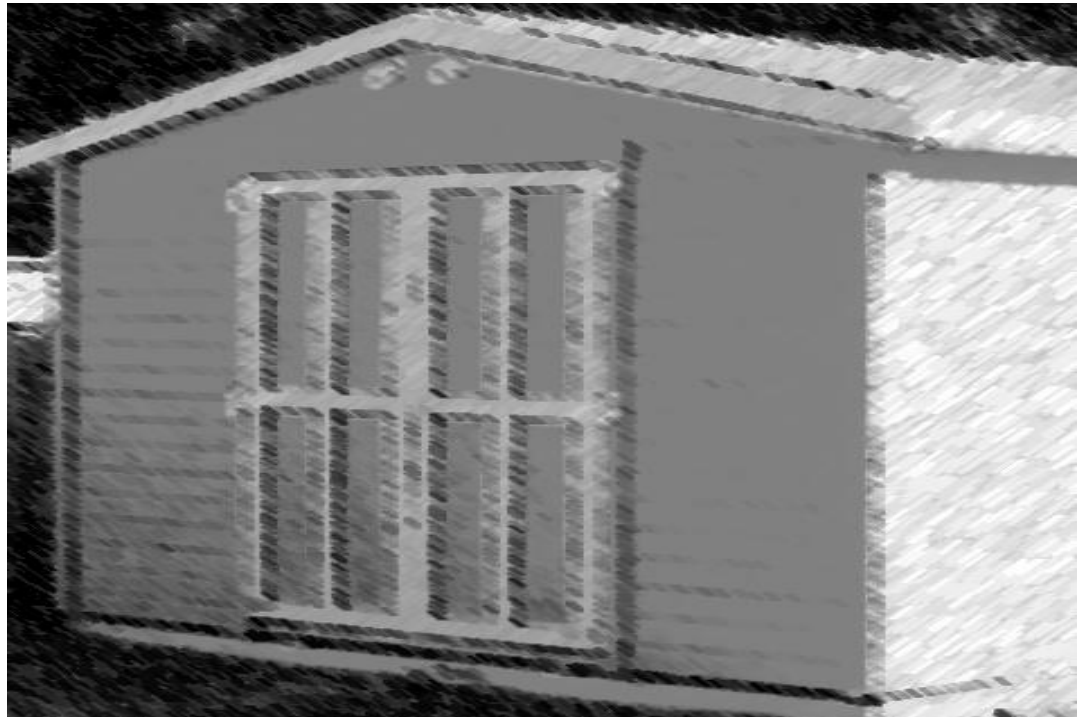


Residential DETACHED UTILITY SHED Checklist and Guide for a Building Permit

(Per the 2015 IRC as amended by St. Louis County
Ordinances for 1-& 2-Family Dwellings and Townhouses



This **Detached Utility Shed Checklist** is based on St. Louis County's (SLCO) policies, construction codes amended and adopted by ordinance. See list below. It is not a substitute for those codes and ordinances but serves as a guide to reading them. More information and explanation are provided in commentaries and interpretations published by St. Louis County and acknowledged code organizations.



List of Applicable Codes and Ordinances:

2015 International Residential Code (IRC) & Ordinance #27,654-Ch.1116 ("R" "G", "N", and "M" references and Appendix K - Sound Transmission).

2015 International Building Code (IBC) & Ordinance #27,654-Ch.1116\5 ("B" references).

For inquiries regarding the information provided in this guide, please contact:

St. Louis County Permit Processing _____ (314) 615-5184

St. Louis County Zoning Review _____ (314) 615-3763

St. Louis County Building Plan Review _____ (314) 615-5485

Right-of-Way Owner

State _____ (888) 275-6636

County _____ (314) 615-8517

Municipality _____ Call the project site's Municipality

St. Louis County's Municipal Contracts Matrix shows those municipalities that currently contract for its Code Enforcement services. The Matrix is on our web site at <https://stlouiscountymo.gov/st-louis-county-departments/transportation-and-public-works/residential-building/>

For the electronic plan review, scan QR code or visit us online at <https://stlouiscountymo.gov/st-louis-county-departments/transportation-and-public-works/electronic-plan-review/>



Sections from the Codes, their Referenced Standards, and St. Louis County Ordinances, are shown at ends of statements and are *italicized* in parentheses (.).

