NOTES

Unless noted otherwise on the plans and/or in the details, these notes shall apply. If there are discrepancies between the plans/details and these notes, the contractor shall conform to the more stringent requirements, unless clarified with the Architect of Record (AOR) prior to work.

MATERIAL STRENGTHS

Structural Steel Fasteners
- Connection bolts – ASTM A325 or F1852, Fu = 120 ksi
- Anchor rods – ASTM F1554, Gr. 36, Fy = 36 ksi
- Threaded rods – ASTM A36, Fy = 36 ksi

Reinforcing Steel
- Deformed Bars – ASTM A615, Gr. 60, Fy = 60 ksi
- Fabric – ASTM A185, Fy = 70 ksi
- Masonry Joint Reinforcing – ASTM A951, Fy = 70 ksi
- Epoxy Coating for Reinforcing Steel – ASTM A775

Concrete
- f 'c = compressive strength in 28 days
  - 4,000 psi unless noted otherwise
  - 3,000 psi for footings
  - 3,000 psi for masonry corefill

Masonry
- Concrete Masonry Units – ASTM C90
- f 'm = net area compressive strength of masonry based on IBC table 2105.2.2.1.2
  - 2,000 psi

Structural Lumber
- All dimensional lumber – #2 Spruce Pine Fir (SPF) or equal
- Laminated Veneer Lumber (LVL)
  - E = 1,900,000 psi
  - Fb = 2600 psi
- Treated lumber – #2 Southern Pine or equal

DESIGN LOADS

Roof
- Dead load
  - 25 psf (15 psf top chord + 10 psf bottom chord)
- Live Load
  - Minimum 20 psf roof load
- Snow load
  - Roof snow load = See snow loading diagram
  - Ground snow = 5 psf
  - Ce = 1.0, Ct = 1.0, I = 1.0
  - Roof top units
  - See mechanical and notes below

Wind
- 90 mph (3 second gust)
- Exposure C, I = 1.0

GENERAL NOTES

The contractor is solely responsible for site safety including all temporary precautionary measures and safety programs. Site observation visits by the AOR do not include review of the contractor's safety precautions. All engineering design provided by others and submitted to the AOR for review shall bear a certification stamp and signature of a qualified professional engineer who is licensed in the state where the project is located. The contractor shall review and stamp all submittals prior to the AOR's review.

COORDINATION – ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL ITEMS

Contractor shall verify all dimensions and conditions on site and on the plans before construction begins. All discrepancies shall be reported immediately. Location, dimensions and details of recesses, depressions, openings, and equipment supports shall be verified by reference to architectural, civil, electrical and mechanical drawings.

TEMPORARY BRACING

All structural members are designed for in–place loads. Contractor is responsible for bracing, without overstressing, all structural elements as required at all stages of construction until completion of this project. Provide temporary lateral support for all walls until walls are adequately braced by permanent structure. Provide required temporary bracing for structural steel until permanent bracing and walls are in place.

ROOF TOP EQUIPMENT/OPENINGS

Verify size and location of all openings with architectural and mechanical drawings. Openings in roof not shown on structural drawings must be placed between structural members. The contractor shall provide sleeves through concrete slabs, joists, and beams for all plumbing. Spread reinforcing as required to provide concrete cover for reinforcing. Any mechanical equipment not shown shall have a total maximum weight of 200 lbs without prior approval. Provide mechanical unit locations, sizes and weights to AOR and joist supplier. Do not place multiple roof top units on the same joists, without prior approval by AOR.

GENERAL SOIL NOTES

The structure has been designed using an assumed allowable soil bearing pressure of 2,000 psf on compacted granular fill for footings. Any discrepancies in the assumed allowable soil bearing pressure shall be reported immediately to the AOR. The structure shall be located on the site as indicated in the civil engineering drawings. If any of the following conditions of the structure change, the geotechnical engineer should be notified immediately by the AOR: the structure location, proposed vertical design loads, proposed grading, or size of the structure. Remove all top soil, uncompacted fill, or other poor soil from the construction site as determined by the geotechnical engineer. Slope the site to drain away from the building. Install gutters and downspouts. Install drain tile. Backfill with granular soils.

