

A. GENERAL REQUIREMENTS

- ALL CODES AND STANDARDS REFERENCED SHALL BE THE LATEST EDITION UNLESS NOTED OTHERWISE. THE APPLICABLE BUILDING CODE IS THE UNIFORM BUILDING CODE (U.B.C.), 1991 EDITION.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS OF EXISTING STRUCTURES AND UTILITIES AT THE JOB SITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT SUCH STRUCTURES AND UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY CONFLICTS BETWEEN EXISTING STRUCTURES AND NEW CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO THE FABRICATION AND INSTALLATION OF STRUCTURAL MEMBERS.
- REFER TO THE ARCHITECTURAL DRAWINGS FOR FLOOR SLOPES, LOCATIONS OF DEPRESSED FLOOR AREAS, FLOOR FINISHES, TOPPING SLABS, EXTERIOR WALKS, ETC. ALL SLAB RECESSES SHALL BE PROVIDED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS AND REPORT ALL DISCREPANCIES TO THE ARCHITECT AND OWNER'S REPRESENTATIVE BEFORE FABRICATION AND INSTALLATION OF STRUCTURAL MATERIALS.
- PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS AND COORDINATE ALL DISCREPANCIES WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL VERIFY THE SIZES AND LOCATIONS OF ALL OPENINGS. NOMINAL PIPE SLEEVES THROUGH THE STEEL ROOF DECK REQUIRING AN OPENING IN EXCESS OF 10 INCHES IN DIAMETER SHALL BE FRAMED.
- THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL SUBCONTRACTORS.
- ANY REQUIRED CHANGES TO THE STRUCTURAL DRAWINGS RESULTING FROM THE ACCEPTANCE OF ALTERNATES AND/OR SUBSTITUTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ARCHITECT AND OWNER'S REPRESENTATIVE FOR APPROVAL.
- THE CONTRACTOR SHALL NOT BE COMPENSATED FOR ANY DELAY OR INEFFICIENCY RESULTING FROM HIS FAILURE TO PROMPTLY AND ADEQUATELY REVIEW THE PROJECT DRAWINGS, SPECIFICATIONS AND RELATED PROJECT DOCUMENTS.
- THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS IS FORBIDDEN.

B. FOUNDATION NOTES

- REMAINS OF ANY PREVIOUS CONSTRUCTION DETERMINED TO BE IN CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED FROM THE SITE DURING SITE PREPARATION. VOIDS LEFT ON THE SITE FROM THE REMOVAL OF PREVIOUS CONSTRUCTION SHALL BE FILLED IN ACCORDANCE WITH THE SPECIFICATIONS.
- FOOTING ELEVATIONS SHOWN ON THE DRAWINGS ARE FOR ESTIMATING PURPOSES ONLY, AND SHALL BE VERIFIED IN THE FIELD.
- EXCAVATION FOR FOOTINGS SHALL BE NEAT AND FREE OF DEBRIS AND LOOSE MATERIAL. THE LAST 6 INCH DEPTH OF EXCAVATION FOR FOOTINGS SHALL NOT BE REMOVED UNTIL REINFORCING STEEL AND CONCRETE ARE READY TO BE PLACED. REINFORCING STEEL AND CONCRETE SHALL BE PLACED AS SOON AS PRACTICAL AFTER FINAL EXCAVATION AND INSPECTION. OPEN EXCAVATIONS SHALL BE PROTECTED FROM RAINFALL AND EXCESSIVE DRYING TO MAINTAIN THE FOUNDATION SUBGRADE IN A SATISFACTORY, UNDISTURBED CONDITION. WATER ACCUMULATION IN PREPARED EXCAVATIONS EXCEEDING 1 INCH SHALL BE PUMPED OUT BEFORE CONCRETE IS PLACED.
- DESIGN SOIL BEARING PRESSURES FOR FOOTINGS ARE AS FOLLOWS:

CONTINUOUS FOOTINGS	2000 PSF
INDIVIDUAL SQUARE FOOTINGS	2000 PSF

ALL FOOTINGS SHALL BE FOUNDED ON MATERIAL CAPABLE OF SUPPORTING THESE PRESSURES WITHOUT SIGNIFICANT SETTLEMENT.
- ALL VEGETATION SHALL BE STRIPPED AND REMOVED FROM THE SITE IN THE AREAS WHERE SLABS-ON-GROUND ARE TO BE CONSTRUCTED.
- PIPE TRENCHES BENEATH THE BUILDING SLAB-ON-GRADE SHALL BE MADE BY OPEN CUT METHODS MAINTAINING THE SIDES OF THE TRENCHES AS VERTICAL AS PRACTICAL. THE BOTTOMS OF TRENCHES SHALL BE GRADED ACCURATELY TO ACHIEVE UNIFORM BEARING ALONG THE ENTIRE LENGTH OF PIPES. BACKFILL AROUND THE PIPES SHALL NOT BE PLACED UNTIL THE PIPES HAVE BEEN INSPECTED. BACKFILL IN PIPE TRENCHES SHALL BE SAND, PLACED IN UNIFORM LAYERS, CAREFULLY TAMPED TO MEET THE SPECIFIED COMPACTION FOR THE ADJACENT SUB-GRADE.
- STRUCTURAL FILL SHALL BE USED BENEATH ALL BUILDING SLABS-ON-GROUND AS REQUIRED TO BRING THE SUBGRADE TO THE DESIRED ELEVATION. MATERIALS USED AS STRUCTURAL FILL SHALL BE GRANULAR WITH A PLASTICITY INDEX NOT TO EXCEED 20. STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 8 INCHES IN THICKNESS. STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM STANDARD DENSITY IN ACCORDANCE WITH ASTM D 1557 AT A MOISTURE CONTENT NEAR OPTIMUM.
- GRAVEL FOR USE UNDER BUILDING SLABS ON GROUND SHALL CONFORM TO CLARK COUNTY TYPE II SPECIFICATIONS.
- SAND FOR USE UNDER THE BUILDING SLABS-ON-GROUND SHALL BE REASONABLY CLEAN, COARSE SAND FROM AN APPROVED SOURCE. SAND SHALL HAVE A MOISTURE CONTENT OF 16% TO 20% AT THE TIME OF CONCRETE PLACEMENT.
- A LAYER OF 8-MIL POLYETHYLENE SHEETING SHALL BE PLACED BENEATH ALL BUILDING SLABS-ON-GROUND. LAP ALL JOINTS A MINIMUM OF 6 INCHES.
- THE CONTRACTOR SHALL OBTAIN COPIES OF THE GEOTECHNICAL REPORT FOR THIS PROJECT TO ENSURE COMPLIANCE WITH THE GEOTECHNICAL RECOMMENDATIONS AND TO REVIEW BORING LOGS OF SUBSURFACE MATERIALS. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY WESTERN TECHNOLOGIES, INC., 3611 WEST TOMPKINS AVENUE, LAS VEGAS, NEVADA. REFER TO WESTERN TECHNOLOGIES, INC. PROJECT NO. 4126J293, NOVEMBER 26, 1986.

