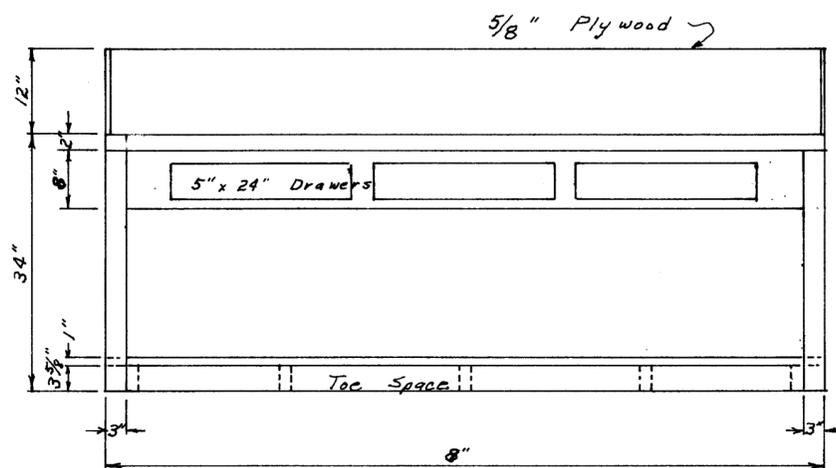


Top View



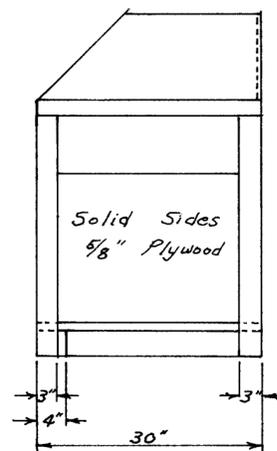
Front View

Inoculating Table C (3 needed)

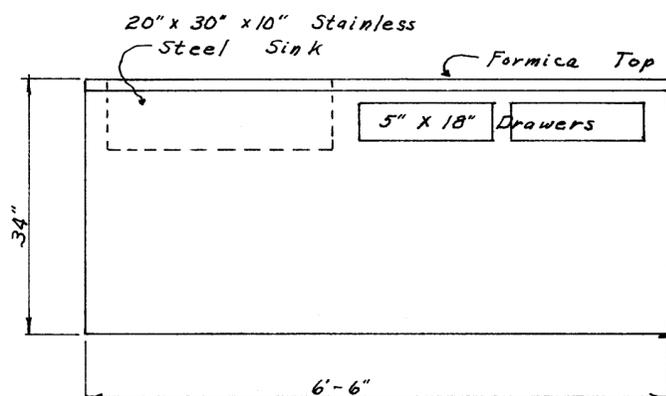


Front View

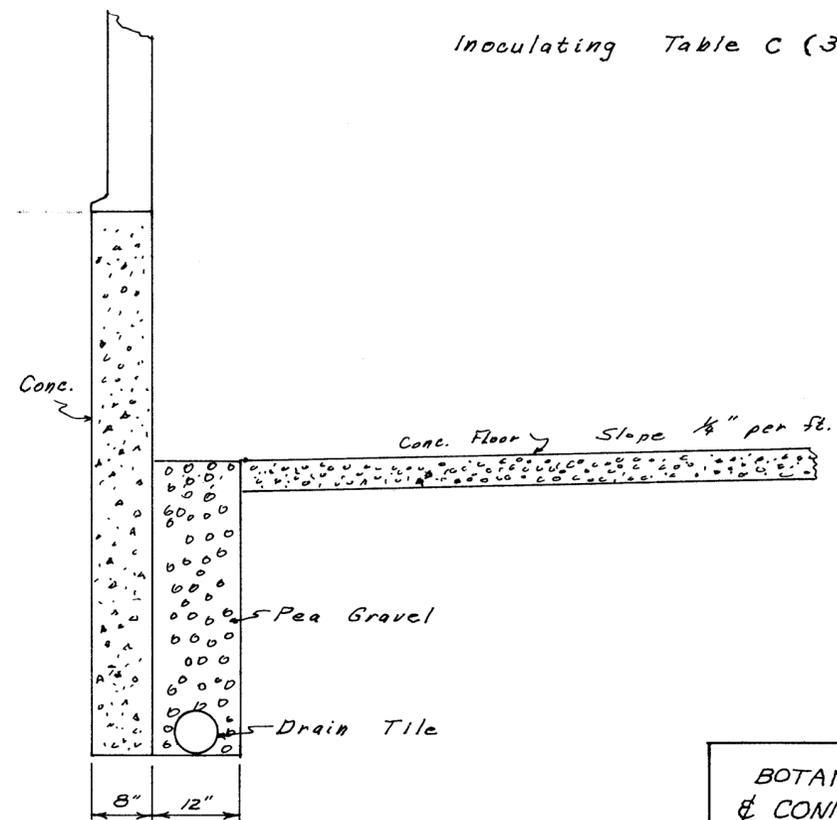
Potting Work Bench D (5 needed)



Side View



Bench E



Drain Plan F

BOTANY GREENHOUSE
 & CONNECTING STRUCTURE
 DETAILS
 SCALE: 3/4" = 1'-0" D.E.G.
 12-29-65 SHEET 5 OF 5

Bid Option 1
Vector Virus GH

053



053

Bid Option 1
Vector Virus GH

054



054



Bid Option 1
Vector Virus GH



Bid Option 1
Vector Virus GH

057



057

Bid Option 1
Vector Virus GH

058



058

Bid Option 1
Vector Virus GH

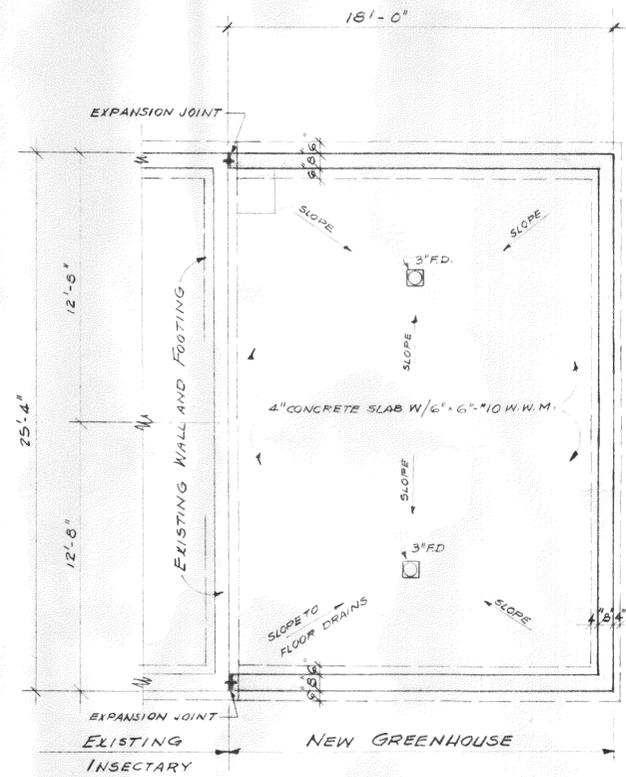
059



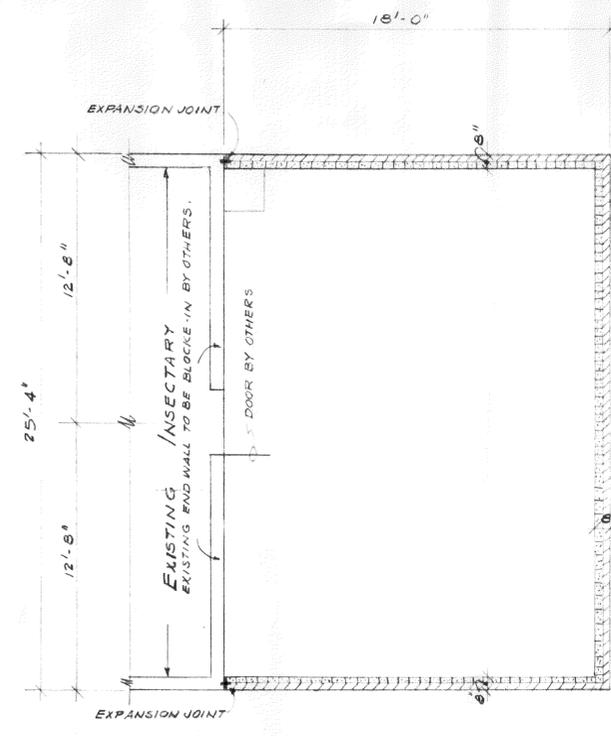
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105

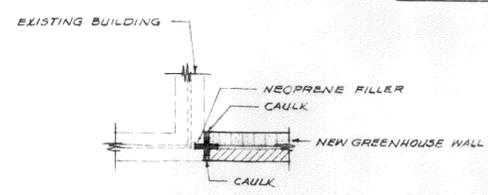
Bid Option 1



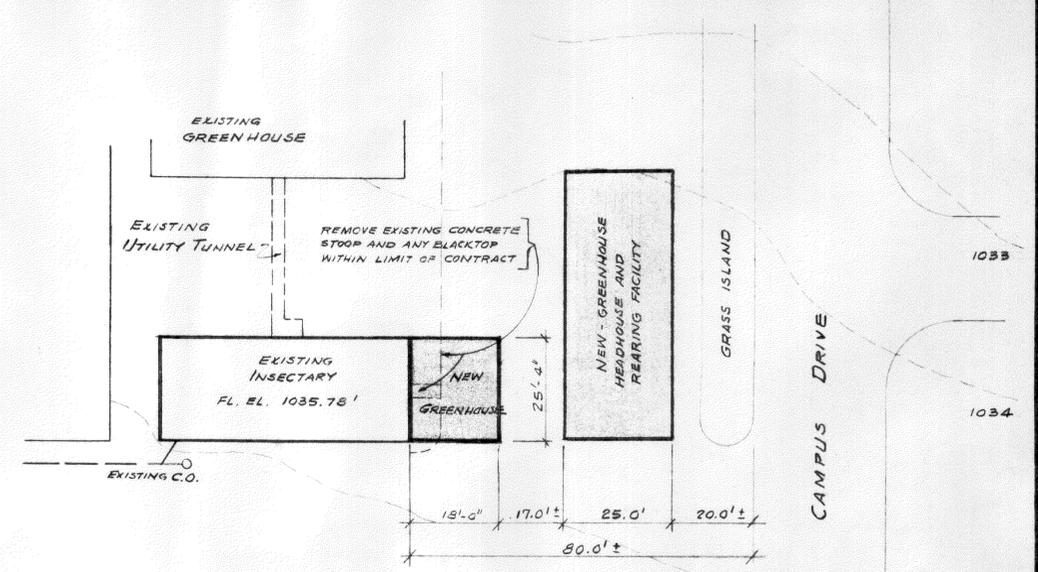
FOUNDATION PLAN
GREENHOUSE #3
SCALE: 1/4" = 1'-0"



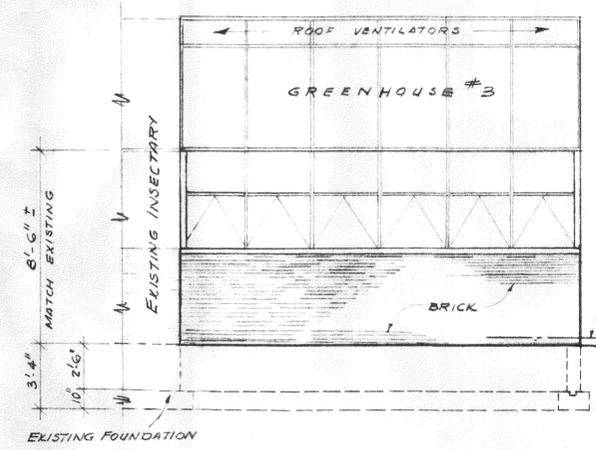
FLOOR PLAN
SCALE: 1/4" = 1'-0"



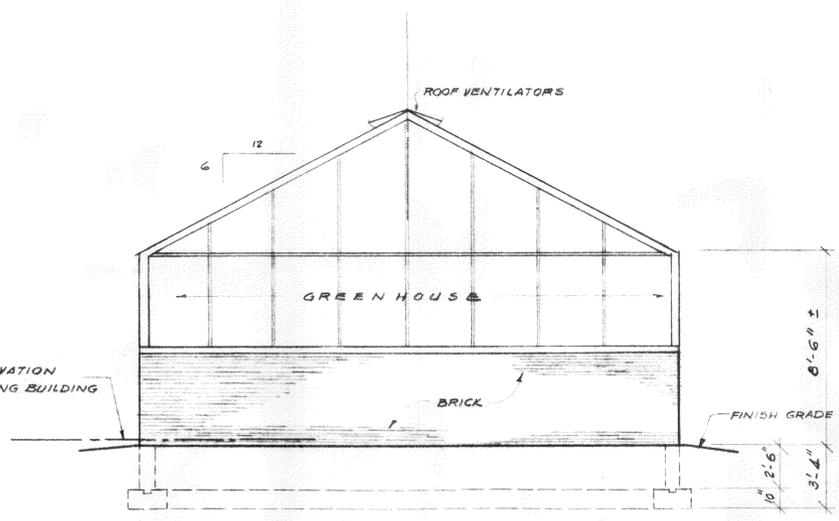
EXPANSION JOINT DETAIL



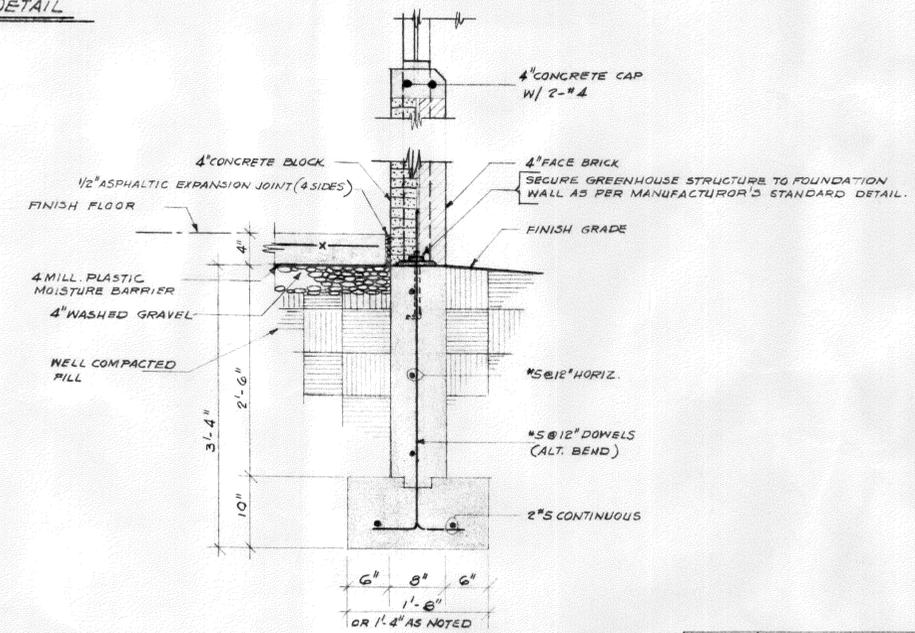
PLOT PLAN
SEE PLOT PLAN ON SHEET NO. 01 FOR DETAILS.
SCALE: 1" = 20.0'



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



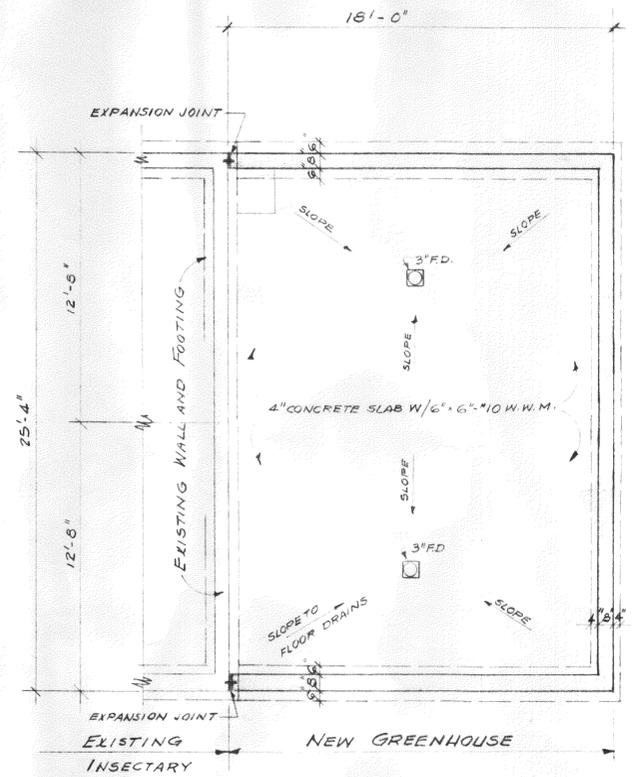
EAST ELEVATION
SCALE: 1/4" = 1'-0"



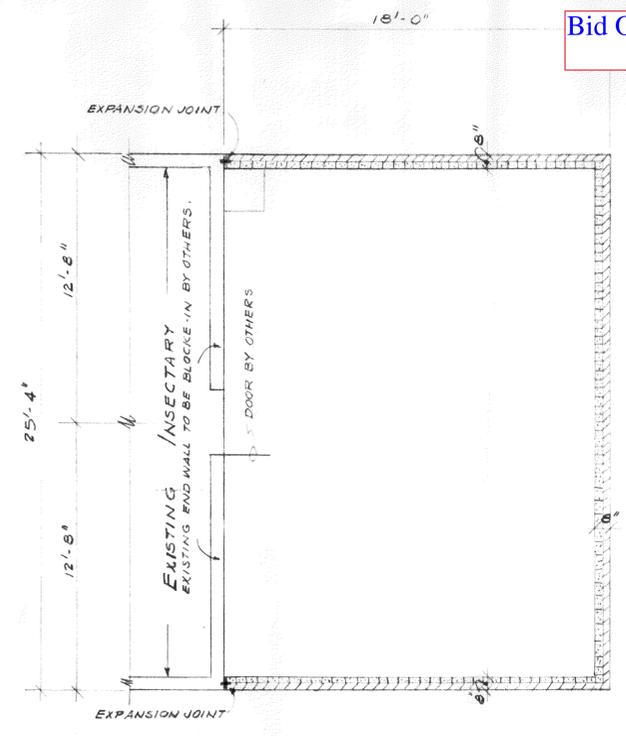
TYPICAL FOOTING DETAIL
SCALE: 1" = 1'-0"

REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
GREENHOUSE FOR USDA ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO.		
PLANS AND DETAILS		
PROJ. LEADER R.S. LEVIN	DRAWN BY L. TABAJDI	TRACED BY DATE 5-5-67
CHECKED BY R.S. LEVIN	ARCH. R.S. LEVIN	STRUCT. R.I.M.
ELECT. MECH.		
RECOM. FOR APPR.		
APPROVED <i>[Signature]</i>		CHIEF, R.R.M.B.
BID INVITATION NO. ARS-71-B-67	SCALE AS NOTED	DRAWING NO. ENT. 67-12-07
SHEET 7 OF 8		

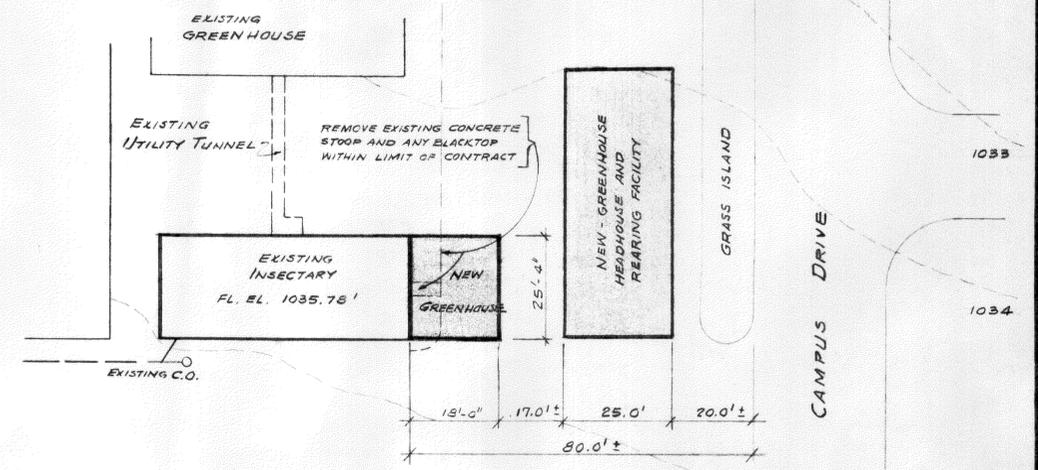
Bid Option 1



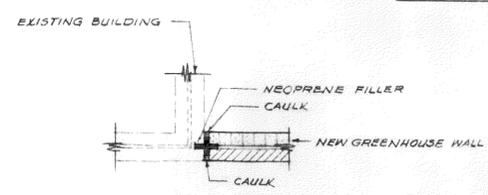
FOUNDATION PLAN
GREENHOUSE #3
SCALE: 1/4" = 1'-0"



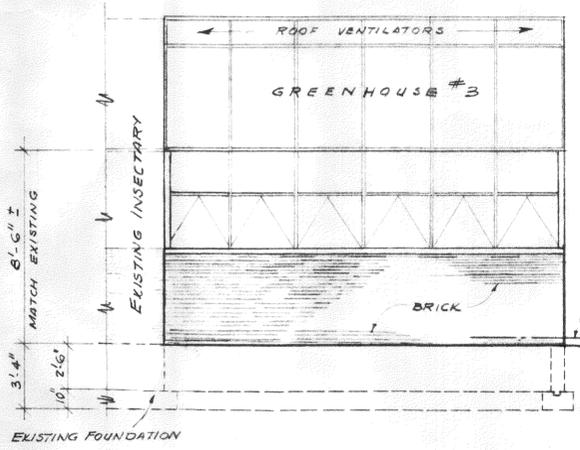
FLOOR PLAN
SCALE: 1/4" = 1'-0"



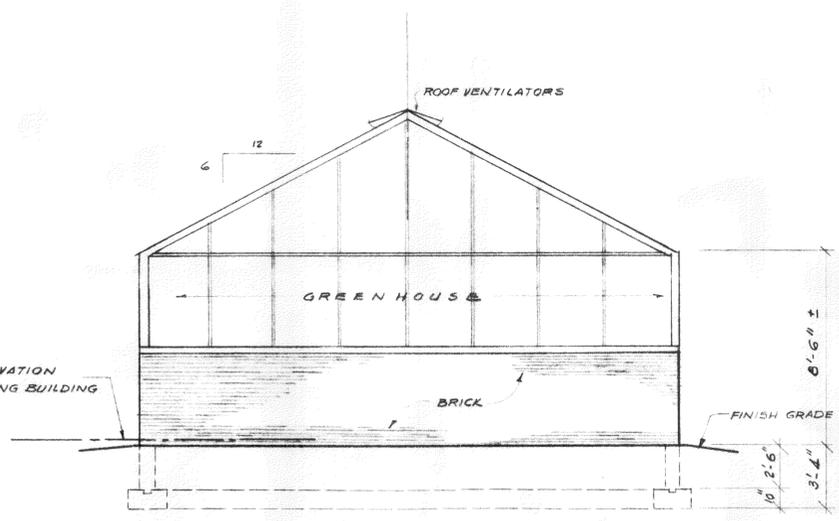
PLOT PLAN
SEE PLOT PLAN ON SHEET NO 01 FOR DETAILS.
SCALE: 1" = 20'-0"



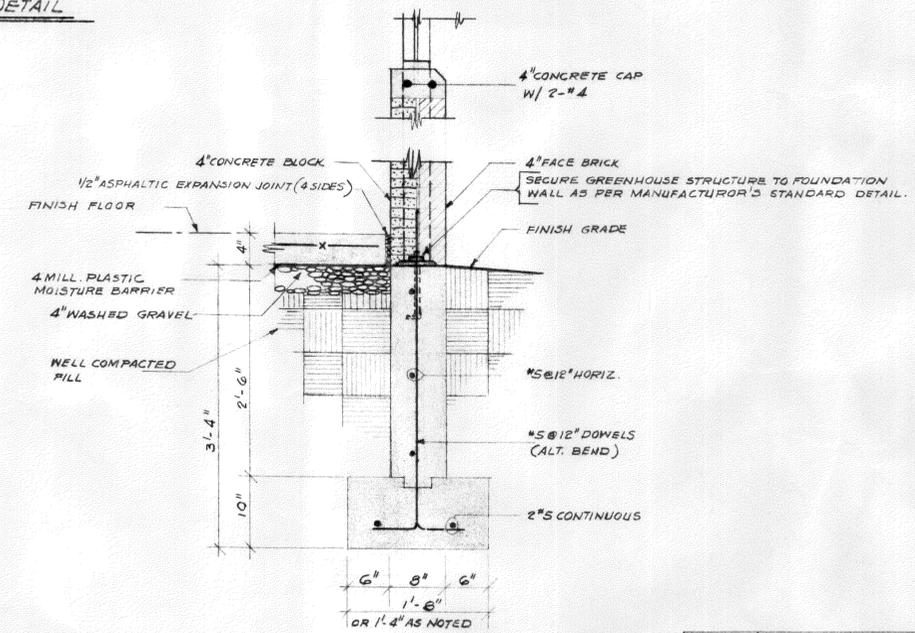
EXPANSION JOINT DETAIL



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



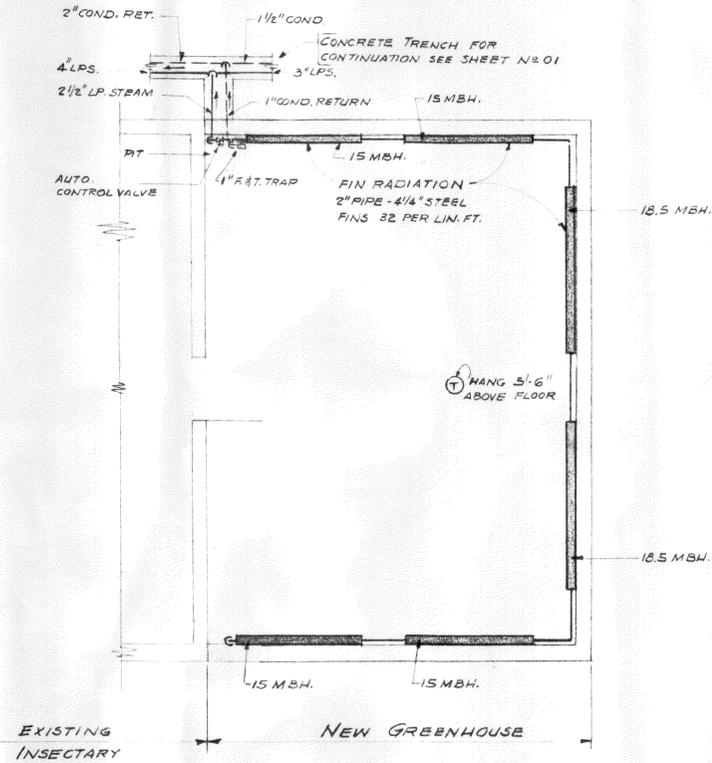
EAST ELEVATION
SCALE: 1/4" = 1'-0"



TYPICAL FOOTING DETAIL
SCALE: 1" = 1'-0"

