

GENERAL NOTES & SPECIFICATIONS

Design Criteria

Applicable Building Code: 2018 Kentucky Building Code

- Design live loads
A. Roof loads
a. Minimum roof snow or live load dictated by Building Official = N/A
b. Minimum roof live load by code = 20 psf
c. Ground snow load = 15 psf
Snow exposure factor (ce) = 0.9
Snow importance factor (Is) = 1.0
Thermal Factor (Ct) = 1.0
d. Flat roof snow load (P) = 9 psf
e. Rain on snow = 5 psf
f. Total design snow load = 14 psf + drifting
g. Roof design is governed by the minimum roof live load or total design snow load + drifting whichever is more stringent.

Table with 3 columns: Height, Interior Zone, End Zone. Rows for 1, 2, 3 stories with wind load values.

Table with 3 columns: Height, Interior Zone, Exterior Zone. Rows for 10, 20, 50, 100 ft heights.

Table with 3 columns: Height, Interior Zone, Exterior Zone. Rows for 10, 20, 50, 100 ft heights.

Table with 3 columns: Effective Area (sq. ft.), Gross, Net (roof/dists). Rows for Interior Zone, Perimeter, Corner.

- Components and cladding wind loads (PSF) (Ultimate)
WALLS - WINDWARD COMPONENTS AND CLADDING
WALLS - LEEWARD COMPONENTS AND CLADDING
ROOF UPLIFT - COMPONENTS AND CLADDING
D. Components and cladding: use the most stringent wind load obtained from code, underwriter criteria (Factory Mutual, etc.), and the project specifications.

- Seismic
Ss = 0.427
S1 = 0.168
SDS = 0.342
SD1 = 0.183
Seismic importance factor (Ie) = 1.00
Risk Category = II
Seismic site class = C
Seismic design category = C
Response Modification factor (R) = 6.5
Seismic Design Coefficient (Cs) = 0.053
Basic seismic force resistance system = Light frame walls with shear panels
Analysis procedures = Equivalent lateral force method
Design base shear (v) = 7.15 kips (ultimate)

- Frost depth = 30"
General
1. The term General Contractor (G.C.) as used in these documents refers to the Contractor / Construction Manager in responsible charge of the project in terms of coordination, scheduling, subcontractor coordination, etc.

General (cont.)

- Principal openings through the framing are shown on these drawings. The general contractor shall examine the structural and mechanical drawings for the required openings and shall verify size and location of all openings with the mechanical contractor.
All contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work.
Details labeled "Typical Details" on drawings apply to situations occurring on the project that are the same or similar to those specifically detailed.
Work these drawings with architectural, mechanical, and electrical drawings.
Do not scale drawings.
Any discrepancies between structural and architectural drawings shall be brought to the attention of the architect and structural engineer.
Should any of the general notes conflict with any details or instructions on plans, or in the specifications, the strictest provision shall govern.
Shop drawings and submittals:
A. These drawings shall be checked and coordinated with other materials and contracts by the general contractor and shop drawings and submittals shall bear the contractor's review stamp with the checker's initials before being submitted to the architect for approval.
B. When the fabricator has been authorized to use the architect and engineer's drawings as erection drawings, the fabricator must remove all title blocks, professional seals and any other references to the architect and engineer from that erection drawing.
C. Where dimensions and elevations of existing construction could affect the new construction, it is the contractor's responsibility to make field measurements in time for their incorporation in the shop drawings.

- Building Pad Preparation
1. All building pad preparation shall follow the recommendations of the geotechnical report (uno).
2. All trees, brush, roots, topsoil, rubble, organically contaminated or otherwise objectionable materials encountered are to be removed from structural areas of the site per the geotechnical report.
3. Subgrade sectors which will exist in cut and those which are to support fill structures are to be proof rolled. Areas exhibiting instability are to be undercut and back filled on a lift-by-lift basis with each lift carefully compacted.
4. If unstable subgrade sectors cannot be stabilized by excavation and re-compaction, then crushed stone or similar coarse aggregate materials shall be rolled into the subgrade until a firm subgrade reaction is achieved.
5. The geotechnical engineer shall determine on site or off site imported material that can be used for engineered fill. All fill material shall be approved by the geotechnical engineer.
6. The proposed engineered fill materials are to be placed in lifts not exceeding eight (8) inches in loose measured thickness. Each lift is to be compacted as follows:
A. Slab on grade: Minimum of 95% maximum density by ASTM D698.
B. Footings bearing on fill: A minimum of 95% maximum density by ASTM D698.
7. The earthwork program should be conducted under the supervision of a soils testing laboratory. The in-place densities achieved are to be verified by tests.

