

I. GENERAL

- A. These GENERAL NOTES present and/or summarize key project information for the plans reader's convenience. See also individual PLAN NOTES and project specifications for further details and requirements.
B. All references to reference standards herein are to most recent issue in effect as of the date of these documents, unless noted otherwise in project specifications or on the plans.
C. Elevations. All elevations are referenced to Fin Flr = 0'-0" datum. All elevations shown on plans are referenced to this datum unless noted.
D. Submit Shop Drawings, Project Data and Samples as specified in these General Notes.
1. Identify prominently on drawings each and all rebar/plate by number.
2. Identify any changes which have been made other than those requested by the A/E.
E. Special Identification: Indicates contract/construction requirements that in the experience of the designer are (a) especially critical to safe of satisfactory performance; and/or (b) frequently not given adequate construction quality control by the contractor or subcontractors, and/or (c) not intended or common construction requirements and therefore may be subject to contractor oversight in costing and/or construction.
In light of the above, requirements so marked are hereby called to the special attention of the contractor, subcontractors, inspection personnel, and other interested parties.
This special identification in absolutely no way shall be construed as an assurance that all items meeting the above criteria are so marked or intended to minimize the importance of any other contract requirement or the contractor's responsibility for the execution thereof.

II. DESIGN CRITERIA
A. Building Code: IBC 2003
1. Type Construction: (See Architect drawings).
B. Superimposed Design Loads:
1. See plan notes for live and dead loads.
2. Ground Snow: 10 psf
3. Wind: Basic wind speed: 97 mph
Importance Factor: 1.0
Exposure: C
4. Seismic Design Data:
a. Seismic Importance Factor, I: 1.0
b. Seismic Use Group: II
c. Mapped Spectral response acceleration, Sa: 2.504
d. Mapped Spectral response acceleration, S1: 0.643
e. Site Class: D
f. Spectral response coefficient, Sds: 1.669
g. Spectral response coefficient, Sd1: 0.643
h. Seismic design category: D
i. Basic Seismic Resisting System: Wood Panel Shear Walls
j. Seismic Response Coefficient, Cs: 0.257
k. Response Modification Factor, R: 6.5
l. Analysis Procedure Used: ELFP

III. TESTING AND INSPECTION

- A. Foundations and Earthwork. Geotechnical engineer /testing laboratory to be engaged by Contractor with A/E approval.
B. Materials and Procedures. Testing Laboratory to be engaged by contractor with A/E approval.
1. Perform concrete sampling and tests as required by ACI 301. Submit test reports to A/E.
C. Structural Inspections and Testing: Qualified inspectors to be hired by the Contractor to perform inspections required by IBC and submit reports to A/E. Testing lab to perform additional tests as required by IBC for seismic force resisting systems and submit reports to A/E.

IV. EARTHWORK

- A. Site Preparation.
1. After stripping (and excavating to the proposed subgrade level, as required), the subgrade should be proof-rolled with a moderately heavy loaded pneumatic-tired vehicle such as a 20 to 25 ton dump truck or scraper. Soils which are observed to rut or deflect excessively under the moving load should be undercut and replaced with properly compacted fill. All proof-rolling and undercutting activities should be witnessed by the Geotechnical engineer and should be performed during period of dry weather.
2. Within building area, compact top 6" of cut area subgrade to minimum density 95% of the maximum density ASTM D 698.
B. Structural Fills. Select fill material compacted to 6" minimum depth under building foundations:
1. Subgrade under building foundations: Minimum density 95% of the maximum density ASTM D 698.
2. Subgrade under other building foundations: Minimum density 95% of the maximum density ASTM D 698.

