

STRUCTURAL GENERAL NOTES:

- 1. DESIGN LOADS
ROOF LIVE LOAD 20 PSF
FLOOR LIVE LOAD 150 PSF
- WIND LOAD AND SEISMIC LOAD PER ANSI/ASCE 7-95
- 2. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR REQUIRED OPENINGS TO BE PROVIDED, WHETHER SHOWN ON THESE DRAWINGS OR NOT. VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL CONTRACTOR. NOMINAL PIPE SLEEVES THROUGH THE ROOF DECK WILL NOT REQUIRE FRAMING UNLESS THE OPENING EXCEEDS 12 INCHES IN DIAMETER.
- 3. STRUCTURAL MEMBERS HAVE BEEN SPACED TO ACCOMMODATE THE MECHANICAL EQUIPMENT SPECIFIED. ANY SUBSTITUTIONS CAUSING CHANGES IN THE STRUCTURE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE.
- 4. SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, SLOPES, LOCATION OF DEPRESSED FLOOR AREAS, FLOOR FINISHES, WALKS, CURBS, TOPPING SLABS, ETC. ALL SLAB RECESSES SHALL BE PROVIDED BY THE CONTRACTOR WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.

FOUNDATION NOTES

- 1. EXCAVATION FOR FOOTINGS SHALL BE NEAT. PLACE CONCRETE IMMEDIATELY AFTER EXCAVATION AND INSPECTION. WATER ACCUMULATION IN FOOTING EXCEEDING 1 INCH SHALL BE PUMPED OUT.
- 2. GRADE BEAMS SHALL BE POURED ON 4 INCH DEEP POLYETHYLENE-WAX IMPREGNATED CORRUGATED FIBER CARTON FORMS. PREPARED GRADE AREA SHALL BE COVERED WITH A LAYER OF 6 MIL POLYETHYLENE SHEETING.
- 3. A MINIMUM OF 3 FEET OF FILL SHALL BE PLACED UNDER BUILDING SLAB AND SHALL BE NON-EXPANSIVE WITH A MAXIMUM PLASTICITY INDEX OF 4 TO 14 AND SHALL BE COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY.
- 4. A 4 INCH SAND LAYER MAY BE PLACED UNDER ALL SLABS ON GRADE FOR LEVELING PURPOSES.

CONCRETE NOTES

- 1. CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318.
- 2. ALL CONCRETE FOR GRADE BEAMS AND SLABS SHALL BE MIXTYPE B1, NORMAL WEIGHT CONCRETE AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 POUNDS PER SQUARE INCH AT 28 DAYS.
- 3. NORMAL WEIGHT CONCRETE SHALL WEIGH NOT MORE THAN 150 PCF.
- 4. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL COMPLY WITH ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- 5. DEFORMED STEEL REINFORCING BARS SHALL CONFORM TO ASTM A 615 WITH SUPPLEMENTARY REQUIREMENTS S1, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185.
- 6. PROVIDE ONE NO. 6 x 4'-0" TOP AND BOTTOM IN EXTERIOR FACE OF GRADE BEAMS AT CORNERS AND INTERSECTIONS.
- 7. PROVIDE ONE NO. 5 x 4'-0" BAR AT ALL RE-ENTRANT CORNERS, PLACED ON THE DIAGONAL WITH 1 INCH CLEARANCE FROM CORNER AND TOP OF SLAB. (THIS INCLUDES ANY RECTILINEAR HOLES MADE DUE TO STANDARD CONSTRUCTION PRACTICES.)
- 8. REINFORCING BARS FOR SLABS ON GRADE SHALL BE SUPPORTED AT 4'-0" MAXIMUM CENTERS EACH WAY BY BAR CHAIRS WITH SHEET METAL BASES. DEPTH OF CHAIRS SHALL PROVIDE FOR 1 INCH TOP COVER.
- 9. GRADE BEAM SIDE WALLS SHALL NOT BE FORMED BY EARTH CUTS.
- 10. NO FLY ASH ADMIXTURES ALLOWED.
- 11. LAP CONTINUOUS UNSCHEDULED REINFORCING BARS 30 BAR DIAMETERS UNLESS NOTED OTHERWISE.

