

STRUCTURAL NOTES

GENERAL:

- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHOD OR SEQUENCE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK THAT CONFORMS WITH THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON THE STRUCTURE SO AS NOT TO EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
- WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
- ESTABLISH AND VERIFY ALL OPENINGS, INSERTS, OR EQUIPMENT FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE SUBCONTRACTORS AND EQUIPMENT SUPPLIERS. EQUIPMENT BEING SUPPORTED BY OR SUSPENDED FROM THE STRUCTURE SHALL BE COORDINATED WITH THE MANUFACTURER OF ANY PRE-ENGINEERED FRAMING OR COMPONENTS. ALL OPENINGS SHALL BE PROPERLY REINFORCED AS APPROVED BY THE ENGINEER. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, STEEL DECK, SLABS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT. CONTACT THE CONTRACTING OFFICER TO REQUEST ANY SUCH APPROVALS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATE SITE CONDITIONS WITH THE DRAWINGS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES AND OMISSIONS SHALL BE RESOLVED WITH THE ARCHITECT PRIOR TO CONSTRUCTION AND PRIOR TO PROCEEDING. DO NOT USE SCALED DIMENSIONS.
- WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN. CONTACT THE CONTRACTING OFFICER TO RESOLVE ANY DISCREPANCY.
- TYPICAL DETAILS MAY OR MAY NOT BE CUT ON THE DRAWINGS, AND DETAILS MAY OR MAY NOT BE CUT AT ALL SPECIFIC LOCATIONS, BUT SHALL APPLY UNLESS NOTED OTHERWISE.
- APPROVED EQUAL OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE AND ARE SUBJECT TO APPROVAL BY THE RESIDENT ENGINEER ON BEHALF OF THE CONTRACTING OFFICER. IF AN OPTION IS CHOSEN, THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT IN ADVANCE AND FOR ALL CHANGES AND CORRECTIONS NECESSARY AND FOR COORDINATION OF ALL DETAILS AS REQUIRED TO INCORPORATE THE OPTION INTO THE WORK.
- ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE WHICH THE PROJECT IS LOCATED.

DESIGN LOADS:

- ALL CONSTRUCTION SHALL CONFORM TO THE 2006 EDITION OF THE INTERNATIONAL BUILDING CODE.
 - ROOF:
 - ROOF LIVE LOAD = 20 PSF (REDUCIBLE)
 - ROOF DEAD LOAD = 20 PSF
 - ROOF UPLIFT WIND LOAD = 3 PSF (NET)
 - PENTHOUSE:
 - PENTHOUSE LIVE LOAD = 100 PSF
 - PENTHOUSE DEAD LOAD = 130 PSF
 - WIND:
 - BASIC WIND SPEED = 90 MPH (3 SEC GUST)
 - EXPOSURE = "C"
 - IMPORTANCE FACTOR = "1.15"
 - SEISMIC:
 - OCCUPANCY CATEGORY = "II"
 - IMPORTANCE FACTOR = "1.50"
 - SPECTRAL RESPONSE COEFFICIENTS:
 - SDS = 0.178
 - SD1 = 0.068
 - SITE CLASS = "I"
 - SEISMIC DESIGN CATEGORY = "C"
 - BASIC SEISMIC FORCE RESISTANCE SYSTEM: ORDINARY STEEL MOMENT FRAMES.
- DESIGN BASE SHEAR = 0.068W (WORKING STRESS) ANALYSIS PROCEDURE -- EQUIVALENT LATERAL FORCE PROCEDURE

FOUNDATIONS:

- GEOTECHNICAL CONSULTANT: CORNERSTONE TESTING AND ENGINEERING, INC.
- REPORT NUMBER: 15333
- REPORT DATE: SEPTEMBER 27, 2010
- DESIGN SOIL BEARING PRESSURE = 2500 PSF AT 2'-6" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTINGS SHALL BEAR ON ENGINEERED FILL PER THE GEOTECHNICAL REPORT AND TYPICAL EARTHWORK DETAIL. FOR BOTTOM OR TOP OF FOOTING ELEVATIONS, COORDINATE WITH FOUNDATION DETAILS AND/OR PLANS.
- ALL CONSTRUCTION SHALL COMPLY WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR ANY GEOTECHNICAL ASPECTS OF THIS PROJECT.
- ABANDONED FOOTINGS, NEW OR EXISTING UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REROUTED OR REMOVED AS COORDINATED WITH THE ARCHITECT AND AS DIRECTED BY THE SOILS ENGINEER.
- ALL EXTERIOR FINISHED GRADES SHALL SLOPE AWAY FROM THE BUILDING TO ENSURE NO PONDING OF WATER OCCURS AROUND BUILDINGS.

CAST-IN-PLACE CONCRETE:

- CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
- ADDITION OF WATER TO THE BATCH FOR MATERIAL WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, UNLESS THE SUPPLIER HAS SPECIFICALLY WITHHELD WATER FROM THE BATCH AT THE PLANT. IN SUCH CASE THE DESIGN AND TRUCK TICKET MUST CLEARLY STATE THE MAXIMUM AMOUNT OF WATER THAT CAN BE ADDED TO THE BATCH ON SITE. IN NO CASE SHALL THE DESIGN WATER TO CEMENTITIOUS MATERIAL RATIO BE EXCEEDED.
- CONCRETE SHALL BE READY MIXED CONCRETE IN ACCORDANCE WITH ASTM C94.

CONCRETE USES:	MIN. 28 DAY COMPRESSIVE STRENGTH
SLABS ON GRADE	3,000 PSI (DESIGNED FOR 2500 PSI)
WALL FOOTINGS	3,000 PSI (DESIGNED FOR 2500 PSI)
COLUMN FOOTINGS	4,000 PSI
CURBS AND SIDEWALKS	2,500 PSI
- CEMENT SHALL CONFORM TO ASTM C150, TYPE II. AGGREGATE PER ASTM C33. LIGHTWEIGHT AGGREGATE PER ASTM C330. MAXIMUM 5" SLUMP FOR ALL CONCRETE. CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE 8" MAXIMUM SLUMP AT PLACEMENT. MIX DESIGNS SHALL BE DESIGNED BY THE CONCRETE PRODUCTION FACILITY IN ACCORDANCE WITH ACI 301 AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
- CONCRETE SHALL BE FREE OF CHLORIDE. WHEN USED, FLY ASH SHALL CONFORM TO ASTM C618, CLASS F. FLY ASH SHALL NOT REPLACE MORE THAN 20% OF CEMENT BY WEIGHT.
- CONCRETE SHALL NOT BE DROPPED MORE THAN FIVE FEET VERTICALLY WITHOUT USE OF TREMIES.
- CONCRETE FOOTINGS AND PADS MAY BE Poured AGAINST NEAT EXCAVATIONS PROVIDED THAT FOOTING DIMENSION ARE ADHERED TO, AND THE REQUIRED CONCRETE COVERAGE FOR REINFORCING IS MAINTAINED.
- PROVIDE SLEEVES FOR UTILITY OPENINGS IN CONCRETE BEFORE PLACING CONCRETE. DO NOT CUT ANY CONFLICTING REINFORCING.
- DETAILS SHALL BE CUT AT ALL EXPOSED EDGES OF BEAMS, COLUMNS, WALLS, ETC., U.N.O.
- MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT SLABS ON GRADE, 4" INCHES OR LESS IN THICKNESS, NEED BE VIBRATED ONLY AT AREA OF REINFORCEMENT, EMBEDDED ITEMS, THICKENED AREA, AND ADJACENT TO PENETRATIONS.
- CAST CLOSURE POUR AROUND COLUMNS AFTER COLUMN DEAD LOAD IS APPLIED.
- CONCRETE WHICH HAS CONTAINED WATER FOR MORE THAN 90 MINUTES (60 MINUTES IF AIR TEMPERATURE EXCEEDS 85°) SHALL NOT BE USED. RETEMPERING OF CONCRETE AFTER INITIAL SET HAS OCCURRED IS NOT PERMITTED.
- CURE EXPOSED CONCRETE FOR A MINIMUM OF 7 DAYS IN ACCORDANCE WITH ACI 301 PROCEDURES IN ORDER TO PREVENT CRACKING. CURE WITH CURING AND SEALING COMPOUND, MOIST CURING, MOISTURE-RETAINING COVER CURING, OR COMBINATIONS THEREOF. IF CURING COMPOUND IS USED, APPLY AT A RATE SPECIFIED BY THE MANUFACTURER.
- CONCRETE COMPRESSIVE STRENGTH AND SLUMP SHALL BE TESTED PER ASTM C31, C39 AND C143. PROVIDE 3 CYLINDERS PER TEST FOR EACH DAY'S CONCRETE PLACEMENT UP TO A MAXIMUM OF 50 CUBIC YARDS. TEST ONE CYLINDER AT 7 DAYS AND TWO AT 28 DAYS.
- ALL HOT WEATHER CONCRETING SHALL MEET THE REQUIREMENTS OF ACI 305; AND ACI 306 FOR COLD WEATHER CONCRETING.