NOTICES Regarding Permits



- The applicant (property owner or the owner's authorized agent) is responsible for contacting those agencies that may have legal oversight separate from St. Louis County. Where their requirements conflict, the most restrictive shall govern. Contact them before starting any work approved under a permit issued by St. Louis County. Such agencies may include:
 1. The project site's Municipality; submit their site plans approval with the building permit application;
 2. Subdivision Trustees; they may have deed restrictions prohibiting utility sheds.
- Building permit issuance does not authorize construction access to the work site. If a driveway does not exist or cannot be used, the owner/contractor must apply for a permit with the owner of the Right-of-Way to construct somewhere else a temporary entrance into the work site. So, draw 1 or 2, as noted below, on the site plan:
 1. Draw the existing driveway with an arrow on it pointing into the lot and labeled "construction entrance";
OR
 2. Show and label an alternate access with an arrow pointing into the lot and labeled "construction entrance". Note on the site plan: "A separate special use permit shall be obtained from the street right-of-way owner for a construction entrance before any construction accesses the work site".
- **The Plan Reviewer** may determine the proposed work, construction, or conditions require additional drawings and information be submitted to Code Enforcement-Plan Review for review, beyond the minimum submittal requirements noted in this Checklist.

Submittal Requirements: Construction-Ready Drawings, Their General Notes of Construction, & Zoning



This guideline provides the basic information needed to apply for a building permit to construct a detached utility storage shed more than 120-sq. ft. in area, or more than 10'-0" in height, measured from the mid-point of a sloped roof. A shed area greater than 400-sq. ft. shall be designed using the St. Louis County Residential Detached Garage Checklist for a Building Permit.

Submit the following in an **electronic** set of drawings for shed(s) to be constructed or installed in Unincorporated St. Louis County, and in those Municipalities contracting with St. Louis County for Residential Code Enforcement Services. Scale, dimension, and label drawings. Items in brackets [.] are applicable Code and Ordinance sections.

- **Electronic Building Permit Application** filled out, signed and dated by the applicant.
- **Site Plans** with the following (*B107.2.1; SLCO Policy*):
 1. For properties in Unincorporated St. Louis County:
 - a. Lot lines, North direction arrow, lot number and subdivision name. Note street(s) adjoining lot.
 - b. Existing dwelling and other structures, like retaining walls. Label each by their function.
 - c. Location and extent of any septic system and/or well existing on the lot.
 - d. The proposed shed location. Dimension shed distance from lot lines and other structures.
 - e. Show with arrows water run-off direction(s). Shed location shall not obstruct swales or run-off.
 - f. **Notice:** St. Louis County may note on the site plans: "Siltation and erosion control measures

must be provided to prevent siltation/erosion from leaving the construction site”.

2. For properties in a Municipality, submit site plans signed, dated and marked "Approved", and submit the municipality's approved zoning receipt.
- **Architectural/Structural Drawings:**
 1. **Foundation or Pier Plan**, 1/4" = 1'-0" typical;
 2. **Floor Plan**, 1/4" = 1'-0" typical;
 3. **Roof Framing Plan**, 1/4" = 1'-0" typ.
 4. **Truss Drawings** Truss Design Drawings Sealed by Missouri Registered Professional Engineer including o.c. slope and spacing. Drawings can be obtained from a lumber dealer or the truss fabricator (*SLCO Rev. Ords. B107.2.1; R502.11.1; R502.11.4; R802.10.1; R802.10*).
 5. **Exterior Building Elevations** Front, Rear and Sides, 1/4" = 1'-0" typ.
 6. **Wall Section Assembly**, from footing to roof cover and from outside to inside. Dimension roof projection. Show 4'-0" horizontally of the interior rafter/joist or roof truss assembly, 1/2" to 3/4" = 1'-0".
 7. **Construction/Assembly Details**, 1/2" to 1-1/2" = 1'-0".
 - **See the example drawings at the end of this checklist for reference** in completing your own project-specific drawings. The lists below are Code and Ordinance requirements for a residential utility shed that are to be provided in your drawings and notes.

Design, Construction & Finish Requirements



Concrete Foundation or Piers

- Continuous concrete foundations supporting exterior walls may be provided as a turned-down edge minimum 8" thick and extending at least 8" above grade and at least 12" below grade supporting not more than 1 floor and the roof (*R301.1; R403.1; R403.1.1; R403.1.4; SLCO Policy*).
- Concrete piers shall be minimum 8" in diameter, sized to adequately support the expected loads exerted on each pier, and shall extend at least 12" below grade to support not more than 1 floor and roof (*R301.1; R403.1; SLCO Policy*).