- Foundation
1. The contractor shall familiarize themselves with the survey and the geotechnical engineering report before starting construction. All foundation work shall be in accordance with the recommendations of the geotechnical report by Vector Engineering, Inc. dated April 24, 2019 except where noted otherwise on drawings or specifications.
2. A soils testing laboratory shall be retained by the owner to provide construction review to insure conformance with the construction documents during the excavation, backfill, and foundation phases of the project.
3. The soils testing laboratory shall:
- Discuss with the engineer the design intent of the construction documents and the testing procedures used to ensure conformance with the construction documents before construction begins.
- Inform the engineer of any variance in test procedures.
4. It shall be the responsibility of the soils testing laboratory to:
- Determine topsoil and excavation sloping data.
- Inspect subsoil exposing during sloping, site grading, and excavation operations.
- Approve materials, procedures, methods of fills to insure placement per specification requirements.
5. Foundation design is based on 1500 psf bearing pressure on firm, residual soil, per the geotechnical report.
6. Top footing elevations, footing steps and thickness of footings are shown on the drawings and are based on the information from the geotechnical report and the civil drawings available at the time of design. Top and bottom of footing may vary depending on the conditions encountered at the site. Frost depth shall be maintained and coordinated with final grading and location of footing steps. If proper foundation bearing is found to be deeper than that shown on the drawings then foundations shall be thickened maintaining the top of footing elevation to assure proper foundation bearing. The contractor shall submit unit prices for such work and shall qualify the extent of work in the base bid. If top of footing elevations need to vary for final site conditions then the general contractor shall coordinate the effort of other trades.
7. Step footings, where required, at a ratio of one (1) vertical to two (2) horizontal with a maximum vertical step of 2'-0" unless noted otherwise.
8. Inundation and long term exposure of bearing surfaces, which will result in deterioration of bearing formations, shall be prevented. Footings shall be placed immediately following footing excavations and bearing surface inspection.
9. All fill materials shall be free of organic contaminations and other deleterious matter.
10. For back fill against footings place in 8" thick layers, with each lift compacted at near optimum moisture content, until a minimum in place density of 95% of the maximum density as determined by ASTM D698 is achieved.
11. All soil surrounding and under footings shall be protected from frost action and freezing during the course of construction.
12. Notify structural engineer of any unusual soil conditions that are in variance with the geotechnical report.

Concrete

- All concrete construction shall conform to ACI 301, "Specifications for Structural Concrete" and ACI 302, 305 and 308 unless noted otherwise for the year referenced in the applicable building code.
All detailing, fabrication and placing of reinforcing bars, unless otherwise noted, shall conform to ACI 318, "Building Code Requirements for Structural Concrete" ACI 117, as referenced in the applicable building code, and the latest ACI detailing manual.
Concrete production: General as per ACI 301, Section 4, Article 4.3, except as noted.
Ready-mixed Concrete: use for all work, except that when small quantities (not over 1/2 cubic yard) are needed for isolated or relatively unimportant items.

Concrete Types Schedule table with columns: Type of Concrete, Minimum cementitious content, Maximum water/cement ratio, Specified 28-day compressive strength, Specified slump range, Specified air content range, Maximum size aggregate.