REINFORCING STEEL:

- ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE LATEST EDITIONS OF ACI 318 AND THE CRSI "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION", AND AS MODIFIED BY THE DRAWINGS. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 (Fy = 60 KSI) DEFORMED BARS FOR ALL BARS #5 AND LARGER. ASTM A615, GRADE 40 (Fy = 40 KSI) DEFORMED BARS FOR ALL BARS #4 AND SMALLER. REINFORCING SHALL BE WELDED TO CONFORM TO ASTM A706, GRADE 60 (Fy = 60 KSI) LOW ALLOY DEFORMED BARS. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. WELDING OF REINFORCING SHALL BE ACCORDING TO AWS D1.4. NO TACK WELDING OF REINFORCING BARS ALLOWED.
- ALL REINFORCING STEEL, INCLUDING WELDED WIRE FABRIC IN SLAB ON GRADE, SHALL BE ACCURATELY PLACED AND SUPPORTED BY GALVANIZED METAL OR PLASTIC CHAIRS, SPACERS OR HANGERS. PROVIDE THE FOLLOWING MINIMUM CLEAR CONCRETE COVERAGE: CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3" EXPOSED TO EARTH OR WEATHER:

#6 AND LARGER	2"
#5 AND SMALLER	1 1/2"
COLUMNS (TO TIES)	1 1/2"
BEAMS (TO STIRRUPS)	1 1/2"

 ALL OTHERS PER LATEST EDITION OF ACI 318
- UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE SHALL BE CLASS "B" TENSION LAP SPLICES (2'-0" MINIMUM) PER THE LATEST EDITION OF ACI 318. STAGGER ALTERNATE SPLICES A MINIMUM OF ONE LAP LENGTH. LAP WELDED WIRE FABRIC SO THAT THE OVERLAP BETWEEN OUTERMOST CROSS WIRES OF EACH SHEET IS NOT LESS THAN THE CROSS WIRE SPACING PLUS 2 INCHES. ALL SPLICE LOCATIONS SUBJECT TO APPROVAL AND SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS. EXTEND ALL HORIZONTAL REINFORCING CONTINUOUS AROUND CORNERS AND INTERSECTIONS OR PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS.
- REINFORCING BAR SPACING GIVEN ARE MAXIMUM ON CENTERS. DOWEL ALL VERTICAL REINFORCING TO FOUNDATION. SKEW HOOKS AS REQUIRED FOR CONCRETE COVER. SECURELY TIE ALL BARS IN POSITION BEFORE PLACING CONCRETE. CONCRETE COLUMN DOWEL EMBEDMENT SHALL BE A STANDARD COMPRESSION DOWEL EMBEDMENT LENGTH PER THE LATEST EDITION OF ACI 318.
- SPLICED BARS SHALL BE PLACED AT THE SAME EFFECTIVE DEPTH UNLESS NOTED OTHERWISE. REINFORCING BARS NOTED "CONTINUOUS" OR WITH LENGTH NOT SHOWN SHALL BE FULLY CONTINUOUS AND SPLICED ONLY AS SHOWN, OR WHERE APPROVED BY THE ENGINEER.
- REINFORCING BAR HOOKS SHALL BE STANDARD ACI HOOKS UNLESS NOTED OTHERWISE.