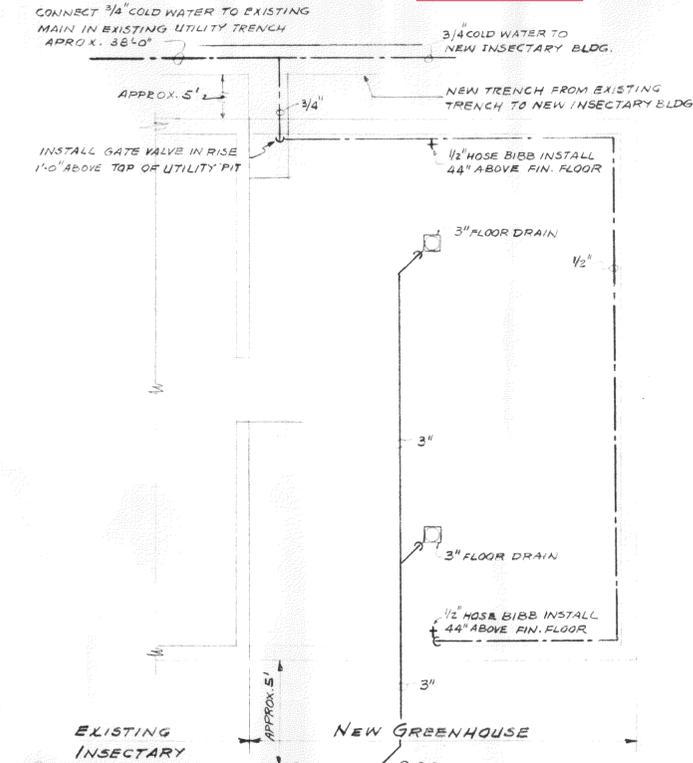
REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
GREENHOUSE FOR USDA ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO.		
PLANS AND DETAILS		
PROJ. LEADER R.S. LEVIN	DRAWN BY L. TABAJDY	TRACED BY DATE 5-5-67
CHECKED BY R.S. LEVIN	ARCH. R.S. LEVIN	STRUCT. R.S. LEVIN
RECOM. FOR APPR.		
APPROVED <i>[Signature]</i>		CHIEF, R.R.M.B.
BID INVITATION NO. ARS-71-B-67	SCALE AS NOTED	DRAWING NO. ENT. 67-12-07

Bid Option 1



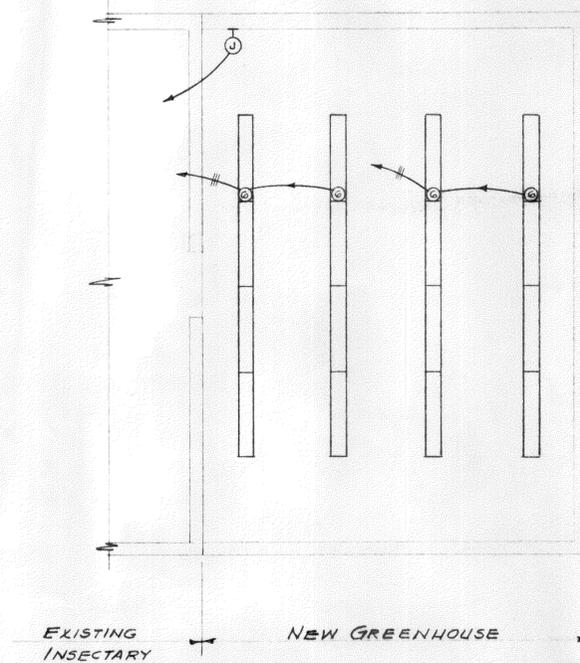
MECHANICAL

SCALE: 1/4" = 1'-0"



PLUMBING

SCALE: 1/4" = 1'-0"



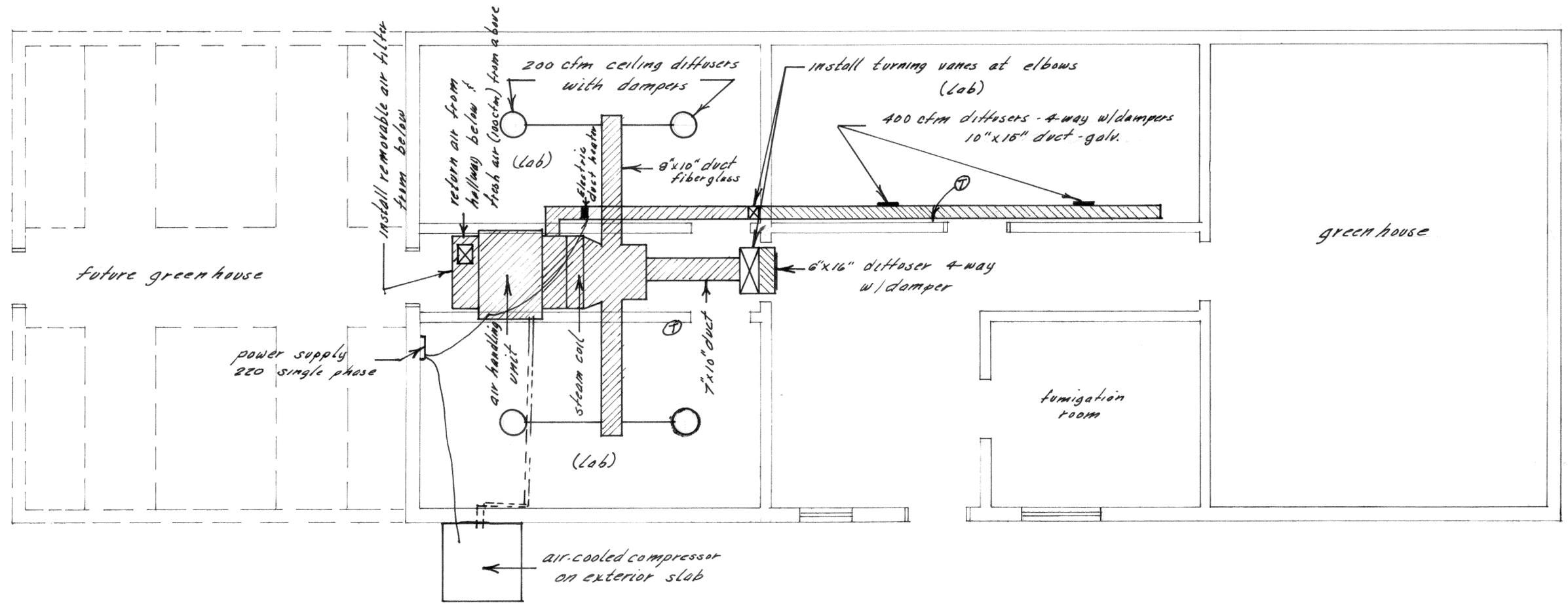
ELECTRICAL

SCALE: 1/4" = 1'-0"

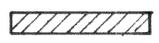
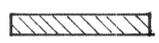
NOTE: CONNECT ALL HOME RUNS TO EXISTING PANEL IN EXISTING INSECTARY.

REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
GREENHOUSE FOR USDA, ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO.		
MECHANICAL AND ELECTRICAL		
PROJ. LEADER	DRAWN BY	TRACED BY
R.S. LEVIN	L. TABAUDY	
CHECKED BY	ARCH.	STRUCT.
E. Soler		
RECOM. FOR APPR.		
APPROVED		CHIEF, R.P.M.B.
SCALE	DRAWING NO.	ENT.
As NOTED	67-12-08	

Bid Option 1



PLAN VIEW 1/4" = 1'

-  above ceiling
-  below ceiling



36

VIRUS LAB - GREENHOUSE
 OARDC Wooster Ohio
 Heating - Airconditioning
 scale 1/4"=1' Lrj.





Bid Option 2
Insectary Lab

067



067

Bid Option 2
Insectary Lab

068



Bid Option 2
Insectary Lab

069



069

Bid Option 2
Insectary Lab

070



070

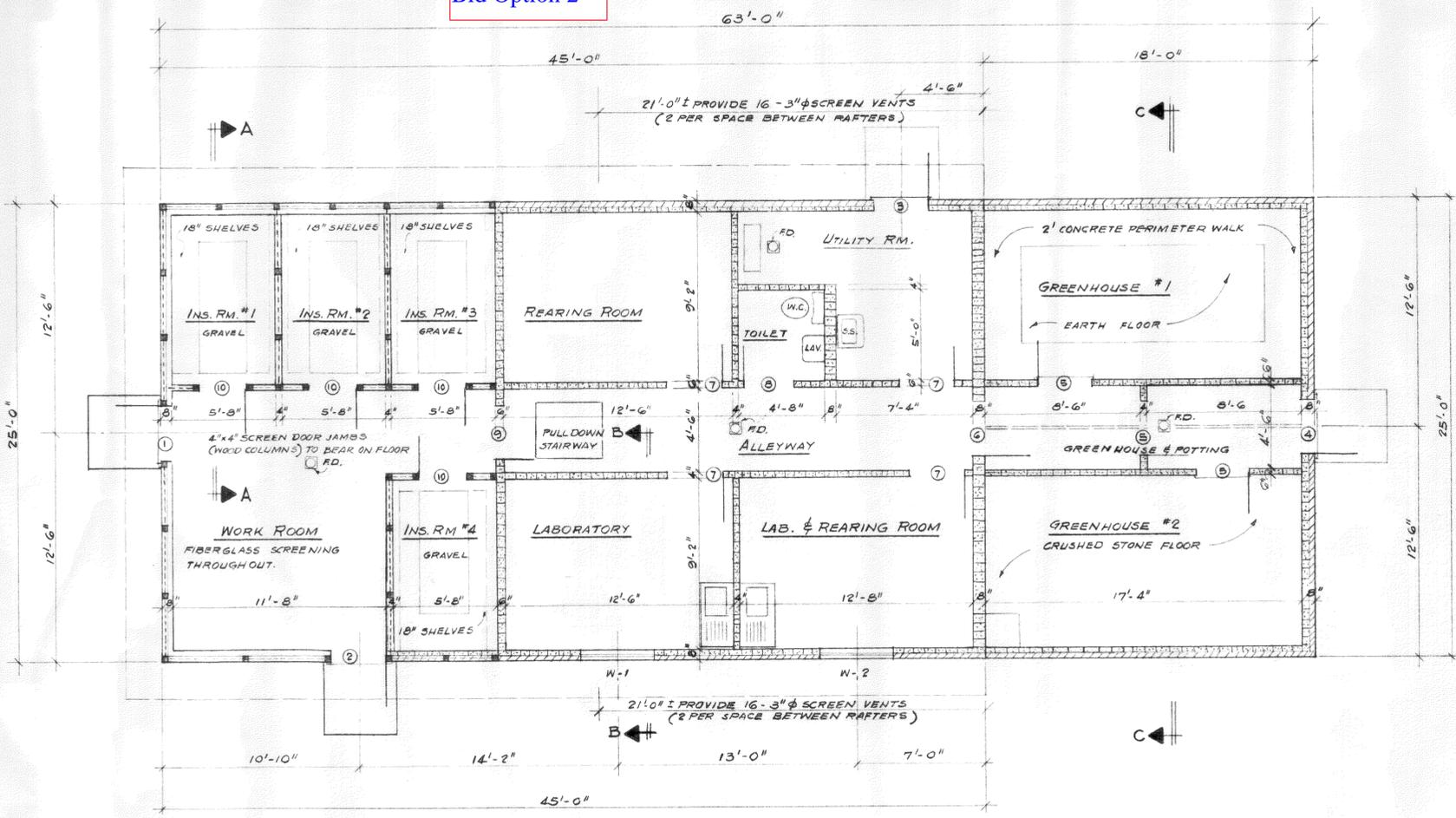
Bid Option 2
Insectary Lab

071



071

Bid Option 2



FLOOR PLAN

SCALE: 1/4" = 1'-0"

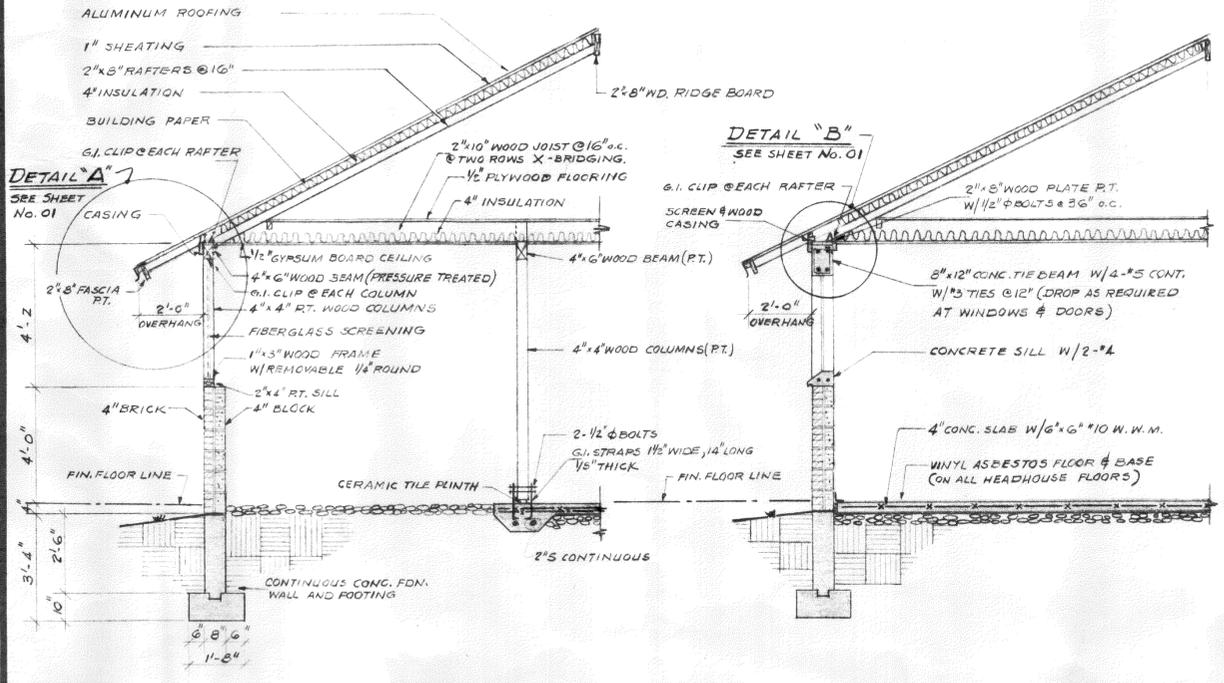


FINISH SCHEDULE					
ROOM	FLOOR	WALLS	CEILING	BASE	REMARKS
GREENHOUSE #1	2" CONC. WALK AND EARTH	BLOCK	GLASS		
" #2	CRUSHED STONE	DO	GLASS		
GREENHOUSE & POTTING	FIN. CEMENT	DO	GLASS		
LAB. & REARING RM.	VINYL ASS. TILE	DO	GYPSUM BOARD	VA.	
LABORATORY	DO	DO	DO	VA.	
REARING ROOM	DO	DO	DO	VA.	
UTILITY ROOM	DO	DO	DO	VA.	
TOILET ROOM	DO	DO	DO	VA.	
ALLEY WAY	DO	DO	DO	VA.	
INS. RM. #1, #2, #3, #4	CRUSHED STONE	DO	DO		
WORK ROOM	FIN. CEMENT	DO	DO		

* V.A. = VINYL ASBESTOS

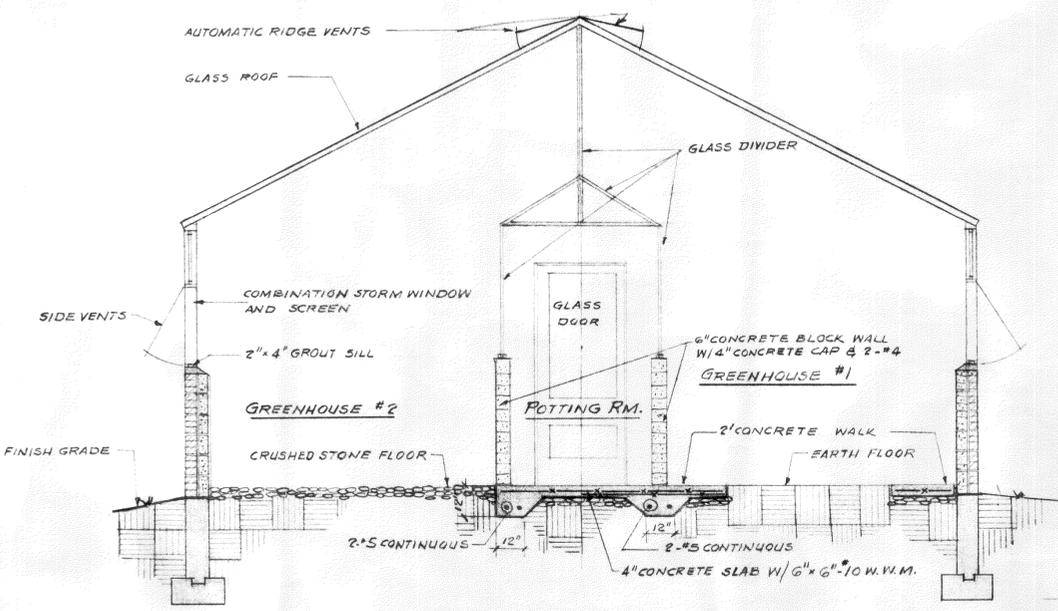
DOOR SCHEDULE							
MARK	TYPE	WIDTH	HEIGHT	THICK	DOOR MAT'L.	FRAME MAT'L.	REMARKS
①	SCREEN	3'-0"	6'-8"	-	ALUM.	WD.	FIBERGLASS SCREEN W/CLOSURE
②	SCREEN	3'-0"	6'-8"	-	ALUM.	WD.	FIBERGLASS SCREEN W/CLOSURE
③	SOLID CORE, FLUSH, WOOD W/D.H. WINDOW	3'-0"	6'-8"	1 3/4"	WD.	WD.	ALUM. THRESHOLD CLOSURE
④	GLASS DOOR	-	BY GREENHOUSE MANUF.				
⑤	GLASS DOOR	-	BY GREENHOUSE MANUF.				
⑥	SOLID CORE, FLUSH, WOOD W/FIXED CLEAR GLASS WINDOW	3'-0"	6'-8"	1 3/4"	WD.	WD.	CLOSURE
⑦	HOLLOW CORE, FLUSH, WOOD	3'-0"	6'-8"	1 3/4"	WD.	WD.	
⑧	HOLLOW CORE, FLUSH, WOOD	2'-6"	6'-8"	1 3/4"	WD.	WD.	
⑨	SOLID CORE, FLUSH, WOOD W/FIXED CLEAR GLASS WINDOW	3'-0"	6'-8"	1 3/4"	WD.	WD.	CLOSURE
⑩	SCREEN	3'-0"	6'-8"	-	ALUM.	WD.	FIBERGLASS SCREEN W/CLOSURE

WINDOW SCHEDULE					
MARK	WIDTH	HEIGHT	MAT'L.	WINDOW HEAD HT.	REMARKS
W-1	4'-5"	3'-3"	ALUMINUM	7'-3"	AWNING, THERMO PANE WITH SCREEN
W-2	4'-5"	3'-3"	DO	DO	THERMO PANE, FIXED AND SEALED
INS. RM.	FIBERGLASS SCREENING				



SECTION A-A
SCALE: 3/8" = 1'-0"

SECTION B-B
SCALE: 3/8" = 1'-0"



SECTION C-C
SCALE: 3/8" = 1'-0"

SEE SHEET #07 FOR LARGE SCALE DETAIL (TYPICAL ROOFING DETAIL)

REV.	BY	DATE

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
ADMINISTRATIVE SERVICES DIVISION
WASHINGTON, D. C.

HEADHOUSE - GREENHOUSES
WITH ATTACHED INSECTARY FOR
USDA. ENTOMOLOGY RESEARCH DIVISION
WOOSTER, OHIO.

FLOOR PLAN, SECTIONS AND SCHEDULES

PROJ. LEADER	DRAWN BY	TRACED BY	DATE
R.S. LEVIN	L. TABAJDY		5-5-67

CHECKED BY	ARCH.	STRUCT.	ELECT.	MECH.
R. LEVIN	R. LEVIN			

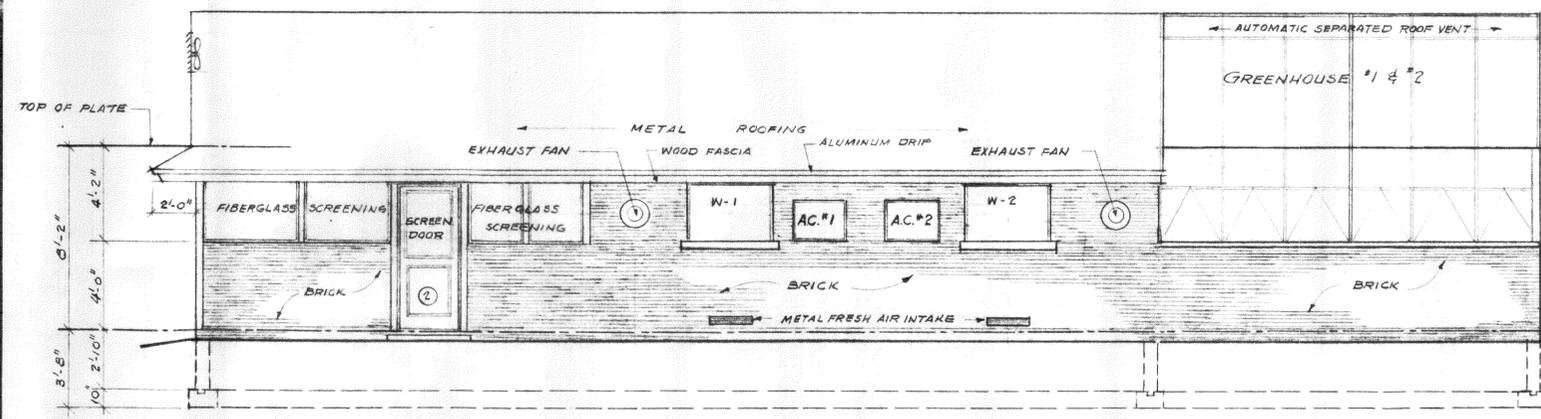
RECOM. FOR APPR. _____

APPROVED _____ CHIEF, R.P.M.B.

SCALE AS NOTED SHEET 2 OF 8

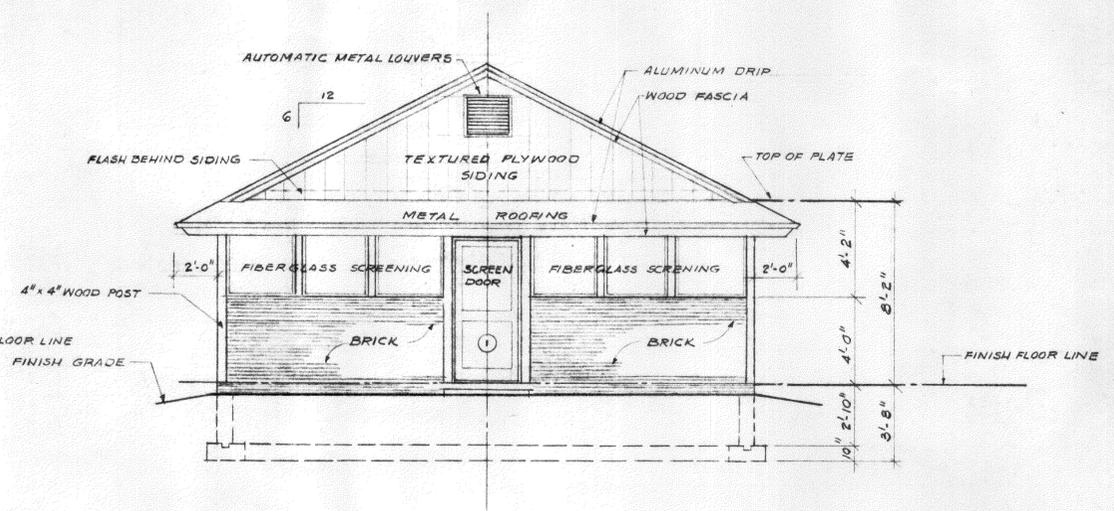
BID INVITATION NO. ARS-71-B-67 DRAWING NO. ENT. 67-12-02

Bid Option 2



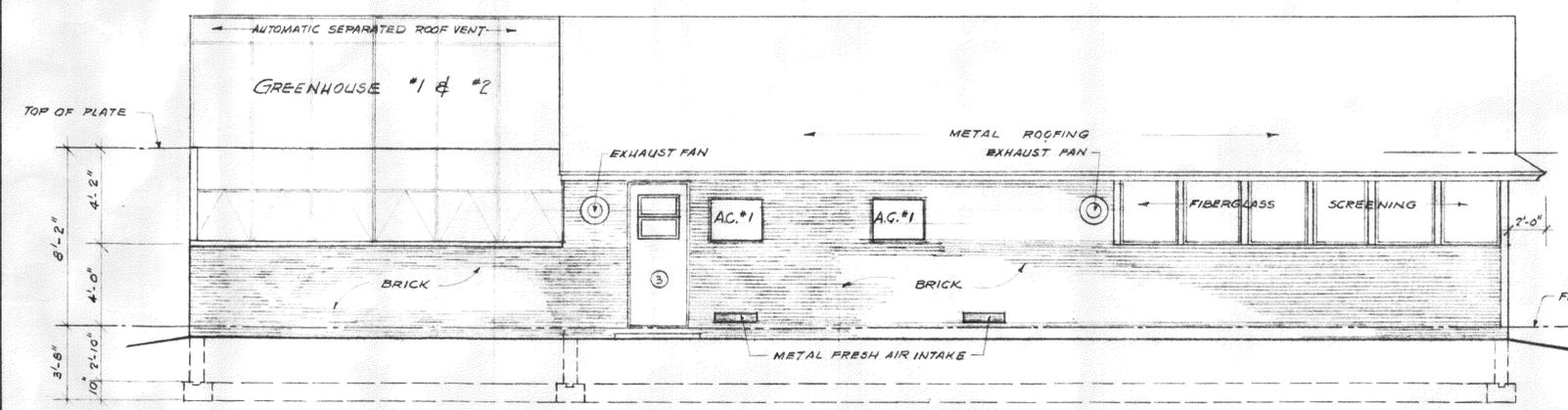
WEST ELEVATION

SCALE: 1/4" = 1'-0"



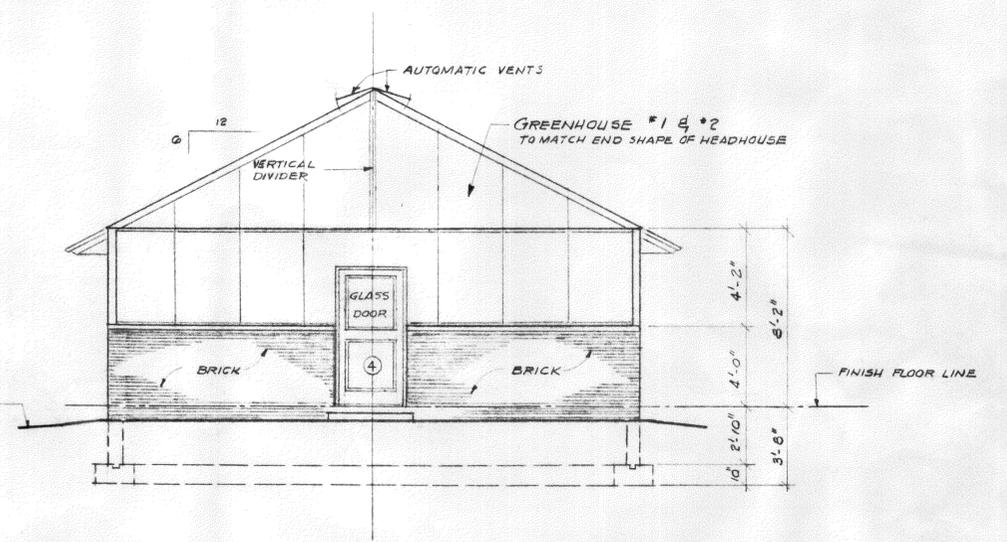
NORTH ELEVATION

SCALE: 1/4" = 1'-0"



EAST ELEVATION

SCALE: 1/4" = 1'-0"

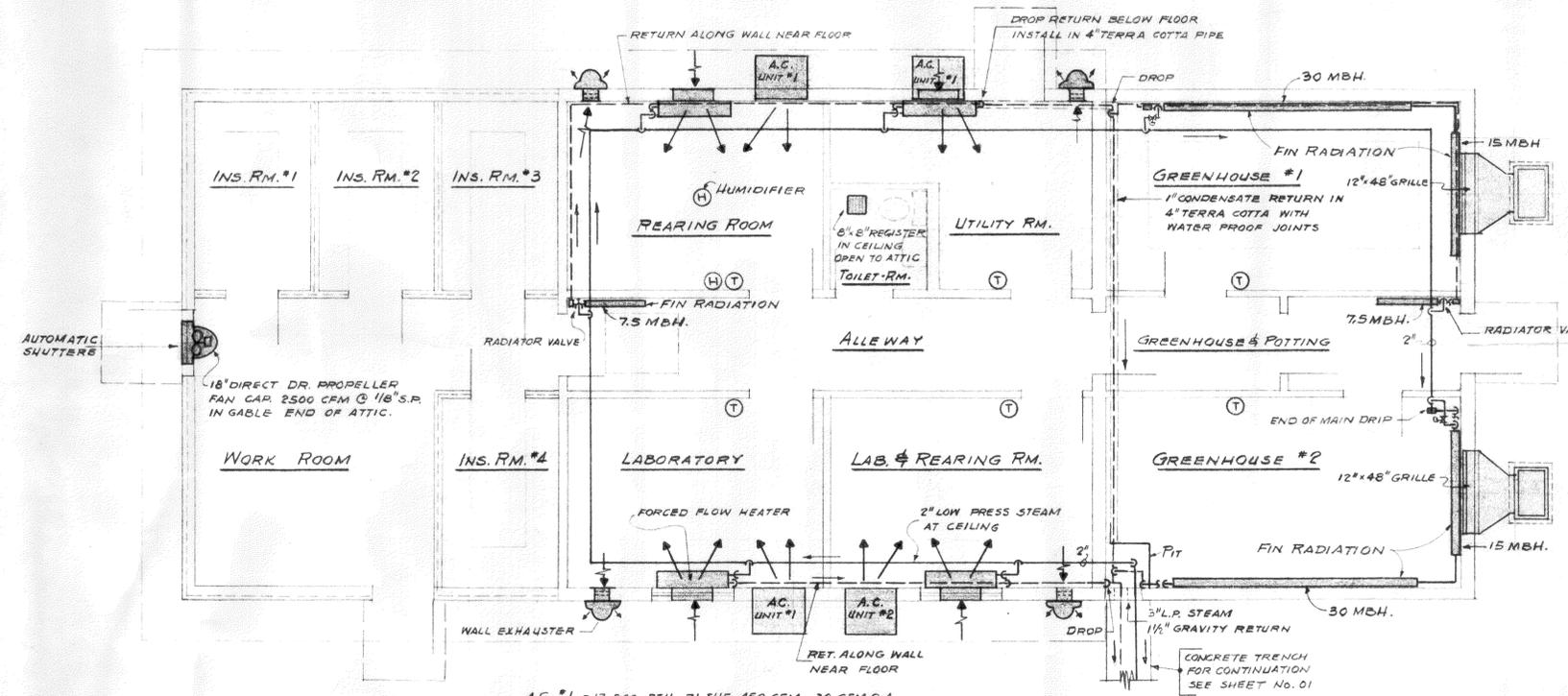


SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
HEADHOUSE - GREENHOUSES WITH ATTACHED INSECTARY FOR USDA CROPS RESEARCH DIVISION WOOSTER, OHIO.		
ELEVATIONS.		
PROJ. LEADER	DRAWN BY	TRACED BY
R.S. LEVIN	L. TABAJDY	
CHECKED BY	ARCH.	STRUCT.
R.S. LEVIN	R.S. LEVIN	
RECOM. FOR APPR.	APPROVED	
	CHIEF, R.P.M.B.	
BID INVITATION NO.	SCALE	DRAWING NO.
ARS-71-B-67	AS NOTED	ENT. 67-12-03
SHEET 3 OF 8		

Bid Option 2

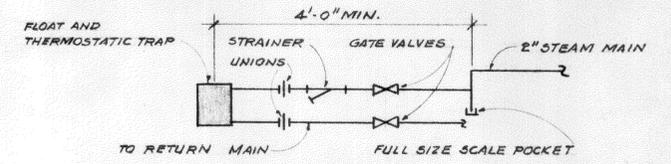


A.C. #1 - 13,500 BTU. .71 SHF. 450 CFM. 30 CFM O.A.
 A.C. #2 - 19,500 BTU. .66 SHF. 465 CFM. 30 CFM O.A.

