



MICHIGAN STATE UNIVERSITY

INFRASTRUCTURE PLANNING AND FACILITIES

KELLOGG BIOLOGICAL STATION **FIELD RESEARCH SUPPORT FACILITY**

Hickory Corners, Michigan

DESIGN AND BUILD PROJECT

PREVAILING WAGE

Prior to submitting a bid, all bidders must hold a state project registration, which must be completed through the Michigan Department of Labor and Economic Opportunity (LEO) register, available at <https://www.michigan.gov/leo/bureaus-agencies/ber/wage-and-hour/prevailing-wage>. Bidders must include a copy of a state project registration for itself and for each subcontractor that has been selected at the time the bidder submits its bid proposal.

Vendors must submit certified payroll with the invoices.

Vendors must submit certified payroll through the State of Michigan portal.

Forms may be found in "[Certified Payroll Form](#)":

<https://www.michigan.gov/leo/bureaus-agencies/ber/wage-and-hour/prevailing-wage>

POST/FRAME BUILDING SPECIFICATIONS

The specifications shall be considered minimum standards to be met by the contractor.

The drawings furnished are schematic and indicate the intent of the owner as to the type of building construction desired: the dimensions shown on the general drawings shall not be changed without approval of the owner.

Overall exterior building dimensions are measured from outside face of horizontal 2x4 siding supports. All interior building dimensions are measured from the face of the drywall.

The successful bidder shall submit to the owner for evaluation a complete set of plans and specifications for the building proposed to be constructed for the bid price within 21 days of the contract being awarded. This submittal shall be designed in accordance with the latest B.O.C.A. code, and bear the seal of an architect or engineer licensed to practice in the State of Michigan.

The contractor shall furnish to the owner shop drawings of all furnished materials and equipment for approval before proceeding with the work.

BOCA codes shall be followed for all construction. A building permit is not required; electrical, mechanical and plumbing permits/inspections are required.



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The project shall be completed no later than April 1, 2027.

LENGTH: 64'-0" minimum

WIDTH: 40'-0" minimum

BOT. OF TRUSS HGT.: 10'-0"

LOCATION: Kellogg Biological Station
Hickory Corners, MI 49060
269-671-2500 (Brad Osborn, Project Manager)

UTILIZATION: Archive storage and mud room

SITE WORK:

Site Preparation: The contractor shall locate the building addition as shown on the plan and shall insure that the west side is parallel with 40th St.

The contractor shall strip and stockpile the topsoil from the construction area. After the building and parking lot have been completed, topsoil shall be respread over all disturbed areas to a minimum depth of 4 inches. All excess topsoil shall be wasted on the site.

The elevation of the finished floor of the building shall be set 1'-0" above the highest existing grade that occurs at a distance of 10'-0" from the building in all directions. The parking lot shall be graded so that it slopes to the existing grade and away from the building.

The contractor shall provide a minimum of 4" compacted sand fill for the building slab and concrete pads.

The contractor shall expand and pave the existing parking areas using MDOT compacted 21AA stabilized road gravel or approved equal to a minimum depth of 8", with 4" of light duty asphalt paving as shown on diagram.

All disturbed areas shall be seeded, fertilized and mulched.



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STRUCTURE:

Roof:

Minimum Design Loads:

Top Chord of Trusses - Dead Load: 15 psf

Live Load: 40 psf

Bottom Chord of Trusses – Dead Load: 20 psf

Wood Trusses:

Comply with Truss Plate Institute's "Design Specifications for Metal Plate Connected Wood Trusses" (TPI-78).

Maximum truss spacing shall be 2'-0" on center.

Roofing:

Roofing shall be pre-formed and pre-finished steel with storm gutters and downspouts. Panels shall be minimum 29-gauge thickness. Color shall be white, match existing, and approved by owner. Main ribs shall be at 9" o.c. and 3/4" high, matching sidewall steel style.

Provide a continuous ridge vent, vented soffits, and inside closure strips.

On east and west sides, notch out column posts and install truss support boards flush with the interior side of the posts.

Corner trim, fascia trim, and rake trim color shall be White and approved by owner.

