

GENERAL REQUIREMENTS

- 1.0 The scope of the work shall include all general construction indicated on the drawings including HVAC, Plumbing, Electrical and life-safety systems.
- 1.2 All work shall comply with the applicable rules of the BOCA and (IRC) International Residential Code (IRC) and International Fire Code (IFC), International Mechanical Code, International Plumbing Code, National Electrical Code, Americans with Disabilities Act, Accessibility Guidelines (ADA), Terms and Conditions of Local, State and Federal Codes and Ordinances, and any other Authority having lawful jurisdiction. All codes (latest edition or as enforced by the local code authority).
- 1.3 Any omissions, errors, or discrepancies discovered in the documents shall be brought to the attention of the architect. Failure to notify discrepancies shall be deemed as acceptance, and contractor(s) shall be responsible thereafter.
- 1.4 Contractor shall verify all dimensions and conditions as shown on the drawings with the site.
- 1.5 Contractor shall provide permits and obtain all approvals necessary for proper execution of the work shall be secured and paid for by the contractor(s) involved.
- 1.6 Do not scale drawings, follow written dimensions. All dimensions are to face of gypsum board or concrete unless otherwise specified.
- 1.7 The responsibility for safety instructions for construction safety or building care, safety, care of adjacent areas and service areas during construction are the responsibility of the Contractor. Contractor shall comply with all building requirements and standards. The general contractor shall provide barricades as required for safety, dust containment, security and other applicable requirements of the project.
- 1.8 Contractor shall be fully insured to the extent required by law.
- 1.9 Contractor shall hold all required licenses in the County and/or Municipality where work is performed. All work shall be performed by licensed contractors.
- 1.10 Use only skilled and experienced personnel. All work shall be done in a workmanlike manner. Skill shall be determined by craftsmanship and industry standard practices. Highest standard of craftsmanship in the operation of the respective trades shall be enforced.
- 1.11 In-field layout and shop detailing: The contractors must verify and coordinate dimensions on architectural, mechanical and structural drawings and report any discrepancies to the Architect. Contractors to assume full responsibility for the correctness of shop drawings or engineering calculations of construction for compliance with the contract documents for dimensions to be confirmed and correlated on the job site and between individual drawings or sets of drawings, for fabrication processes and construction techniques including excavation, shoring, scaffolds, bracing, erection, formwork etc. for coordination of the various trades and for safe conditions on the job site.
- 1.12 Provide all manufactured items, materials, and equipment in strict accordance with the manufacturer's recommended specifications.
- 1.13 Prepare all surfaces for installation of new finishes and materials as indicated on the plans and finish schedule.
- 1.14 Trade's are to verify condition of work by others as acceptable for their installation prior to starting work. Starting of work indicates acceptance by the architect.
- 1.15 The general contractor is responsible for maintaining a clean and safe job site throughout the construction period.

SITEWORK

- 2.0 A soil bearing capacity of 1500 pounds per square foot has been assumed. Contractor is responsible for verification of soil bearing capacity. See footings table for requirements.
- 2.1 Bearing on Undisturbed Soil: 1500 psf Bearng Certified by a Missouri Professional Engineer.
- 2.2 Framed Wall: Framed wall w/ Brick.
- 2.3 1 Story slab on Grade: 12" 12" 16" 16"
- 2.4 1 Story w/ Basement: 21" 24" 16" 16"
- 2.5 2 Story slab on Grade: 15" 21" 12" 16"
- 2.6 2 Story w/ Basement: 24" 30" 18" 23"
- 2.7 3 Story slab on Grade: 23" 32" 11" 24"
- 2.8 3 Story w/ Basement: 21" 36" 21" 21"
- 2.9 Contractor is responsible for determining exact location and protection of all existing and new utility lines.
- 2.10 Back fill shall be clean dirt, installed in lifts and each lift shall be compacted to fill voids.
- 2.11 Finish grade is to be 8" minimum below top of foundation, slope away from structure at one inch per foot minimum for 10'-0".
- 2.12 All grade slopes shall be headstruck all lawn areas affected by the work.
- 2.13 All grades shown are for representation only, field verify for all finish grade conditions.
- 2.14 Contractor shall provide site verification of the absence of ground water as accepted by the code official where the ground water table rises higher than the proposed excavation and foundation and building is to be located and/or THERMOPIPE® and drain tile will be required. Walls shall be damp proofed with a bituminous material, 3 lbs. per square yard of acrylic modified cement, 1/8" coat of surface bonding mortar, or by any of the materials permitted for wall waterproofing. If groundwater is present provide drain tile, perforated pipe or other approved foundation drainage system, bonded to the foundation wall, and waterproofed with two ply hot-dipped felt, 6 mil PVC, 40 mil polymer modified asphalt, or 6 mil polyethylene. Joints to be lapped and sealed per manufacturer's installation instruction.
- 2.15 User required by special inspection, the building department shall be provided with a letter of soils bearing capacity certification by the soils engineer as part of the foundation's inspection approval.
- 2.16 Provide guards at all vertical grade changes greater than 24".