MECHANICAL

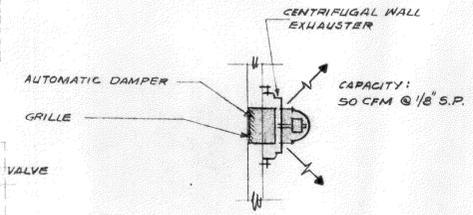
SCALE: 1/4" = 1'-0"

NOTES:
 1) PITCH STEAM SUPPLY & RETURN LINES
 1" IN 40' MIN. IN DIRECTION OF ARROWS.



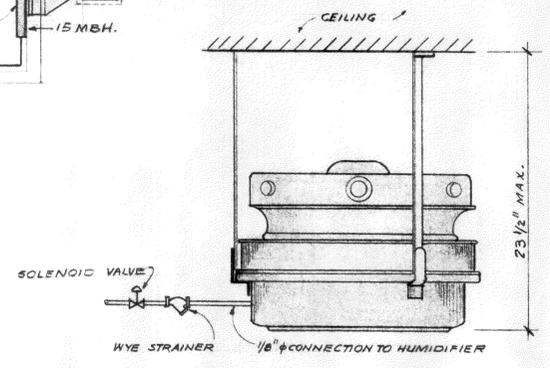
DRIP CONNECTION AT END OF STEAM MAIN

N.T.S.



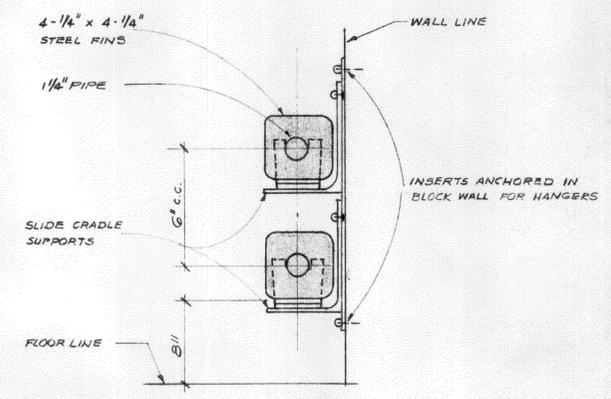
WALL EXHAUSTER DETAIL

N.T.S.



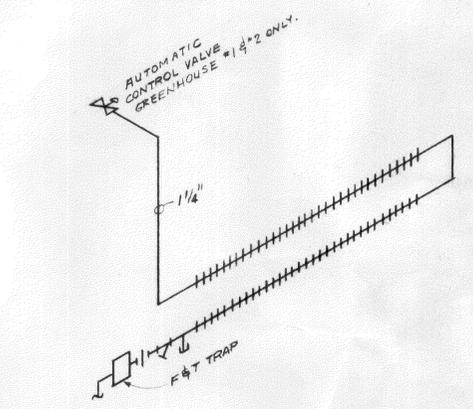
DETAIL - ROOM TYPE HUMIDIFIER MOUNTING & PLUMBING CONNECTION

N.T.S.



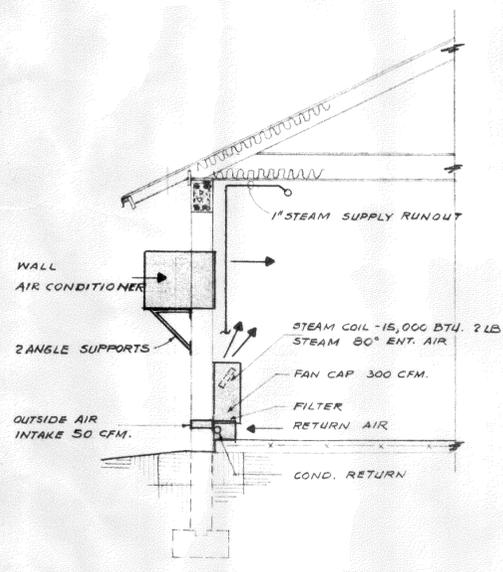
FINNED RADIATION MOUNTING DETAIL

N.T.S.



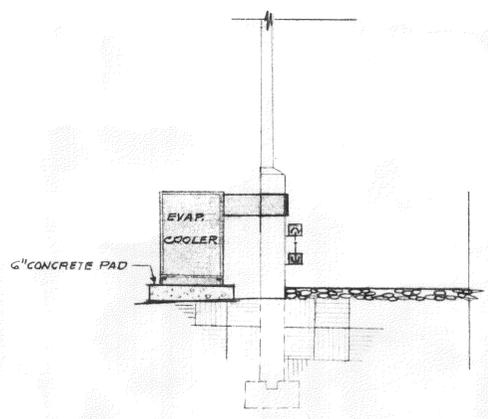
TYPICAL GREENHOUSE HEATING

N.T.S.



TYPICAL INSTALLATION OF AIR COND. & FORCED FLOW HEATER

N.T.S.



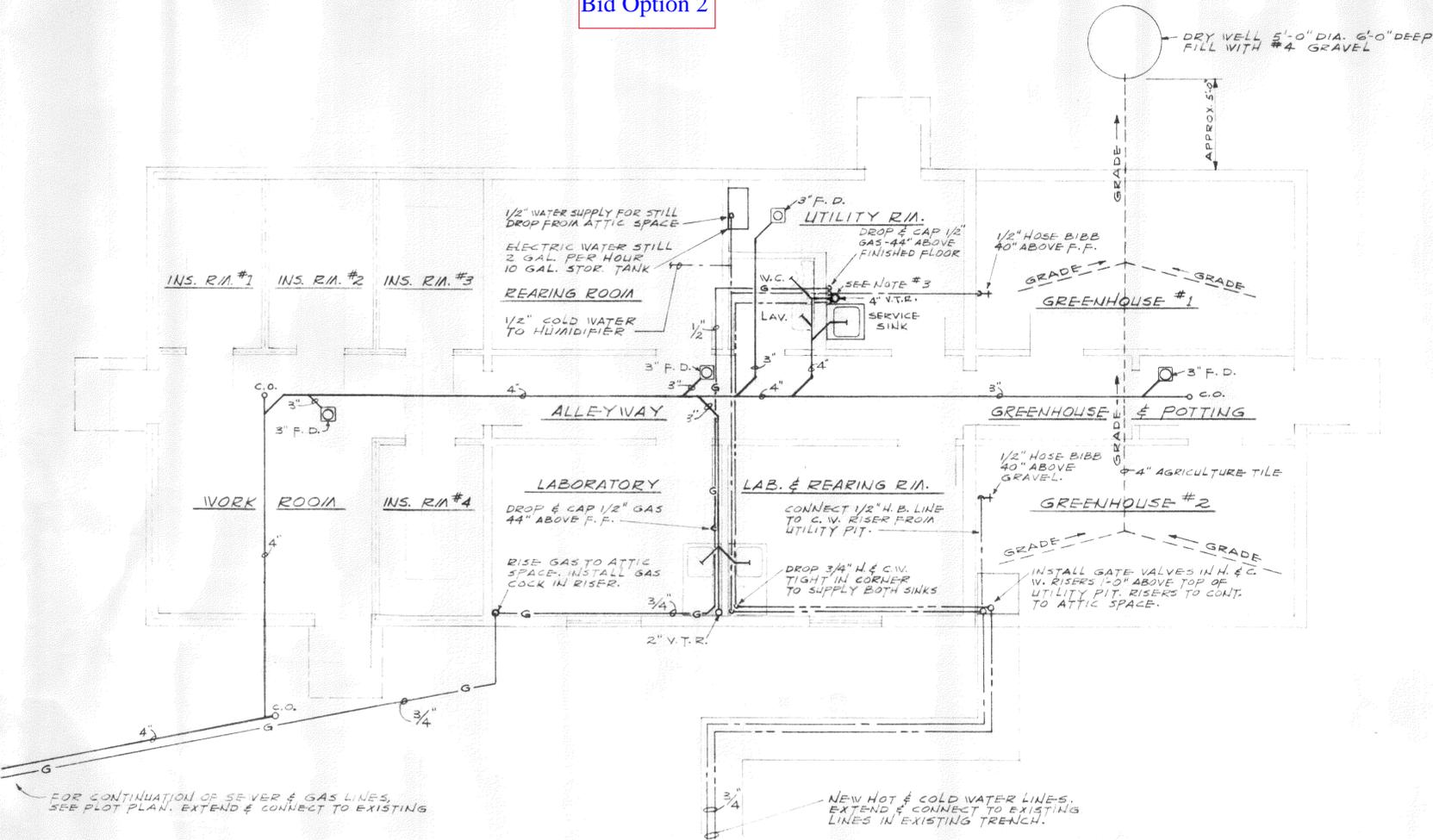
TYPICAL INSTALLATION OF EVAPORATIVE COOLER

N.T.S.

REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
HEADHOUSE - GREENHOUSES WITH ATTACHED INSECTARY FOR USDA ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO.		
MECHANICAL		
PROJ. LEADER	DRAWN BY	TRACED BY
R.S. LEVIN	L. TABAJDY	
CHECKED BY	ARCH.	STRUCT.
R. LEVIN		
RECOM. FOR APPR.		
APPROVED		CHIEF, R.P.M.B.

BID INVITATION NO. ARS-71-B-67
 SCALE: As NOTED
 SHEET 4 of 8
 DRAWING NO. ENT. 67-12-04

Bid Option 2



SYMBOLS

- SANITARY SEWER LINE
- C.W. COLD WATER
- H.W. HOT WATER
- 4" AGRICULTURE TILE
- G — GAS
- ⊗ F.D. FLOOR DRAIN
- ⊙ W.C. WATER CLOSET
- LAV. LAVATORY
- FF FINISHED FLOOR
- H.B. HOSE BIBB
- V.T.R. VENT THRU ROOF
- C.O. CLEAN OUT
- W/O WITHOUT

NOTES:

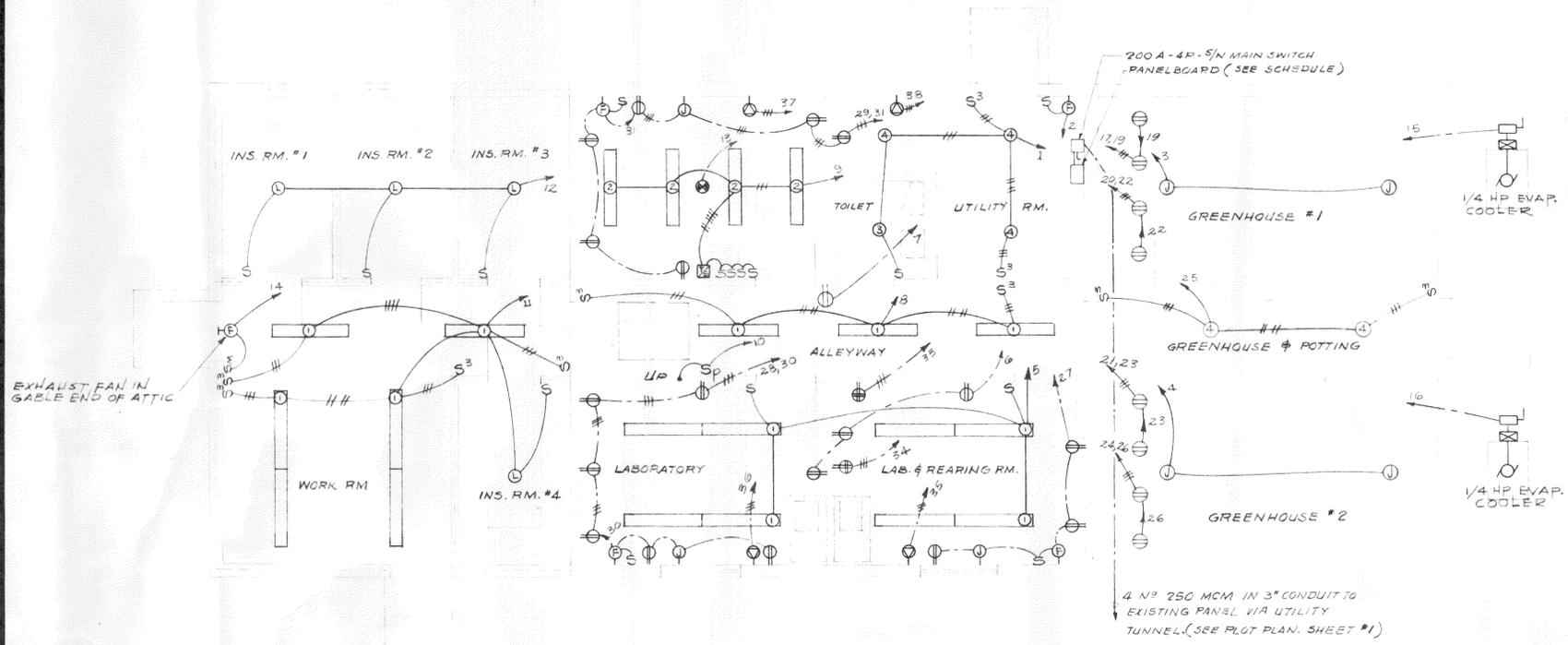
1. ALL HOT & COLD WATER & GAS MAINS SHALL BE INSTALLED IN ATTIC SPACE & DROPPED AT ALL FIXTURES & EQUIPMENT. KEEP WATER LINES & GAS LINE GROUPED TOGETHER ALLOWING SPACE ENOUGH ONLY FOR INSULATION. RUN PIPE IN PARALLEL LINES, PARALLEL TO BUILDING WALLS.
2. ALL HOT AND COLD WATER LINES IN ATTIC SPACE TO BE 3/4".
3. DROP 3/4" HOT & COLD WATER LINES HERE. ALL SUPPLY LATERALS TO BE 1/2". SUPPLY WATER CLOSET & LAVATORY BY STUBBING SUPPLIES THROUGH WALL. SERVICE SINK SUPPLIES ARE TO BE RUN EXPOSED.
4. INSTALL GAS DROPS EXPOSED AT WALLS.

FIXTURE SCHEDULE				
FIXTURE	H.W.	C.W.	WASTE	REMARKS
W.C.	—	1/2"	4"	
LAV.	1/2"	1/2"	1-1/2"	
SINKS	1/2"	1/2"	1-1/2"	
SER. SINK	1/2"	1/2"	1-1/2"	W/O RINGUARD

FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
HEADHOUSE - GREENHOUSE WITH ATTACHED INSECTARY FOR USDA. ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO		
PLUMBING PLAN AND DETAILS		
PROJ. LEADER	DRAWN BY	TRACED BY DATE
R.S. LEVIN.	M. BULLOCK	5-5-67
CHECKED BY	ARCH.	STRUCT. ELECT. MECH.
		J.S.W.
RECOM. FOR APPR.		
APPROVED <i>[Signature]</i>		CHIEF, R.P.M.B.
SCALE: AS NOTED		
BID INVITATION NO. ARS-71-B-67		DRAWING NO. ENT. 67-12-05
SHEET 5 OF 8		

Bid Option 2



FIRST FLOOR PLAN SCALE: 1/4" = 1'-0"

SYMBOLS

- CEILING OUTLET, FLUORESCENT FIXTURE
- CEILING OUTLET, INCANDESCENT FIXTURE
- ⊙ CEILING OUTLET WITH PORCELAIN LAMP RECEPTACLE, 1-100 W LAMP
- ⊙ HUMIDIFIER OUTLET IN CEILING
- WALL OUTLET, INCANDESCENT FIXTURE
- ⊙ DUPLEX RECEPTACLE
- ⊙ DUPLEX RECEPTACLE, CEILING MOUNTED, TWIST-LOCK
- ⊙ SINGLE RECEPTACLE 3W-15A - 125 VOLTS
- ⊙ SINGLE RECEPTACLE 20A, 250 VOLTS - 3WIRE
- ⊙ EXHAUST FAN OUTLET
- MOTOR OUTLET
- ⊙ JUNCTION BOX, SIZE AS REQUIRED (UP 3'-6")
- S SINGLE POLE SWITCH
- S³ THREE WAY SWITCH
- S⁴ FOUR WAY SWITCH
- S_{sp} SINGLE POLE SWITCH & PILOT LIGHT COMBINATION
- S_m MOTOR RATED SWITCH (48"UP)
- ⊙ SAFETY TYPE DISCONNECT SWITCH
- ⊙ MOTOR CONTROLLER
- ⊙ TIME SWITCH

SCHEDULE OF PANELBOARD:

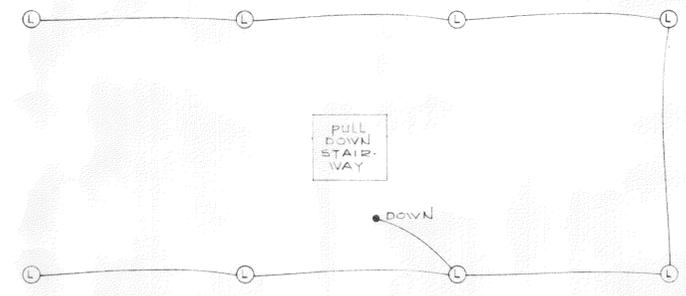
- 3 PHASE, 4 WIRE, 120/208 VOLTS, 225 A M.L.C.
- 32 - 1P - 20 A CIRCUIT BREAKERS (1 THRU 32)
- 6 - 2P - 20 A CIRCUIT BREAKERS (33 THRU 38)

LIGHTING FIXTURES:

- ① MILLER CAT. #DA-2100-04 WITH 2-40 W RS LAMPS.
- ② MILLER CAT. #DB-4100-04 WITH 4-40 W RS LAMPS.
- ③ PRESCOLITE CAT. #7810 WITH 2-60 W LAMPS.
- ④ MILLER CAT. #AE-3041 WITH 1-150 W LAMP.
- ⑤ PRESCOLITE CAT. #WB-2 WITH 1-100 W LAMP.
- ⑥ CURTIS ELECTRO CAT. #P-10340-RS WITHOUT LAMPS.

NOTES:

- 1 ALL FLUORESCENT FIXTURES ARE TYPE 1, UNLESS OTHERWISE SHOWN.

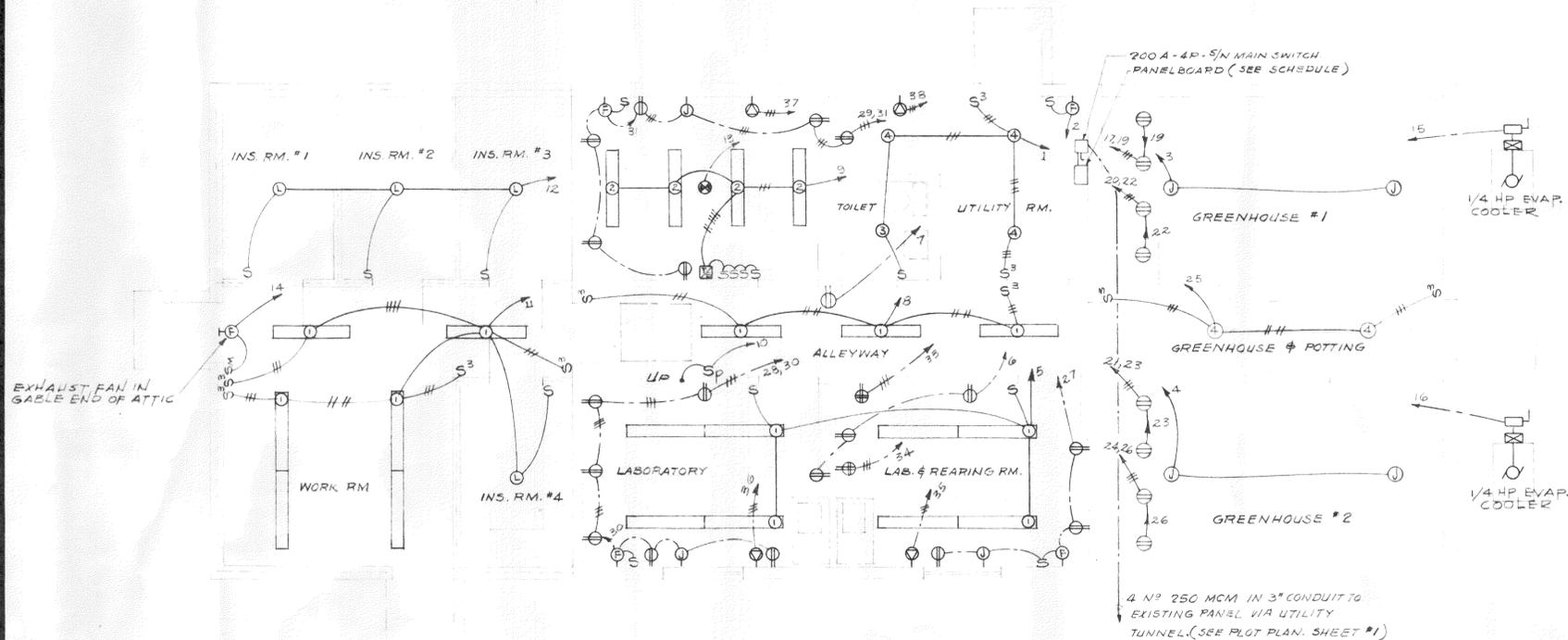


ATTIC PLAN SCALE: 1/4" = 1'-0"

REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
HEADHOUSE - GREENHOUSES WITH ATTACHED INSECTARY FOR USDA ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO.		
ELECTRICAL PLANS AND DETAILS.		
PROJ. LEADER R.S. LEVIN	DRAWN BY L.TABAJDY	TRACED BY DATE 5-5-67
CHECKED BY E.S. LEVIN	ARCH.	STRUCT. ELECT. MECH.
RECOM. FOR APPR.	APPROVED	
	CHIEF, R.P.M.B.	

BID INVITATION NO. ARS-71-B-67	SCALE As NOTED	SHEET 6 OF 8	DRAWING NO. EN 7. 67-12-06
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Bid Option 2



FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

SYMBOLS

- CEILING OUTLET, FLUORESCENT FIXTURE
- CEILING OUTLET, INCANDESCENT FIXTURE
- ⊙ CEILING OUTLET WITH PORCELAIN LAMP RECEPTACLE, 1-100 W LAMP
- ⊙ HUMIDIFIER OUTLET IN CEILING
- WALL OUTLET, INCANDESCENT FIXTURE
- ⊙ DUPLEX RECEPTACLE
- ⊙ DUPLEX RECEPTACLE, CEILING MOUNTED, TWIST-LOCK
- ⊙ SINGLE RECEPTACLE 3W-15A - 125 VOLTS
- ⊙ SINGLE RECEPTACLE 20A, 250 VOLTS - 3WIRE
- ⊙ EXHAUST FAN OUTLET
- ⊙ MOTOR OUTLET
- ⊙ JUNCTION BOX, SIZE AS REQUIRED (UP 3'-6")
- S SINGLE POLE SWITCH
- S³ THREE WAY SWITCH
- S⁴ FOUR WAY SWITCH
- S_{PL} SINGLE POLE SWITCH & PILOT LIGHT COMBINATION
- S_M MOTOR RATED SWITCH (48"UP)
- ⊙ SAFETY TYPE DISCONNECT SWITCH
- ⊙ MOTOR CONTROLLER
- ⊙ TIME SWITCH

SCHEDULE OF PANELBOARD:

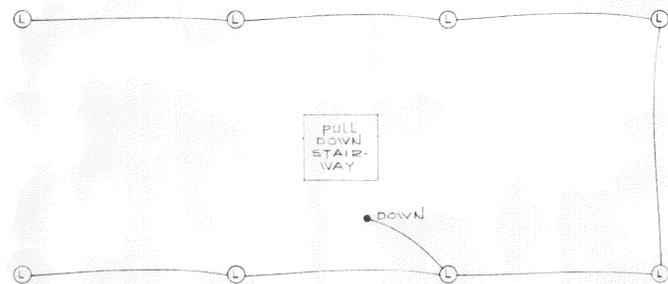
- 3 PHASE, 4 WIRE, 120/208 VOLTS, 225 A M.L.C.
- 32 - 1P - 20 A CIRCUIT BREAKERS (1 THRU 32)
- 6 - 2P - 20 A CIRCUIT BREAKERS (33 THRU 38)

LIGHTING FIXTURES:

- ① MILLER CAT. #DA-2100-04 WITH 2-40 W RS LAMPS.
- ② MILLER CAT. #DB-4100-04 WITH 4-40 W RS LAMPS.
- ③ PRESCOLITE CAT. #7810 WITH 2-60 W LAMPS.
- ④ MILLER CAT. #AE-3041 WITH 1-150 W LAMP.
- ⑤ PRESCOLITE CAT. #WB-2 WITH 1-100 W LAMP.
- ⑥ CURTIS ELECTRO CAT. #P-10340-RS WITHOUT LAMPS.