- Notes:
A. All cement shall be Type I or Type III Portland Cement per ASTM C150. Types IA and IP are not acceptable. Use one brand of cement throughout project.
B. Minimum cementitious content shall consist of 100% cement or a combination of cement and fly ash per Note C, or a combination of cement and ground granulated blast furnace slag (GGBS) per Note D. Fly Ash shall not be used in combination with GGBS as a substitute for cement.
C. Fly Ash is permitted and shall conform to ASTM C618 Type C or F, but shall not exceed 20% cementitious content by weight indicated above on a substitution basis and shall be included in the water-to-cement ratio. If GGBS is used, the mix design submittals shall have tests using the same amount of GGBS. The contractor's schedule shall account for the use of GGBS.
D. Ground granulated blast furnace slag (GGBS) is permitted and shall conform to ASTM C969, but shall not exceed 15% of cementitious content by weight indicated above on a substitution basis and shall be included in the water-to-cement ratio. If GGBS is used, the mix design submittals shall have tests using the same amount of GGBS. The contractor's schedule shall account for the use of GGBS.
E. Concrete used for floors shall have 1800 psi 28-day strength. Mixes to be pumped shall be identified on the mix design submittal. All concrete mixes shall have a mid-range or high range water reducer.
F. All admixtures other than superplasticizers shall be added at the batch plant. Superplasticizers, designed for addition to the mix at the site, may be added at the batch plant with verifications from the structural engineer. All superplasticizers shall be sent in pre-measured containers from the batch plant.
G. All concrete used for cast-in-place concrete slabs shall contain the specified water reducing or water retaining/retarding admixture. All concrete slabs, placed at air temperature below 50°F shall contain a specified low range water-reducing admixture, non-chloride accelerator. All concrete placed at air temperature below 60°F shall contain a specified water-reducing/retarder admixture. All concrete required to be air entrained shall contain an approved air-entraining admixture. All pumped concrete shall contain a specified high-range water-reducing admixture. Concrete with a water-cement ratio of 0.40 to 0.60 shall contain the specified water reducer.
All concrete requiring a high slump for placement (e.g. pumping, etc.) shall contain mid-range and high range superplasticizer. Increased slump may not be achieved by exceeding the specified maximum water-cement ratio. Maximum slump is 8 inches with use of water reducing admixture (Type C-494). Calcium chloride shall not be permitted nor shall any admixture containing calcium chloride be permitted.

- Normal weight aggregate: ASTM C33, from a single source.
Air-entraining admixture: ASTM C260.
Water-reducing admixture: ASTM C494, Type A, containing not more than 0.1% chloride ions.
High-range water-reducing admixture (superplasticizer): ASTM C494, Type F or G, containing not more than 0.1% chloride ions.
Water-reducing, non-chloride accelerating admixture: ASTM C494, Type E, containing not more than 0.1% chloride ions.
Water-reducing, retarding admixture: ASTM C494, Type D, containing not more than 0.1% chloride ions.
Certification: upon engineer's request, provide admixture manufacturer's written certification that chloride ion content complies with specified requirements.
Curing Compound: liquid membrane-forming type (sodium silicate type not approved) meeting all requirements of ASTM C309, Type 1-D clear or translucent, having a fugitive dye to facilitate visual check of coverage. Use of Type 2 white pigmented type is recommended during hot weather.
Moisture-retaining sheet materials: any of the types listed in and meeting requirements of ASTM C171: waterproof paper, 4 mil (.004") polyethylene film, white burlap/polyethylene sheet.
Sealing materials: for laps in sheet cover, provide pressure sensitive tape, non-staining mastic, or other effective adhesive recommended by covering manufacturer.
Premolded joint filler: for use in expansion or isolation joints, size 1/2" thick x full depth of slab; either ASTM D1751 or D1752, and compatible with type of joint sealant used.
Vapor Retarder: Polyethylene sheet not less than 10 mils thick, which complies with ASTM E 1745, Class C.
Bond Breaker Felt: 15# felt.
All pipe sleeve openings through concrete slabs shall be formed with standard steel pipe.
All aluminum in contact with concrete or dissimilar metals shall be coated with two coats coal tar epoxy, approved by the architect, unless otherwise noted.

- Concrete shall be discharged at the site within 1 1/2 hours after water has been added to the cement and aggregates. Addition of water to the mix at the project site will not be permitted. All water must be added at the batch plant. Slump may be adjusted only through the use of additional water reducing admixture or high range water reducing admixture.
All concrete shall be placed without horizontal construction joints, except where specifically noted. Horizontal reinforcement shall be continuous through vertical construction joints.
Construction joint locations other than shown on the drawings are permitted subject to prior approval of the engineer. Control joint locations are mandatory as shown. Contractor shall submit drawings showing intended placing sequences and location of construction joints to the engineer for approval. All poured in place walls, construction joints shall be located so as to provide a 60'-0" maximum horizontal length of concrete placement in any direction.
All exposed edges of concrete members shall be chamfered 3/4" unless shown otherwise on architectural drawings.
See architectural drawings for concrete finishes, masonry anchors, and for miscellaneous embedded plates, bolts, anchors, angles, etc.

Concrete (cont.)