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- 3. Granular subbase under slab-on-grade: 4" thick clean coarse sand (ASTM C33) or crushed stone (#57) compacted to at least 70% of the maximum relative density by ASTM D4253 and D4254.
4. Provide 5 mil. thick vapor barrier. Tape all joints.
C. Groundwater Control. See geotechnical report.
V. CAST-IN-PLACE REINFORCED CONCRETE:
A. Design: ACI 318 - Strength Design. Reference Standard: ACI 301. Contractor to maintain copy at job site.
B. Mix Design shall be documented in accord with ACI 301:
1. Mix design shall be submitted to A/E for approval prior to construction. Mix designs which are submitted without the required documentation will be rejected.
2. Field slump recorded at job site shall not exceed the slump established for the mix design.
3. Fly ash shall not be used in the concrete mix.
C. Type Concrete: (28 day compressive strength)
1. Footings, slab-on-grade: 3,000 psi N.W.
2. Piers: 4,000 psi N.W.
3. All other structural concrete shown on these plans: 4,000 psi N.W. u.n.
4. All concrete exposed to the elements shall:
a. be air-entrained 5% (+ 1%), and
b. have crushed limestone aggregates.

D. Formwork

- 1. Formwork and shoring shall be designed by a registered engineer hired by the contractor.
2. Keys indicated are to be 2 x 4 nominal continuous, u.n.
3. Rustication strips, chamfers, drips, misc. embeds, etc. See plans and/or architectural drawings.
E. Reinforcement:
1. Reinforcing Bars: Deformed, Grade 60, ASTM A615.
a. Fabrication: ACI 315 "Details and Detailing of Concrete Reinforcement or CRSI Reinforcing Bar Detailing" (Manual of Standard Practice).
2. Welded Strand Wire Fabric: ASTM A185
3. Corner Bars: Provide corner bars same size and spacing as horizontal reinforcement at intersections of all footings and slab foundations. Tension splice all corner bars.
4. Splice:
a. Continuous reinforcement bars shall be lapped 48 times the bar diameter (18" minimum) at all splices, u.n., including corner bars.
b. Welded Wire Fabric shall be lapped 8".
5. Minimum cover for protection typical, u.n.
a. Uniform surface in contact with ground: 3"
b. Formed surface in contact with ground or exposed to the elements: 2"
c. Structure slabs and walls: 3/4"
d. In all cases not less than the diameter of the bar.

- 6. Hooks indicated are ACI/CRSI standard 90 deg. or 180 deg. hooks. Bar lengths shown are cut-to-cut and do not include hook length. Embed hooks 12 bar diameter (8" min.). Provide support for miscellaneous top bars as follows:
a. #4 carrying bars with chairs at 3'-0" o.c. max.
b. #4 carrying bars with chairs at 3'-0" o.c. max.
7. Provide #4x2" diagonal trim bar at each re-entrant corner of slab, and at each corner of each slab blockout, centered in the slab.
F. Embedded Pipes or Conduits: Maximum diameter - 1/6 x slab or wall thickness; spaced minimum of 18 diameters at center, centered in the slab or wall. Provide additional #4x1"-5" rebar at 18" o.c. on the top of slab directly and directly over the conduit or pipe.
G. Grout, epoxy mortar:
1. Sand-cement grout: 3,000 psi or more at 28 days.
2. High strength non shrink grout (CRD C-621)= 8,000 psi.
3. Epoxy Mortar: Eutic EUCO #452 epoxy system with sand.
H. Concrete Finishes:
1. Formed surfaces:
a. Painted or exposed to view: rubbed, u.n. on plans.
b. Covered or as noted on plans: as-cast.
2. Floorwork surfaces:
a. Exposed to view: troweled
b. Tiled or carpeted: troweled
c. Stairs or ramps: non-slip
d. Stairs, driveways, broomed or belted
I. Curing and Protection. Per ACI 301.
K. Slabs on Grade.
Control joints shall be made by saw cut 3/16" wide x 1/4" deep or PVC joint strip (1"-slab depth). Control joints shall be cut as soon as the concrete has set and before shrinkage has occurred on the surface. See plans for joint details.
L. Thickened Slab on Grade. Thickened slab shown on plans shall be cast monolithically with the rest of the slab on grade.
M. Shop Drawings: Submit rebar shop drawings. Show rebar sizes, lengths, bend diagrams, layout, sections and details.
N. Testing: Provide testing and inspections per ACI 301. Testing and inspections services to be provided by the contractor's testing lab.