NOTES:

- 1 ALL FLUORESCENT FIXTURES ARE TYPE 1, UNLESS OTHERWISE SHOWN.



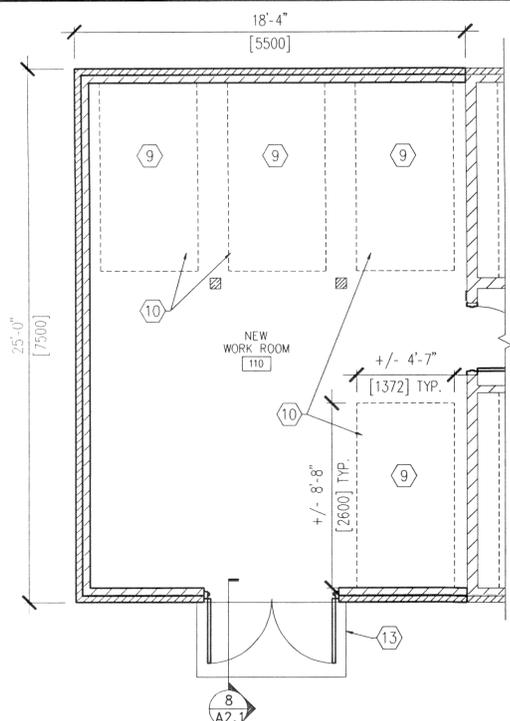
ATTIC PLAN

SCALE: 1/4" = 1'-0"

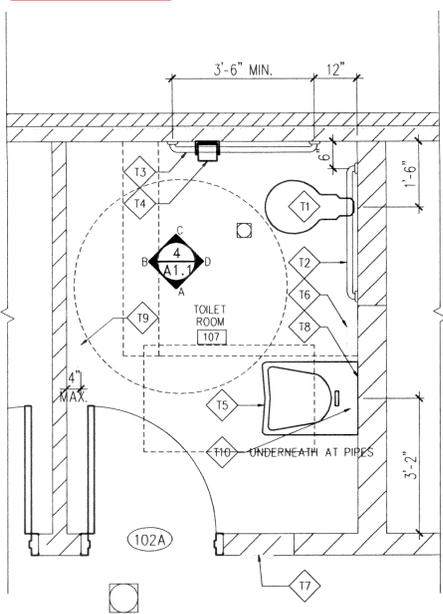
REV.	BY	DATE
U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE ADMINISTRATIVE SERVICES DIVISION WASHINGTON, D. C.		
HEADHOUSE - GREENHOUSES WITH ATTACHED INSECTARY FOR USDA. ENTOMOLOGY RESEARCH DIVISION WOOSTER, OHIO.		
ELECTRICAL PLANS AND DETAILS.		
PROJ. LEADER R.S. LEVIN	DRAWN BY L.TABAJDY	TRACED BY DATE 5-5-67
CHECKED BY E.S. LEVIN	ARCH.	STRUCT. ELECT. MECH.
RECOM. FOR APPR.	APPROVED	
	CHIEF, R.P.M.B.	

BID INVITATION NO. ARS-71-B-67	SCALE As NOTED	SHEET 6 OF 8	DRAWING NO. EN 7. 67-12-06
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Bid Option 2



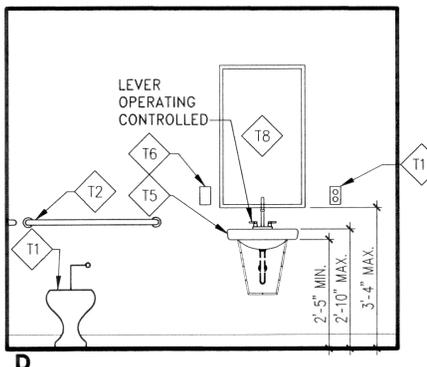
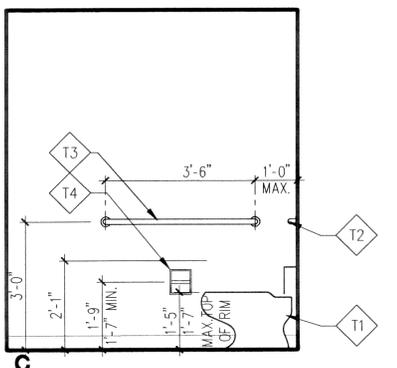
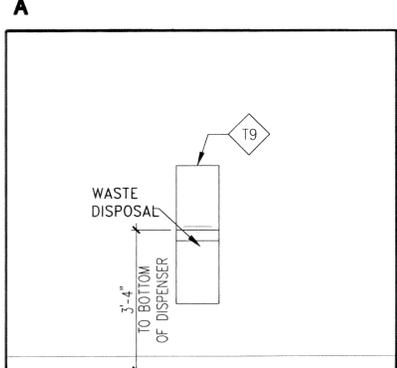
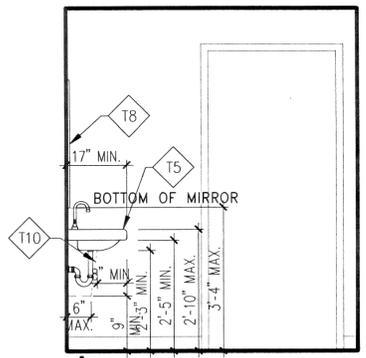
2 FLOOR SLAB PLAN
1/4" = 1'-0"



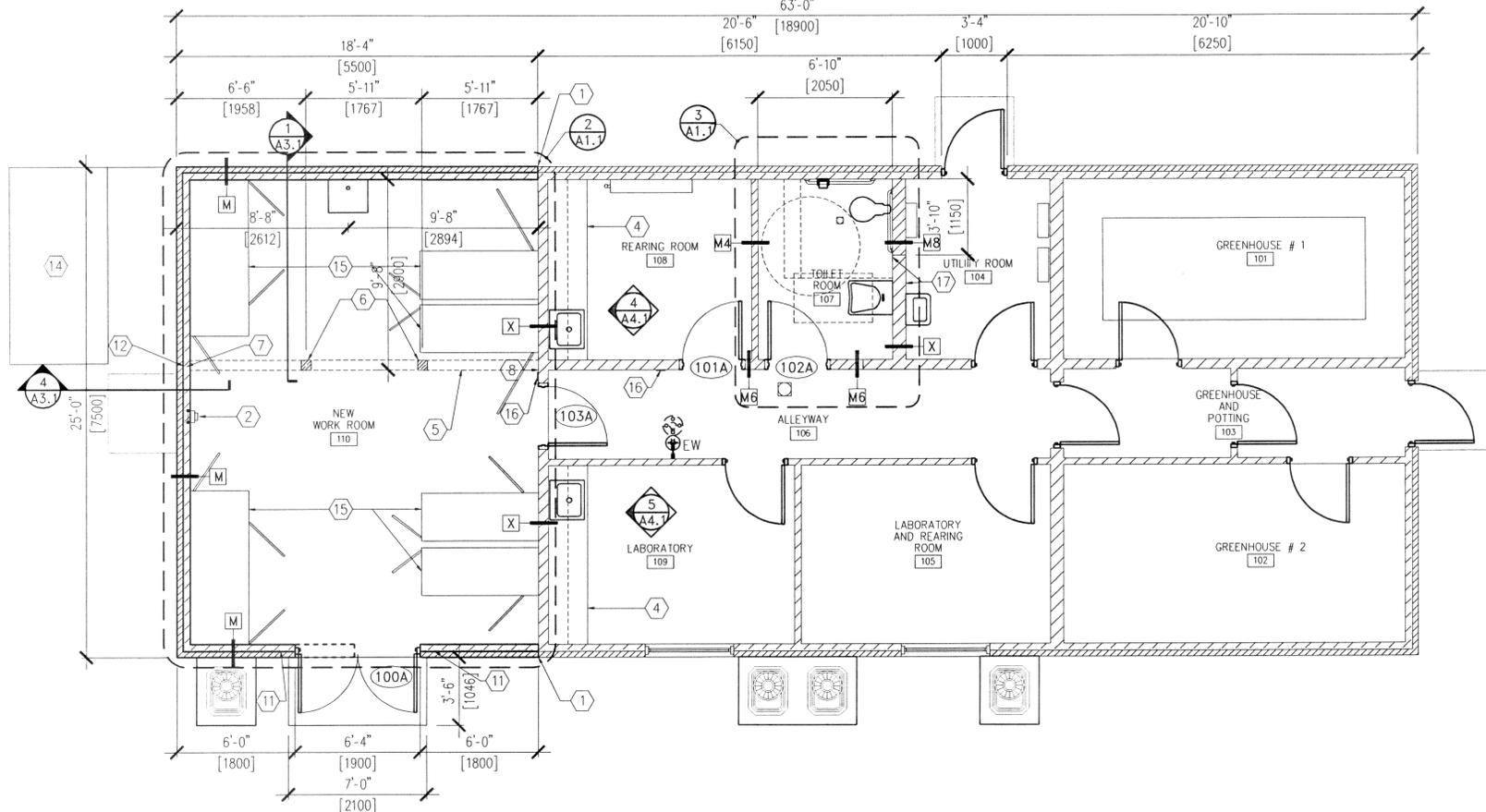
3 ENLARGED TOILET ROOM PLAN
1/2" = 1'-0"

TOILET PLAN KEY NOTES:

- T1 TOILET - ADA APPROVED TOILET HEIGHT SHALL BE 17" TO 19" TO TOP OF SEAT.
- T2 36"W GRAB BAR - MOUNTED 33"-36" A.F.F. 1 1/2" DIAMETER. ADA APPROVED.
- T3 42"W GRAB BAR - MOUNT 33"-36" A.F.F. 1 1/2" DIAMETER. ADA APPROVED.
- T4 TOILET PAPER DISPENSER MOUNTED 19" A.F.F. TO CENTER OF DISPENSER
- T5 WALL MOUNTED SINK ADA APPROVED MOUNTING HTG. WITH CLEAR SPACE BELOW SINK OF 29" AND 34" AT TOP OF RIM. PIPES BELOW TO BE INSULATED. FAUCET LEVERS SHALL BE A.D.A. APPROVED.
- T6 SOAP DISPENSER
- T7 A.D.A. ROOM IDENTIFICATION SIGNAGE SHALL BE MOUNTED ON WALL ADJACENT TO LATCH SIDE OF DOOR, 60" A.F.F. TO CENTER OF SIGN
- T8 24" x 30" MIRROR, BOTTOM EDGE MOUNTED AT 40" A.F.F., CENTERED ABOVE SINK.
- T9 PAPER TOWEL DISPENSER - MOUNTED AT 40" A.F.F.
- T10 PIPE COVER
- T11 G.F.I. DUPLEX OUTLET



4 TOILET ROOM ELEVATIONS
1/2" = 1'-0"



1 FLOOR PLAN
1/4" = 1'-0"

KEY NOTES

- 1 KEY-IN NEW 4" BRICK AND 4" CONCRETE BLOCK, MATCH EXISTING BRICK, BLOCK AND MORTAR FOR A SMOOTH TRANSITION.
- 2 FIRE EXTINGUISHER AND CABINET, SEE 5/A2.1.
- 3 NOT USED
- 4 NEW CASEWORK AND COUNTERTOP; SEE 4 & 5 / A4.1.
- 5 PROVIDE NEW BEAM = 4x8 CONTINUOUS. SPECIES = SOUTHERN PINE OR APPROVED EQUIVALANT WITH THE FOLLOWING MIN. PROPERTIES:
Fb = 1400 PSI
Fv = 90 PSI
F perp = 660 PSI
Fc = 1700 KSI
- 6 PROVIDE NEW 4x4 WOOD COLUMNS. SPECIES PER KEYNOTE 5. CONNECT COLUMN PER DETAIL 6/A3.1.
- 7 PROVIDE 3 5/8" BEARING OF 4x8 BEAM ON NEW BLOCK WALL. MORTAR TIGHT AROUND BEAM.
- 8 PROVIDE 5" MIN. BEARING OF 4x8 BEAM ON EXISTING 6" MASONRY WALL. GROUT 2 COURSES HIGH x 8 INCHES WIDE SOLID UNDER THE BEARING LOCATION. MORTAR TIGHT AROUND BEAM.
- 9 EXISTING GRAVEL FLOOR TO BE REPLACED WITH CONCRETE SLAB. SEE NOTE 10.
- 10 4" CONCRETE SLAB OVER 4" COMPACTED DRAINAGE COURSE. PROVIDE VAPOR BARRIER DIRECTLY UNDER SLAB. PROVIDE 6x6 W2.9x W2.9 WWF
PLACE 1/4" BITUMINOUS JOINT FILLER AGAINST ALL EXISTING CONCRETE. "RAKE" OUT TOP 1" OF FILLER AND FILL WITH AN APPROVED SEALANT.
- 11 START VERTICAL WALL REINFORCING 2" FROM END OF LINTEL - TYPICAL.
- 12 PROVIDE ONE ADDITIONAL VERTICAL REINFORCING BAR AT BEAM BEARING LOCATION.
- 13 PROVIDE CONCRETE STOOP AT DOOR.
- 14 CONCRETE PAD, SEE AS.1.
- 15 GROWTH CHAMBER UNITS NOT IN CONTRACT
- 16 AUTOMATIC DOOR OPENER
- 17 REPAIR FLOOR FINISHES AND BASE AT ROOMS 104 & 108 AT NEW WALLS.

PARTITION TYPES

- X - EXISTING WALL TO REMAIN. PATCH AND REPAINT.
- M - NEW 8" MASONRY WALL; SEE 1/A3.1.
- M4 - NEW 4" INTERIOR CMU WALL; SEE A2.1.
- M6 - NEW 6" INTERIOR CMU WALL TO MATCH AND ALIGN WITH EXISTING ADJACENT CONSTRUCTION. SEE A2.1.
- M8 - NEW 8" INTERIOR CMU WALL TO MATCH AND ALIGN WITH EXISTING ADJACENT CONSTRUCTION. SEE A2.1.

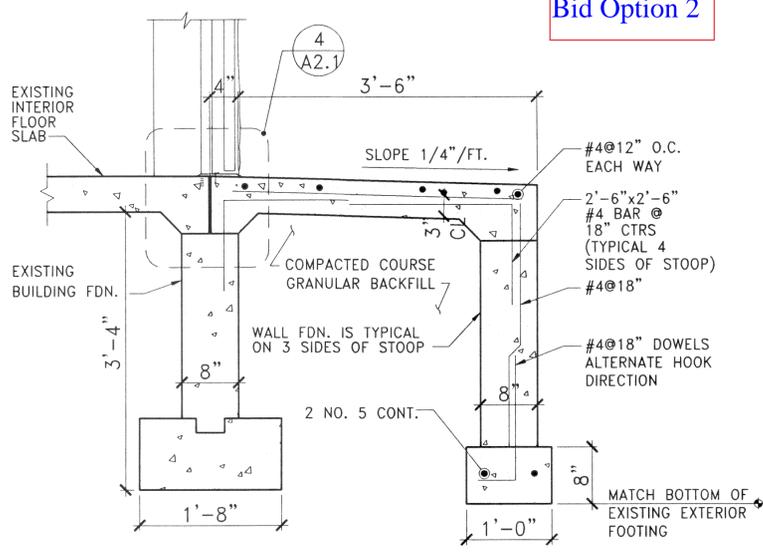
GENERAL NOTES

- 1. CONTRACTOR SHALL COORDINATE WORK AND ESTABLISH CONSTRUCTION SCHEDULES.
- 2. ALL WORK SHALL BE PERFORMED AND COMPLETED IN COMPLIANCE WITH APPLICABLE BUILDING CODES AND ORDINANCES.
- 3. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. ANY AND ALL DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
- 4. ALL CONTRACTORS SHALL COORDINATE THEIR WORK WITH THAT OF ALL OTHER TRADES SO AS TO INSURE PROPER SEQUENCING AND INSTALLATION.
- 5. CONTRACTORS SHALL COMPLY WITH MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF ALL WORK.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL CONSTRUCTION DEBRIS FROM THE PREMISES.
- 7. CLEANING: REMOVE FROM PREMISES RUBBISH AND ACCUMULATED MATERIALS AND LEAVE WORK IN CLEAN, ORDERLY, AND ACCEPTABLE CONDITION.
- 8. SEE MECHANICAL, PLUMBING, AND STRUCTURAL DRAWINGS FOR LOCATIONS / SIZES OF REQUIRED FLOOR DEPRESSIONS, DRAINS, ETC.
- 9. GENERAL CONTRACTOR TO PROVIDE OPENINGS AND LINTELS IN WALLS FOR MECHANICAL AND ELECTRICAL WORK. SEE MECHANICAL, PLUMBING, AND STRUCTURAL DRAWINGS. VERIFY EXACT LOCATIONS / SIZES WITH RESPECTIVE CONTRACTOR. PROVIDE ALL LINTELS, ETC.
- 10. GENERAL CONTRACTOR SHALL PROVIDE RECESSES, ETC., REQUIRED FOR ELECTRICAL PANELS. VERIFY SIZES AND LOCATIONS AND TYPES OF PANELS WITH ELECTRICAL CONTRACTOR.
- 11. PROVIDE FIRESTOPPING AT ALL PENETRATIONS THROUGH INTERIOR AND EXTERIOR RATED WALLS.

USDA No. 53-3K15-9-9131			
S-H No. 603183-0		11/01/05 AS-BUILTS	
		NO.	DATE
		BY	DESCRIPTION
REVISIONS			
A-E FIRM		USDA	
PROJECT MANAGER		EPM	
G. GERDES			
DESIGNER		PPM	
TDL		R. BERGOLC	
CHECKED BY		SAFETY & HEALTH	
TDL		SOLICITATION NO.	
DRAWN BY		53-3K15-9-9131	
AJG		DATE	
		11/01/05	
		INSECTARY RENOVATION O.A.R.D.C.	
		1505 Payne Drive, Bldg 433 Wooster, Ohio	
		DWG. NO.	
		A11	
		SHEET 004 OF 012	

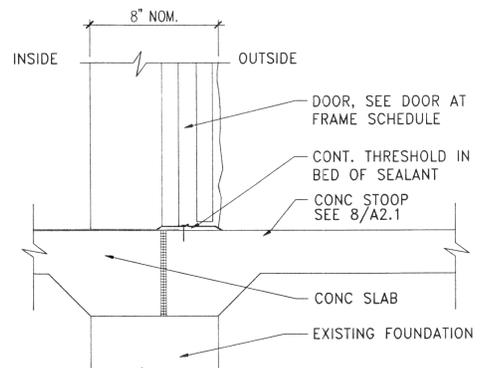


Bid Option 2

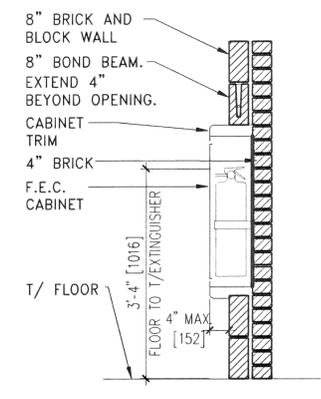


NOTES:
1. SEE FLOOR PLAN FOR STOOP WIDTH.

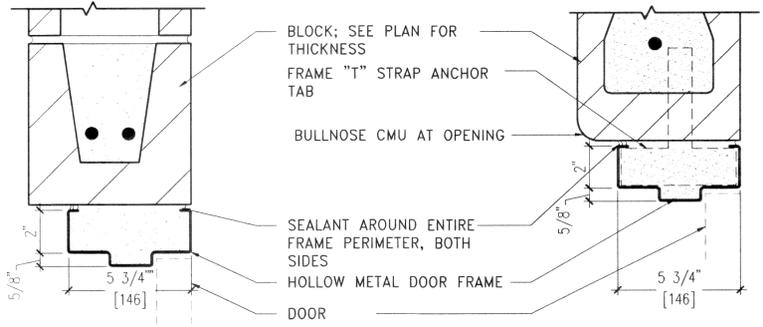
8 TYPICAL DETAIL AT DOOR STOOPS
1"=1'-0"



4 SILL AT DOOR
1 1/2"=1'-0"

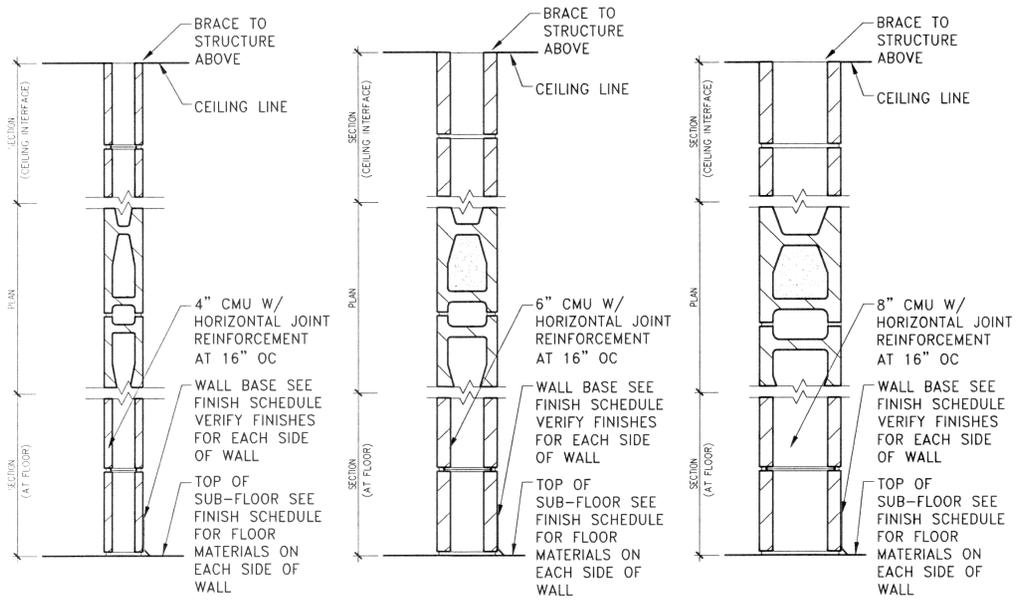


5 FIRE EXTINGUISHER CABINET SECTION
3/4"=1'-0"



9 TYPICAL HM DOOR FRAME HEAD
3"=1'-0"

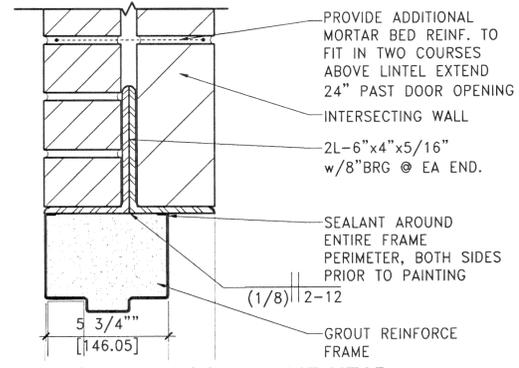
10 TYP. HM DOOR FRAME JAMB
3"=1'-0"



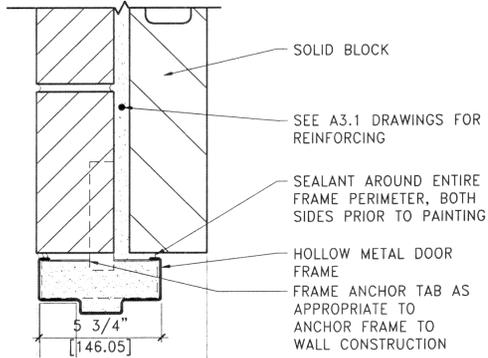
PARTITION TYPE M4
1 1/2"=1'-0"

PARTITION TYPE M6
1 1/2"=1'-0"

PARTITION TYPE M8
1 1/2"=1'-0"



6 TYPICAL HM DOOR FRAME HEAD
3"=1'-0"



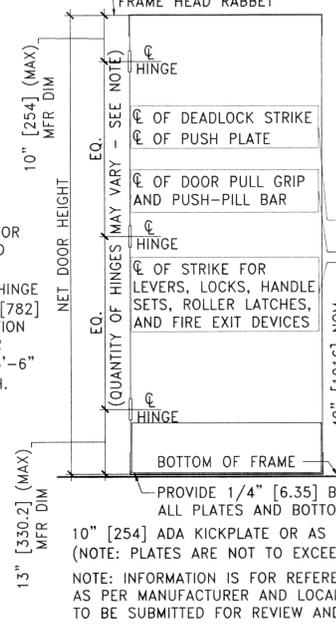
7 TYPICAL HM DOOR FRAME JAMB
3"=1'-0"

DOOR AND FRAME SCHEDULE										
DOOR NO.	SIZE	DOOR			FRAME			LABEL (MINS.)	HDWR GROUP	REMARKS
		TYPE	MTL	FINISH	TYPE	MTL	FINISH			
100A	(2) 3'-0" x 6'-8"	F	HM	PNT	B	HM	PNT	90	1	V.I.F. EXIST. FRAMES HGT. & COORDINATE
101A	3'-0" x 7'-0"	F	HM	PNT	B	HM	PNT		2	
102A	3'-0" x 7'-0"	F	HM	PNT	B	HM	PNT		3	
103A	3'-0" x 7'-0"	F	HM	PNT	B	HM	PNT		4	AUTOMATIC OPERATOR

ROOM FINISH SCHEDULE										
ROOM NO.	ROOM NAME	FLOOR	WALL	CEILING	SEALANT	RESILIENT BASE				
101	EXISTING GREENHOUSE 1									
102	EXISTING GREENHOUSE 2									
103	EXISTING GREENHOUSE & POTTING									
104	EXISTING UTILITY ROOM									
105	EXISTING LAB & REARING ROOM									
106	EXISTING ALLEYWAY									
107	TOILET ROOM									
108	EXISTING REARING ROOM									
109	EXISTING LABORATORY									
110	NEW WORK ROOM (BASE BID)									
110	NEW WORK ROOM (OPTION 1 *)									

ABBREVIATIONS:
HM - HOLLOW METAL (GALV)
AL - ALUMINUM
CA - CLEAR ANODIZED
WD - SOLID CORE WOOD
PNT - PAINTED

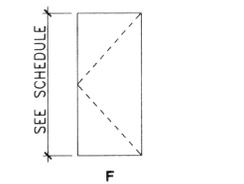
* PROVIDE SELF-LEVELING LATEX/CEMENTITIOUS COAT BELOW NEW VCT



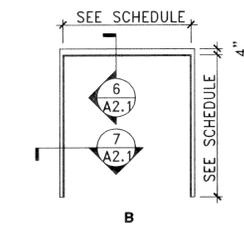
NOTE:
USE (3) HINGES FOR DOORS UP TO AND INCLUDING 7'-6" [2286], ADD (1) HINGE FOR EACH 2'-6" [782] IN HGT. OR FRACTION THEREOF AND FOR DOORS GREATER 3'-6" [1066.8] IN WIDTH.