- 12. MINIMUM REINFORCING STEEL COVERAGE SHALL BE AS FOLLOWS:
COLUMNS 1-1/2"
GRADE BEAMS 1-1/2" TOP & SIDES
3" BOTTOM
CONCRETE JOISTS AND WALLS *14 AND *18 BARS 1-1/2"
*11 BARS AND SMALLER 3/4"
FOOTINGS 3"
CONCRETE CAST PERMANENTLY AGAINST EARTH 3"
- 13. SLEEVING OF GRADE BEAMS WHERE HORIZONTAL RUNS OF UNDER SLAB PLUMBING INTERSECT SHALL OCCUR ONLY AT MID-SPAN AND AT MID-HEIGHT OF BEAM.
- 14. THE LOCATION OF CONSTRUCTION JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS WITH VERTICAL BULKHEADS UNLESS NOTED OTHERWISE. THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS.
- 15. FOOTINGS AND CAPS SHALL BE POURED MONOLITHIC.
- 16. HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS WITH 90 DEGREE BENDS AND 12 INCH RETURNS ALONG EACH WALL AT CORNERS.
- 17. PROVIDE NO. 4 HORIZONTAL AT 12 INCHES O.C. MAXIMUM IN EACH FACE OF BEAMS EXCEEDING 21 INCHES IN DEPTH.

MASONRY NOTES

- 1. MASONRY CONSTRUCTION SHALL CONFORM TO REFERENCED BUILDING CODE, ACI-531, AND ACI-531R.
- 2. HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, LIGHT WEIGHT, TYPE N1, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1350 PSI ON THE NET AREA OF THE BLOCK.
- 3. MORTAR SHALL CONFORM TO ASTM A 76, TYPE S, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI.
- 4. COARSE GROUT SHALL CONFORM TO ASTM A76 WITH A MAXIMUM AGGREGATE SIZE OF 3/8" AND A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- 5. CONCRETE SHALL CONFORM TO ACI 318 WITH A MAXIMUM AGGREGATE SIZE OF 3/8" AND A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- 6. ALL CELLS CONTAINING VERTICAL REINFORCING STEEL, LINTEL BEAMS AND BOND BEAMS SHALL BE FILLED SOLID WITH COARSE GROUT OR CONCRETE AS DESCRIBED ABOVE.
- 7. THE FIRST TWO CELLS AT EACH WALL OPENING AND WALL END SHALL BE REINFORCED WITH 2-#6 VERTICAL EACH CELL. REINFORCING SHALL EXTEND FROM FOUNDATION TO TOP OF WALL.
- 8. REINFORCING STEEL SHALL BE LAPPED 30 BAR DIAMETERS MINIMUM WHERE SPLICED AND SHALL BE TIED TOGETHER.
- 9. WIRE REINFORCEMENT, "DUR-O-WALL" OR EQUAL SHALL BE LAPPED AT LEAST 6 INCHES AT SPLICES AND SHALL CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT IN THE LAPPED DISTANCE.
- 10. VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 8'-0" WITH A MINIMUM CLEARANCE OF 1/4 INCH FROM THE MASONRY. BARS SHALL BE PLACED AS SHOWN AND NOTED ON THE DETAILS.
- 11. VERTICAL REINFORCING BARS MAY BE SPLICED IN 6' TO 8' LENGTHS, PROVIDED THE SPLICES IN ADJACENT BARS ARE STAGGERED AND ARRANGED SO THAT NOT MORE THAN 1/3 OF THE TOTAL NUMBER OF BARS ARE SPLICED AT ANY LOCATION AND NOT MORE THAN 1/2 OF THE TOTAL NUMBER OF BARS ARE SPLICED AT THE MID-HEIGHT OF THE WALL. ALL BARS SHALL BE TIED AT SPLICES.
- 12. WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL CORE, IT SHALL NOT BE SLOPED MORE THAN ONE HORIZONTAL TO SIX VERTICAL. REMOVE CELL DIVIDER WHEN REQUIRED.
- 13. STANDARD WEIGHT 9 GAGE TRUSS TYPE "DUR-O-WALL", OR EQUAL SHALL BE PLACED HORIZONTALLY AT 16" O.C. IN ALL WALLS.
- 14. HORIZONTAL REINFORCING BARS SHALL BE PLACED IN CONTINUOUS MASONRY COURSES, CONSISTING OF BOND-BEAM OR LINTEL BLOCK UNITS, AND SHALL BE SOLIDLY GROUTED IN PLACE. AT LINTEL BEAMS, BARS SHALL EXTEND NOT LESS THAN 20 BAR DIAMETERS OR 16 INCHES (WHICHEVER IS GREATER) PAST THE OPENING FACE.
- 15. LINTEL BEAMS SHALL BE CONTINUOUS AT CONTROL AND EXPANSION JOINTS. PROVIDE DUMMY JOINT WHEN REQUIRED. UNLESS NOTED OTHERWISE, BOND BEAMS SHALL BE DISCONTINUOUS AT CONTROL AND EXPANSION JOINTS. BOND BEAMS SHALL BE CONTINUOUS AT TOP COURSE AND AROUND ALL OPENINGS, AND SHALL BE REINFORCED WITH 2-#5 BARS, UNLESS NOTED OTHERWISE.

