

GENERAL NOTES

I. GENERAL

1. MATERIALS AND WORKMANSHIP TO CONFORM TO THE 2006 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. THE NOTATION CONVENTION HEREIN IS SUCH THAT NEW CONSTRUCTION IS ANYTHING NOT NOTED AS EXISTING (ABBREVIATED (E)).

3. REFERENCE TO CODES, RULES, REGULATIONS, STANDARDS, MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS OF REGULATORY AGENCIES IS TO THE LATEST PRINTED EDITION OF EACH IN EFFECT AT THE DATE OF SUBMISSION OF BID UNLESS THE DOCUMENT DATE IS SHOWN.

4. DO NOT SCALE THE DRAWINGS.

5. INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE OWNER'S REPRESENTATIVE.

6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING A SAFE PLACE TO WORK AND MEETING THE REQUIREMENTS OF ALL APPLICABLE JURISDICTIONS. EXECUTE WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY AGAINST DAMAGE BY FALLING DEBRIS AND OTHER HAZARDS IN CONNECTION WITH THIS WORK.

7. LOCATE AND PROTECT EXISTING UTILITIES TO REMAIN DURING AND/OR AFTER CONSTRUCTION.

II. STRUCTURAL STEEL

1. STRUCTURAL STEEL TO CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:

SECTIONS	TYPE
HSS SECTIONS	ASTM A500 GR B
PLATES	ASTM A572, GR 50
BOLTS	ASTM A325X
SMOOTH, THREADED, ANCHOR RODS U.O.N.	ASTM A36 OR A572 GR 50
NUTS FOR BOLTS	ASTM A563

2. ARC-WELDING ELECTRODES/FILLER METALS TO BE LOW HYDROGEN TYPES E70XX, E70TXX OR E70XXX MINIMUM AS APPLICABLE.

3. WELDERS SHALL BE CERTIFIED BY AWS AND THE GOVERNING JURISDICTION.

III. ADHESIVE ANCHORS

1. ANCHORS: HIT RE 500 BY HILTI (ICBO #ESR-2322), OR APPROVED EQUIVALENT. EMBEDMENT DEPTH AND ANCHORS IS AS FOLLOWS, UNLESS OTHERWISE NOTED.

ROD DIA OR BAR SIZE	WALL THICKNESS	EMBEDMENT
3/4"	10" OR GREATER	7"
3/4"	8"	5"
7/8"	10" OR GREATER	7"

2. ANCHORS: ASTM A193 GRADE B7 THREADED RODS WITH ASTM A 563 GRADE D11 HEAVY HEX NUTS AND ASTM F 436 WASHERS.

3. REMOVE GREASE, OIL, RUST, AND OTHER LAITANCE FROM RODS AND DOWELS PRIOR TO INSTALLATION.

4. SPECIAL INSPECTOR SHALL VISUALLY INSPECT INSTALLATION OF 100% OF ANCHORS.

5. THE DIAMETER OF THE HOLE IS PER THE MANUFACTURER'S INSTRUCTIONS. PRIOR TO INSTALLING ANCHORS OR DOWELS, WIRE BRUSH HOLES TO REMOVE RESIDUE. BLOW OUT WITH OIL-FREE COMPRESSED AIR. AND ALLOW HOLE TO DRY.

6. PLACE ADHESIVE WITH THE MANUFACTURER'S RECOMMENDED APPLICATION TOOL TO A DEPTH AS SPECIFIED BY THE MANUFACTURER AND TO MINIMIZE THE AMOUNT OF ADHESIVE THAT WILL OVERFLOW OUT OF THE HOLE WHEN THE BAR IS INSERTED. REMOVE EXCESS ADHESIVE ON THE ADJACENT SURFACES.

7. INSERT THE ANCHOR OR DOWEL IN THE HOLE WITH A TWISTING MOTION TO THE REQUIRED EMBEDMENT DEPTH. DO NOT PUMP THE ANCHOR OR DOWEL IN AND OUT OF THE HOLE.