* DOOR CLEARANCE: 1/8" [3.18] @ HEAD, JAMBS & THRESHOLDS; 1/4" [6.35] TO CARPET; 1/2" [12.7] TO FINISH FLOOR OTHER THAN CARPET
EXTEND DOOR OPENING JAMBS AND DOOR-DOOR MULS 1/8" [3.18] BELOW FINISH IS TO BE INSTALLED AFTER FRAME
SEE OPENING DETAILS FOR VARIATIONS
NOTE: ALL OPERATING HARDWARE SHALL BE MOUNTED BETWEEN 30" [762] AND 48" [1219.2] ABOVE FINISHED FLOOR UNLESS OTHERWISE DIRECTED BY APPLICABLE CODES

3 DOOR HARDWARE LOCATIONS AND CLEARANCES
3/4"=1'-0"



1 DOOR TYPES
1/4"=1'-0"

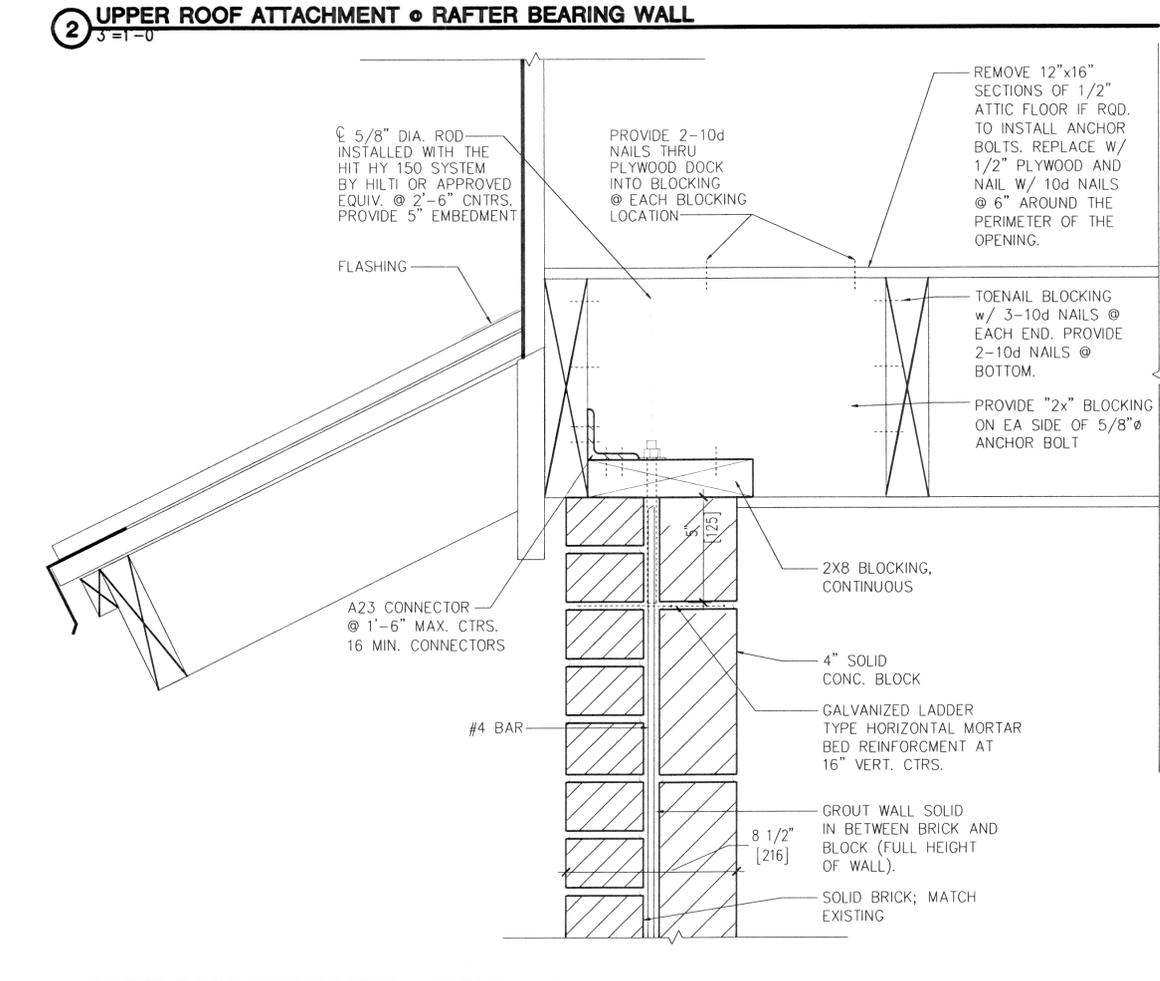
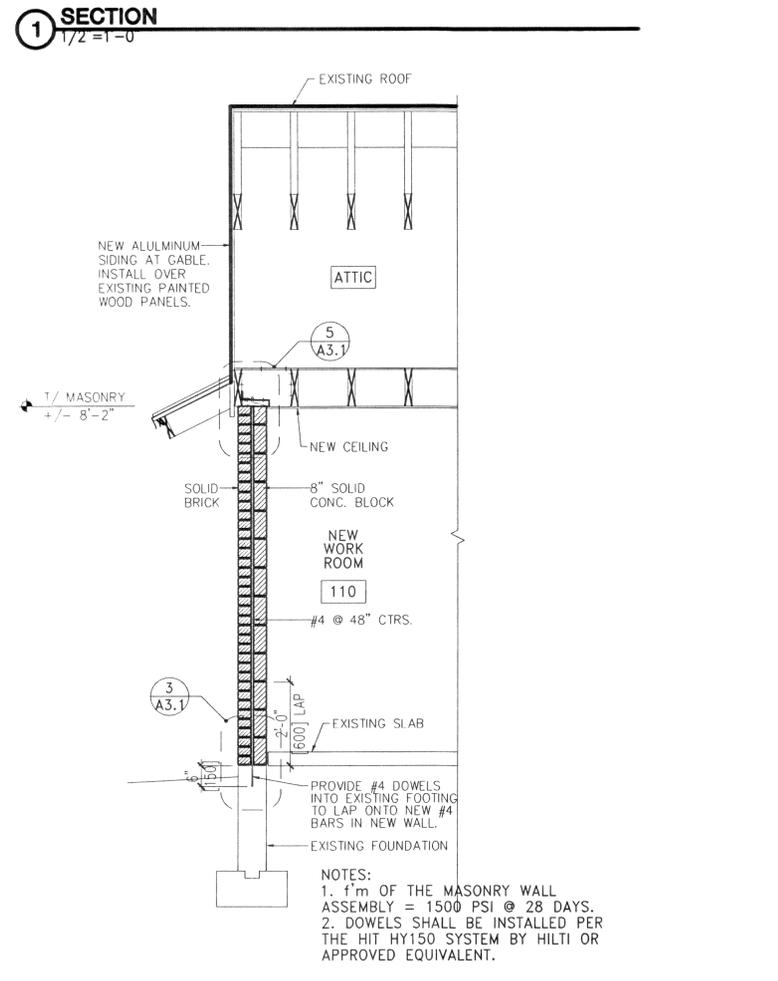
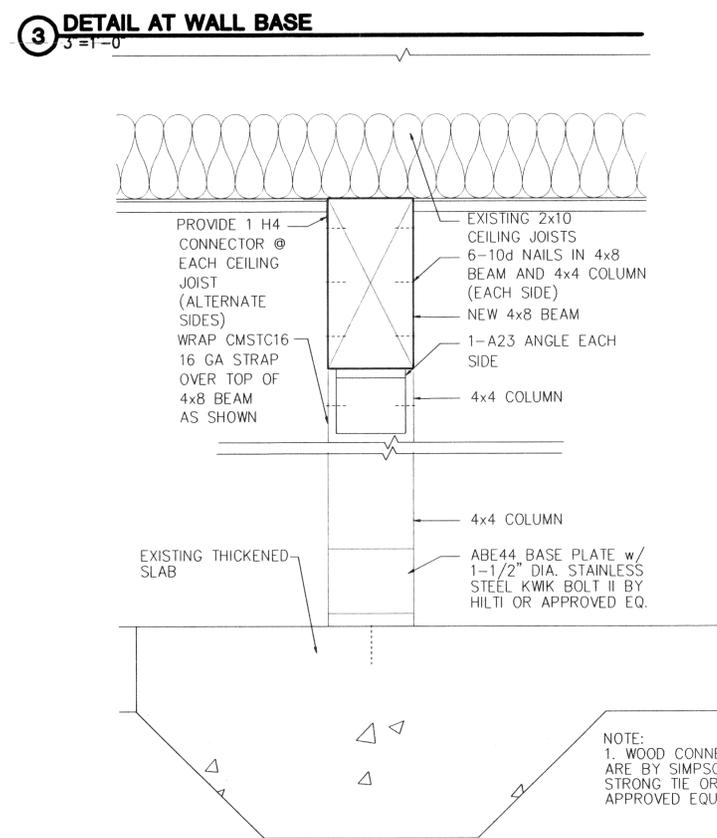
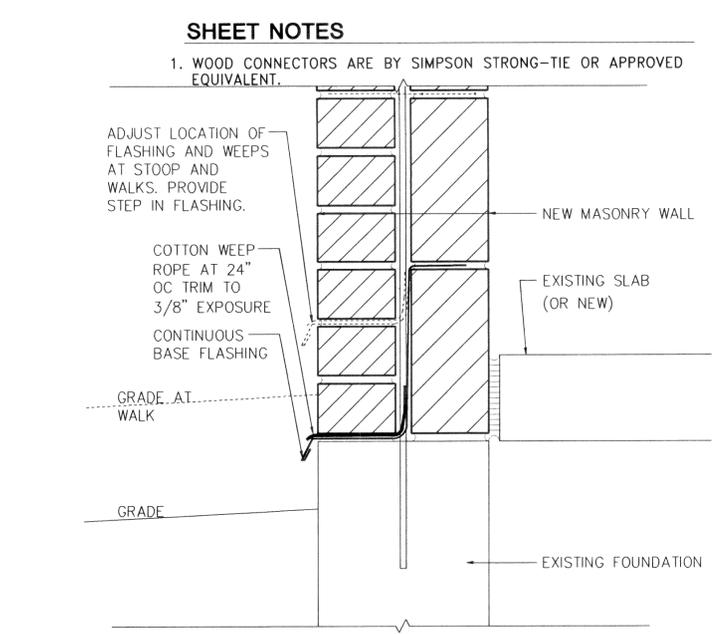
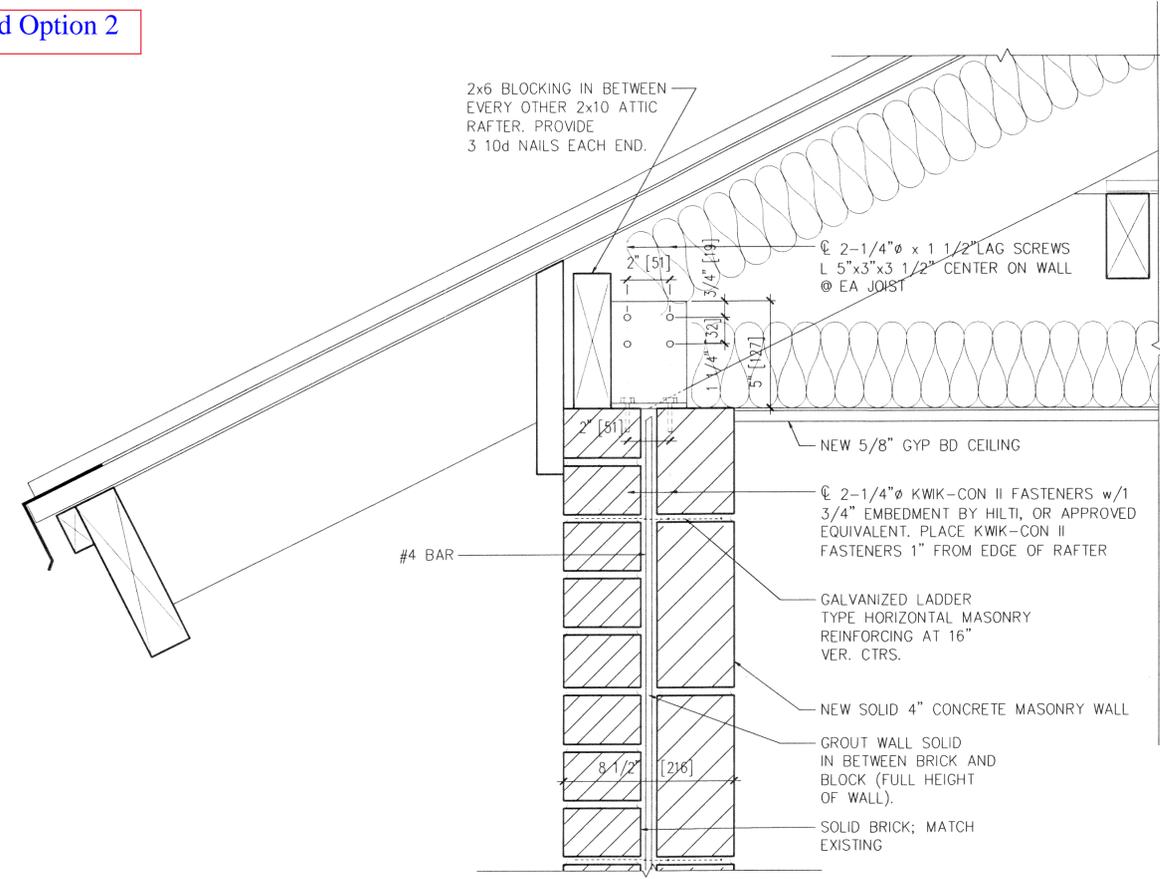
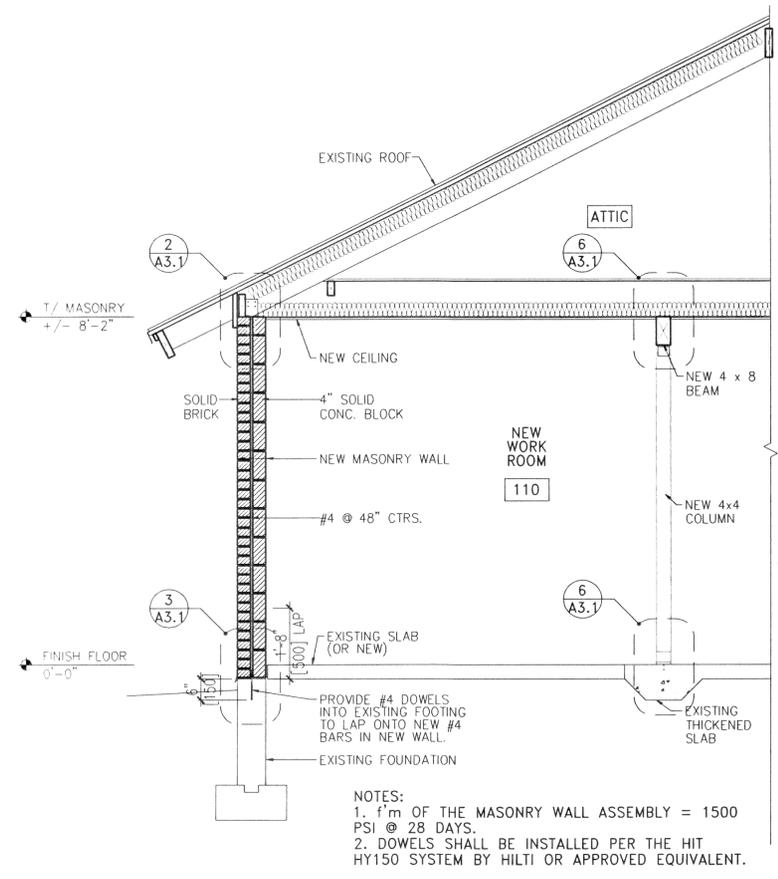


2 HOLLOW METAL FRAME TYPES
1/4"=1'-0"



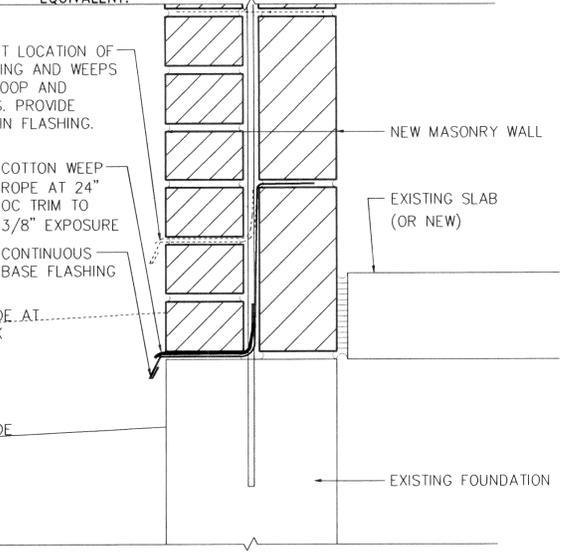
USDA No. 53-3K15-9-9131		S-H No. 603183-0	
NO.	DATE	BY	DESCRIPTION
	11/01/05		AS-BUILTS
REVISIONS			
A-E FIRM		USDA	
PROJECT MANAGER		EPH	
DESIGNER		PPM	
CHECKED BY		SAFETY & HEALTH	
DRAWN BY		REAL PROPERTY	
TDL		R. BERGOLC	
TDL		C. ROMINE	
AJG			
SOLICITATION NO.		53-3K15-9-9131	
INSECTARY RENOVATION O.A.R.D.C.		1505 Payne Drive, Bldg 433 Wooster, Ohio	
DWG. NO.		A2.1	
SHEET		005 of 012	

Bid Option 2

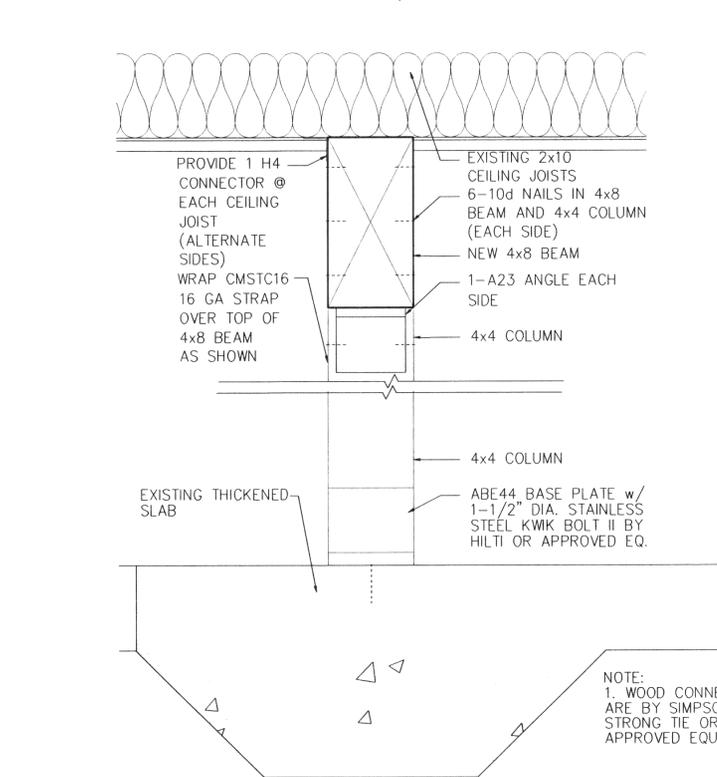


SHEET NOTES

1. WOOD CONNECTORS ARE BY SIMPSON STRONG-TIE OR APPROVED EQUIVALENT.



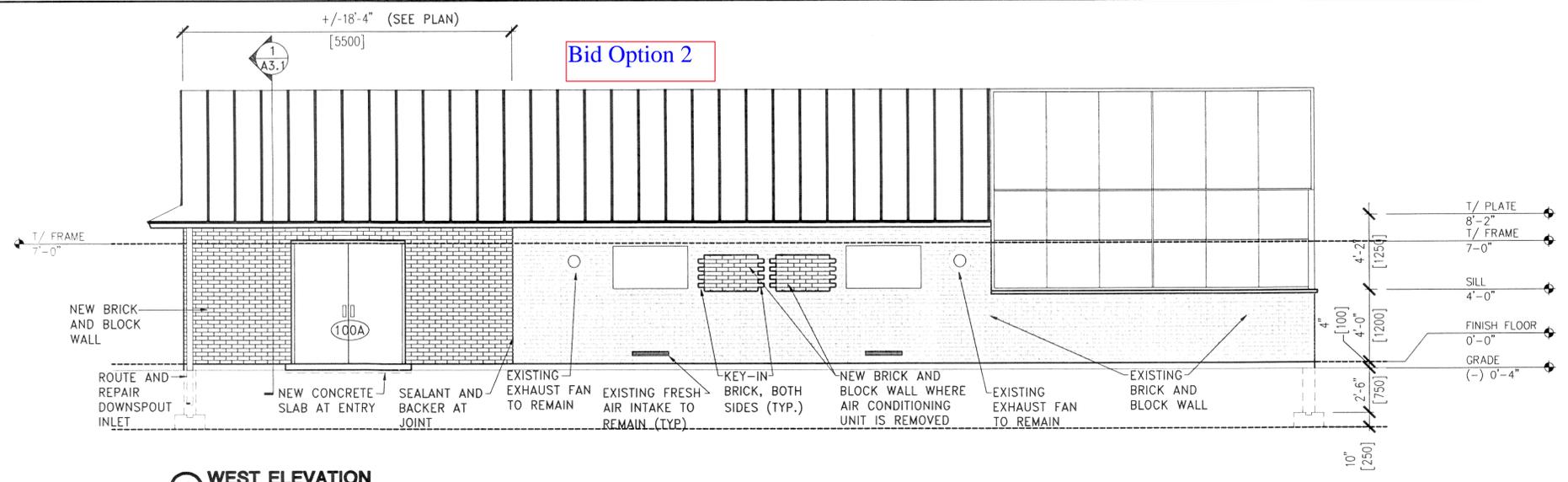
3 DETAIL AT WALL BASE
3/8"=1'-0"



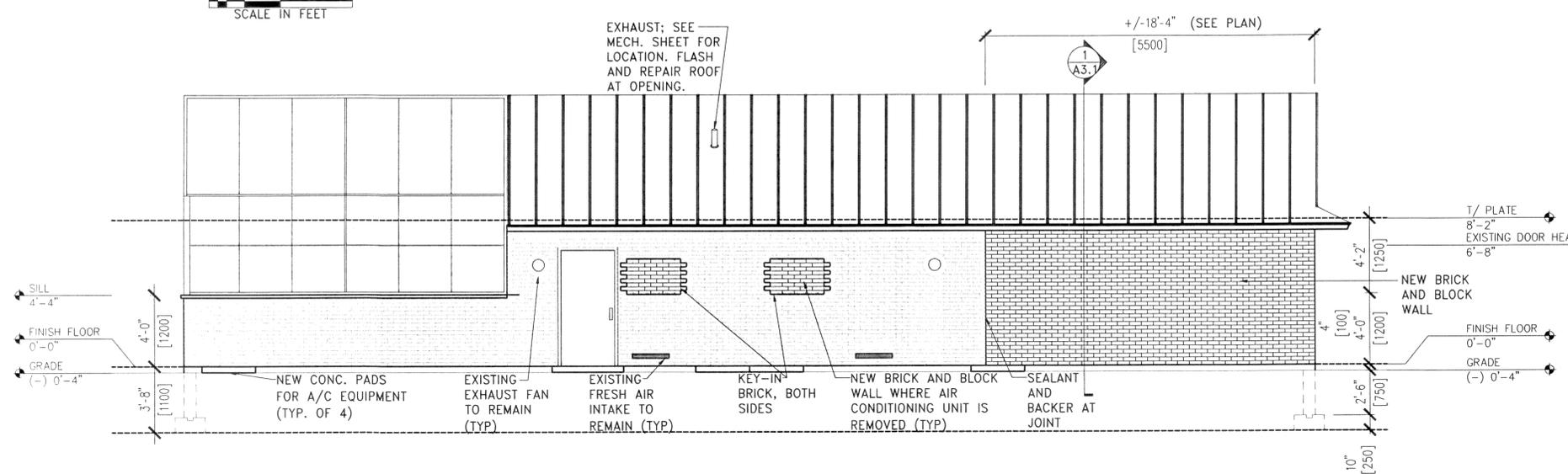
6 DETAIL • NEW COLUMNS
3/8"=1'-0"

USDA No. 53-3K15-9-9131		S-H No. 603183-0		NO.	DATE	BY	DESCRIPTION
				11/01/05		AS-BUILTS	
				REVISIONS			
A-E FIRM		USDA					
PROJECT MANAGER		EPM		Shive-Hattery, Inc. 2103 EASTLAND DRIVE, BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808			
DESIGNER		PPM		WALL SECTIONS AND DETAILS			
CHECKED BY		SAFETY & HEALTH		SOLICITATION NO.		INSECTARY RENOVATION	
TDL		C. ROMINE		53-3K15-9-9131		O.A.R.D.C.	
DRAWN BY		REAL PROPERTY		DATE		1505 Payne Drive, Bldg 433 Wooster, Ohio	
AJG				11/01/05		A3.1	

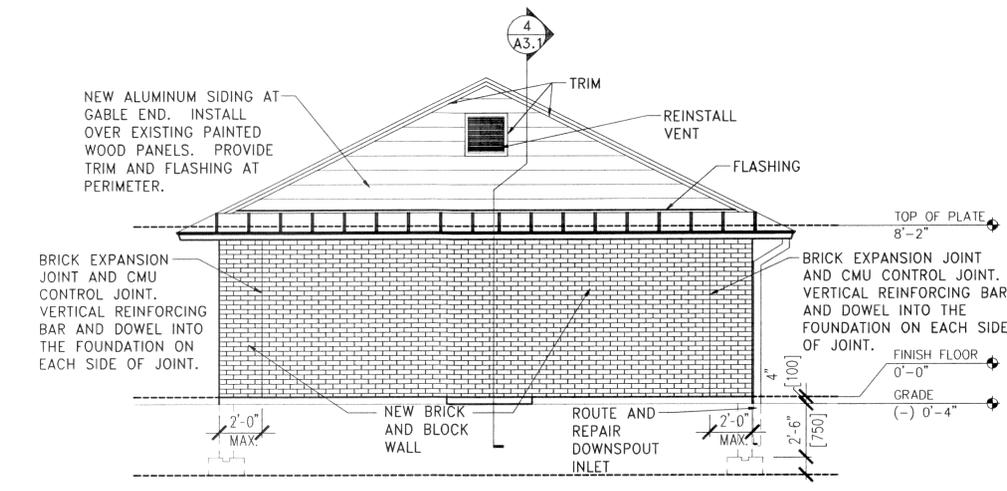
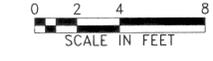




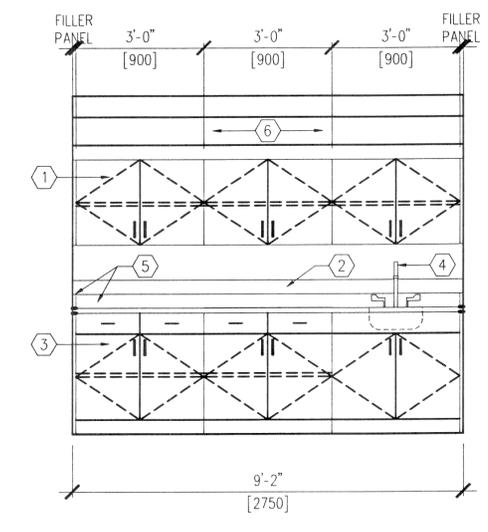
1 WEST ELEVATION
1/4" = 1'-0"



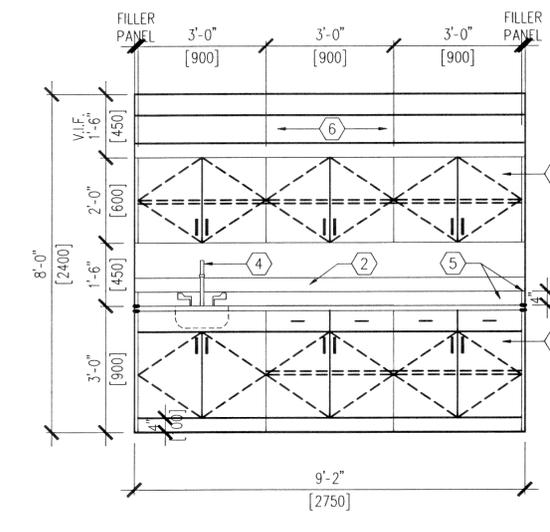
2 EAST ELEVATION
1/4" = 1'-0"



3 NORTH ELEVATION
1/4" = 1'-0"



4 NORTH ELEVATION - ROOM 109
1/2" = 1'-0"



5 NORTH ELEVATION - ROOM 108
1/2" = 1'-0"

- KEYED NOTES**
- ① WALL MOUNTED PRE-FINISHED METAL LAB CABINET AND ONE (1) ADJUSTABLE METAL SHELVES.
 - ② 4" ELECTRICAL/DATA RACEWAY AND OUTLETS, SEE ELECTRICAL DRAWINGS FOR LOCATIONS MOUNT DIRECTLY ABOVE BACKSPASH AS SHOWN
 - ③ PREFINISHED METAL BASE CABINET WITH EPOXY TOP, SEE NOTES BELOW
 - ④ SINK w/ DOMESTIC WATER
 - ⑤ NEW BACKSPASH SAME FINISH AS COUNTER
 - ⑥ VERIFY WALL CABINET HEIGHT AND MOUNTING ELEVATION TO COORDINATE WITH EXISTING STEAM PIPE.