D. REINFORCED CONCRETE NOTES

- CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318.
- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. CEMENT USED IN CONCRETE SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE V. CONCRETE SHALL BE PLACED WITH A SLUMP NOT TO EXCEED 4 INCHES.
- CONCRETE PLACEMENT IN HOT OR COLD WEATHER SHALL CONFORM TO THE PROVISIONS OF ACI 305R OR 306R RESPECTIVELY. REVIEW OF THE PROPOSED PROCEDURE WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR THE QUALITY OF THE FINISHED PRODUCT.
- DETAILING FABRICATION AND ERECTION OF REINFORCING BARS SHALL COMPLY WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- ALL REINFORCING STEEL SHALL BE NEW STOCK FREE OF RUST, GREASE, MILL SCALE, OR ANY MATERIAL WHICH MIGHT AFFECT ITS BOND TO CONCRETE.
- DEFORMED STEEL REINFORCING BARS SHALL BE GRADE 60 (#3 BARS AND SMALLER MAY BE GRADE 40) AND SHALL CONFORM TO ASTM A 615. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185. WELDED WIRE FABRIC SHALL BE PROVIDED IN FLAT SHEETS.
- ALL BAR BENDS SHALL BE MADE COLD. REBENDING OF BARS SHALL NOT BE PERMITTED.
- MINIMUM REINFORCING STEEL COVERAGES SHALL BE AS OUTLINED IN SECTION 7.7 OF THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- CONTINUOUS UNSCHEDULED REINFORCING BARS SHALL BE LAPPED 36 BAR DIAMETERS AT SPLICES UNLESS NOTED OTHERWISE. TOP REINFORCING BARS SHALL BE LAPPED 12 INCHES MINIMUM AT MIDSPAN; BOTTOM REINFORCING BARS SHALL BE LAPPED 12 INCHES MINIMUM AT SUPPORTS.
- SLAB-ON-GROUND REINFORCEMENT SHALL BE SUPPORTED ON PRECAST CONCRETE BLOCKS OR HIGH CHAIRS WITH BASE PLATES TO ACHIEVE PROPER LOCATION OF REINFORCEMENT IN THE SLAB.
- REINFORCING CORNERS IN CONCRETE SLABS SHALL BE REINFORCED WITH TWO #4 BARS, 48 INCHES LONG. BARS SHALL BE PLACED ON THE DIAGONAL WITH 1 INCH CLEARANCE FROM THE CORNER OF THE SLAB. THIS REINFORCEMENT SHALL ALSO BE PROVIDED AT RECTILINEAR OPENINGS RESULTING FROM STANDARD CONSTRUCTION PRACTICES.
- REFER TO THE PLAN FOR THE LOCATION OF CONTROL JOINTS IN SLABS-ON-GROUND.
- CONSTRUCTION JOINTS IN FOOTINGS SHALL BE MADE WITH VERTICAL BULKHEADS. SCHEDULED REINFORCING STEEL SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS. THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS EXCEPT WHERE SHOWN ON THE DRAWINGS.
- CONCRETE KEYWAYS INDICATED ON THE CONSTRUCTION DRAWINGS SHALL BE PERFORMED, NOMINAL 2 INCHES BY 4 INCHES. METHODS OF OBTAINING A KEYWAY OTHER THAN PREFORMING SHALL NOT BE ACCEPTABLE. KEYWAYS SHALL BE FREE OF DEBRIS BEFORE PLACING CONCRETE ON THE KEYED JOINT.
- CONCRETE SHALL NOT BE PLACED PRIOR TO APPROVAL OF THE CONCRETE MIX DESIGN BY THE ARCHITECT AND OWNER'S REPRESENTATIVE. THE MIX DESIGN SHALL NOT BE APPROVED PRIOR TO RECEIPT OF COMPRESSIVE TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY CERTIFYING ADEQUATE STRENGTH OF THE MIX DESIGN AT 28 DAYS.
- CONCRETE SHALL NOT BE ALLOWED TO FALL IN EXCESS OF 3 FEET DURING PLACEMENT. THE CONTRACTOR SHALL USE A TREMIE TO PLACE CONCRETE IN AREAS WHERE THE FALL OF CONCRETE MIGHT EXCEED 3 FEET.
- THE CONTRACTOR SHALL PREVENT FRESHLY DEPOSITED CONCRETE FROM PREMATURE DRYING BY PONDING, CONTINUOUS SPRINKLING, MEMBRANE FORMING, WITH WET FABRIC, WITH A CURING COMPOUND APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, OR BY OTHER METHODS APPROVED BY THE ARCHITECT.
- THE CONTRACTOR SHALL PROVIDE A 3/4-INCH CHAMFER AT ALL EXPOSED EDGES OF CONCRETE UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL ENSURE THAT ALL ITEMS WHICH MUST BE EMBEDDED IN THE CONCRETE ARE DELIVERED TO THE SITE IN A TIMELY FASHION AND INSTALLED IN THE FORMWORK PRIOR TO PLACING CONCRETE. THE DRAWINGS AND SPECIFICATIONS OF ALL DISCIPLINES SHALL BE THOROUGHLY EXAMINED TO ENSURE THAT ALL EMBEDDED ITEMS ARE PROVIDED AND PROPERLY INSTALLED.