Floor

- Concrete slab is minimum 3-1/2" thick on a base course of 4" of gravel or crushed stone (*R309.1; R506*).
- For elevated floor wood framing, show and label floor sheathing material and thickness. Provide and show joist size and spacing, wood species and grade, bearing on typical 6x6 skids treated for ground contact *and attached to concrete piers*. Show locations of and label connector and fastener requirements in drawings of joists-to-skids and skids-to-piers (*B107.2.1; R503.2; R317.1.2*).

Wood Wall Framing & Covering

- Label sill plate, its size, and identify the anchors and their on-center spacing into the concrete foundation at the shed perimeter (*SLCO Policy*).
- Fasten floor, wall, and roof frame assemblies accordance with Tables R602.3(1) - R602.3(4)
- Dimension wall height from the bottom of the sole/sill plate to the top of the top plate. Maximum height is 10'-0" using minimum 2x4 studs #2 grade at 16" o.c. with 2 top plates. A tolerance of +/-2" is allowed, so a 10'-0" wall height drawn may be 10'-2" in the field (*R317.1-Item 2; R602.3; Table R402.2*).

- Dimension the exterior grade as minimum 6" below the top of the foundation for exterior wood frame walls, and as minimum 4" below brick veneer on wood frame exterior walls. Note pressure-treated wood framing is required for members set on concrete or on masonry foundations less than 8" above exposed ground, and for all other wood less than 6" from the ground (*R317.1; R404.1.6*).
- At wall openings, provide size, quantity, and grade of wood headers and jack stud quantity (*R602.7*).
- Exterior wall coverings and attachments shall be adequate to resist expected wind loads (*R703.1.2*).