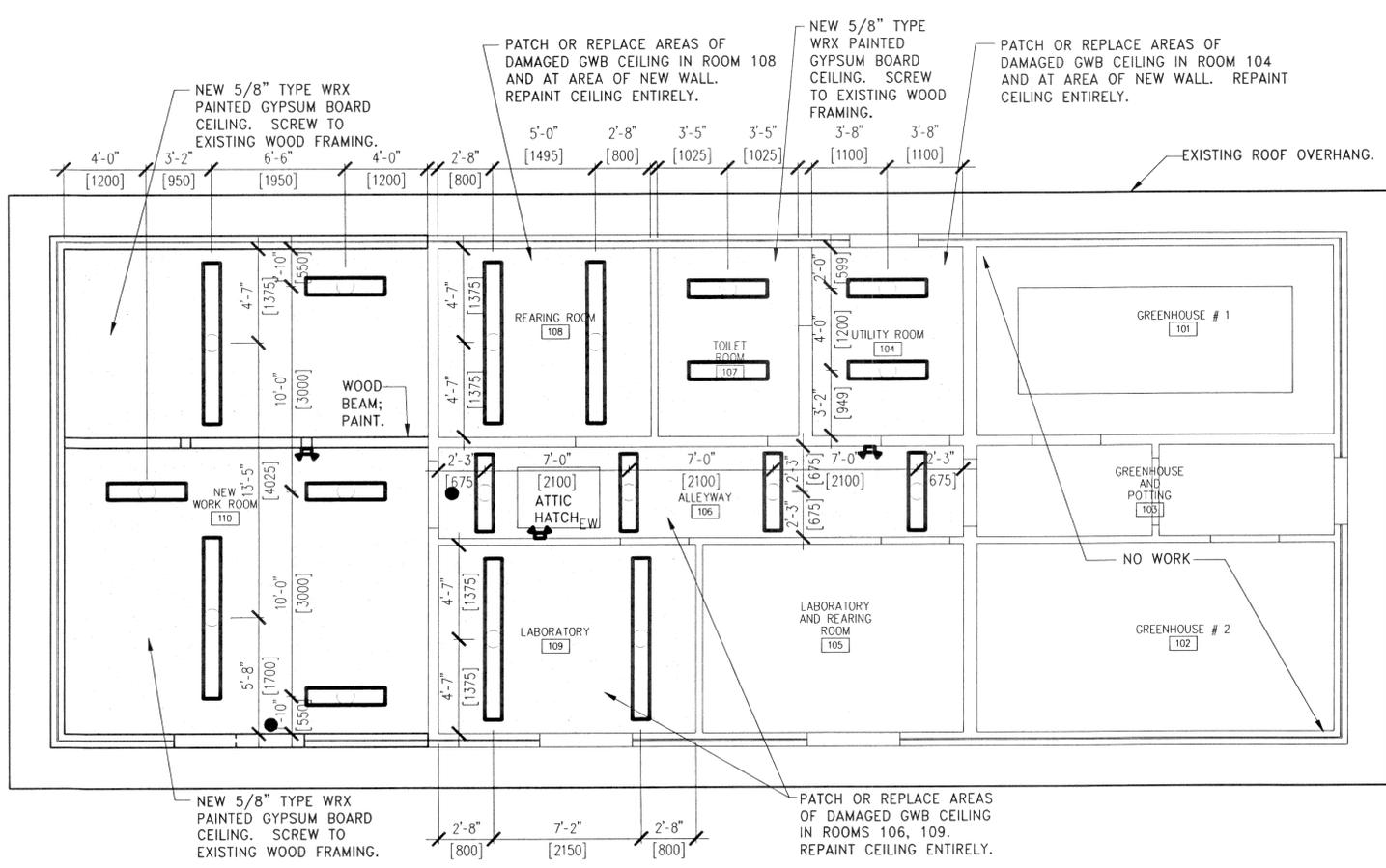
- COUNTERTOP NOTES (THIS SHEET)**
1. ALL COUNTERTOPS TO BE 1" SOLID EPOXY UNLESS NOTED OTHERWISE.
 2. ALL BACKSPASHES TO BE 4" HIGH UNLESS OTHERWISE NOTED ON INTERIOR ELEVATIONS.
 3. WHERE SEALANT IS REQUIRED, USE F.D.A APPROVED MILDEW RESISTANT SILICONE.

- CASEWORK NOTES (THIS SHEET)**
1. ALL LAB AND RELATED CASEWORK SHALL BE PRE-FINISHED METAL.
 2. CABINET FACE TYPES SHALL BE FLUSH OVERLAY.
 3. ADJUSTABLE SHELVES ARE SHOWN ON INTERIOR ELEVATIONS. SHELF MATERIAL SHALL MATCH CABINET MATERIAL UNLESS NOTED OTHERWISE.
 4. PROVIDE WALL BASE FINISH BELOW BASE CABINETS. SEE ROOM FINISH SCHEDULE OR AS DETAILED.
 5. ALL WALL CABINETS SHALL BE NOMINAL 15" DEEP, U.N.O. AND HAVE MATCHING VALANCE.
 6. ALL BASE CABINETS SHALL BE MANUFACTURER NOMINAL STANDARD MODULAR DIMENSIONS. WIDTH AND HEIGHT AS SHOWN IN ELEVATION.
 7. INTENT IS THAT CABINET UNITS ARE STANDARD MODULAR SIZES. MANUFACTURER CAN MAKE MINOR ADJUSTMENTS TO WIDTH, HEIGHT OR DEPTH TO CONFORM TO STANDARD UNITS. VERIFY FIELD CONDITIONS BEFORE CHANGES.

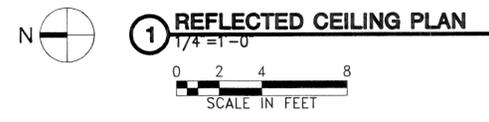


USDA No. 53-3K15-9-9131		S-H No. 603183-0	
NO.	DATE	BY	DESCRIPTION
1	11/01/05		AS-BUILTS
REVISIONS			
A-E FIRM		USDA	
PROJECT MANAGER	EPM	 Shive-Hattery, Inc. 2103 EASTLAND DRIVE, BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808	
DESIGNER	PPM		
TDL	R. BERGOLC	EXTERIOR & INTERIOR ELEVATIONS	
CHECKED BY	SAFETY & HEALTH		
TDL	C. ROMINE	SOLICITATION NO.	INSECTARY RENOVATION O.A.R.D.C.
DRAWN BY	REAL PROPERTY	DATE	1505 Payne Drive, Bldg 433 Wooster, Ohio
AJG		11/01/05	
			DWG. NO. A4.1
			SHEET 007 of 012

Bid Option 2



LEGEND	
PLAN MARK	DESCRIPTION
	1 x 8 FLUORESCENT LIGHT FIXTURE
	1 x 4 FLUORESCENT LIGHT FIXTURE
	EXIT SIGN (WALL)
	EXIT SIGN (CEILING)
	GYP BD CEILING
	EMERGENCY LIGHTS W/BATTERIES



1 REFLECTED CEILING PLAN
1/4" = 1'-0"

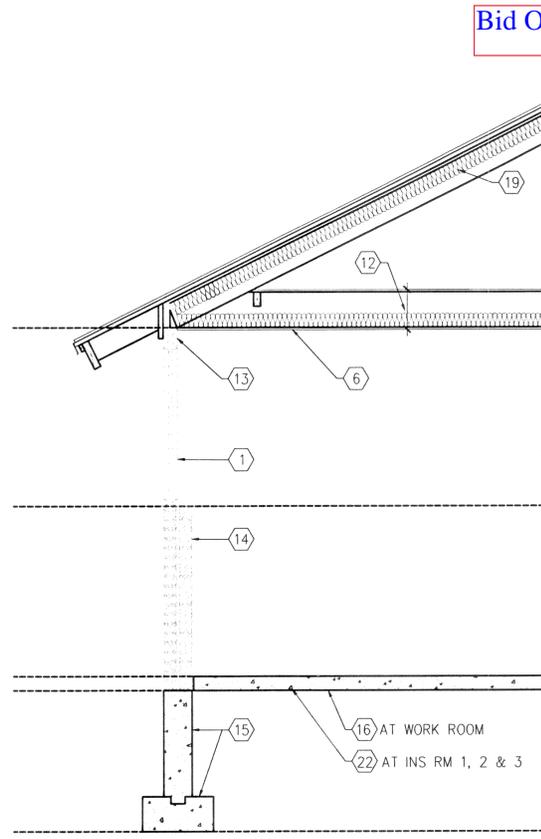


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		NO.	DATE	
		BY	DESCRIPTION	
REVISIONS				
		<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-right: 5px;">U S D A</div> <div style="text-align: center;"> <p>Agricultural Research Service</p> <p>Shive-Hattery A/E Services, Inc.</p> <p>Shive-Hattery, Inc.</p> <p>2103 EASTLAND DRIVE, BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808</p> </div> </div>		
A-E FIRM	USDA		REFLECTED CEILING PLAN	
PROJECT MANAGER	EPM			
DESIGNER	PPM			
TDL	R. BERGOLC			
CHECKED BY	SAFETY & HEALTH	SOLICITATION NO.		
TDL	C. ROMINE	53-3K15-9-9131		
DRAWN BY	REAL PROPERTY	DATE		
AJG		11/01/05		
		INSECTARY RENOVATION O.A.R.D.C.	DWG. NO.	
		1505 Payne Drive, Bldg 433 Wooster, Ohio	A5.1	
			SHEET 008 of 012	

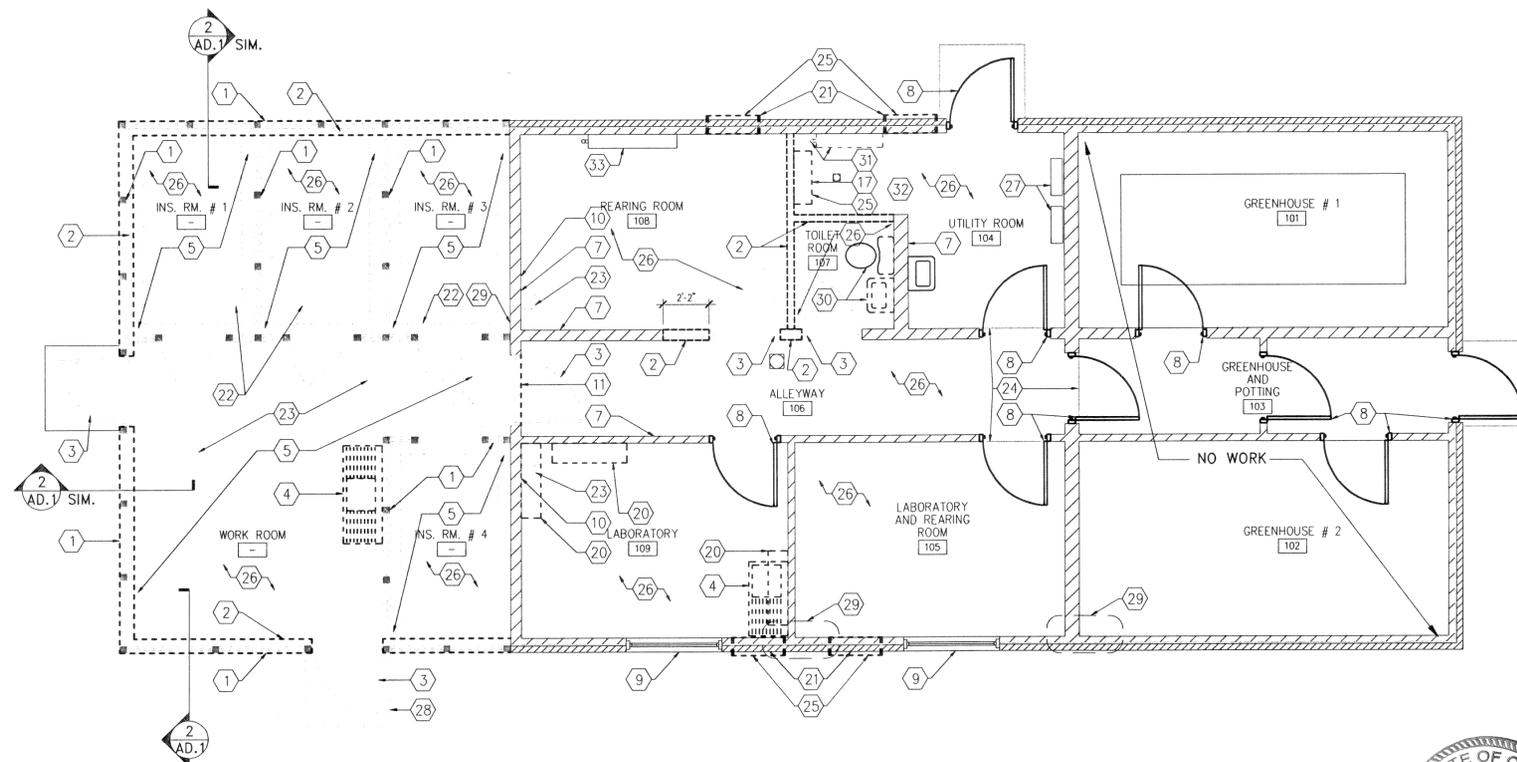
GENERAL DEMOLITION NOTES

1. DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. DEMOLISHED MATERIALS SHALL BE REMOVED AND PROPERLY DISPOSED ON A DAILY BASIS. CLEAN AREAS AND SPACES WHERE CUTTING AND PATCHING ARE PERFORMED. COMPLETELY REMOVE PAINT, MORTAR, OILS, PUTTY, AND SIMILAR MATERIALS.
2. VERIFY ALL EXISTING DIMENSIONS, VERTICAL ELEVATIONS, BEARING POINTS AND CONDITIONS AT THE JOB SITE PRIOR TO START OF NEW WORK.
3. EXAMINE SURFACES TO BE CUT AND PATCHED AND CONDITIONS UNDER WHICH CUTTING AND PATCHING ARE TO BE PERFORMED. PROCEED ONLY AFTER ANY UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
4. PROTECTION: PROTECT IN-PLACE CONSTRUCTION DURING CUTTING AND PATCHING TO PREVENT DAMAGE. PROVIDE PROTECTION FROM ADVERSE WEATHER CONDITIONS FOR PORTIONS OF PROJECT THAT MIGHT BE EXPOSED DURING CUTTING AND PATCHING OPERATIONS. PROVIDE TEMPORARY SUPPORT OF WORK TO BE CUT. PERFORM DEMOLITION WORK SO THAT EXISTING ITEMS OR SURFACES TO REMAIN OR TO BE RE-USED ARE NOT DAMAGED. ANY DAMAGE INCURRED, INCLUDING THE COST OF REPAIR, IS THE CONTRACTORS RESPONSIBILITY.
5. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK.
6. REMOVE EXISTING WALL APPURTENANCES WITHIN ALL NEW WORK AREAS. PATCH AND REPAIR ALL EXISTING WALL AND FLOOR SURFACES TO MATCH ADJACENT AREAS.
7. DO NOT CUT AND PATCH MISCELLANEOUS ELEMENTS OR RELATED COMPONENTS IN A MANNER THAT COULD CHANGE THEIR LOAD-CARRYING CAPACITY, COMPROMISES WATER TIGHTNESS OF THE BUILDING ENVELOPE, THAT RESULTS IN REDUCING THEIR CAPACITY TO PERFORM AS INTENDED.
8. WHERE STRUCTURAL ELEMENTS ARE NOTED TO BE REMOVED OR ALTERED, TEMPORARILY SUPPORT AND BRACE EXISTING STRUCTURE AS NEEDED UNTIL NEW WORK IS COMPLETED.
9. CUT IN-PLACE CONSTRUCTION BY SAWING, DRILLING, AND SIMILAR OPERATIONS USING METHODS LEAST LIKELY TO DAMAGE ELEMENTS RETAINED OR ADJOINING CONSTRUCTION. CUT OFF PIPE OR CONDUIT IN WALLS OR PARTITIONS TO BE REMOVED. CAP, VALVE, OR PLUG AND SEAL REMAINING PORTION OF PIPE OR CONDUIT TO PREVENT ENTRANCE OF MOISTURE OR OTHER FOREIGN MATTER AFTER CUTTING.
10. WHERE FLOOR CUTTING AND PATCHING IS INDICATED, CONTRACTOR SHALL SAW CUT FLOOR IN CLEAN LINES AND REMOVE EXISTING PORTIONS OF SLAB. REPAIR (OR PATCHING) SHALL INCLUDE REINSTALLING COMPACTED GRANULAR BASE, VAPOR BARRIER AND CONCRETE SLAB.
11. USE MATERIALS IDENTICAL TO IN-PLACE MATERIALS. FOR EXPOSED SURFACES, USE MATERIALS THAT VISUALLY MATCH IN-PLACE ADJACENT SURFACES TO THE FULLEST EXTENT POSSIBLE. IF IDENTICAL MATERIALS ARE UNAVAILABLE OR CANNOT BE USED, USE MATERIALS THAT, WHEN INSTALLED, WILL MATCH THE VISUAL AND FUNCTIONAL PERFORMANCE OF IN-PLACE MATERIALS. PATCH AND EXTEND FINISH RESTORATION INTO RETAINED ADJOINING CONSTRUCTION IN A MANNER THAT WILL ELIMINATE EVIDENCE OF PATCHING AND REFINISHING.
12. WHERE WALLS OR PARTITIONS THAT ARE REMOVED EXTEND ONE FINISHED AREA INTO ANOTHER, PATCH AND REPAIR FLOOR, CEILING, AND WALL SURFACES IN THE NEW SPACE. PROVIDE AN EVEN SURFACE OF UNIFORM FINISH, COLOR, TEXTURE, AND APPEARANCE. WHERE PATCHING OCCURS IN A PAINTED SURFACE, APPLY PRIMER AND INTERMEDIATE PAINT COATS OVER THE PATCH AND APPLY FINAL PAINT COAT OVER ENTIRE UNBROKEN SURFACE CONTAINING THE PATCH. PROVIDE ADDITIONAL COATS UNTIL PATCH BLENDS WITH ADJACENT SURFACES.
13. PATCH EXTERIOR BUILDING ENCLOSURE COMPONENTS IN A MANNER THAT RESTORES ENCLOSURE TO A WEATHERTIGHT CONDITION. PROVIDE SEALANT AT JOINTS.
14. PATCH, REPAIR, AND REPAINT ALL EXISTING WALL SURFACES THAT WILL REMAIN.
15. CONTRACTOR RESPONSIBLE FOR ANY REQUIRED TEMPORARY DUST PARTITIONS.

Bid Option 2



2 DEMOLITION SECTION
1/2" = 1'-0"



1 DEMOLITION PLAN
1/4" = 1'-0"



DEMOLITION KEY NOTES

- 1 REMOVE AND DISPOSE OF EXISTING FIBERGLASS SCREENING WINDOWS AND WOOD FRAMING. SEE 2/AD.1
- 2 DEMOLISH AND REMOVE MASONRY WALL
- 3 DEMOLISH AND REMOVE EXISTING DOOR AND FRAME
- 4 DEMOLISH AND REMOVE EXISTING CASEWORK AND WALL SHELVING. CAP UTILITIES NOT INCORPORATED INTO NEW WORK
- 5 REMOVE ALL FLOOR AND CEILING FINISHES AND LIGHTING
- 6 TEMPORARILY BRACE STRUCTURE PER "GENERAL DEMOLITION NOTES"
- 7 EXISTING WALL TO REMAIN
- 8 EXISTING DOOR TO REMAIN
- 9 EXISTING WINDOW TO REMAIN
- 10 DEMO, PATCH AND REPAIR WALL FOR NEW SINK PIPING
- 11 EXTENT OF FLOOR AND CEILING REMOVAL
- 12 EXISTING ATTIC FRAMING AND PLYWOOD TOP
- 13 DEMOLISH AND REMOVE WOOD BEAM. TEMPORARILY SUPPORT ROOF AND ATTIC FRAMING UNTIL PERMANENT CONSTRUCTION IS IN PLACE
- 14 EXISTING BRICK AND BLOCK WALL TO BE DEMOLISHED AND REMOVED
- 15 EXISTING CONCRETE FOOTING AND FOUNDATION TO REMAIN
- 16 CONCRETE FLOOR
- 17 REMOVE DISTILLED WATER AND CAP LINES
- 18 DEMOLISH AND REMOVE EXISTING SINK AND BASE CABINETS. NOT USED
- 19 INSPECT ATTIC INSULATION. REATTACH INSULATION THAT HAS PULLED AWAY FROM RAFTERS. REPLACE INSULATION THAT HAS BEEN DAMAGED
- 20 REMOVE WALL CABINETS
- 21 REMOVE THROUGH-WALL A/C UNITS AND ASSOCIATED FRAMING
- 22 GRAVEL FLOOR SEE KEYNOTE 9/A1.1
- 23 CUT AND PATCH SLAB FOR INSTALLATION OF PLUMBING DRAINS. SEE P1.1 FOR EXACT LOCATIONS.
- 24 EXTENT OF FLOOR REMOVAL
- 25 ELECTRICALLY DISCONNECT EXISTING MECHANICAL EQUIPMENT REMOVED BY DEMOLITION
- 26 ELECTRICALLY DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES, RECEPTACLES, ASSOCIATED CONDUIT AND WIRING SYSTEMS LOCATED WITHIN THE AREA OF DEMOLITION
- 27 EXISTING PANEL BOARD TO REMAIN. BRANCH CIRCUITS REMOVED BY DEMOLITION SHALL BE REMOVED BACK TO PANEL BOARD, AND ASSOCIATED CIRCUIT BRAKERS LABELED AS SPARE
- 28 REMOVE CONCRETE SLAB AT ENTRY
- 29 PATCH/REPAIR EXTERIOR AND INTERIOR WALL, WHERE HVAC, ELECTRICAL, PLUMBING LINES ARE ADDED
- 30 DEMOLISH AND REMOVE EXISTING SINK AND TOILET. CAP UTILITIES NOT INCORPORATED INTO NEW WORK. PATCH SLAB.
- 31 DEMOLISH AND REMOVE EXISTING HEATING UNITS AND ASSOCIATED PIPING. PATCH AND REPAIR WALL.
- 32 CUT, PATCH AND REPAIR SLAB AT NEW PLUMBING FIXTURES.
- 33 EXISTING STEAM HEAT TO BE ABANDONED IN PLACE.

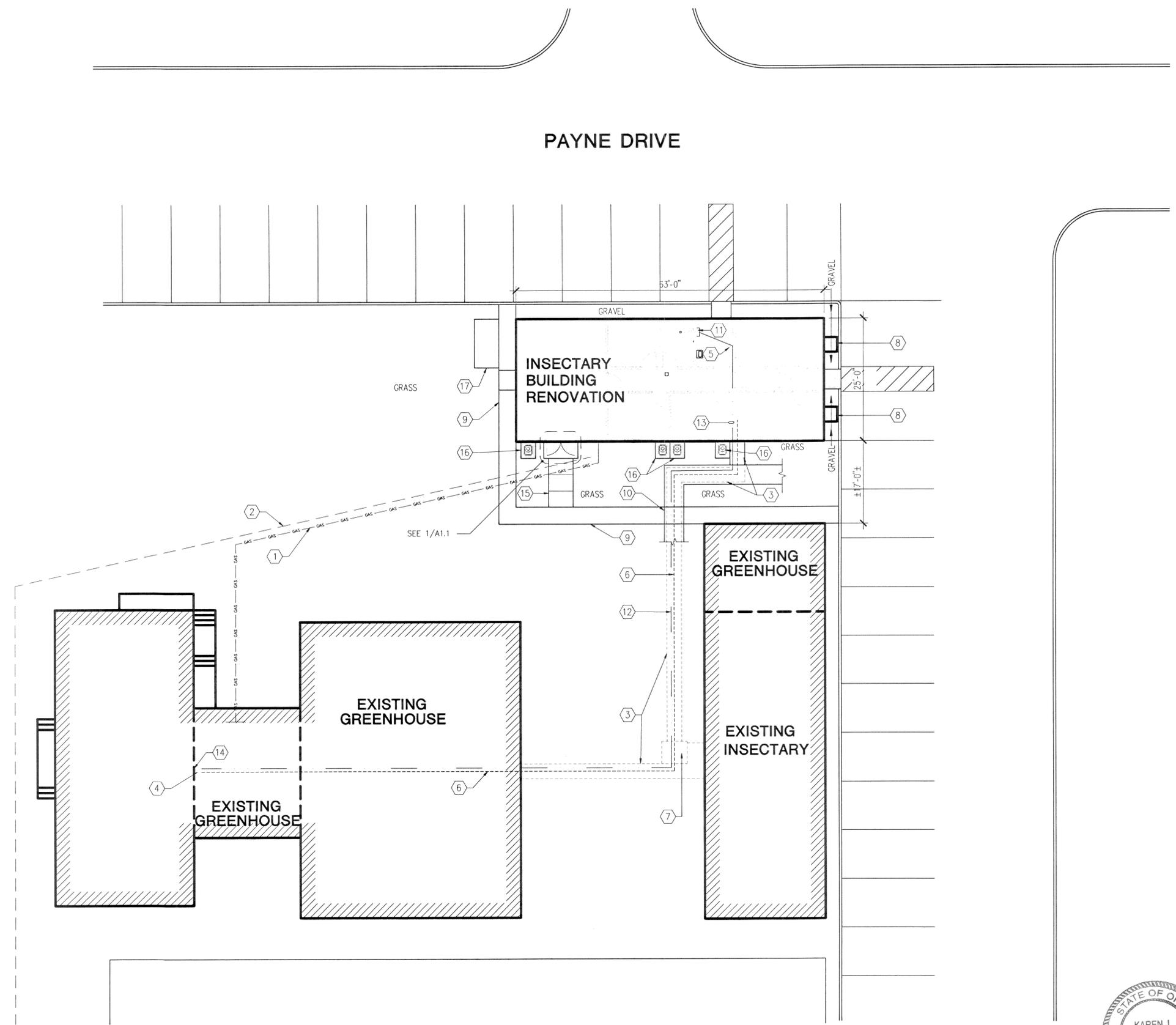
KEY

- EXISTING WALLS, DOOR, FIXTURES TO REMAIN
- WALLS, DOORS, FLOOR, SITEWORK AND FIXTURES TO BE SELECTIVELY DEMOLISHED. SAW CUT FOR CLEAN EDGES AND PATCH AND REPAIR FOR INCORPORATION INTO NEW WORK.

USDA No. 53-3K15-9-9131			
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PROJECT MANAGER		EPM	
DESIGNER		PPM	
TDL		R. BERGOLC	
CHECKED BY		SAFETY & HEALTH	
TDL		C. ROMINE	
DRAWN BY		REAL PROPERTY	
AJG			
		SOLICITATION NO.	
		53-3K15-9-9131	
		DATE	
		11/01/05	
		INSECTARY RENOVATION O.A.R.D.C.	
		1505 Payne Drive, Bldg 433 Wooster, Ohio	
		DWG. NO.	
		AD.1	
SHEET 003 of 012			



Bid Option 2



KEY NOTES

- 1 EXISTING 3/4" GAS LINE
- 2 EXISTING SANITARY SEWER LINE
- 3 EXISTING UTILITY TUNNEL
- 4 EXISTING ELECTRICAL PANEL
- 5 EXISTING PANEL BOARD AT INSECTARY
- 6 EXISTING 4 # 250 MCM - 3" CONDUIT
- 7 EXISTING STEAM REGULATOR STATION
- 8 EXISTING EXISTING A/C UNIT ON CONC. PAD WITH TWO PROTECTION BOLLARDS
- 9 EXISTING CONCRETE SIDEWALK
- 10 EXISTING CONC. PAVERS ABOVE UNDERGROUND TUNNEL
- 11 NEW ELECTRICAL PANEL, VERIFY LOCATION IN FIELD.
- 12 NEW PANELBOARD ELECTRICAL FEEDER ROUTED WITHIN THE EXISTING UTILITY TUNNEL
- 13 NEW PANELBOARD ELECTRICAL FEEDER ROUTED WITHIN THE BUILDING ATTIC SPACE.
- 14 CONNECT THE NEW ELECTRICAL PANELBOARD FEEDER TO THE EXISTING PANELBOARD AT INSECTARY
- 15 NEW 4" THICK x 4'-0" WIDE CONCRETE SIDEWALK WITH 4" GRAVEL BASE
- 16 NEW A/C UNIT (REFER TO MECHANICAL DRAWINGS FOR LOCATION) ON APPROX. 42"x36" CONCRETE PAD 4" THICK WITH 4" GRAVEL BASE. COORDINATE SIZE AND LOCATION WITH A/C UNIT.
- 17 NEW 4" THICK CONCRETE PAD WITH 4" GRAVEL BASE FOR GROWTH CHAMBER CONDENSING UNIT. COORDINATE SIZE AND LOCATION WITH GROWTH CHAMBER SUPPLIER.