FOOTINGS/FOUNDATIONS

Wall footings are cast–in–place concrete with continuous reinforcing placed at and bottom of footing. Place reinforcing 3" clear of bottom / top and 3" clear at sides. Provide 30 bar diameter lap at splices and full crossing lap at corners and intersections. Wall footings are centered under walls and column footings under columns. Footing elevations shown on plan are to bottom of footing. Footings for walls not noted otherwise shall be 12" thick with a minimum projection of 8" each side (24" total width) with 3 – #4 continuous bottom and top bars. Maintain minimum frost depth for all exterior footings. Frost depth is equal to 12" minimum, and is measured from finished grade elevation to bottom of footing – see sections for bottom of footing depth. Cast dowels in footing for foundation walls above. Dowels to match the same quantity, size, and spacing as the vertical wall reinforcing. Dowels shall extend to 3" clear of bottom of footing with standard hook and develop a Class B splice with wall reinforcing. Contractor shall be responsible to implement hot weather concrete requirements per ACI 305 and cold weather concrete requirements per ACI 306. Shore all foundation walls appropriately before backfilling and compacting. The contractor shall verify location of all existing underground utilities and take prior to beginning excavation.

UNDERPINNED FOOTINGS

The contractor shall assume complete responsibility for all underpinning and all other temporary, precautionary, or protective construction necessary to brace, support, or retain the building. Design of shoring and bracing shall be provided and designed by others. Underpinning shall be constructed by a company familiar with this type of work. Underpinning designs shall be submitted to AOR for review, prior to construction. The AOR reserves the right, without recourse, to require prompt and effective remedies when deemed that the actual or potential movements of the underpinned structure may cause damage, distress or harm to the structure or any surrounding person.

CONCRETE

Provide ready–mixed concrete per ASTM C94. Portland cement shall be ASTM C150, Type I. Use only one brand of cement throughout the work. Provide concrete aggregates meeting the requirements of ASTM C33. Water shall be clean, free of deleterious amounts of acids, alkalis, or organic materials, and shall be considered potable. Provide admixtures to reduce water content, provide air–entrainment, or alter the quality of the concrete to meet the job conditions. Admixtures shall be indicated in the mix designs. All concrete exposed to weather, freeze–thaw conditions or de–icing chemicals shall contain 5% – 7% entrained air. Slump shall be determined by ASTM C143 as follows:

Footings	3" – 4"
Slabs on grade	3" – 4"
Masonry grout	8" – 11"

Workability of the concrete shall be maintained so that concrete will completely fill forms without voids and will embed and bond to reinforcing without separation of materials. Mix and deliver concrete in accordance with ASTM C94. Cooled or heated water shall be used in accordance with ACI 306 and 305. Ready mixed concrete shall be transported to the site in watertight agitators or mixer trucks loaded not in excess of rated capacities. Discharge at the site shall be within one hour after charging. Air–entraining and chemical admixtures, if approved, shall be charged into mixer as a solution as recommended by the manufacturer. Concrete placed during cold weather shall conform to the requirements of ACI 306.1. For hot weather conditions, apply recommendations of ACI 305. Place concrete in accordance with ACI 304 "Guide for Measuring, Mixing, Transporting, and Placing Concrete". Use mechanical vibrating equipment for consolidation. Do not use vibrators to transport concrete in forms. Protect fresh concrete from premature drying and excessively hot or cold temperatures and maintain with minimal moisture loss at a relatively constant temperature above 55 degrees Fahrenheit. Provide wire, plastic, or precast concrete spacers, chairs, slab bolsters, support bars, etc. for support of reinforcing steel in proper position while placing concrete. Chairs/bolsters shall be stable and resist tipping.

SLABS ON GRADE

All slabs on grade shall be 4" thick and reinforced with WWF 6 x 6 – W2.9 x W2.9 in center of slab. All stair slabs on grade shall be a minimum of 6" thick and reinforced with #4 at 12" on center, each way, with 3" cover at bottom. Construction and/or control joints shall occur at a maximum of 10'–0" on center at exterior slabs on grade, and at a maximum of 15'–0" on center at interior slabs on grade. Construction and/or control joints shall be laid out in a rectangular pattern with long to short side ratio less than or equal to 1.5 and with no re–entrant corners. Control joints for slabs on grade shall be saw cut as soon as concrete can accept it without raveling Do not cut structural slabs or topping slabs. All control/construction joints shall be continuous and not staggered or offset. Control joints shall be cleaned and sealed for curing purposes as soon as possible. Verify floor finishes and control/construction joint locations with owner and architect.