8. WEDGE BARS TIGHT AND CENTERED IN THE HOLE WITH WOODEN WEDGES (GOLF TEES) TO HOLD IT IN PLACE UNTIL THE ADHESIVE SETS.

9. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH ADHESIVE. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.

IV. ROUGH CARPENTRY

1. FRAMING LUMBER: DOUGLAS FIR (COAST REGION) GRADED AND MARKED IN ACCORDANCE WITH THE STANDARD GRADING RULES NO. 17 OF THE WEST COAST LUMBER INSPECTION BUREAU (W.C.L.B.) OR WESTERN LUMBER GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION (W.W.P.A.). ALL LUMBER SHALL BE GRADE #1 AND BETTER. ALL LUMBER IN CONTACT WITH CONCRETE SLAB-ON-GRADE OR CONCRETE WALLS SHALL BE PRESSURE TREATED.

2. MOISTURE CONTENT SHALL BE CONSISTENT WITH THE EXISTING LUMBER AND IN-SITU CONDITIONS TO PREVENT SPLITTING.

3. PANEL SHEATHING SHALL BE EXPOSURE 1, 5-PLY MINIMUM, STRUCTURAL 1 GRADE.

4. ROUGH HARDWARE:

- A. NAILS: COMMON WIRE NAILS, FEDERAL SPECIFICATION FF-N-105B, STANDARD LENGTHS U.O.N. USE HOT-DIPPED ZINC-COATED GALVANIZED OR STAINLESS STEEL NAILS FOR EXTERIOR INSTALLATIONS AND WHEN PENETRATING PRESSURE TREATED OR FIRE-RETARDANT LUMBER.

- B. BOLTS AND THREADED RODS U.O.N.: ASTM A307, SQUARE OR HEXAGONAL HEAD MACHINE BOLTS WITH ASTM A563 NUTS. USE MALLEABLE IRON WASHERS UNDER HEAD AND NUT WHEN IN CONTACT WITH WOOD.

- C. LAG SCREWS: ASTM A307, ANSI/ASME STANDARD B18.2.1. USE ANSI B18.22.1 WASHERS UNDER HEAD WHEN IN CONTACT WITH WOOD.

- D. SCREWS: ASTM A307, ANSI/ASME STANDARD B18.6.1. USE CADDIUM-PLATED PAN OR ROUND HEADED SCREWS AT STEEL TO WOOD AND WOOD TO WOOD CONNECTIONS.

- E. BOLTS, NUTS, WASHERS, STRAPS AND OTHER HARDWARE EXPOSED TO THE WEATHER TO BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL.

- F. FRAMING CLIPS, SHEET METAL STRAPS, ETC.: SIMPSON, UNIVERSAL, OR SILVER, WITH ICBO REPORTS. DESIGNATIONS ON DRAWINGS ARE BASED ON SIMPSON CATALOG NUMBERS.

5. DRIVE NAILS PERPENDICULAR TO THE GRAIN, U.O.N. PREDRILL HOLES TO 3/4 OF NAIL DIAMETER WHERE SPECIFIED AND WHEN WOOD TENDS TO SPLIT. AIR-DRIVEN NAILS TO BE FULL-HEADED NAILS. DO NOT OVERDRIVE NAILS. PROVIDE MINIMUM NAILING PER TABLE 2304.9.1 OF THE IBC, U.O.N.

6. BOLT AND SCREW INSTALLATION:

- A. DRILL BOLT HOLES A MAXIMUM OF 1/16 INCH LARGER IN DIAMETER THAN THE BOLT NOMINAL DIAMETER.

- B. DRILL PRE-BORED LEAD HOLES FOR SCREWS AS FOLLOWS.