MASONRY:

- MASONRY WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 530, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", AND ACI 531, "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES".
- HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 (NORMAL OR MEDIUM WEIGHT), GRADE N, TYPE I, F'm = 1500 PSI, NET COMPRESSIVE STRENGTH OF 1900 PSI PER ASTM C140, RUNNING BOND.
- MORTAR SHALL CONFORM TO ASTM C270 AND SHALL CONFORM TO THE PROPORTION SPECIFICATION OF TABLE 2103.7(1), TYPE S WITH 28 DAY COMPRESSIVE STRENGTH OF 1500 PSI. MASONRY CEMENT, AND RETARDANT ADDITIVES SHALL NOT BE USED.
- GROUT SHALL CONFORM TO IBC TABLE 2103.12, FINE OR COARSE GROUT, WITH 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI, TESTED PER ASTM C 1019. GROUT SHALL BE FREE OF CHLORIDE WITH AN 8" MINIMUM SLUMP.
- HORIZONTAL JOINT REINFORCING SHALL BE LADDER TYPE IN CMU WALLS WITH No. 9 GAGE WIRE CONFORMING TO ASTM A 951. PROVIDE MINIMUM 12" LAPS AT ALL SPLICES.
- SEE DETAILS AND NOTES ON DRAWINGS FOR SIZE AND SPACING OF REINFORCING BARS (IN NO CASE SHALL WALLS HAVE LESS THAN #5 VERTICAL BARS AT 48 INCHES O.C.) LAP SPLICES OF REINFORCING IN MASONRY, UNLESS NOTED OTHERWISE:

BAR SIZE	(1) BAR IN CELL - GR 40	(2) BARS IN CELL - GR 40	(1) BAR IN CELL - GR 60	(2) BARS IN CELL - GR 60
#4	16"	20"	N/A	N/A
#5	N/A	N/A	30"	40"
#6	N/A	N/A	44"	74"
#7	N/A	N/A	60"	104"