- 16. REFER TO ARCHITECT'S DRAWINGS FOR CONTROL AND EXPANSION JOINT LOCATIONS.
- 17. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS, REVEALS, EXTERIOR FINISH, AND NON STRUCTURAL EMBEDDED ITEMS.

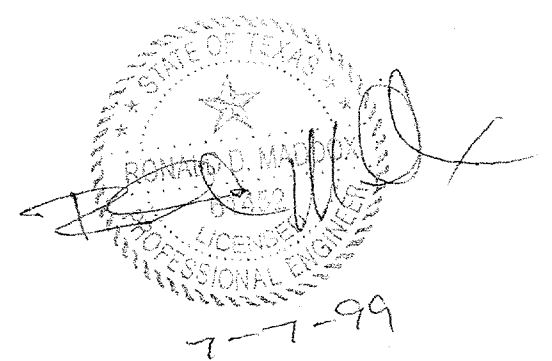
STRUCTURAL STEEL NOTES

- 1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A 36.
- 2. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A 501.
- 3. DETAIL, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL COMPLY WITH THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AISC "CODE OF STANDARD OF STANDARD PRACTICE", AND ALL UPDATING PUBLICATIONS.
- 4. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, CONNECTIONS SHALL BE SHOP WELDED AND FIELD BOLTED. BOLTS SHALL BE 3/4" DIA. OR LARGER AND CONFORM TO ASTM A325. FIELD CONNECTIONS SHALL BE BOLTED UNLESS SHOWN OTHERWISE ON THE DRAWINGS. WEB CONNECTIONS WITH BOLTS IN SINGLE SHEAR SHALL BE DETAILED WITH TWO VERTICAL ROWS OF BOLTS MINIMUM.
- 5. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY SPECIFICATION. ELECTRODES SHALL CONFORM TO AWS A5.5, E70XX.
- 6. ALL MISCELLANEOUS WELDS (FIELD OR SHOP) SHALL BE MINIMUM SIZE FILLET ALL AROUND IN ACCORDANCE WITH AISC. WELDING OF CONTINUOUS MEMBERS SHALL BE A MINIMUM OF 2 INCHES OF 3/16-INCH FILLET STITCH WELDS AT 12 INCHES O.C., STAGGERED EACH SIDE, UNLESS OTHERWISE NOTED. COLUMN BASE PLATES, CAP PLATES AND STIFFENER PLATES SHALL BE WELDED ALL AROUND.
- 7. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION AND TYPE OF SPLICE. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON THE SHOP DRAWINGS WILL BE REJECTED.
- 8. ANCHOR BOLTS SHALL COMPLY WITH ASTM A 307 AND SHALL BE SET USING RIGID TEMPLATES.
- 9. BURNING OF HOLES IN STRUCTURAL STEEL AND METAL DECKING IS PROHIBITED. ANY MEMBER WITH BURNED HOLES SHALL BE REPLACED.
- 10. STRUCTURAL STEEL SHALL BE PUNCHED FOR WOOD BLOCKING AND NAILERS. SEE ARCHITECT'S DRAWINGS.
- 11. PREGROUTING OF BASE PLATES WILL NOT BE PERMITTED.
- 12. EXPOSED FASCIA CONNECTIONS ARE TO BE WELDED AND ABRASIONS GROUND SMOOTH. ERECTION MATERIAL USED IN FIELD CONNECTIONS SHALL BE REMOVED, HOLES FILLED, AND ABRASIONS GROUND SMOOTH.