- DRILL LEAD HOLE FOR THE SHANK TO A DEPTH EQUAL TO THE LENGTH OF THE UNTHREADED PORTION IN THE MAIN MEMBER. USE A DRILL BIT OF THE SAME DIAMETER AS THE LAG SCREW.
- EXTEND THE LEAD HOLE FOR THE THREADED PORTION OF THE LAG SCREW WITH A DRILL BIT WHOSE DIAMETER IS 60 PERCENT OF THE NOMINAL LAG SCREW DIAMETER.
- INSERT LAG SCREW INTO LEAD HOLE BY TURNING. DO NOT DRIVE WITH A HAMMER.
- LUBRICATE WITH SOAP OR BEESWAX TO FACILITATE INSTALLATION.

V. STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS

1. AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS WILL BE RETAINED BY THE OWNER TO PERFORM THE FOLLOWING TESTS AND INSPECTION. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED BY THE CONTRACT DOCUMENTS.

2. IF INSPECTIONS MADE BY THE OWNER'S TESTING AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TESTS, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.

3. THE FOLLOWING ITEMS REQUIRE TESTS AND INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHAPTER "STRUCTURAL TESTS AND INSPECTIONS" OF THE GOVERNING CODE OF THE GOVERNING JURISDICTION AS NOTED IN THE GENERAL.

STRUCTURAL STEEL				
✓	REVIEW WELDING PROCEDURE SPECIFICATION & WELDER CERTIFICATION			
✓	FIELD ERECTION INSPECTION			
✓	WELDING INSPECTION	SHOP	✓	FIELD
✓	BOLTING INSPECTION	SHOP	✓	FIELD
STRUCTURAL LUMBER				
✓	STEEL CONNECTOR INSTALLATION INSPECTION			
MISCELLANEOUS				
✓	100% VISUAL INSPECTION OF ADHESIVE ANCHORS			

4. NOTIFY THE ENGINEER AT SIGNIFICANT CONSTRUCTION STAGES 72 HOURS IN ADVANCE AND PROVIDE ACCESS FOR STRUCTURAL OBSERVATIONS.

VI. DESIGN CRITERIA

1. THE EXTENT OF SEISMIC STRENGTHENING WAS DETERMINED BASED ON ASCE 31-02 AS STIPULATED BY VA H-18-5 JULY 2006. THE BUILDING IS BEING STRENGTHENED IN ACCORDANCE WITH ASCE-41-06 AS STIPULATED BY VA H-18-8 JULY 2006.

2. THE SEISMIC STRENGTHENING WORK INCLUDES OUT-OF-PLANE WALL ANCHORAGE AROUND THE PERIMETER AND DIAPHRAGM STRENGTHENING AT THE ROOF.

3. SEISMIC DESIGN:

BASE SHEAR $V = 1.1 W$ (STRENGTH BASIS) FOR BOTH NEW AND EXISTING ELEMENTS

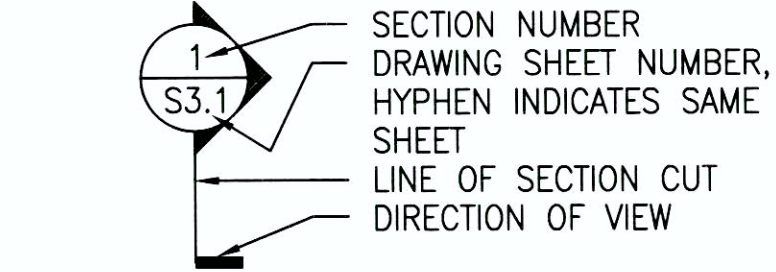
WHERE: $SA = 1.7$ PER ASCE-41-06

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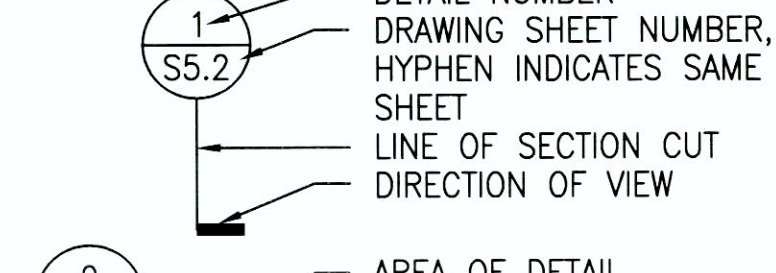
SYMBOLS