- The placement of sleeves, outlet boxes, box-outs, anchors, etc., for the mechanical, electrical and plumbing trades is the responsibility of the trade involved; however, any box-outs not covered by typical details in the structural drawings shall be submitted for approval.
Reinforcing bars shall conform to ASTM A615, Grade 60. No tack welding of reinforcing in the field will be permitted.
Welded wire fabric reinforcing shall conform to ASTM A1064 and be furnished in flat sheets and installed on chairs or precast blocks for slab on grade.
Reinforcing bar sizes #3 through #5 may be bent cold the first time, provided reinforcing bar temperature is above 32°. For other bar sizes, preheat reinforcing bars before bending. See procedures as outlined in ACI 301 referenced in applicable building code.
Wire bar supports shall be furnished for all reinforcing within slabs, inclusive of wire welded fabric bottom bars in slabs on grade may be supported by other suitable supports. Reinforcing shall be properly positioned prior to concrete placement and may not be repositioned once concrete operations have begun. Wire bar and other types of supports shall be in accordance with the Concrete Reinforcing Steel Institute Manual of Standard Practice.
Reinforcement shall be continuous through all construction joints unless otherwise noted on drawings.
All hooks shown on drawings shall be standard hooks unless otherwise noted.
Where continuous bars are called for, they shall run continuously around corners and be lapped at necessary splices, or hooked at discontinuous ends. Lap lengths shall be as specified on the plan and development table. Lap beam top bars at mid-span and wall top bars at supports, unless otherwise noted.
Provide additional reinforcement at the sides of door and window openings in concrete in accordance with the typical details. Extend bars a minimum of 2'-0" beyond corners of opening where extension is not possible. Minimum additional requirements are as follows:
(2) #4 top and bottom in each face in walls
(2) #4 4'-0" long diagonally in each corner of opening
(2) #4 top and bottom in each face in walls
(2) #4 4'-0" long diagonally in each corner of opening
Cold weather placing: comply with ACI 306.
Hot weather placing: comply with ACI 305.

Minimum Lap Splice and Anchorage Dimension Table

Table with columns: Bar size, Lap, Anchorage, Bar Size, Lap, Anchorage. Rows for 3000 psi and 4000 psi normal weight concrete.

- When lapping two different size bars, use the lap dimension of the smaller bar or the anchorage dimension of the larger bar. Use whichever dimension is larger.

Minimum Concrete Cover for Reinforcing

Table with columns: Location, Minimum Cover. Rows for Footings cast against and permanently exposed to earth, Slabs on grade (W.W.F), Walls interior face, Walls exterior face.

- Maximum deviation from the above cover requirements shall be as follows:
A. For member depth 12" or less but greater than 4": ±3/8".
B. For member depth greater than 12": +1/2", -1/4".
C. For slab on grade: +3/4", with lower bound per above item 'A'.
D. Reduction in cover dimension shall not exceed 1/3 the specified cover.

Floor Finish

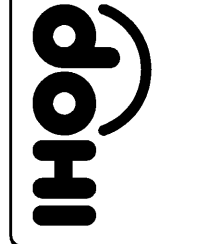
- Interior floor slabs: machine trowel unless noted otherwise.
Exterior slab areas: light flexible bristle broom unless noted otherwise.
Provide ACI 'Class A' tolerance, 1/8" variation in 10 feet, measured with a straight edge laid in any direction.
Control joints in slabs on grade: control joints in slabs on grade shall be provided at the locations indicated on the drawings. Joints shall be made by saw cutting 0-2 hours after the final finish at each joint location using the early-entry dry-cut process per ACI 302.1R. Joint depth shall be per drawing detail. The saw shall use a diamond-impregnated blade and employ the use of a skid plate to prevent spalling and raveling of the slab. Approved supplier: Soff-cut International or equal.

Curing

- Curing compound shall be provided as prescribed on architectural drawings based on floor use. Coordinate for compatibility of finish material.
Moisture-retaining sheet material meeting ASTM C171 may be used.
Maintain initial curing for 12 hours after finishing, 24 hours for air temperature of 75 degrees F and above.



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PROJECT NO.: TBA
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CHECKED BY: TBA
ISSUED DATE: 03/24/17

ISSUED REVISIONS table with columns for revision number and description.

3070 Highland Pte. Dr. Owensboro, KY 42303
IHOP Rise and Shine Prototype
GENERAL NOTES & SPECIFICATIONS



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