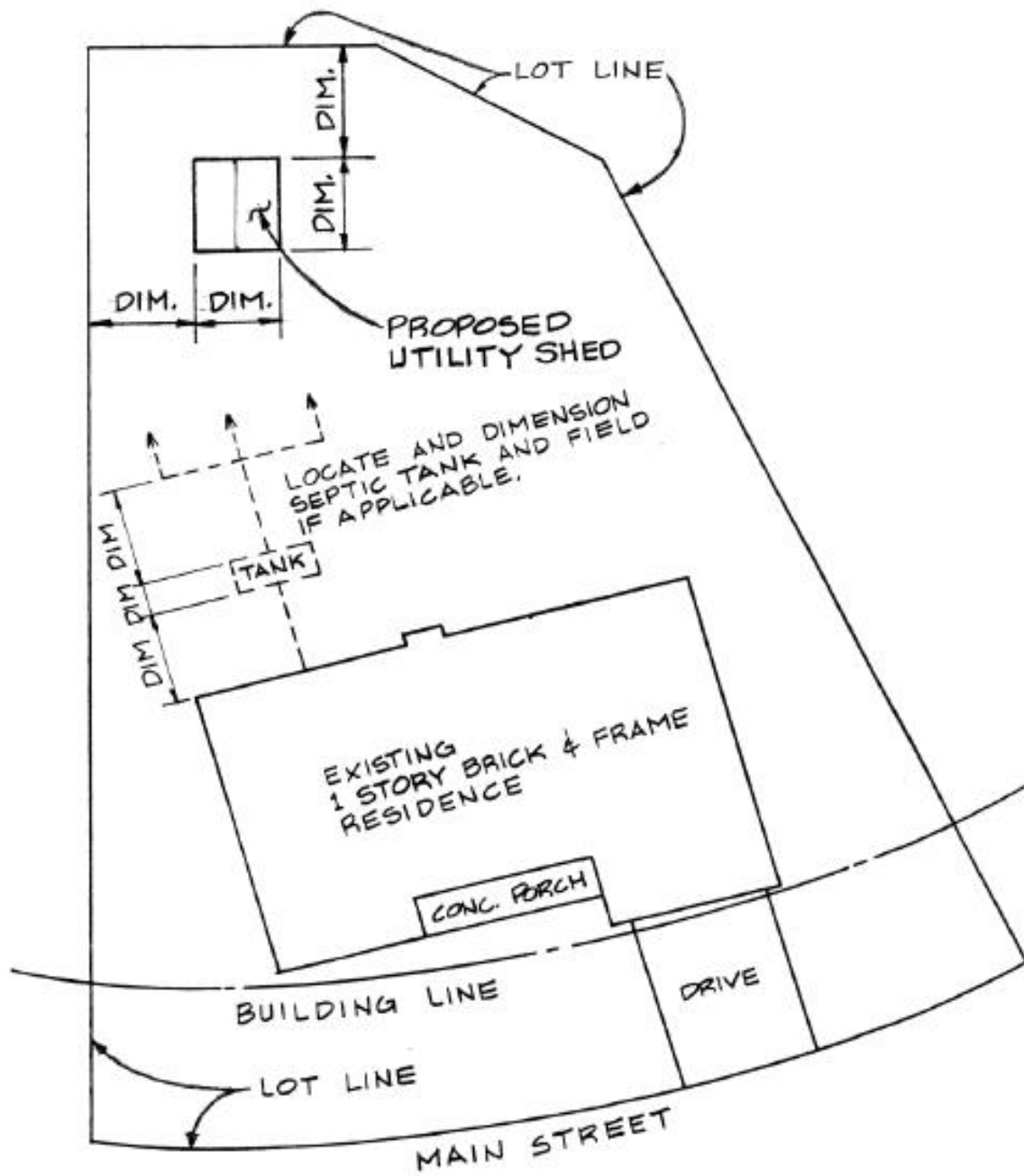
Roof Frame & Assembly

- Note on plans the roof/ceiling framing is conventional framing or truss method. Wood trusses with metal-plate-connections shall comply with ANSI/TPI 1 (*R802.10.2; R802.10.3*).
- Show in plan the roof frame span direction and on-center spacing. Note species, and grade of framing.
- Provide minimum 3:12 roof slope to use rafters and ceiling joists spans in IRC Tables R802.4(1)(2) and Tables R802.5(1)-(9).
- Framing for slopes less than 3:12 may need to be justified in submitted gravity load and deflection (*R802, esp. R802.2; R802.4; R802.5; Tables R802.4(1)(2); R802.5.1(1)-(9); Figure R802.5.1*).
- Fasten in accordance with Tables R602.3(1) through R602.3(3). Comply with Table R602.3(1) for fastening gypsum sheathing (*R602.3; R503.2.3; R803.2.3*).
- Provide roof framing design that supports the following minimum loads:
 1. Truss top chord or rafter:
 - a. Snow Load: 20 lb. per sq. ft. (*R301.2; R301.6*).
 - b. Dead Load: Use actual dead load (*R301.4*).
 2. 20-lb/psf live load for truss bottom chord or ceiling joist where there is at least a 42" high x 24" wide rectangle perpendicular to the rafter/ceiling joists or trusses. That area makes attic storage possible. Use 10-lb/psf live load where the rectangle is smaller.
- Plywood or OSB sheathing shall have at least 24/0 span rating for trusses or rafters spaced 24" o.c. and minimum 15/32" thick without edge support or minimum 3/8" thick with edge support (*Table R503.2.1.1(1); R803.2.1; APA Pub. N335P, D481*)...
- Underlayment Type I (15# felt) minimum required on wood panel sheathing under asphalt shingles:
 1. Minimum 2 layers on slopes of 2:12 < 4:12 (*R905.1.1; R905.2; Table 905.1.1(2)*).
 2. Minimum 1 layer on slopes \geq 4:12 (*R905.1.1; Table 905.1.1(2)*).

Roof Drainage

- Roof drainage may discharge onto flat areas such as lawns and streets, as long as the water flows away buildings and adjoining property and does not produce a nuisance. Surface water drainage shall be directed to an approved water course or shall be piped to a storm drain (*R401.3; SLCO Policy*).
Notice: Storm water discharge to or within 10'-0" of a property line, sidewalk, driveway or street, or discharge that creates a nuisance to adjoining properties, is prohibited (*P1101.2; P1101.11*).

Notice: This Checklist's requirements apply to most simple **Detached Utility Sheds** on residential properties. However, the Building Plan Reviewer may determine the new work shown in the drawings requires additional information be provided for Code compliance. Requirements are based on the construction codes in effect at the time this Checklist was last updated. St. Louis County Code Enforcement updates its construction codes every few years.