C. REINFORCED CONCRETE MASONRY NOTES

- CONCRETE MASONRY UNIT (CMU) CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF LOAD-BEARING CONCRETE MASONRY," NATIONAL CONCRETE MASONRY ASSOCIATION.
- CONCRETE MASONRY CONSTRUCTION SHALL NOT REQUIRE SPECIAL INSPECTION PER U.B.C. SECTION 306(c).
- LOAD BEARING CMU SHALL BE HOLLOW, MEDIUM WEIGHT CONCRETE UNITS CONFORMING TO ASTM C 90, GRADE N, TYPE 1, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON THE NET AREA. CEMENT USED IN CONCRETE MASONRY UNITS BELOW GRADE SHALL CONFORM TO ASTM C 150, TYPE V. CEMENT USED IN CONCRETE MASONRY UNITS ABOVE GRADE SHALL CONFORM TO ASTM C 150, TYPE II.
- MORTAR SHALL CONFORM TO ASTM C 270. MORTAR AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 144, STANDARD SPECIFICATION FOR AGGREGATE FOR MASONRY MORTAR. TYPE M MORTAR, WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI, SHALL BE USED FOR CONCRETE MASONRY BELOW GRADE. TYPE S MORTAR, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI, SHALL BE USED FOR CONCRETE MASONRY ABOVE GRADE.
- COARSE GROUT SHALL CONFORM TO ASTM C 476, WITH A MAXIMUM AGGREGATE SIZE OF 3/8 INCH, AND A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI. AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 404, STANDARD SPECIFICATION FOR AGGREGATES FOR MASONRY GROUT.
- CEMENT USED FOR MORTAR AND GROUT SHALL BE A LOW ALKALI TYPE CONFORMING TO ASTM C 150. CEMENT USED IN MORTAR AND GROUT MATERIALS BELOW GRADE SHALL BE TYPE V. CEMENT USED IN MORTAR AND GROUT MATERIALS ABOVE GRADE SHALL BE TYPE II.
- BOND BEAMS SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS. REINFORCING STEEL IN BOND BEAMS SHALL BE LAPPED A MINIMUM OF 36 BAR DIAMETERS. IN ADDITION TO SCHEDULED OR DETAILED REINFORCING, TWO #4 BARS SHALL BE PROVIDED IN BOND BEAMS AT CORNERS AND INTERSECTIONS.
- VERTICAL CONTROL JOINTS SHALL BE INSTALLED AT LOCATIONS INDICATED ON THE ARCHITECTURAL DRAWINGS. A SHEAR KEY SHALL BE REQUIRED TO LATERALLY STABILIZE CMU STRUCTURES ACROSS VERTICAL JOINTS.
- HORIZONTAL AND VERTICAL WALL REINFORCEMENT SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS. ALL REINFORCED CELLS SHALL BE GROUTED SOLID.

DESIGN CRITERIA:

- LIVE LOADS:

ROOF	20 P.S.F.
BRIDGE	250 P.S.F.
- WIND LOAD (1991 U.B.C.) ----- 75 MPH, EXPOSURE B
- SEISMIC LOAD (1991 U.B.C.) ----- ZONE 2B

REVISIONS			
REV	DESCRIPTION	DATE	BY

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DRAWN BY	CFD
CHECKED BY	RIB
ISSUED DATE	FEBRUARY 1994

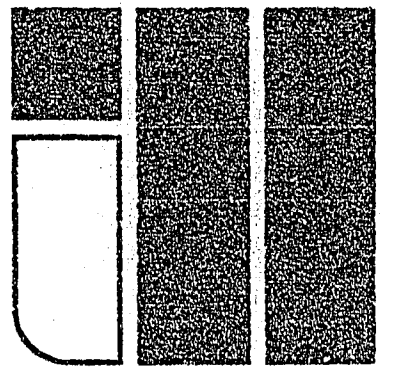
GENERAL
STRUCTURAL
NOTES

PROJECT
LAS VEGAS TECHNOLOGY CENTER
OPEN SPACES AND ENTRY FEATURES, PHASE II AND III

Domingo Cambeiro Corporation

ARCHITECTURE • ENGINEERING • PLANNING • INTERIORS

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