REFERENCE SYMBOLS

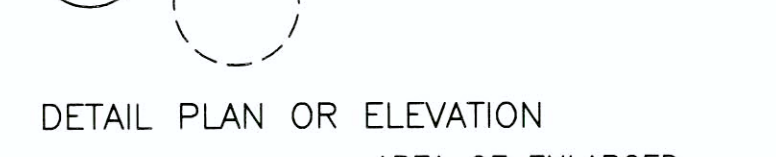
DETAIL/SECTION



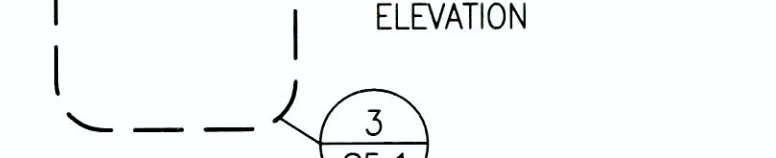
DETAIL



AREA OF DETAIL



DETAIL PLAN OR ELEVATION



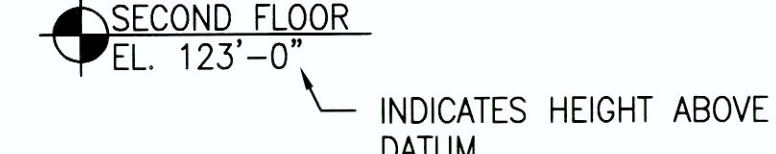
SINGLE ELEVATION



GRID LINES



LEVEL LINE



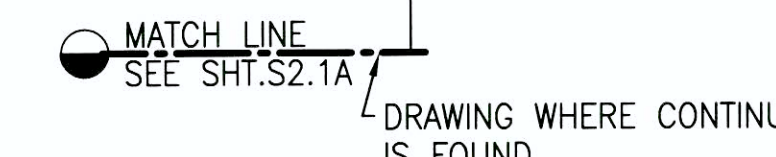
WORK POINT



REVISION



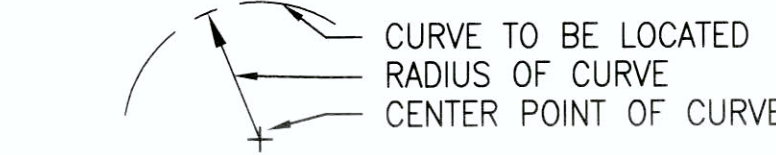
MATCH LINE



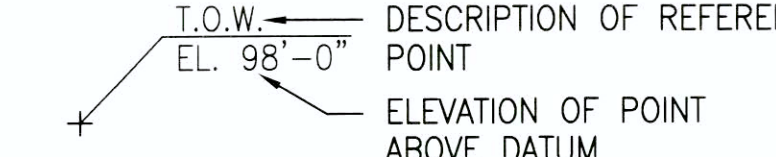
KEY NOTE