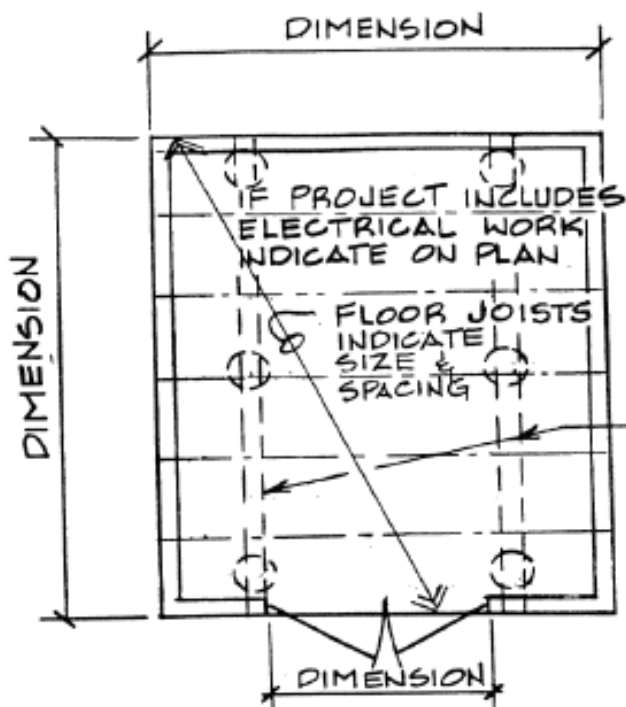


NORTH



TYPICAL PLOT PLAN FOR UTILITY SHEDS

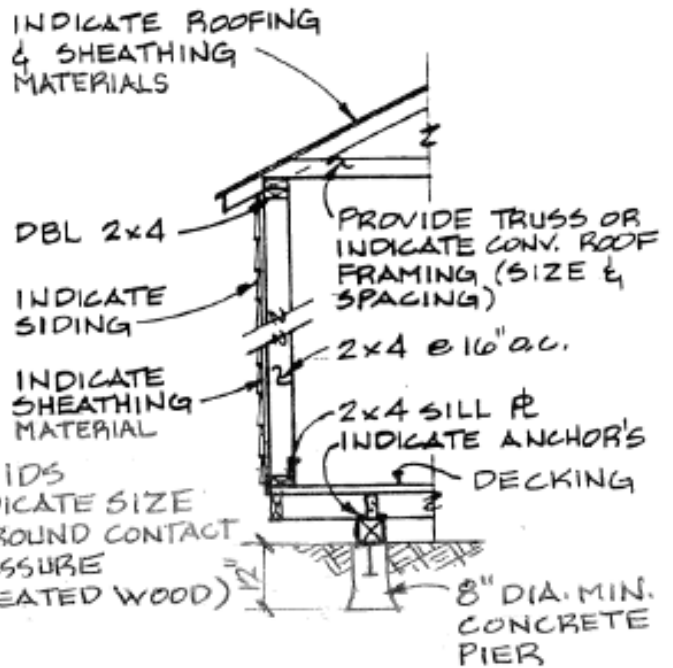
SCALE: 1" = 20'-0"



FOUNDATION & FLOOR

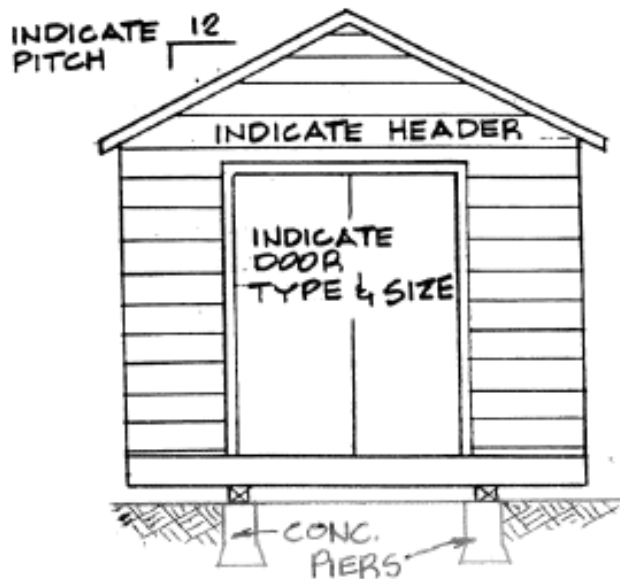
PLAN

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



TYPICAL WALL SECTION

SCALE: 3/4" = 1'-0"