CONCRETE

- 3.1 All concrete work shall comply with the standards, requirements and recommendations of the American Concrete Institute.
- 3.2 All poured in place concrete shall be ready-mixed and hauled in accordance with ASTM C94.
- 3.3 Foundation system design has been proportioned for a net allowable stress of 4,000 psi of bedrock. Bedrock of footings must extend 1/4" below present grade and 2'-6" below proposed grade and must be on undisturbed soil or "Engineered Fill".
- 3.4 Final Dimensions, Elevation, depths and slopes shall be verified at the job site.
- 3.5 Contractor shall coordinate ready-mix concrete formula type for specific applications and finish appearance(s) indicated.
- 3.6 Concrete for basement walls, foundation walls, and footings as follows: Minimum 2'-11" sack cement per cubic yard mix, Minimum compressive strength (28 days) shall be 3,000 psi. Minimum air-entrainment shall be 6% (10.5%). Concrete for retaining walls shall be minimum 6" sack cement per cubic yard mix.
- 3.7 Provide exposed aggregate finish on slabs where indicated. Aggregate finish appearance to match existing work at the jobsite. Provide 6" sack exterior concrete mix suitable for finish appearance for exposed aggregate slabs.
- 3.8 Provide exposed aggregate finish on concrete door stoops. Provide 6" sack exterior concrete mix suitable for finish appearance for front door stoops.
- 3.9 Reinforce all concrete slab work with 10/10 6x6 welded wire mesh at midpoint of slab. Provide Turn down slab edges and thickened slabs as indicated otherwise required for slab edge grade conditions. Provide reinforcing bars where indicated.
- 3.10 Sealcoat all concrete after curing. Coordinate the work with Owner.

CONCRETE (CONT.)

- 3.12 Use a water reducing agent (ASTM C494 Type A, D or J) in all concrete. All agents must be compatible with each other and all other ingredients in the concrete. All concrete shall have a maximum slump of 9" and a maximum water/cement ratio of 0.45. All concrete and free of deleterious substances and conform to ASTM C33. Coarse aggregate shall be clean and durable without flat or elongated pieces and shall conform to ASTM C33 & 67. Portland cement shall conform to ASTM C150 Type I. Water shall be potable. Form shall be aluminum or plywood in good condition. Apply a form release agent to all forms in accordance with manufacturers recommendations.
- 3.13 All detailing, fabrication and erection for reinforcing bars and their support in the forms with accessories must follow the ACI Manual of Standard Practice for detailing Reinforced Concrete Structures, ACI 318-Latest edition.
- 3.14 Reinforcing bars are to be ASTM Grade 40 steel, uno. Welded wire mesh shall be 10/10 6x6. Welded wire fabric must Lap 2" at side and 6" at ends and be tied together.
- 3.15 Concrete cover over main reinforcing shall be as follows: Footing 3" slabs on grade 1/2" sides 2" where exposed to action of weather or ground. All bars, including temperature bars are to extend width of the outer faces of member into which they frame.
- 3.16 All bars shall lap 2" at corners and 6" at ends and be tied together.
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MASONRY