VI. WOOD FRAMING NOTES

- A. STRUCTURAL WOOD FRAMING
1. Design Standard: National Design Specification, NDS and Supplement.
2. Saw Lumber:
a. Wall studs: Southern Yellow Pine, Grade-No.2, kiln dried (19% moisture content max.)
b. Plates (top and bottom): Pine (Grade-No.2), kiln dried (19% moisture content max.)
c. Columns, beams, joists, headers: Southern Yellow Pine, (Grade-No.2), kiln dried (19% moisture content max.)
d. All framing members in contact with concrete or masonry to be preservative treated walls, etc. shall be double 2x, u.n. with minimum widths of 3" min.
e. Wood joists on slab bearing walls, etc. shall be double 2x, u.n. with minimum widths of 3" min.
f. Finger joint lumber shall not be used in joists, ends of shear walls or other tension members. Submit code evaluation datasheet for A/E approval prior to use.
3. Engineered Lumber:
a. Laminated Veneer Lumber (LVL) (Paraloid/Ganglam): Fb = 3,250 psi, Fv = 285 psi, Fc(paraloid) = 3,035 psi, E = 2,000,000 psi.
b. Parallel Strand Lumber - PSL (Paraloid): Fb = 2,900 psi, Fv = 210 psi, Fc(paraloid) = 2,900 psi, E = 2,000 Ksi.
c. Plywood:
1. Roof deck: See roof plan notes.
2. Shear wall sheathing: See plan notes.
d. Wall Framing:
1. Load bearing walls: All walls shall be of a size and spacing as shown on drawings.
2. Shearwalls:
1) All studs, plates, etc. in shear walls to be continuous full length.
2) All plywood sheathing shall be 4' x 8' sheets. Horizontal joints to be fully blocked and staggered, see shear wall sheathing notes on plan.
3) Provide double top plates, typical. Stagger wood plate splices, four feet minimum. Local splice directly over studs.

- 6. Connections:
a. Nailed connections.
1) Shearwalls, as noted on plans. All others to comply with building code.
2) Nailing at connecting hardware per manufacturer recommendations to develop full capacity of the connection.
3) All nails common wire gauge, u.n.
4) Power driven nails subject to A/E approval. Submit technical data. Different nail spacing may be required.
b. Connection hardware to be indicated on plans. Hardware designated represents connection details contemplated in design. Connection hardware, in general, to develop connected member capacity. Submit shop drawings, technical data, etc. indicating connection hardware proposed for use.
c. Powder actuated fasteners (Hilti, Rammed, Redhead, etc.) subject to A/E approval. Submit proposed use and technical data.
d. Bolted Connections:
1. All bolts shall be minimum 1/2" dia. A307, u.n.
2. Provide bolt holes 1/16" diameter larger than the bolt diameter. Provide matching nut. Provide 3/16" thick x 3" square plate washers at each end of bolts.
e. Erection/Construction Phase Stability:
1. Member stability: Contractor shall provide sheathing, decking, etc. noted prior to loading members or providing suitable temporary lateral support.
2. Frame stability: Contractor shall provide temporary bracing for building stability to resist all construction phase loading, including wind load.

B. PREFABRICATED WOOD TRUSSES

- 1. Design: IPI - 85 Design Specification for Metal Plate Connected Wood Trusses.
a. Design Loads, LL = See plan notes.
1) Top chord = 10 psf, u.n. on plans
2) Bottom chord = 10 psf, u.n. on plans
b. Roof truss uplift: 20 psf net, 30 psf net at eaves, overhangs and corners.
c. Design truss overhangs/overhangs to support a 300 lbs. concentrated live load at the cantilever end.
d. Truss design to be performed by an engineer registered in the state of the project.
e. Truss shall be designed for the following deflections:
1. Roof Truss: Live Load = L/350
Dead Load + Live Load = L/240
f. Truss manufacturer shall design all truss to truss and truss to supporting structure connections and anchorage.
2. Shop Drawings: Submit shop drawings with signed and sealed calculations showing all anchorage and connection details, hardware, truss design, layout, truss members, bracing, bracing (temporary and permanent) and installation details. Calculations which are not signed and sealed will not be reviewed and will be rejected.
3. Truss layout shown on structural drawings shall not be revised in a way that changes the load path to the foundations. All costs of additional work, if necessary due to the revised truss layout, shall be borne by the truss supplier.
4. Trusses shall be configured such that truss bearing occurs at a panel point. Trusses bearing on bottom chord away from a panel shall be provided with a top chord away from a panel shall be provided with a top chord away from a panel.
5. Delivery and Storage: IPI Quality Control Manual
6. Erection: Provide epoxy, cross and lateral chord bracing conforming to IPI SW-76.
7. Design and furnish, and submit details on shop drawings, for temporary and permanent bracing of the truss bottom chords.
C. Submit product certificates for wood framing, engineered wood, OSB, fasteners, connection hardware and accessories.
D. Testing & Inspections: By the contractor's testing lab.