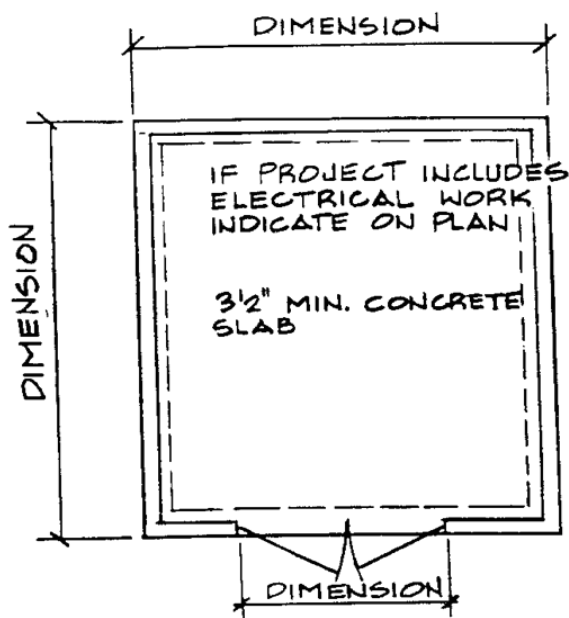
FRONT ELEVATION

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

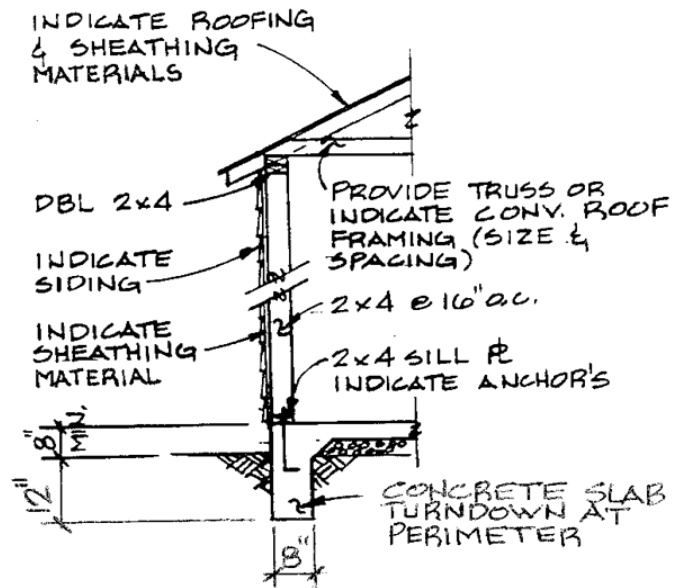


SIDE ELEVATION

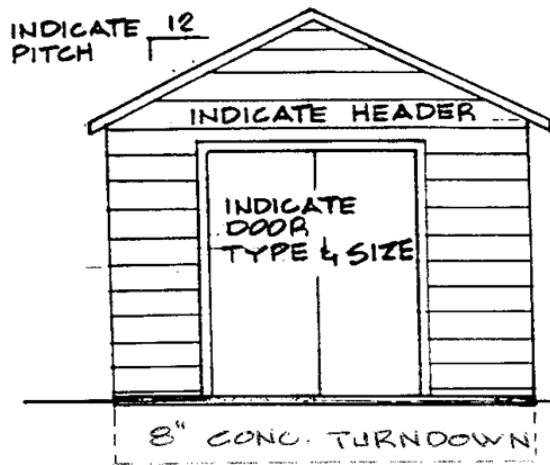
SCALE: 1/4" = 1'-0"



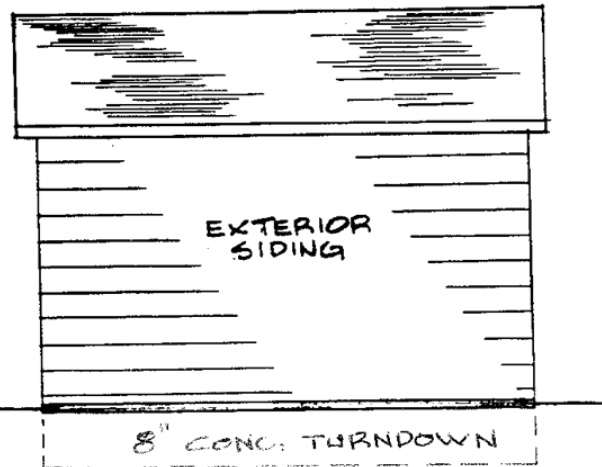
FOUNDATION & FLOOR PLAN
SCALE: 1/4" = 1'-0"



TYPICAL WALL SECTION
SCALE: 3/4" = 1'-0"



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



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