CONCRETE COVER ON REINFORCING

Footings 3" clear, bottom and sides

Slab on Grade Center reinforcing in slab

DIMENSION LUMBER

Design assumes lumber is free of significant splits and checks, and contractor will visually inspect during installation. All lumber is to be grade stamped, which is to contain grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded, where applicable, and condition of seasoning at time of manufacture. All lumber shall be seasoned to a moisture content of 19% or less, with the indication of "S–Dry" on the grade stamp. All lumber shall be protected from the elements. Lumber grading rules and wood species shall conform to Voluntary Product Standard PS 20–99 as published by the Department of Commerce. Grading rules shall be by an agency certified by the Board of Review of the American Lumber Standards Committee. Performance requirements, adhesive bond performance, panel construction and workmanship, dimensions and tolerances, marking, and moisture content of Wood–based Structural–use Panels shall conform to Voluntary Product Standard PS 2–92, as published by the Department of Commerce. Sills and all other lumber in contact with concrete or masonry and within 8" of finished grade shall be preservative treated wood. In crawlspaces or unexcavated areas within the building foundation, wood shall be preservative treated for joists within 18" of exposed ground and/or girders within 12" of exposed ground. Preservative treated wood shall be in accordance with the American Wood Protection Association, Standard U1. Sill plates to be bolted to foundation wall with 5/8" diameter anchor bolts at 4'–0" on center maximum. Bolts to extend 13" minimum into solidly grouted foundation wall. Each sill plate to have a minimum of 2 bolts with one bolt located not more than 12 inches or less than 4 1/2 inches from each end of the plate section. Use 1/8" x 2" washers, slightly crushing plate. Minimum nailing to be in accordance with Table 2304.9.1 of IBC. All walls shall have a single bottom plate and double top plate. Exterior walls shall be 2 x 6 studs @ 16" on center or 2 x 8 studs @ 16" on center, as noted on plans. Interior bearing shall be have 2 x 6 studs @ 16" on center. Interior non–load bearing walls shall be 2 x 4 studs @ 16" on center. Typical openings to have a minimum of 2 bearing (trimmer or jack) studs and 1 full–height king stud, not noted to be 2 – 2 x 6 up to 4'–0" span and 2 – 2 x 8 from 4'–0" to 6'–0" span. Wood headers shall have a minimum 3" length of bearing at each end or bear the entire length of the bearing studs. Beams shall bear a minimum of 3" along their length and fully along their width. Beams and headers made of 2 – 2x's with 1/2" plywood spacer shall be nailed together with 16d nails (.162" x 3 1/2") at 16" o.c. along each edge, typical for all lumber ply Wood joists shall bear the full width of supporting members (stud wall, beams, etc.) All beams and joists framing into supporting members shall be framed with prefabricated joist hangers. Spacing of bridging for joists shall not exceed 8'–0". Double all joists under parallel partitions. Plywood and OSB shall be installed per American Plywood Association standards, including the use of construction adhesive for fastening to floor joists. All fasteners and hangers in contact with treated lumber shall be G185 hot dipped galvanized or equal.

ENGINEERED OPEN WEB TRUSSES

Depths shown on plan are actual. Notching or cutting of open web trusses is not permitted. Open web truesses shall bear the full width of supporting members. Install web stiffeners, blocking between members, and nail to supporting members as per manufacturers recommendations. Open web trusses shall be designed by a Licensed Georgia Engineer. AOR shall recieve and review truss shop drawings prior to fabrication / installation.

WALL SHEATHING

Wall sheathing shall be minimum 15/32" thick APA rated panels, rated for spacing of supporting members. A minimum 32/16 span rating is recommended. Provide Exterior or Exposure 1 grade. Panels shall be continuous over two or more spans, and long dimension of panel may be either perpendicular or parallel to supports. All edges shall be blocked. Fasten wall sheathing with 8d nails (.131" diameter x 2 1/2") spaced at 4" on center at supported edges and 8" on center at intermediate supports. Leave an 1/8" gap at all end and edge joints to allow for expansion. Stagger end joints of panels. Refer to plan and notes for any special shear wall nailing and bolting conditions. Gypsum sheathing to be a minimum of 1/2" thick fastened with 6d cooler or wallboard nails at 7" on center to all framing members.