- 13. SEE PROJECT SPECIFICATIONS FOR PAINTING AND GALVANIZING.
- 14. JOIST BRIDGING SHALL BE HORIZONTAL RODS OR ANGLES IN ACCORDANCE WITH PARAGRAPHS 5.4 (A) AND (C) AND 5.5 OF THE STEEL JOIST INSTITUTE SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS. BRIDGING SHALL BE THROUGH STRUCTURAL STEEL JOIST AND ANCHORED TO SPANDREL MEMBERS.
- 15. NON-STANDARD JOIST SEATS ARE INDICATED ON THE FRAMING PLANS. THE CONTRACTOR SHALL EXAMINE THE CONTRACT DOCUMENTS FOR CONDITIONS REQUIRING NON-STANDARD SEATS WHETHER SHOWN ON THE FRAMING PLANS OR NOT.

METAL ROOF DECK NOTES

- 1. ROOF DECK THICKNESS AND GAGE SHALL BE AS NOTED ON PLAN. DECK MATERIAL SHALL COMPLY WITH SPECIFICATIONS.
- 2. UNLESS NOTED OTHERWISE ON DRAWINGS, WELD DECK TO SUPPORTS AT 12 INCHES O.C. AND SCREW SIDE LAPS AT 18 INCHES O.C.
- 3. INSTALL DECK CONTINUOUS OVER THREE OR MORE SPANS.
- 4. PATCH ALL BURN-THROUGH HOLES.

Record (As-Built) Certification
 "Having checked this submission, we certify that it conforms to the requirements of the contract in all respects, except as otherwise indicated."
 Contract Number: 97000136
 Company Name: [Signature]
 Office of Firm Signature: [Signature]
 Title of Officer (Typed): JIM KADER
 Title of Officer (Signed): PRESIDENT
 Seal of Professional Engineer of Construction Certification, including signature and date, thereby making record (as-built) drawings for construction of as-built conditions reflected herein, must be placed below.



CONFORMED

CONTRACT SHEET No. 73 OF 95

REV	DATE	DESCRIPTION	BY	ENG	CHK	APP	REV	DATE	DESCRIPTION	BY	ENG	CHK	APP



Lockwood, Andrews & Newnam, Inc.
 A SUBSIDIARY OF LEO A DALY

WLA
 WENDY LOPEZ & ASSOCIATES, INC.
 ENGINEERING • SURVEYING • CONSTRUCTION SERVICES
 805 MARKET CENTER BLVD - SUITE 50
 DALLAS, TEXAS 75207
 (214) 741-7771

DART PROJECT

SCALE	NO SCALE
DRAWN	D. QUINTANA
DESIGNED	K. BURKHOLDER
CHECKED	K. BURKHOLDER
IN CHARGE	V. STEVENS
DATE	14 AUGUST 97

CAES

ADDISON TRANSIT CENTER
STRUCTURAL GENERAL NOTES

CONTRACT C-97000136 DWG No. SC1-0002 REV 0

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