SITE NOTES

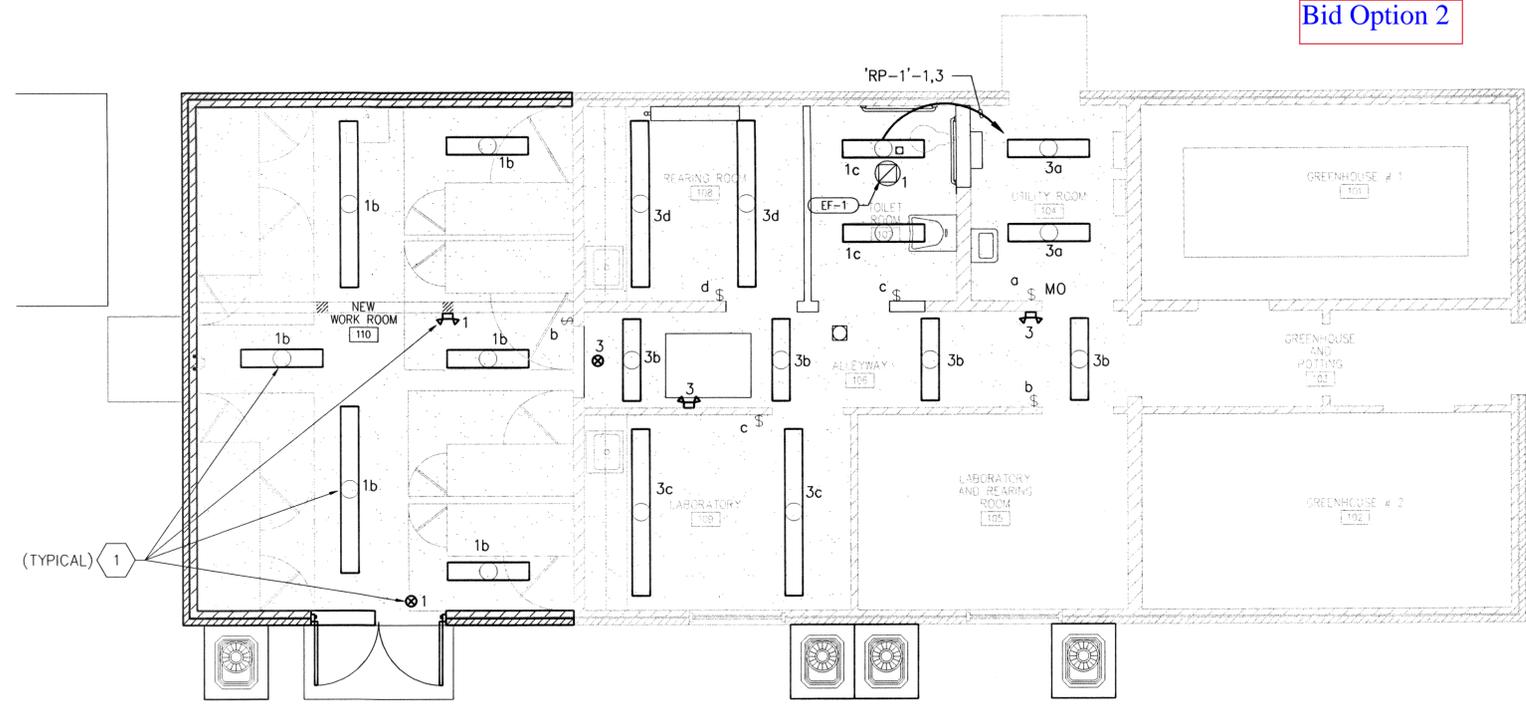
- 1. CONTRACTOR SHALL COORDINATE WORK AND ESTABLISH CONSTRUCTION SCHEDULES.
- 2. ALL WORK SHALL BE PERFORMED AND COMPLETED IN COMPLIANCE WITH APPLICABLE BUILDING CODES AND ORDINANCES.
- 3. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. ANY AND ALL DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
- 4. ALL CONTRACTORS SHALL COORDINATE THEIR WORK WITH THAT OF ALL OTHER TRADES SO AS TO INSURE PROPER SEQUENCING AND INSTALLATION.
- 5. CONTRACTORS SHALL COMPLY WITH MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF ALL WORK.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL CONSTRUCTION DEBRIS FROM THE PREMISES.
- 7. CLEANING: REMOVE FROM PREMISES RUBBISH AND ACCUMULATED MATERIALS AND LEAVE WORK IN CLEAN, ORDERLY, AND ACCEPTABLE CONDITION.
- 8. CONTRACTOR SHALL TOP-DRESS AND PROVIDE SOD AT ALL GRASS AREA DISTURBED BY CONSTRUCTION.

1 ARCHITECTURAL SITE PLAN
 3/32" = 1'-0"
 0 4 8 16
 SCALE IN FEET

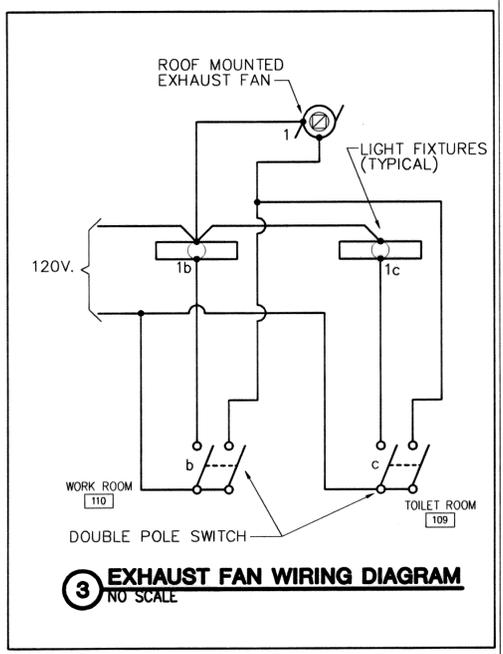


USDA No. 53-3K15-9-9131			
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REVISIONS			
A-E FIRM		USDA	
PROJECT MANAGER	EPW		
G. GERDES			
DESIGNER	PPM		
TDL	R. BERGOLC	Shive-Hattery A/E Services, Inc. Shive-Hattery, Inc. 2103 EASTLAND DRIVE, BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808	
CHECKED BY	SAFETY & HEALTH	SOLICITATION NO.	
TDL	C. ROMINE	53-3K15-9-9131	
DRAWN BY	REAL PROPERTY	DATE	
AJG		11/01/05	
		1505 Payne Drive, Bldg 433 Wooster, Ohio	
			DWG. NO. AS.1
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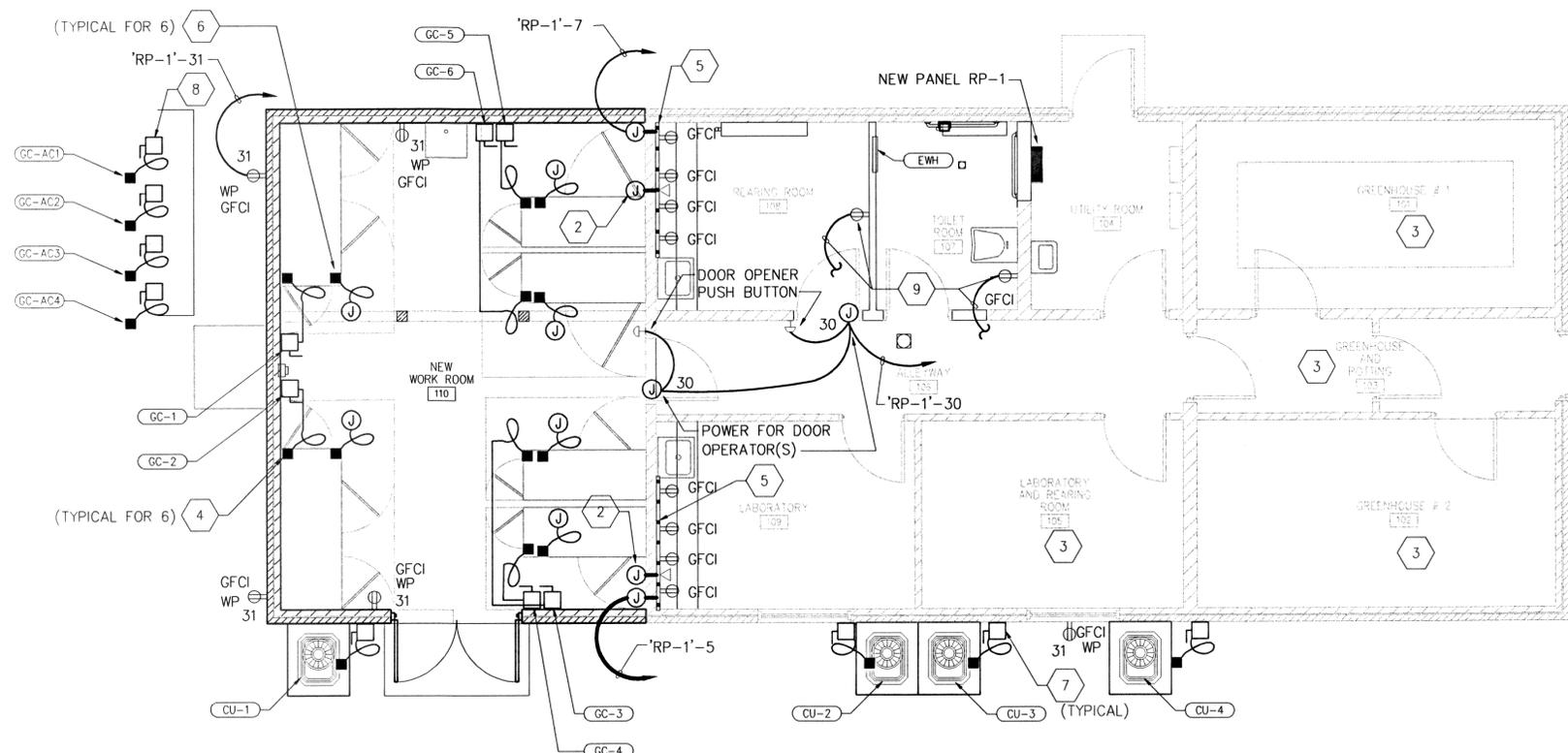
Bid Option 2



1 LIGHTING PLAN
1/4"=1'-0"
SCALE IN FEET



3 EXHAUST FAN WIRING DIAGRAM
NO SCALE



2 POWER AND SYSTEMS PLAN
1/4"=1'-0"
SCALE IN FEET

KEY NOTES

- REFER TO ELECTRICAL DRAWING E2.1, LIGHTING FIXTURE SCHEDULE, FOR LIGHTING FIXTURE SPECIFICATIONS. FIXTURES SHOWN () SHOULD BE TYPE "F1" UNLESS NOTED OTHERWISE. FIXTURES SHOWN () SHOULD BE TYPE "F2" UNLESS NOTED OTHERWISE. FIXTURES SHOWN () SHOULD BE TYPE "F3" UNLESS NOTED OTHERWISE. FIXTURES SHOWN () SHOULD BE TYPE "F4" UNLESS NOTED OTHERWISE.
- JUNCTION BOX AND CONDUIT STUBBED THRU WALL TO SURFACE RACEWAY FOR INSTALLATION OF FUTURE DATA CABLING. STUB 3/4" CONDUIT AND PULLCORD UP TO ACCESSIBLE ATTIC SPACE.
- EXISTING ELECTRICAL EQUIPMENT IN THIS AREA TO REMAIN. PROVIDE NEW CONDUIT AND WIRE (TO MATCH EXISTING) AS REQUIRED TO MAINTAIN CONTINUITY OF BRANCH CIRCUIT WIRING OUTSIDE THE AREA OF DEMOLITION WORK.
- PROVIDE POWER CONNECTION TO GROWTH CHAMBER CONTROL UNIT. COORDINATE EXACT LOCATION OF FINAL CONNECTION WITH GROWTH CHAMBER'S VENDOR PRIOR TO INSTALLATION.
- PROVIDE SURFACE MOUNTED NON-METALLIC WIREWAY WITH RECEPTACLES AND TELEPHONE/DATA OUTLETS INDICATED. RECEPTACLE AND OUTLET QUANTITIES AND LOCATIONS SHALL BE VERIFIED IN THE FIELD WITH THE CONTRACTING OFFICER. WIREWAY TO BE HUBBELL "BASETRAK", WIREMOLD "ACCESS 5000", OR PANDUIT "TYPE T", OR APPROVED EQUIVALENT. REFER TO ARCHITECTURAL DETAIL FOR MOUNTING LOCATION.
- PROVIDE CONDUIT RACEWAY CONNECTION TO GROWTH CHAMBER CONTROL PANEL FOR FUTURE DATA SYSTEM WIRING. STUB 3/4" CONDUIT FROM JUNCTION BOX IN ACCESSIBLE ATTIC SPACE DOWN TO CONTROL PANEL LOCATION. COORDINATE LOCATION OF FINAL CONNECTION WITH PLANT GROWTH CHAMBER'S VENDOR PRIOR TO INSTALLATION.
- COORDINATE FINAL LOCATION OF DISCONNECT SWITCHES FOR EQUIPMENT IN THE FIELD WITH EQUIPMENT INSTALLATION CONTRACTOR.
- COORDINATE FINAL LOCATION OF DISCONNECT SWITCHES FOR GROWTH CHAMBER CONDENSING UNITS IN THE FIELD WITH EQUIPMENT INSTALLATION CONTRACTOR. ROUTE CONDUIT FEEDERS BELOW GRADE TO UNITS AS REQUIRED.
- PROVIDE RECEPTACLE OUTLET AND WIRE TO THE SPARE RECEPTACLE BRANCH CIRCUITING MADE AVAILABLE DURING WALL OR PARTITIONS DEMOLITION/RENOVATION.

GENERAL NOTES

- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
- VERIFY EXACT LOCATION OF OUTLETS AND DEVICES WITH CONTRACTING OFFICER PRIOR TO INSTALLATION. PROVIDE OUTLET BOXES, DEVICES, COVERPLATES, AND FLANGES AS REQUIRED.
- ALL WORK SHALL BE PERFORMED AND COMPLETED IN COMPLIANCE WITH APPLICABLE BUILDING CODES AND ORDINANCES.
- VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.
- COORDINATE THE ELECTRICAL WORK WITH THAT OF ALL OTHER TRADES SO AS TO INSURE PROPER SEQUENCING AND INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL CONSTRUCTION DEBRIS FROM THE PREMISES.
- CLEANING: REMOVE FROM PREMISES RUBBISH AND ACCUMULATED MATERIALS AND LEAVE WORK IN CLEAN, ORDERLY, AND ACCEPTABLE CONDITION.

USDA No. 53-3K15-9-9131			
S-H No. 603183-0		11/01/05 AS-BUILTS	
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A-E FIRM		USDA	
PROJECT MANAGER		EPM	
DESIGNER		R. BERGOLC	
CHECKED BY		SAFETY & HEALTH	
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		1505 Payne Drive, Bldg 433 Wooster, Ohio	
		DWC. NO.	
		E11	
		SHEET 011 OF 012	



ELECTRICAL ABBREVIATIONS

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
A	AMPERE	KVA	KILOVOLT-AMPERE	TTB	TELEPHONE TERMINAL BOARD
AFF	ABOVE FINISHED FLOOR	KW	KILOWATT	TYP	TYPICAL
C	CONDUIT	MLO	MAIN LUGS ONLY	UL	UNDERWRITER'S LABORATORY
FLA	FULL LOAD AMPERE	NEC	NATIONAL ELECTRICAL CODE	V	VOLTS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NIC	NOT IN CONTRACT	W	WATT
HP	HORSEPOWER	PB	PULLBOX	WP	WEATHERPROOF

Bid Option 2

EQUIPMENT SCHEDULE

PLAN MARK	DESIGNATION	HP	FLA	WATTS	VOLTAGE	PHASE	BRANCH CIRCUIT FEEDER DATA				DISCONNECT SWITCH RATING	DISCONNECT ENCLOSURE RATING	REMARKS
							SOURCE	CIRCUIT NO.	CONDUIT SIZE	WIRE SIZE			
GC-1	GROWTH CHAMBER NO. 1 (E15)	-	18.5	-	120/208	3	RP-1	2,4,6	3/4"	(4)10 AWG (1)10 AWG	30/NF	3R	-
GC-2	GROWTH CHAMBER NO. 2 (E15)	-	18.5	-	120/208	3	RP-1	8,10,12	3/4"	(4)10 AWG (1)10 AWG	30/NF	3R	-
GC-3	GROWTH CHAMBER NO. 3 (E8)	-	15.0	-	120/208	1	RP-1	14,16	3/4"	(3)12 AWG (1)12 AWG	30/NF	3R	-
GC-4	GROWTH CHAMBER NO. 4 (E8)	-	15.0	-	120/208	1	RP-1	18,20	3/4"	(3)12 AWG (1)12 AWG	30/NF	3R	-
GC-5	GROWTH CHAMBER NO. 5 (E7/2)	-	20.0	-	120/208	1	RP-1	22,24	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
GC-6	GROWTH CHAMBER NO. 6 (E7/2)	-	20.0	-	120/208	1	RP-1	26,28	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
GC-AC1	GROWTH CHAMBER AIR COOLED CONDENSOR NO. 1	-	4.0	-	120/208	1	RP-1	9,11	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
GC-AC2	GROWTH CHAMBER AIR COOLED CONDENSOR NO. 2	-	4.0	-	120/208	1	RP-1	9,11	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
GC-AC3	GROWTH CHAMBER AIR COOLED CONDENSOR NO. 3	-	4.0	-	120/208	1	RP-1	9,11	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
GC-AC4	GROWTH CHAMBER AIR COOLED CONDENSOR NO. 4	-	4.0	-	120/208	1	RP-1	9,11	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
CU-1	CONDENSING UNIT NO. 1	-	8.6	-	208	1	RP-1	13,15	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
CU-2	CONDENSING UNIT NO. 2	-	8.6	-	208	1	RP-1	17,19	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
CU-3	CONDENSING UNIT NO. 3	-	8.6	-	208	1	RP-1	21,23	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
CU-4	CONDENSING UNIT NO. 4	-	8.6	-	208	1	RP-1	25,27	3/4"	(3)10 AWG (1)10 AWG	30/NF	3R	-
EW1	ELECTRIC WALL HEATER	-	-	1000	120	1	RP-1	29	3/4"	(2)12 AWG (1)12 AWG	DISCONNECT FURNISHED BY UNIT HEATER SEE SHEET # M1.1 FOR ADD'L INFORMATION		-
EF-1	EXHAUST FAN	-	-	145	120	1	REFER TO PLAN DRAWING FOR ADDITIONAL INFORMATION						-

LIGHTING FIXTURE SCHEDULE

SYMBOL	PLAN MARK	DESCRIPTION	MANUFACTURER AND MODEL NUMBER	LAMPS		VOLTS	MOUNTING
				WATTAGE	TYPE		
	F1	4' FLUORESCENT LIGHT FIXTURE	LITHONIA LIGHTING # DMS-2-32-AR-120V	2-32W	T8	120V	SURFACE
	F2	8' FLUORESCENT LIGHT FIXTURE	LITHONIA LIGHTING # TDMS-2-96T8-AR-120V	2-59W	96T8	120V	SURFACE
	F3	BATTERY LIGHT FIXTURE	LITHONIA LIGHTING #ELU3X-H1212	2-12W	HALOGEN	120V	WALL
	F4	EXIT SIGN	LITHONIA LIGHTING # LRP-W-1-120/277	1.2W	LED	120V	CEILING

LIGHTING FIXTURE NOTES

L1. MANUFACTURER AND MODEL NUMBER LISTED IS THE MINIMUM CHARACTERISTICS AND QUALITY OF FIXTURE TO BE UTILIZED FOR THIS PROJECT. ALTERNATE EQUIVALENT MANUFACTURER: COOPER LIGHTING, GENLYTE LIGHTING OR ENGINEER APPROVED EQUIVALENT.

L2. CONTRACTOR SHALL IDENTIFY AT TIME OF BID ANY FIXTURES UTILIZING MANUFACTURERS NOT LISTED BY NAME AND MODEL NUMBER IN LIGHTING FIXTURE SCHEDULE. THE ENGINEER SHALL HAVE THE RIGHT TO REVIEW ALL LIGHTING FIXTURE ALTERNATE SUBMISSIONS FOR EQUIVALENCE AND REJECT OR ACCEPT BASED ON ENGINEERS DETERMINATION OF EQUIVALENCE.

GENERAL NOTES

- E1. FURNISH AND INSTALL ALL LABOR, TOOLS, MATERIAL, EQUIPMENT, SERVICES, AND RELATED ACCESSORIES NECESSARY FOR THE COMPLETE INSTALLATION OF ELECTRICAL WORK SHOWN ON THE DRAWINGS, SPECIFIED IN THE NOTES, AND REQUIRED BY THE GOVERNMENT.
- E2. EXISTING CONDUIT RACEWAYS MAY BE REUSED IF FEASIBLE.
- E3. EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO STRUCTURAL MEMBERS.
- E4. ALL CONDUIT AND WIRING SHALL BE ROUTED CONCEALED WHEREVER FEASIBLE.
- E5. THE CONTRACTOR SHALL REMOVE EXISTING CEILING SYSTEMS, IF REQUIRED, TO INSTALL NEW CONDUIT AND WIRING.
- E6. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL WIRING SHALL BE INSTALLED IN CONDUIT RACEWAY.
- E7. ALL CONDUITS SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE. CONDUIT SHALL NOT BE SUPPORTED FROM VENTILATING DUCTS, MECHANICAL PIPING, SUSPENDED CEILING GRIDS, OR THEIR HANGERS.
- E8. VERIFY THE EXISTING SYSTEM GROUNDING CONFIGURATION AT THE ELECTRICAL SERVICE POINT. PROVIDE NEW GROUNDING SYSTEM IN COMPLIANCE WITH CODE REQUIREMENTS FOR THE FEEDER AND PANELBOARD INSTALLATION AS REQUIRED.

EXISTING CONDITIONS WERE OBTAINED FROM AS-BUILT DRAWINGS AND CURSORY FIELD OBSERVATION. IDENTIFY ANY DISCREPANCIES IN THE FIELD AND REPORT THEM TO THE CONTRACTING OFFICER.

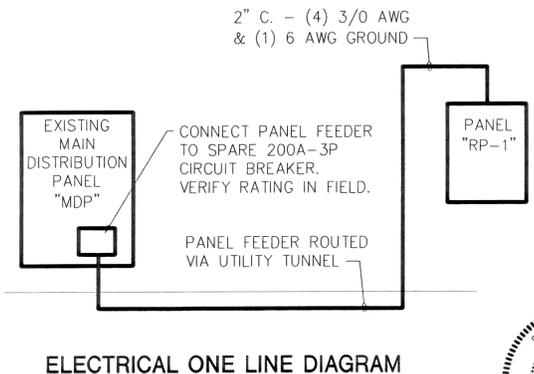
PANELBOARD SCHEDULE

Panel Name: RP-1 Service Voltage: 120/208 VOLT Phase: 3 PH. Wires: 4 W. Main Circuit Breaker: 200 Amp Bussing: Copper Isc: 22,000 Amps Symm. Mounting: Surface	Demand Load: Phase "A" Total: 12,577 VA Phase "B" Total: 13,151 VA Phase "C" Total: 11,580 VA Total: 37,309 VA Demand Amps: 103.57 A	Connected Load: Phase "A" Total: 14,665 VA Phase "B" Total: 15,324 VA Phase "C" Total: 13,624 VA Total: 43,613 VA Connected Amps: 121.07 A
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ELECTRICAL SYMBOLS

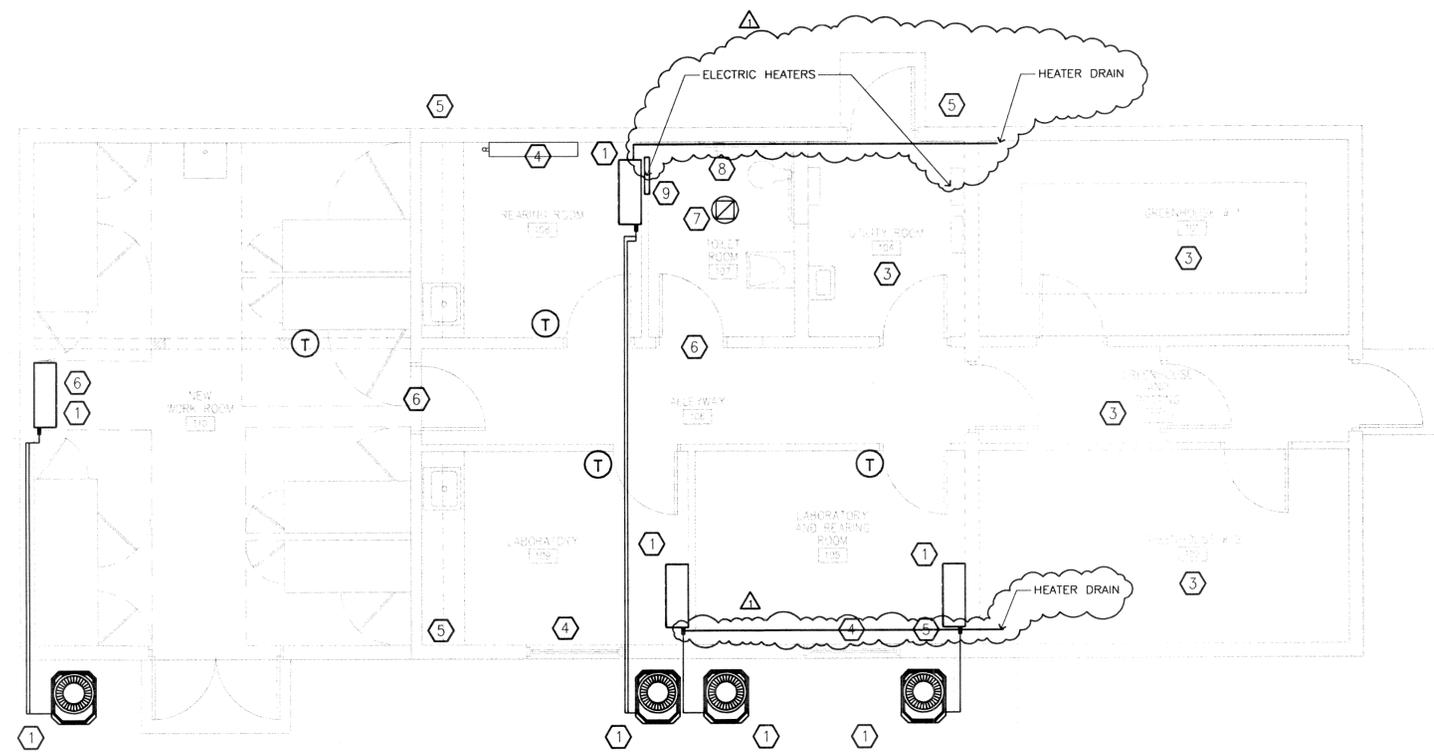
SYMBOL	DESCRIPTION
	SWITCH, SINGLE POLE
	SWITCH, MOTION DETECTOR/OCCUPANCY
	PANELBOARD
	SPECIAL CABINET OR ENCLOSURE AS NOTED
	SURFACE MOUNTED PLUGMOLD
	DATA OUTLET TYPE AS NOTED
	DUPLEX GROUNDED RECEPTACLE 3 WIRE, 120V GFCI = GROUND FAULT CIRCUIT INTERRUPTER WP = WEATHER PROOF
	JUNCTION BOX, WALL MOUNTED
	JUNCTION BOX
	FINAL EQUIPMENT CONNECTION
	CIRCUIT HOMERUN
	EXPOSED CONDUIT OR METAL RACEWAY
	CONDUIT CONCEALED IN CONSTRUCTION
	CONDUIT CONCEALED WITHIN OR UNDER FLOOR SLAB