- PROVIDE VERTICAL DOWELS FROM FOOTINGS CONTINUOUS THROUGH STEM WALLS INTO MASONRY ABOVE. DOWELS SHALL MATCH SIZE AND SPACING OF VERTICAL REINFORCING. EXTEND ALL HORIZONTAL BOND BEAM REINFORCING IN MASONRY CONTINUOUS AROUND CORNERS AND INTERSECTIONS OR PROVIDE BENT CORNER BARS TO MATCH AND LAP HORIZONTAL BOND BEAM REINFORCING AT CORNERS AND INTERSECTIONS. ALL REINFORCING IN MASONRY SHALL BE ACCURATELY LOCATED PRIOR TO GROUTING AND THE POSITION MAINTAINED DURING GROUTING.
- ALL CELLS AND COURSES WITH REINFORCING AND ADDITIONAL GROUT SPACES AS REQUIRED BY THE DRAWINGS SHALL BE FILLED SOLID WITH GROUT. LIMIT MAXIMUM GROUT LIFT TO 5'-0" WITH EACH GROUT POUR STOPPING 1-1/2 INCHES BELOW THE TOP COURSE OF LIFT. PLACE GROUT CONTINUOUSLY. DO NOT INTERRUPT GROUTING FOR MORE THAN ONE HOUR. MECHANICALLY VIBRATE GROUT IN VERTICAL SPACES IMMEDIATELY AFTER POURING AND AGAIN ABOUT 5 MINUTES LATER. RODDING OF GROUT IS NOT ACCEPTABLE.
- UNLESS NOTED OTHERWISE ON THE DRAWINGS, PROVIDE VERTICAL MASONRY CONTROL JOINTS SUCH THAT NO STRAIGHT RUN OF WALL EXCEEDS 24'-0". DO NOT LOCATE CONTROL JOINT WITHIN 2 FEET OF OPENING OR BEARING POINT OF ANY FRAMING MEMBER. COORDINATE LOCATIONS WITH ARCHITECT.
- GROUT SHALL BE TESTED FOR THE FIRST THREE POURS AND FOR EVERY ADDITIONAL 5,000 SQUARE FEET OF WALL THEREAFTER UNLESS TESTING SHALL BE DONE BY A QUALIFIED TESTING LABORATORY. PERMORTAR OR GROUT TEST. TEST ONE SAMPLE AT 7 DAYS AND TWO AT 28 DAYS. ALL TESTING DONE BY A QUALIFIED TESTING LABORATORY.
- ERECTED MASONRY SHALL BE FOG SPRAYED EVERY 8 HOURS FOR 72 HOURS FOLLOWING INSTALLATION WHEN THE MEAN DAILY TEMPERATURE EXCEEDS 100° OR WHEN THE MEAN DAILY TEMPERATURE EXCEEDS 90° AND THE WIND VELOCITY IS GREATER THAN 8 MPH DURING THE FIRST 72 HOURS AFTER ERECTION.
- WHERE SPECIAL INSPECTION IS SPECIFIED FOR A MASONRY WALL, THE ASSOCIATED CONCRETE FOOTING AND STEMWALL SHALL ALSO REQUIRE SPECIAL INSPECTION PRIOR TO PLACING ANY CONCRETE AND/OR GROUT.

POST INSTALLED ANCHORING COMPONENTS "EPOXY AND MECHANICAL ANCHORS":

- EPOXY USED IN CONCRETE OR CONCRETE MASONRY SHALL BE ONE OF THE FOLLOWING:
 - SIMPSON "SET-XP" EPOXY (CONCRETE) INSTALLED PER ICC REPORT # ESR-2508 AND SIMPSON "SET" EPOXY (MASONRY) INSTALLED PER ICC REPORT # ESR-1772.
 - HILTI "HIT-RE-500-SD" ADHESIVE INSTALLED PER ICC REPORT # ESR-2322.
- EXPANSION ANCHORS USED IN CONCRETE OR CONCRETE MASONRY SHALL BE KWIK BOLT TZ BY HILTI INSTALLED IN ACCORDANCE WITH ICC REPORT # ESR-1917; POWER BOLT FASTENERS BY POWERS FASTENERS INSTALLED IN ACCORDANCE WITH ICC REPORT # ESR-2502 OR POWER STUD BY POWERS FASTENERS INSTALLED IN ACCORDANCE WITH ICC REPORT # ESR-2818.
- CONTRACTOR MAY SUBSTITUTE EXPANSION BOLTS OR EPOXY OF EQUAL VALUE IN THE SPECIFIED MATERIAL WITH A CURRENT ICC REPORT WHEN APPROVED IN WRITING BY THE ENGINEER.
- USE OF EXPANSION ANCHORS OR EPOXY TYPE ADHESIVE SHALL BE ONLY WHERE SPECIFICALLY DETAILED OR NOTED, OR WHEN DIRECTED IN WRITING BY THE ENGINEER.