Exterior Sidewalls:

Design for a minimum 20 psf wind load. Siding shall be preformed and pre-finished steel. Panels shall be 29 gauge thickness. Color shall be white, match existing, and approved by owner. Main ribs shall be at 9" o.c. and 3/4" high, matching roof steel style. Installed to provide 5" between bottom of steel and grade level. Minimum 6" of treated T&G 2x6 below grade.

2x6 construction, 24" o.c. stud wall with 6" fiberglass batt insulation and vapor barrier.

Wood Framing:

Provide dressed lumber unless otherwise indicated.

Provide seasoned lumber with 19% maximum water content at time of dressing.

Light framing lumber 2" to 4" thick and not more than 4" in width, provide standard grade any species.

Structural framing lumber 2" to 4" thick and greater than 4" in width, provide any grade and species complying with the following: minimum allowable bending stress of 1150 psi and minimum Modulus of Elasticity (E) of 1,400,000 psi.

Treated Lumber:

All posts and splashboards shall be pressure treated. All treated lumber shall be treated in accordance with American Wood Preservers Institute (AWPI) standard



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"C-2". All pressure treated wood shall bear the "AWPI Quality Mark" LP-22 for ground contact.

Posts shall be pressure treated No. 2 or better Southern Yellow Pine, straight, free from checks and large knots.

Post Embedment: Foundation, depth and compaction sufficient for design and wind load specified. As a minimum, all post footings shall be 22" in diameter and 12" thick. Bottom of footings shall be minimum of 48" below finished grade.

Exterior Trim: Fascia, flashing and trim pieces shall be as specified by manufacturer of siding and roofing. Color shall be white and match existing. Eave shall be 12" wide on east and west sidewalls. All soffits shall be vented in accordance with good engineering practice.

Splashboard: T&G, treated in accordance with American Wood Preservers Institute (AWPI) standard "C-2". Minimum 3 T&G treated 2x6 with minimum 6" below grade.

Interior Ceiling: 10 foot ceiling with 5/8" drywall (Plant and Soil Archive Rooms shall have two layers of 5/8" drywall), finished, painted. For ceiling in Tool Room, use 1/2" plywood, primed and painted. Provide 16" c.c. supports for drywall or plywood. Provide 12" blown cellulose insulation over entire heated attic space. Provide barrier panels along exterior wall to keep insulation out of soffit areas.

Interior walls: For all interior walls: 2x4 construction, 24" o.c. stud wall.

Insulate interior walls.

For all interior wall surfaces except in Grinding Facility and Tool Room walls, 5'8" drywall, finished, primed and painted.

Painting: Walls, ceilings, wood trim and doors, unless noted otherwise, shall be painted using Semi-Gloss paint. Number of coats and coverage shall be according to manufacturer's recommendations. A good quality paint (100 % Acrylic Latex) shall be used. Exterior paint shall be used for exterior doors.

VENTILATION

Roof: Continuous "Venta-Ridge" or approved equal and vented soffits.

DOORS

Personnel: (3) - Standard, 36" x 6'-8" 16-gauge steel, insulated with 24"x38" lite, metal frames, lockset and keyed cylinder, closures and weatherstripping, installed, and painted. These are exterior doors. Two are combined together for the entrance to the



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Sample Processing Room (manual flush bolts required and closure on active door of pair).

(5) – Standard, 36" x 6'-8" 16-gauge steel, non-insulated (no lite), metal frames, lockset and keyed cylinder.

All door hardware shall be commercial grade with brushed chrome finish. All door handles shall be ADA/Lever Action.

Lock cylinders shall be Corbin/Russwin and keyed to owners Grand Master System (GM, M, pass keys). Contractor shall provide ten (10) master keys and fifteen (15) pass keys.

FLOORING AND CONCRETE

Interior Concrete: 4" reinforced concrete with control joints, 4,000 psi, limestone aggregate, 5-6% entrained air, 6 mil polyethylene vapor barrier, 6x6-W1.4xW1.4 WWF, "Kure and Seal" in accordance with manufacturer's instructions. Provide a smooth finish.

A 4" thick perimeter concrete rodent wall shall be installed around the entire building and shall extend 24" below finished exterior grade. 24" of 2" rigid insulation shall be installed vertically along the inside of the exterior rodent wall. 48" of 2" rigid insulation shall be placed horizontally under the slab beginning at the exterior wall.

Interior Flooring: 4" vinyl base on all walls. Color shall be selected by owner from standard color selection.