ROOF SHEATHING

Roof sheathing shall be minimum 19/32" thick minimum APA rated panels, rated for spacing of supporting members. A minimum of 40/20 span rating is required. Provide panel clips, one between each support, for supports spaced greater than 16" on center. Provide Exterior or Exposure 1 grade. Panels shall be continuous over two or more spans, and long dimension of panel shall be perpendicular to supports. Fasten roof sheathing with 8d nails (.131" diameter x 2 1/2") spaced at 4" on center at supported edges and 8" on center at intermediate supports. Leave an 1/8" gap at all end and edge joints to allow for expansion. Design of roof sheathing assumes that the roof will be properly insulated and ventilated. Refer to APA publication N335N "Proper Installation of APA Rated Sheathing for Roof Applications."

LVL WOOD MEMBERS

LVL members noted on drawings are engineered laminated veneer lumber as manufactured by the iLevel – Weyerhaeuser Company. Alternate at contractor's option of equal design properties. Sizes shown on plan are actual size.

ADHESIVE/EXPANSION ANCHORS

Adhesive and expansion anchors shall be provided and installed in strict accordance with the manufacturer's instructions. Adhesive anchoring system to be Hilti HIT–RE 500–SD adhesive. Expansion anchoring system to be HILTI Kwik Bolt TZ. Alternate anchoring system may be submitted for approval. "Fast Set epoxy" is not permitted. Reference drawings for additional information and requirements.

SPECIAL INSPECTIONS

The contractor shall include in the bid the cost of all testing and inspections indicated on the plans and in the specifications, including special inspections required by the building code. The actual contracting of the inspection and testing services shall be in accordance with the division of responsibility dictated by the International Building Code.

IBC Section 1704 requires that in addition to the inspections required by Section 109, the owner shall employ one or more special inspectors who shall provide inspections during construction of certain types of work.

"Special inspection" concerns work requiring observation and judgement and shall be performed by an engineer (or a designated person under the supervision of the engineer). "Testing" involves the analysis of materials in accordance with approved standards and shall be performed by an independent testing agency.

The contractor shall coordinate the testing and inspection services in accordance with the progress of the work. The contractor shall provide sufficient prior notice to the testing and/or inspection agency of the required work to allow proper scheduling of personnel. The cost of any retesting or additional inspections as a result of failed tests or rejected work shall be borne by the contractor.

This project requires TESTING AND SPECIAL INSPECTIONS SCHEDULE, as determined by the Owner, Contractor, Architect, and Testing Agency. Refer to the program summary schedule for frequency of testing and inspections.

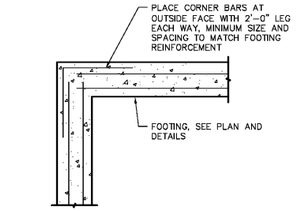
REQUIRED SPECIAL INSPECTIONS

DESCRIPTION OF WORK IBC SECTION 1705	INSPECTION YES	INSPECTION NO	TESTING YES	TESTING NO	N/A	REMARKS
Concrete Construction (1705.3)	●		●			1a, 1b, 1c, 1d, and 1e
Wood Assemblies (1705.6)	●			●		3a and 3b
Soils (1705.7)		●	●			4a, 4b and 4c

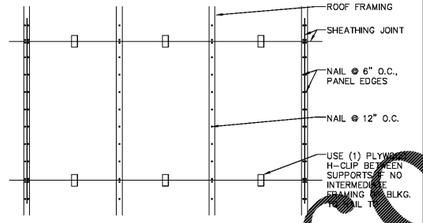
SPECIAL INSPECTIONS WORK REQUIRED

Items marked with an asterisk " * " are conventional testing not strictly a part of Section 1704 but are required for adequate quality assurance and can be provided by the contractor. All other work must be provided by the owner as indicated by the International Building Code.