STRUCTURAL STEEL:

- STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM WITH THE LATEST AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- STRUCTURAL PROPERTIES:

WIDE FLANGE SHAPES -	ASTM A992 (Fy = 50 KSI)
CHANNELS, PLATES, AND ANGLES -	ASTM A36 (Fy = 36 KSI)
STRUCTURAL TUBE SHAPES -	ASTM A500, GRADE B (Fy = 46 KSI)
STEEL PIPE -	ASTM A501 (Fy = 36 KSI) OR ASTM A53, TYPES E OR S, GRADE B (Fy = 35 KSI).
BOLTS IN WOOD -	ASTM A307
BOLTS STEEL/STEEL -	ASTM A325N. ALL HIGH-STRENGTH BOLTS SHALL BE TIGHTENED TO THE SNUG-TIGHT CONDITION AS DEFINED BY AISC UNLESS NOTED OTHERWISE.
ANCHOR RODS (ANCHOR BOLTS) -	ASTM F1554 GR 36 (EMBEDMENT PER THE TYPICAL DETAIL)
ANCHOR -	ASTM F1554 GR 36 (EMBEDMENT PER THE TYPICAL DETAIL)

- BOLTS, ANCHOR BOLTS, EXPANSION BOLTS, ETC., SHALL BE INSTALLED WITH STEEL WASHERS AND TIGHTENED NUTS.
- WELDED ELECTRODES SHALL CONFORM TO AWS D1.1, GRADE E70XX. E80 SERIES ELECTRODES SHALL BE USED FOR ASTM A706 REINFORCING BARS. ALL WELDING SHALL BE DONE BY WELDERS HOLDING VALID CERTIFICATES ISSUED BY AN ACCEPTED TESTING AGENCY AND HAVING CURRENT EXPERIENCE IN TYPE OF WELDS SHOWN ON THE DRAWINGS OR NOTES. ALL WELDING PER AMERICAN WELDING SOCIETY STANDARDS. ALL WELDS ON DRAWINGS ARE SHOWN AS SHOP WELDS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS OR FIELD WELDS SHALL BE SHOWN ON SHOP DRAWINGS. FULL PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.
- IF IT IS NECESSARY TO SPLICE ANY MEMBER, SPLICE LOCATIONS ARE SUBJECT TO REVIEW TO THE STRUCTURAL ENGINEER. SPLICES SHALL BE FULL PENETRATION WELDED AND TESTED. INDICATE ALL SPLICE LOCATIONS, AND WELDING PROCEDURES ON SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
- HEADED STUDS SHALL BE NELSON GRANULAR FLUX-FILLED HEADED ANCHOR STUDS OR APPROVED EQUAL MADE FROM COLD FINISHED LOW CARBON STEEL, AND SHALL CONFORM TO ASTM A108, GRADES 1015 OR 1020 WITH A MINIMUM TENSILE STRENGTH OF 60,000 PSI. STUD WELDING INSPECTION AND TESTING SHALL CONFORM TO AWS D1.1.
- DEFORMED BAR ANCHOR STUDS SHALL BE NELSON D2L GRANULAR FLUX-FILLED REBAR STUDS OR APPROVED EQUAL MADE FROM LOW CARBON COLD ROLLED STEEL WITH A MINIMUM TENSILE STRENGTH OF 70,000 PSI. STUD WELDING INSPECTION AND TESTING SHALL CONFORM TO AWS D1.1.
- DRYPACK FOR COLUMN BASE PLATES AND BEARING PLATES SHALL BE FIVE STAR GROUT OR AN EQUAL NONMETALLIC SHRINKAGE-RESISTANT GROUT WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI.
- PROVIDE FABRICATOR'S STANDARD RUST-INHIBITING PRIMER SHOP PAINT FOR ALL STEEL SURFACES EXCEPT SURFACES ENCASED IN CONCRETE, OR TO RECEIVE SPRAY-APPLIED FIREPROOFING.