Exterior Concrete: Exterior concrete slabs shall be 4" thick. Concrete aprons shall be sealed and have slip resistant broom finish.

Concrete shall have same specification as interior concrete. Vapor barrier shall not be required.

Guard Posts: Guard posts at overhead door shall be 6" diameter, schedule 40, hot dipped galvanized steel pipe. Posts shall be embedded in the ground a minimum of 48" and surrounded by a minimum of 6" of concrete. Posts shall be filled with concrete and extend above the concrete apron 48". Provide convex concrete top.



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MISCELLANEOUS

Desktops and bench tops shall be constructed of 1" particle board and be covered with a plastic laminate (color selected by owner from standard colors). Provide a 4" backsplash. Support countertops using 11 gauge rigid steel wall brackets (24"x18"x1 1/2") at 24" c.c. Catalog No. 2217T23 as manufactured by McMaster-Carr or equal. Provide support blocking in walls. Benchtops are 36" AFF and desktops are 29" AFF.

Provide 2' x 2' access to attic in Grinding Facility Room. Access panel shall be Milcor No. 3212-024 or approved equal.

Provide two (2) – 3 wide, 3 openings, single tier lockers. Grainger stock no. 1AEF1 and six (6) front locker bases. Grainger stock no. 1AEP9.

UTILITIES

Elect/Mech:

The owner shall apply and pay for the electrical service to the building from Consumers Energy.

The owner shall apply and pay for the natural gas service from Consumers Energy.

Vendor shall provide a standard electrical service throughout building addition.

All wiring shall be stranded copper. No aluminum conductors shall be used.

All electrical items shall be manufactured by Square D.

Items to be furnished by the contractor and included in sizing the electrical/mechanical systems are:

Standard surface mount 4' x 4 LED light fixtures to provide good lighting throughout.

All outlets shall be rated for 20 amps and located as shown on plans. No more than five (5) outlets shall be served by one circuit. Outlets shall be mounted 18" to center above finished floor.

Light switches shall be mounted 48" to center above finished floor.

Outlets shall be GFI where required.

All exterior doors shall be equipped with electrical and battery operated exit signs/emergency lights. Grainger model 3CE34 or equal.



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Exterior down lighting (70W HPS) at entrances and operated by photocell and switch. Grainger Model 5MM59 or equal.

Provide FM200 Fire Suppression, Smoke Alarm, and Fire Alarm system for building addition. Tie into current systems if possible. The systems currently in place include the following:

- 1 – 147L FM200 cylinder and valve assembly
- 268 – lbs., FM200
- 2 – Cylinder bracket, 147L
- 1 – Liquid level indicator, 147L cylinder
- 1 – Electric control head, 24VDC
- 1 – Manual actuator, mechanical
- 1 – Pressure operated switch, SPDT
- 3 – Warning sign
- 2 – Nozzle, size as required
- 1 – PCR-100 control panel, single-hazard, conventional
- 1 – Fire-Lite 411UDAC digital communicator
- 1 – Ditek surge suppressor
- 3 – 12V 7AH battery
- 2 – Ionization smoke detector, conventional, with standard base
- 6 – Photoelectric smoke detector, conventional, with standard base
- 2 – Heat detector, conventional, F/T and rate of rise
- 2 – Manual release station, dual action, FM200 lettering
- 4 – Manual fire alarm station, dual action, fire alarm lettering
- 2 – Abort station, addressable
- 2 – Bell, 6", 24VDC
- 4 – Audible/visual signaling device, multi-candela, ADA compliant
- 2 – Strobe, multi-candela, ADA compliant
- Design, prints, and submittals
- All labor and materials necessary to install the systems
- Provide startup, final check and test

All electrical work shall meet the requirements of all local, state, and national codes and ordinances.

Furnish and install HVAC equipment suitable to maintain habitable temperatures in additional building space.

WARRANTY

Treated Posts: 40 Years

All Work/Equip.: 1 Year



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PRICING

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Bid Sheet

Company _____ Date _____

Name _____

Signature _____

Base Bid \$ _____

The owner reserves the right to not accept the following items
which are included in the base bid:

**Smoke Detector/Fire Alarm/
Fire Suppression System** \$ _____

PROJECT TOTAL \$ _____