CKT. TYPE	CKT. NO.	LOAD DESCRIPTION	CIRCUIT BREAKER	PHASE			CKT. NO.	PHASE			CIRCUIT BREAKER	LOAD DESCRIPTION	CKT. NO.	CKT. TYPE	
				A	B	C		A	B	C					
L	1	TOILET/EXHAUST FAN/WORKROOM 110	20 A 1P	745			1	2200			30 A 3P	GROWTH CHAMBER NO. 1 (E15)	2	E	
L	3	LAB 109/UTILITY 104/ALLEYWAY 106/REAR	20 A 1P		840		3		2200			GROWTH CHAMBER NO. 1 (E15)	4	E	
R	5	WIREMOLD LAB 109	20 A 1P			720	5		2200			GROWTH CHAMBER NO. 1 (E15)	6	E	
R	7	WIREMOLD REARING 108	20 A 1P	720			7	8	2200		30 A 3P	GROWTH CHAMBER NO. 2 (E15)	8	E	
E	9	GROWTH CHAMBER CONDENSORS	30 A 2P		1664		9	10		2200		GROWTH CHAMBER NO. 2 (E15)	10	E	
E	11	GROWTH CHAMBER CONDENSORS				1664	11	12		2200		GROWTH CHAMBER NO. 2 (E15)	12	E	
M	13	AIR CONDITIONING UNIT CU-1	20 A 2P	900			13	14	1560		20 A 2P	GROWTH CHAMBER NO. 3 (E8)	14	E	
M	15	AIR CONDITIONING UNIT CU-1			900		15	16		1560		GROWTH CHAMBER NO. 3 (E8)	16	E	
M	17	AIR CONDITIONING UNIT CU-2	20 A 2P			900	17	18		1560	20 A 2P	GROWTH CHAMBER NO. 4 (E8)	18	E	
M	19	AIR CONDITIONING UNIT CU-2		900			19	20	1560			GROWTH CHAMBER NO. 4 (E8)	20	E	
M	21	AIR CONDITIONING UNIT CU-3	20 A 2P		900		21	22		2080	30 A 2P	GROWTH CHAMBER NO. 5 (E7/2)	22	E	
M	23	AIR CONDITIONING UNIT CU-3			900		23	24		2080		GROWTH CHAMBER NO. 5 (E7/2)	24	E	
M	25	AIR CONDITIONING UNIT CU-4	20 A 2P	900			25	26		2080	30 A 2P	GROWTH CHAMBER NO. 6 (E7/2)	26	E	
M	27	AIR CONDITIONING UNIT CU-4			900		27	28		2080		GROWTH CHAMBER NO. 6 (E7/2)	28	E	
M	29	ELECTRIC WALL HEATER	20 A 1P			1000	29	30		400	20 A 1P	POWER DOOR OPERATOR(S)	30	M	
R	31	OUTDOOR OUTLETS	20 A 1P	900			31	32			20 A 1P	SPACE	32	S	
S	33	SPARE	20 A 1P				33	34			20 A 1P	SPACE	34	S	
S	35	SPARE	20 A 1P				35	36			20 A 1P	SPACE	36	S	
S	37	SPARE	20 A 1P				37	38			20 A 1P	SPACE	38	S	
S	39	SPARE	20 A 1P				39	40			20 A 1P	SPACE	40	S	
S	41	SPARE	20 A 1P				41	42			20 A 1P	SPACE	42	S	
				5065	5204	5184					9600	10120	8440		

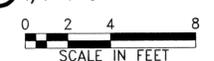


USDA No. 53-3K15-9-9131		S-H No. 603183-0		NO.	DATE	BY	DESCRIPTION
					11/01/05		AS-BUILTS
REVISIONS							
A-E FIRM		USDA		Shive-Hattery, Inc. 2103 EASTLAND DRIVE - BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808			
PROJECT MANAGER	EPW	ELECTRICAL DETAILS & SCHEDULES					
DESIGNER	G. GERDES	PPM	R. BERGOLC				
CHECKED BY	JLP	SAFETY & HEALTH	C. ROMINE	SOLICITATION NO.		53-3K15-9-9131	
DRAWN BY	HRM	REAL PROPERTY		DATE		11/01/05	
				INSECTARY RENOVATION O.A.R.D.C.		1505 Payne Drive, Bldg 433 Wooster, Ohio	
				DWG. NO.		E21	
SHEET 012 of 012							

Bid Option 2



1 MECHANICAL PLAN
1/4" = 1'-0"



KEY NOTES

- ① QTY 4: SANYO MODEL # 18KHS22 1.5 TON WALL MOUNTED HEAT PUMP. RATED AT 16,000 BTUH COOLING/17,000 BTUH HEATING WITH 440 CFM SUPPLY AND 50 CFM OA DIRECT TO ROOM. ELECTRICAL REQUIREMENTS ARE 208/1/60 AT 8.6 AMPS. PROVIDE WITH ELECTRIC PRE-HEATER, WIRED REMOTE AND WALL MOUNT REFRIGERANT LINESET, OUTDOOR UNIT, CONCRETE BASE WITH PAD, CONDENSATE DRAIN PUMP AND AIR FILTERS. MOUNTING HEIGHT TO BE 18" BELOW CEILING.
- ② NOT USED.
- ③ EXISTING STEAM HEAT TO REMAIN IN OPERATION IN THIS ROOM. STEAM HEAT CAN BE ABANDONED IN PLACE IN OTHER ROOMS NOT NOTED. OA LOUVER SERVING EACH ROOM TO REMAIN. OA LOUVER IN ABANDONED UNITS TO BE TESTED & BALANCED TO 50 CFM.
- ④ EXISTING STEAM HEAT CAN BE ABANDONED IN PLACE IN THIS ROOM. OA LOUVER SERVING THIS ROOM TO REMAIN. OA LOUVER IN ABANDONED UNITS TO BE TESTED & BALANCED TO 50 CFM.
- ⑤ EXISTING 50 CFM EXHAUST FANS TO REMAIN IN OPERATION IN THIS ROOM. EXHAUST FANS TO BE REFURBISHED TO LIKE NEW CONDITION, TESTED & BALANCED TO 50 CFM.
- ⑥ PROVIDE NEW 100 CFM THRU-WALL DRAINABLE LOUVER FOR THIS ROOM, WITHIN 4" DIRECTLY UNDER AC UNIT. TEST & BALANCE TO 100 CFM. OA WILL BE RELIEVED THRU TOILET ROOM EXHAUST. UNDERCUT DOORS SERVING PORCH AND TOILET ROOM.
- ⑦ QTY 1: COOK MODEL# GC164 CEILING EXHAUST FAN. RATED FOR 150 CFM AT 0.5" SP, 1300 RPM AND 145 WATTS. 120/1/60. PROVIDE WITH ALUMINUM GRILLE, 8" ROUND DUCT ADAPTER, VIBRATION ISOLATORS, BACKDRAFT DAMPER & BUGSCREEN. DUCT UP THRU ROOF WITH RAINHOOD. COORDINATE CUTTING OF ROOF OPENING AND FLASHING WITH USDA'S ROOFER FOR WARRANTY PROTECTION. INTERLOCK WITH LIGHT SWITCH IN BOTH ROOMS 107 & 110 FOR OCCUPANCY.
- ⑧ DEMOLISH STEAM HEATER AND ASSOCIATED PIPING BACK TO MAIN WITH VALVE AND CAP. COORDINATE BETWEEN TRADES IN FIELD.
- ⑨ QTY 1: MARKEL SERIES 3320 ELECTRIC WALL HEATER. RATED AT 1 KW, 120/1/60. PROVIDE WITH FLUSH MOUNT, INTEGRAL THERMOSTAT, AND DISCONNECT.

GENERAL NOTES

- 1. DUCTWORK AND PIPING IS SHOWN IN SCHEMATIC FORM. NOT ALL RISERS AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND AVOID INTERFERENCE WITH OTHER TRADES.
- 2. VERIFY EXACT SIZE AND LOCATION OF EXISTING UTILITIES BEFORE START OF CONSTRUCTION.
- 3. Ⓞ INDICATES CONNECT NEW TO EXISTING.
- 4. Ⓧ INDICATES THERMOSTAT LOCATION.
- 5. ALL PIPING TO BE INSULATED PER SPECIFICATIONS.

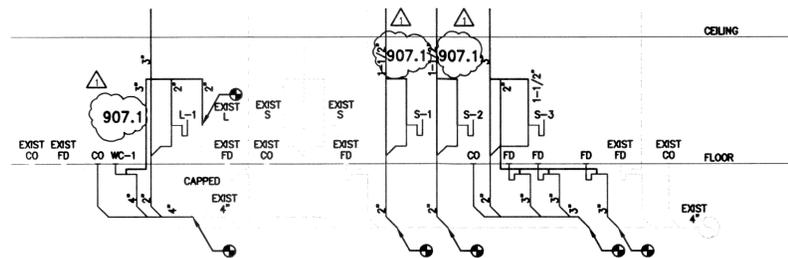
USDA No. 53-3K15-9-9131					
S-H No. 603183-0		11/01/05		AS-BUILTS	
		NO.	DATE	BY	DESCRIPTION
REVISIONS					
A-E FIRM		USDA			
PROJECT MANAGER	EPM	 Agricultural Research Service Shive-Hattery A/E Services, Inc. Shive-Hattery, Inc. 2103 EASTLAND DRIVE BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808			
DESIGNER	PPM				
JPB	R. BERGOLC				
CHECKED BY	SAFETY & HEALTH	SOLICITATION NO.		DWG. NO.	
TDL	C. ROMINE	53-3K15-9-9131		INSECTARY RENOVATION O.A.R.D.C.	
DRAWN BY	REAL PROPERTY	DATE		1505 Payne Drive, Bldg 433 Wooster, Ohio	
JPB		11/01/05		M1.1	

FIXTURE SCHEDULE - CONTD

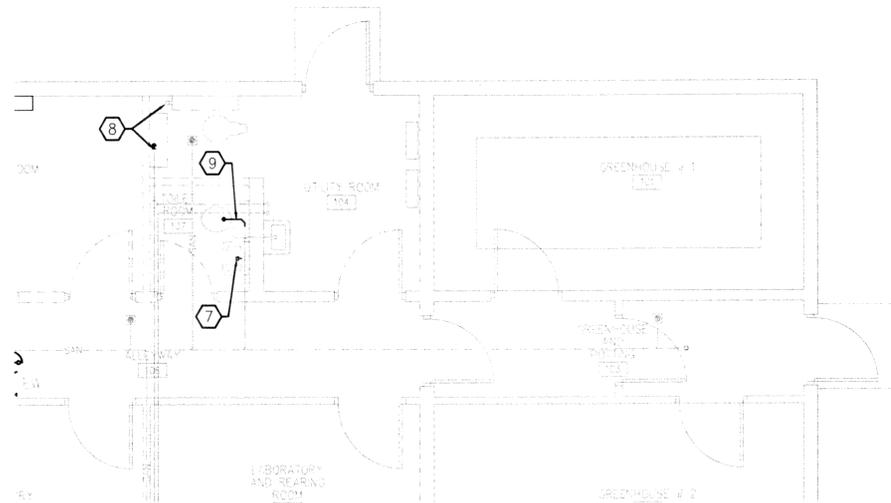
WC-1 AMERICAN STANDARD "MADERA" FLOOR MOUNTED, ELONGATED VITREOUS CHINA, SIPHON JET, 1.6 GAL FLUSH, RIM 17-1/4" AFF FOR WHEELCHAIR USE, OLSONITE 10CC-SS-AM WHITE, ANTIMICROBIAL, OPEN FRONT SEAT WITH SELF-SUSTAINING HINGE, SLOAN ROYAL 115-1.6 FLUSH VALVE WITH ANGLE STOP AND VACUUM BREAKER.

L-1 AMERICAN STANDARD "LUCERNE" 0355.012, 2018, WALL HUNG, VITREOUS CHINA LAVATORY, 4" CENTERS, OFFSET TAILPIECE WITH GRID STRAINER DRAIN, KOHLER K-9000 CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, TRUE-BRO LAV SHIELD, FLOOR MOUNTED CONCEALED ARM CARRIER, CHICAGO FAUCET 895-317, CHROME FINISH, RIDGID GOOSENECK SPOUT, 2.0 GPM SOFTFLO AERATOR, 317 INDEXED WRISTBLADE HANDLES, BRASS CRAFT SUPPLIES WITH WHEEL HANDLE ANGLE STOPS.

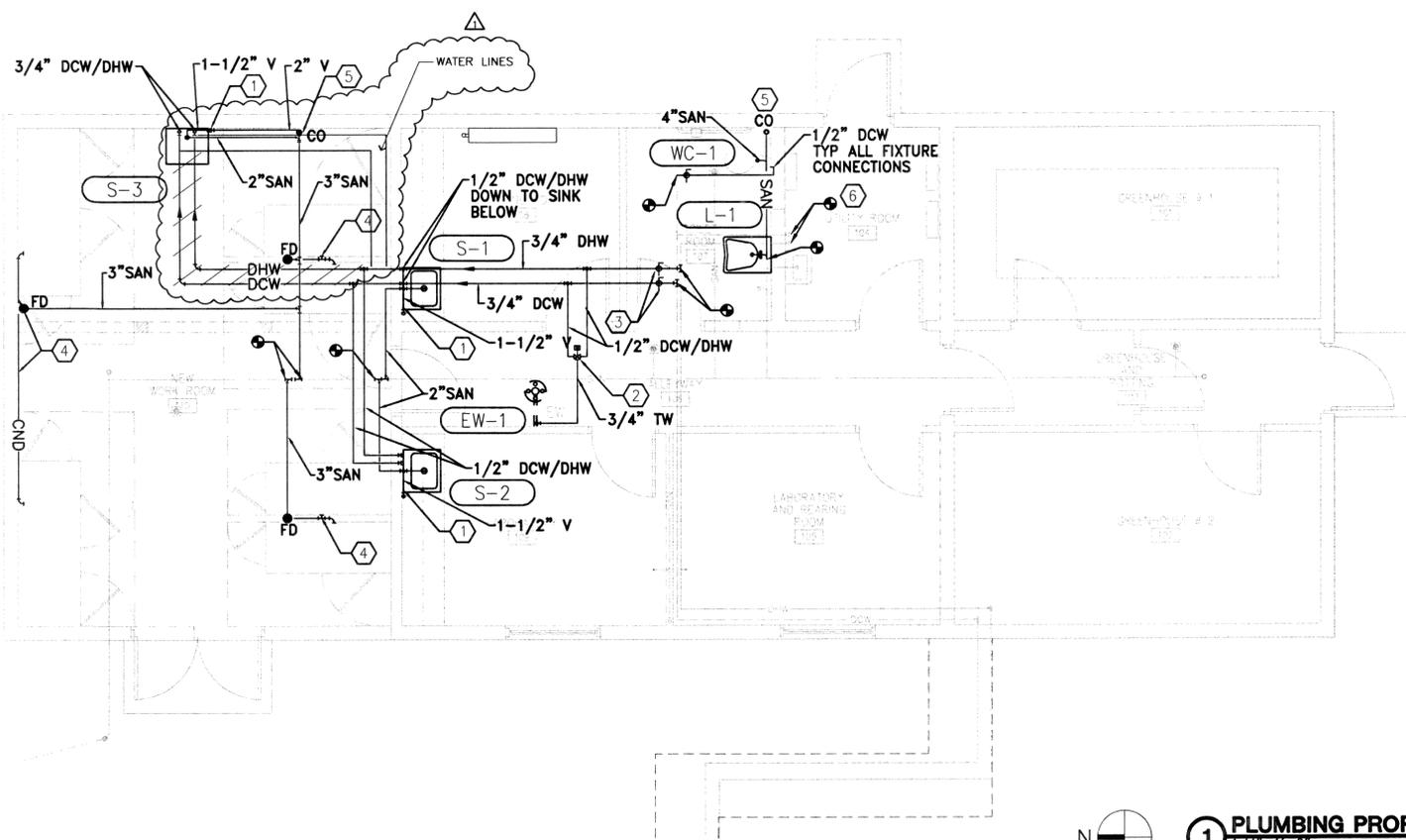
Bid Option 2



3 PLUMBING ISOMETRIC PLAN
1/4" = 1'-0"



2 PLUMBING DEMOLITION PLAN
1/4" = 1'-0"
SCALE IN FEET



1 PLUMBING PROPOSED PLAN
1/4" = 1'-0"
SCALE IN FEET

KEY NOTES

- ① 2" VENT UP TO 3" V.T.R.
- ② LEONARD MODEL TM-5125-STSTL-EP, DUAL MANIFOLD EMERGENCY THERMOSTATIC MIXING VALVE SYSTEM WITH TEMPERATURE OVERRIDE PROTECTION, WALL MOUNTED STAINLESS STEEL CABINET, SET TEMPERATURE REGULATORS TO SUPPLY 85°F TEMPERED WATER FOR EMERGENCY SHOWER AND EYE WASH FIXTURES.
- ③ NEW SHUT-OFF VALVES
- ④ PIPE CONDENSATE TO FLOOR DRAIN
- ⑤ FLOOR CLEANOUT
- ⑥ CONNECT EXISTING PIPE TO NEW FIXTURES.
- ⑦ DEMO AND CAP EXISTING PIPE.
- ⑧ DEMO, CAP AND VALVE EXISTING PIPE.
- ⑨ DEMO EXISTING PIPE WHERE INDICATED IN BOLD.

FIXTURE SCHEDULE

- S-1** ELKAY "LUSTERTONE" DLR-172210, 17"x22"x10" DEEP, SINGLE BOWL, 18GA, TYPE304 STAINLESS STEEL, SELF RIMMING, 3 FAUCET HOLES, 4" O.C., 35 CUP STRAINER DRAIN, CHICAGO FAUCET 201A-GNBAE3-317, SWING GOOSENECK SPOUT, WRISTBLADE HANDLES. SUPPLY WITH WHEEL HANDLE ANGLE STOPS, ADJUSTABLE ACID WASTE P-TRAP WITH CLEANOUT.
- S-2** ELKAY "LUSTERTONE" DLR-172210, 17"x22"x10" DEEP, SINGLE BOWL, 18GA, TYPE304 STAINLESS STEEL, SELF RIMMING, 3 FAUCET HOLES, 4" O.C., 35 CUP STRAINER DRAIN, CHICAGO FAUCET 201A-GNBAE3-317, SWING GOOSENECK SPOUT, WRISTBLADE HANDLES. SUPPLY WITH WHEEL HANDLE ANGLE STOPS, ADJUSTABLE ACID WASTE P-TRAP WITH CLEANOUT.
- S-3** ELKAY ESSW SERIES, 23"x18"x12" DEEP, SINGLE BOWL, WALL HUNG, 14GA, TYPE 304 STAINLESS STEEL, LUSTER FINISH, PLAIN BACK, WALL HANGER. CHICAGO FAUCET 540-LD-8795-WXF SERIES, WALL MOUNTED SINK FAUCET, METAL WRISTBLADE HANDLES COLOR KEYED TO HOT AND COLD, 1/2" INLETS ON 8" CENTERS, CONCEALED PIPING, STATIONARY VACUUM BREAKER SPOUT WITH 3/4" HOSE THREAD OUTLET, WALL BRACE, BUCKET HOOK, CHROME PLATED. MOUNT FAUCET AT 3" ABOVE SINK BACK. PROVIDE WITH ELKAY LK173, 3" CAST IRON P-TRAP FOR STAINLESS STEEL SERVICE SINK, 3" OUTLET, REMOVABLE GRID STRAINER, ADJUSTABLE SUPPORT BOTTOM.
- EW-1** BRADLEY "BRADEX" S19-310SC LABORATORY APPLICATION EYE WASH AND OVERHEAD SHOWER FIXTURE, WALL MOUNTED, CHROME PLATED STAY-OPEN VALVE, CHROME PLATED BRASS SPRAYHEAD ASSEMBLY WITH TWIN SOFTFLO EYE WASH HEADS, PROTECTIVE COVERS.

GENERAL NOTES

1. PIPING IS SHOWN IN SCHEMATIC FORM. NOT ALL RISERS AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND AVOID INTERFERENCE WITH OTHER TRADES.
2. VERIFY EXACT SIZE AND LOCATION OF EXISTING UTILITIES BEFORE START OF CONSTRUCTION.
3. Ⓞ INDICATES CONNECT NEW TO EXISTING.
4. COORDINATE ROUTING AND CLEARANCES OF PIPING, RISERS, DROPS, ETC, WITH GENERAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO COMPLY WITH LOCAL AND STATE REQUIREMENTS.
5. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. PROVIDE SHUTOFF VALVES IN BRANCH MAINS AND AT EACH PLUMBING FIXTURE.
7. ALL PIPING TO BE INSULATED, LABELED AND PAINTED PER SPECIFICATIONS.

USDA No. 53-3K15-9-9131			
S-H No. 603183-0			
		NO.	DATE
		BY	AS-BUILTS
REVISIONS			
		Agricultural Research Service	
		Shive-Hattery A/E Services, Inc. Shive-Hattery, Inc. 2103 EASTLAND DRIVE BLOOMINGTON, ILLINOIS 61702 PHONE (309) 662-8992 FAX (309) 662-5808	
PLUMBING PLAN			
A-E FIRM	USDA		
PROJECT MANAGER	EPH		
C. GERDES			
DESIGNER	PPM		
JPB	R. BERGOLC		
CHECKED BY	SAFETY & HEALTH	SOLICITATION NO.	
TDL	C. ROMINE	53-3K15-9-9131	INSECTARY RENOVATION O.A.R.D.C.
DRAWN BY	REAL PROPERTY	DATE	1505 Payne Drive, Bldg 433 Wooster, Ohio
JPB		11/01/05	
			DWG. NO. P1.1
			SHEET 010 of 012

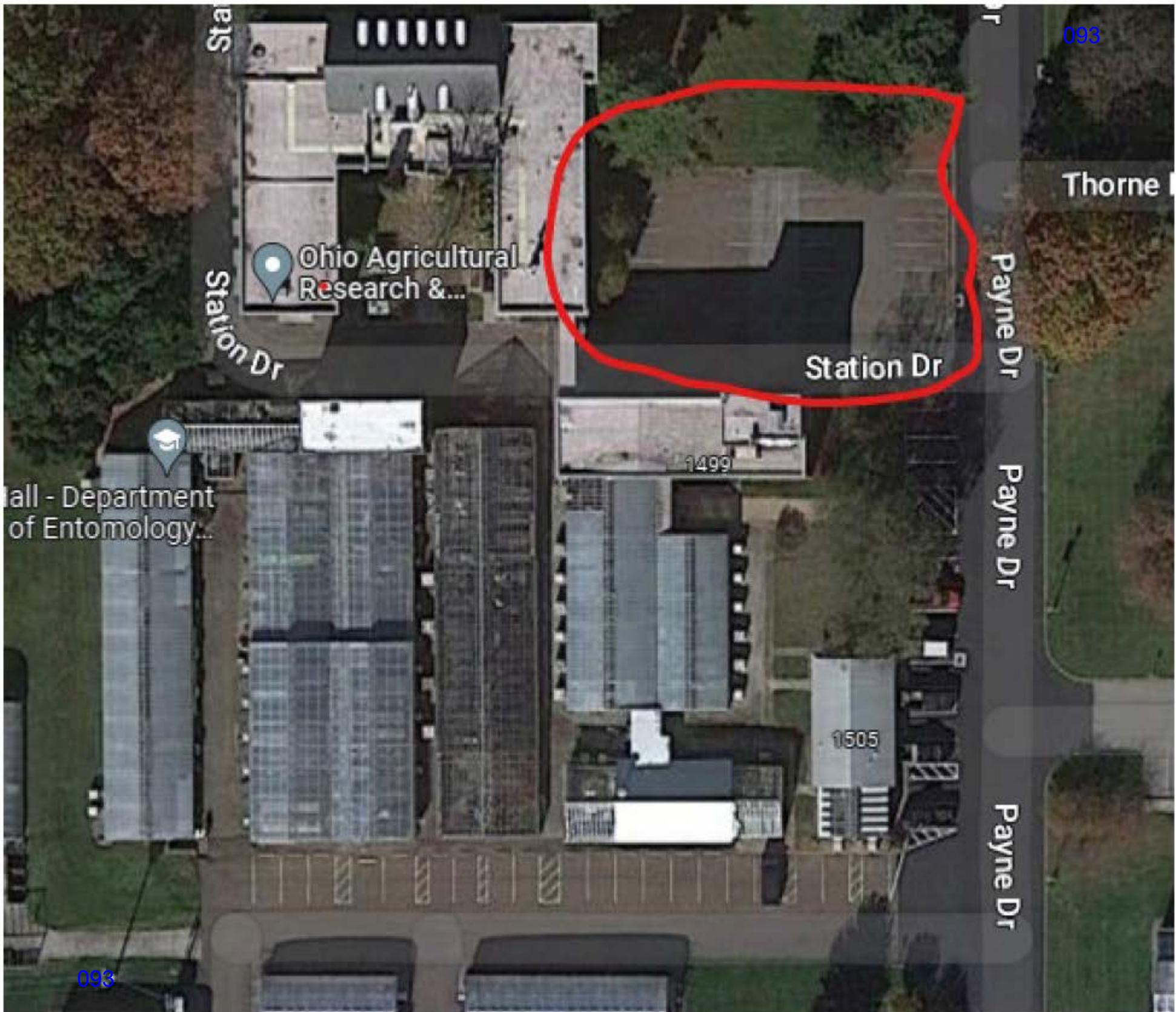


Insectary Building:

Insectary Building is Building 001. B001 appears to have been originally constructed in 1968 (drawings dated 1967). There was an Insectary Building renovation in 2005.

- There appears to be an underground tunnel system connecting the USDA Insectary Building and University Greenhouse. Confirm with OSU where and how to terminate existing utilities.
- Tunnel system appears to contain two electrical feeders, steam line, domestic cold and hot water lines.
- One electrical feeder appears to be from the original 1968 construction – 2005 drawings indicate the original feeder as 3” conduit with 4-250 MCM, fed from University GH (likely Panel MDP), supplies existing electrical panel at Insectary Bldg.
- Second electrical feeder appears to have been installed in 2005 project. 2005 drawings indicate second feeder is 2” conduit with 4 #3/0 and 1 #6 Grd. Source appears to existing Panel MDP at University GH and supplies Panel RP-1 that was installed in the 2005 renovation.
- **Need to discuss the details of disconnecting / demolition of electrical feeders with OSU.**
- Tunnel system appears to contain a 3” low pressure steam line – steam distribution within B001 supplied fin tube heaters in GH spaces and heating units for laboratory spaces, and other rooms. 2005 drawings appear to indicate the steam was maintained to the fin tube heaters in greenhouse spaces and that other heating units were removed in the project, replaced with split type systems (fan coil unit with condensing unit). It is not 100% clear on the drawings where the source for steam is. However, the drawings do indicate a “pressure regulating station” that may be in the tunnel. **Discuss the details of disconnecting / demolition of the steam line with the OSU.**
- 2005 drawings appear to indicate that domestic cold and hot water lines are routed through the tunnel to B001. Discuss the details of disconnecting / demolition of the water lines with the University– it is my thought that OSU will want the lines removed back to the source. Note: Builder report indicates that hot water is produced by hot water heater at B001 – **need to confirm if hot water line is in tunnel to building.**
- 2005 drawings appear to indicate that 4 exterior HVAC units for room spaces (part of the 2005 split systems), 4 HVAC units for growth chambers, and 2 HVAC units for greenhouse spaces.
- 2005 drawings indicate that six (6) growth chambers are within the building along with four (4) associated exterior condensing units.

- 2005 drawings indicate a natural gas line routed underground from University GH to B001 (line is not routed through the tunnel). Coordinate with OSU for demolition specifics.
- 2005 drawings indicate underground sanitary sewer line to B001. It is not 100% clear where it originates from. Confirm with OSU.
- Fire Alarm: 2005 drawings did not indicate any fire alarm equipment / devices in the project. Does the building have a fire alarm system? If so, is it connected to a campus-wide monitoring system? If connected to a campus-wide monitoring, Contractor will need to coordinate disconnection and there may be changes needed at the monitoring station for the building removal. Confirm with OSU.
- Telecommunications: Builder indicates that telephone and data outlets are at B001. I have not located any information on how telecommunication cabling is routed to B001. Confirm with OSU.



093

Thorne

Ohio Agricultural
Research &...

Station Dr

Station Dr

Payne Dr

1499

Department of Entomology...

1505

Payne Dr

Payne Dr

093