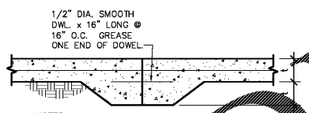
1. Concrete Testing
   - a. Provide mix design in accordance with ACI requirements.
   - b. Test concrete at the time of pouring for slump, air–entrainment, and temperature in accordance with the specifications.
   - c. Make and test concrete cylinders for representative strength in accordance with the specifications.
   - d. Provide periodic visual inspection of reinforcing:
     - I. Visual inspection of 25% of continuous strip footings prior to pour
     - II. Visual inspection of 50% of slab on grade
3. Wood Assemblies
   - a. Provide verification of Quality Control/Quality Assurance Program regarding fabrication process.
   - b. Provide visual inspection of truss erection procedures on trusses over 60 feet in length. Verify truss installation complies with referenced document BCSI 1–03 for the following items:
     - I. Proper lifting procedures including use of stiffbacks and spreader bars.
     - II. Proper interior ground bracing designed by the contractor's structural engineer and BCSI 1–03.
     - III. Installation of required top and bottom chord temporary bracing as required by BCSI 1–03.
     - IV. Installation of permanent continuous lateral bracing (CLB) for web members as specified by the truss supplier and the required diagonal bracing for these CLBs per BCSI 1–03.
4. Soils
   - *a. Verify footing excavation for suitability for planned footing.
   - *b. Verify material used for compacted backfill.
   - *c. Test compacted backfill for specified compaction.



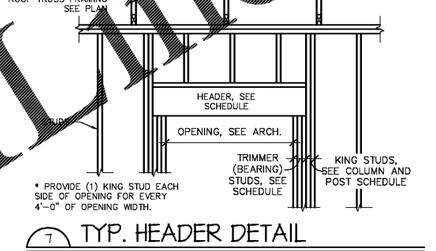
1 A8.1 TYP. CORNER REINF.



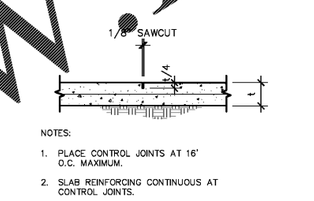
6 A8.1 TYP. ROOF NAILING PATTERN



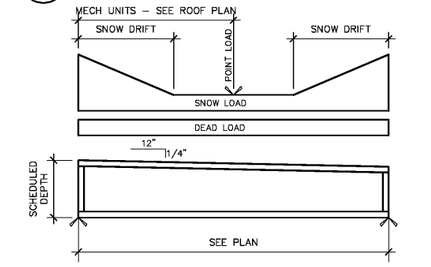
2 A8.1 TYP. CONST. JOINT



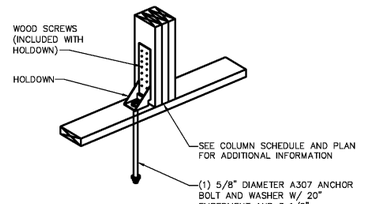
7 A8.1 TYP. HEADER DETAIL



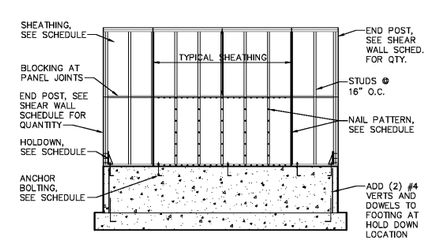
3 A8.1 TYP. CONTROL JOINT



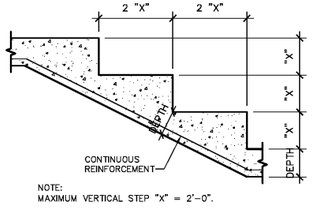
8 A8.1 TRUSS LOADING DIAGRAM



4 A8.1 TYP. ANCHOR DETAIL



9 A8.1 SHEAR WALL ELEVATION



5 A8.1 TYP. STEPPED FTG.

NEW BUILDING FOR:

DQ Grill & Chill

INTERSECTION OF GA 85 BLVD. & ALABAMA AVENUE
BREMEN, GA 30110

PARCEL ID: 252 006S

AMERICAN DAIRY QUEEN
MINNEAPOLIS, MN U.S.A.

STATE OF GEORGIA
JOHN S. ODOM
CERTIFICATE NO. RA014022
REGISTERED ARCHITECT
11-01-18

GEORGIA ARCHITECT LICENSE NUMBER RA014022

SPECIAL NOTICES

In the event the client consents to, allows, authorizes or approves of changes to any plans, specifications or other construction documents, and these changes are not approved in writing by the design professional, the client recognizes that such changes and the results thereof are not the responsibility of the design professional. Therefore, the client agrees to release the design professional from any liability arising from the construction, use or result of such changes. In addition, the client agrees to the fullest exent permitted by law, to indemnify and hold the design professional harmless from any damage, liability or cost (including reasonable attorney's fees and costs of defense) arising from such changes.

ISSUE DATE: 11-01-18

REVISION DATE:

11-01-18 ORIGINAL ISSUE

1

2

NOTES

SHEET NUMBER:

A8.1