STEEL ROOF DECK:

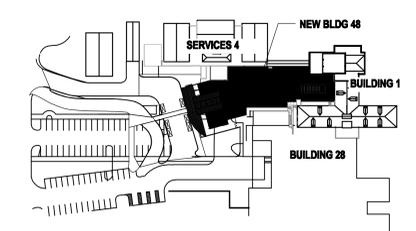
- STEEL DECK SHALL CONFORM TO ASTM A611 GRADE C FOR PAINTED DECK AND ASTM A446 GRADE A FOR GALVANIZED DECK. STEEL DECK SHALL HAVE A CURRENT ICC APPROVAL.
- ROOF DECK PROPERTIES:

DEPTH	1 1/2"
WIDTH	36"
GAGE	20
Fy min	33,000 PSI
S+ min	0.235 INCHES~3 PER FOOT OF WIDTH
I MIN.	0.216 INCHES~4 PER FOOT OF WIDTH
SPAN MIN.	3 SPAN
MIN. DIAPH. SHEAR CAPACITY	PER TYPICAL DETAIL
FINISH	PAINTED/GALVANIZED
ATTACHMENT	PER TYPICAL DETAIL
- COMPOSITE DECK PROPERTIES:

DEPTH	1 1/2"
WIDTH	36"
GAGE	18
Fy min	33,000 PSI
S+ min	0.282 INCHES~3 PER FOOT OF WIDTH
I MIN.	0.282 INCHES~4 PER FOOT OF WIDTH
SPAN MIN.	3 SPAN
MIN. DIAPH. SHEAR CAPACITY	PER TYPICAL DETAIL
FINISH	PAINTED/GALVANIZED
ATTACHMENT	PER TYPICAL DETAIL
- ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STEEL DECK WORK. ALL WELDING DONE BY E60 (MINIMUM) SERIES LOW HYDROGEN RODS. ALL EXPOSED WELDS SHALL BE DE-SLAGGED, CLEANED AND PRIMED WITH A ZINC-RICH PRIMER AND TOUCHED-UP WITH PAINT.
- THE FIRST SHEET OF STEEL DECK ADJACENT AND PARALLEL TO WALLS, PERIMETER MEMBERS, OR MEMBERS IDENTIFIED AS CHORD, COLLECTOR, OR DRAG MEMBERS (ON ONE OR BOTH SIDES AS APPLICABLE) SHALL BE FULL PANEL WIDTH SHEETS.
- PROVIDE CONTINUOUS BENT PLATES (1/4" MINIMUM THICKNESS) AT ALL CONDITIONS WHERE DECK DOES NOT SIT FLAT ONTO SUPPORT MEMBER WITH 3/16" FILLET WELD, 2" LONG AT 6" O.C., TYPICAL MINIMUM.



RODERICK ENGINEERING LLC.
 6839 E. REMBRANT AVE., SUITE 124, TUBSON, AZ 85741
 PH 480-926-6333, PH 520-887-9416, FAX 480-926-3999, FAX 520-887-9486
 B.E. JOB NO. 10105
 7/15/2011



GENERAL STRUCTURAL NOTES

KEY PLAN

Department of Veterans Affairs
 ARCHITECT OF RECORD:
SBBL Architecture + Planning
 1001 North Avenue Way # 105, Tucson, Arizona 85711
 t: 520.620.0255 e: sbbl@sbbh.biz

EMERGENCY DEPARTMENT
 AMARILLO VA HEALTH CARE SYSTEM
 AMARILLO, TEXAS

Approved: VA Area Proj. Mgr.
 V.A. PROJECT NO: VA288-P-0188
 SBBL PROJECT NO: 0110.00.0
 DRAWN BY: JG
 CHECKED BY: G8B
 DATE: 07/15/2011

Δ	Date	Revision

Approved: Med. Ctr. Director
 Approved: Asst. Admin Engineering Service
 Approved: Asst. VA Medical Director
 Approved: Chief of Facilities
 Approved: Chief of Engineering
 Approved: Chief of Projects

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