- 4.1 GENERAL
- 4.2 Provide masonry construction as indicated and per industry standards. Conform to Masonry Institute standards. Final material and coloring selections as approved by Owner.
- 4.3 Mortar shall be laid in a running bond unless noted otherwise.
- 4.4 Mortar shall be type "S" for all reinforced masonry walls and type "N" for all masonry veneers. Mortar in contact with earth shall be type "N".
- 4.5 MASONRY VENEER
- 4.6 Masonry Veneer requires corrosion-resistant corrugated sheet metal wall ties, min. 22 ga. by 1/8" wide at 16" OC vert. and 32" OC horiz. (max.).
- 4.7 Provide 1" air space between brick and sheathing.
- 4.8 Provide flashing and adequate weep system at base of wall. Weeps provided shall be minimum 3/16" dia. And spaced less than 33" apart.
- 4.9 Provide 1" air space between brick and sheathing.
- 4.10 Provide sloped brick courses silt below all masonry openings, typical unless indicated otherwise. Provide special shapes as required for a complete and weatherproof job.
- 4.11 Provide metal step flashing at all masonry/idealwall intersections, typical.
- 4.12 CONCRETE MASONRY UNITS
- 4.13 Prism strength (f'm) of CMU's shall be 1500 Psi minimum (Normal Weight Blocks).
- 4.14 Provide standard ladder type horizontal joint reinforcing at 16" on center (typ) and 8" OC above/s masonry opening (doors, windows, etc) unless noted otherwise.
- 4.15 Provide 15/8" x 4x6" corner bars at intersecting walls at bond beams.
- 4.16 Use "Low-Lift" method of construction with vertical bars lapped 48 bar diameter, min. UNO.
- 4.17 Grout cells filled in reinforcing only unless otherwise noted.
- 4.18 Grout cells shall be laid in a running bond unless noted otherwise.
- 4.19 Provide 1" air space between brick and sheathing.
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- 4.27 METAL STUD FRAMING SYSTEM
- 4.28 Provide standard ladder type horizontal joint reinforcing at 16" on center (typ) and 8" OC above/s masonry opening (doors, windows, etc) unless noted otherwise.
- 4.29 Provide 15/8" x 4x6" corner bars at intersecting walls at bond beams.
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- 4.41 Provide 1" air space between brick and sheathing.
- 4.42 Provide 1" air space between brick and sheathing.
- 4.43 All lintels shall bear on 8" solid masonry extending 8" beyond end of lintel.

METALS

- 5.1 Structural Steel
- 5.2 All structural steel details shall comply with AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Building". Structural steel shall conform to the following grades:
- 5.3 A. LF, channels, Angles, Plates, etc. (uno) = A36
- 5.4. Structural Tube A500 (FT = 46)
- 5.5. Anchor bolts A325
- 5.6. Bolts A325N
- 5.7. Welding Electrodes E70XX
- 5.8. All steel factory primed.
- 5.9. Comply with provisions of the following codes and standards included herein by reference:
- A. AISC Specs for Design, Fab., Erection of Steel Structure for Building.
- B. AISC Spec. of Standard Practice for Steel Buildings and Bridges.
- C. AISC Code for Arc and Gas Welding in Building Construction.
- 5.10. Structural steel shall conform to ASTM A-36 and be detailed, fabricated and erected in accordance with the latest edition of the AISC.
- 5.11. Splices shall be welded unless noted.
- 5.12. Field connections shall be bolted (3/4" diameter, shear/bearing type) or welded unless noted.
- 5.13. Assembly of AISC A-325 shall conform to the specification for structural joints using ASTM A-325 or A325 bolts overwelded. Refer to Council on Riveted And Bolted Structural Joints, Latest edition.
- 5.14. No bolting or welding shall be done until as much of the structure that will be stiffened thereby has been properly aligned.
- 5.15. Anchors shall be done by certified welders in accordance with the American Welding Society standards. Sequence of placing welds shall be such to avoid distortion of members.
- 5.16. ANCHOR BOLTS
- 5.17. Anchor bolts shall extend into concrete per anchor bolt size and extend 1/4" below for Openings up to 6" UNO. Provide 1/2" wood stud hook and shall be held at 2-1/2" minimum from outside face of concrete. All anchor bolts shall be held above top of grade and air-entrainment shall be 6% (10.5%). Concrete for retaining walls shall be minimum 6" sack cement per cubic yard mix.
- 5.18. BEAMS & INTELS
- 5.19. Beams shall be secured at each end of steel beams and joists. Beams shall be secured in beam pockets, grouted solid.
- 5.20. EXPANSION & FROXT™ ANCHORS
- 5.21. Anchors shall be manufactured by "HILTI" or as otherwise approved by the architect and/or engineer. All anchor work shall comply with manufacturer's recommendations for application, anchor substrate, anchor preparation, allowable working loads, edge distances and spacing.
- 5.22. Provide Foundation Anchor bolts at 48" O.C. (12' O.C. Max). All Foundation Anchor bolts shall be hot-dipped galvanized treated steel. Provide Anchor Bolts with 6" of all corners and splices in accordance with Tables R602(3) through R602(3.5). Interior Lock sets on egress door to be Keyless, or Captured Key type.

- 5.23. Fasching and Connections for wood framing shall be per International Residential Code (IRC) and International Building Code (IBC) codes (latest editions). Nailing shall at all edges, studs and blocking. Nailing as indicated above represents minimum requirements and shall apply unless otherwise. Provide 1/2" thickness of gypsum board, 1/2" thick mineral fiber insulation, 1/2" thick wood structural panel, 3/8" thick particleboard or hardboard, 3/8" gypsum wallboard, or corrosion-resistant steel having a base metal thickness of 0.032" or greater.
- 5.24. Provide furring strips and connectors as required by the architect.
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- 5.61. Fasching and Connections for wood framing shall be per International Residential Code