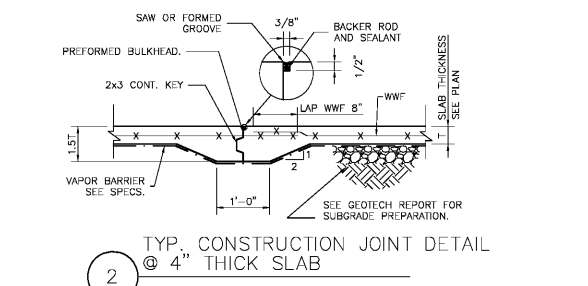
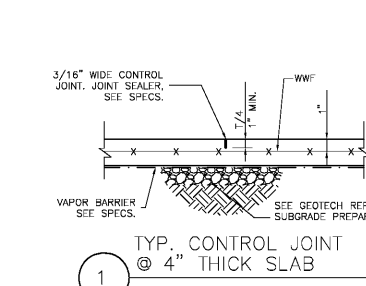
VII. TEMPORARY BRACING OF STRUCTURE

- A. Contractor shall provide temporary bracing as required until all lateral force resisting elements are in place (slab on roof and floor diaphragms, shear walls, etc.).
B. Contractor shall provide erection stability bracing, bridging, blocking, etc. required during construction.
C. Contractor shall be responsible for the construction means and methods required to safely achieve the conditions depicted in the contract documents, where construction sequence are necessary to the design. However, any variation from the contract documents shall be submitted to A/E prior to construction.
VIII. EPOXY MECHANICAL ANCHORS MASONRY AND CONCRETE
A. Epoxy: Hilti Hitec SD Epoxy Adhesive Anchor system or approved equal.
B. Mechanical anchor: 1/2" Hilti Hitec or approved equal.
C. All anchors exposed to weather or moisture shall be galvanized. In concrete masonry, the anchors shall not be placed in a head joint or within 2" of a head or T.
D. Manufacturer's recommendations for installation shall be followed.
E. Anchors: CMU walls must be centered in grouted cells and have at least 12 inches of CMU wall all around the anchor fully grouted.
F. Contractor's testing laboratory or approved inspector shall perform full inspections during the installation of anchors as outlined by the manufacturer in its ICC-ES Evaluation Reports.

FOOTING SCHEDULE table with columns: MARK, SIZE, DEPTH (SEE NOTE 3), NO., SIZE, REINFORCEMENT FOR (1) FOOTING, LENGTH, REMARKS. Rows include F30, F36, and W24.

NOTES:
1. F36, ETC. DENOTE ISOLATED COLUMN FOOTING
2. W24, ETC. DENOTE CONTINUOUS WALL FOOTING
3. FOOTING DEPTHS SHOWN ARE MIN. THICKNESS, ADJUST THICKNESS AS REQUIRED TO MEET GEOTECHNICAL REPORT RECOMMENDATIONS FOR MIN. DEPTH TO BEARING/BOTTOM OF FOOTING. SEE PLAN NOTE 5 ON SHEET S201.

ABBREVIATIONS table listing terms like ANCHOR BOLT, ABOVE FINISHED FLOOR, ANCHOR, ARCHITECTURAL, ALL THRU, etc.



Order Plans

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