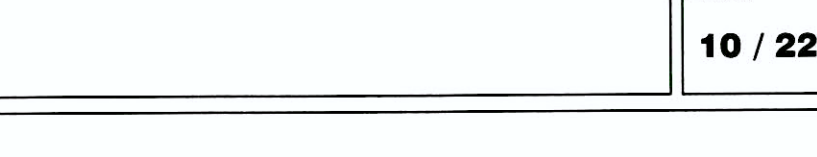
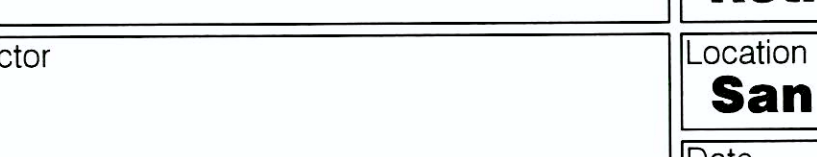
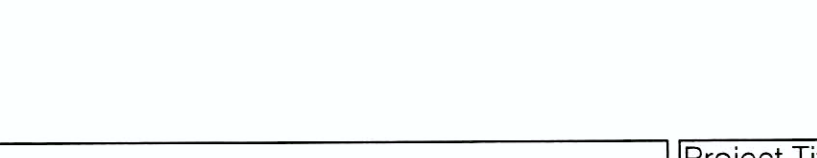
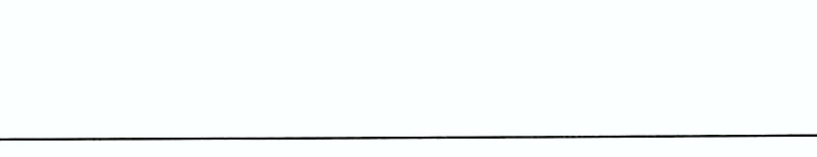
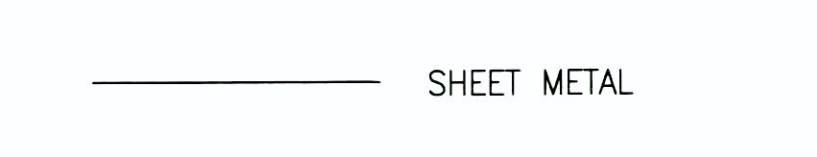
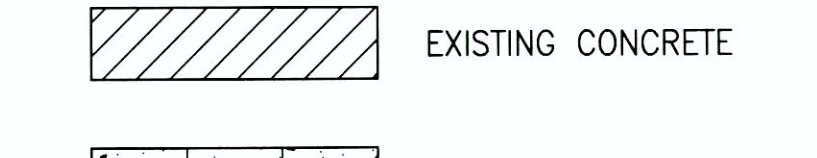
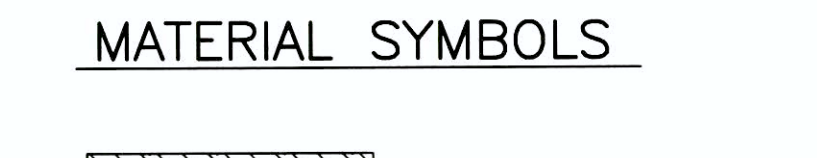
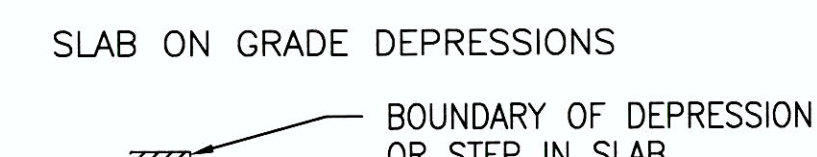
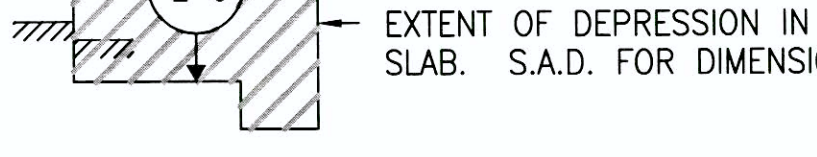
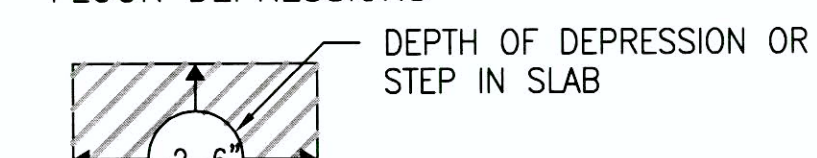
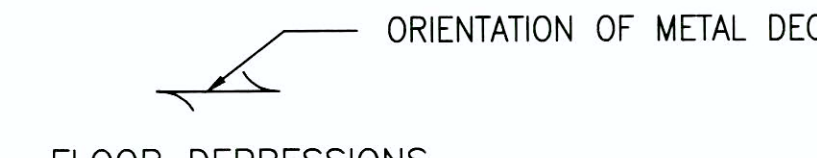
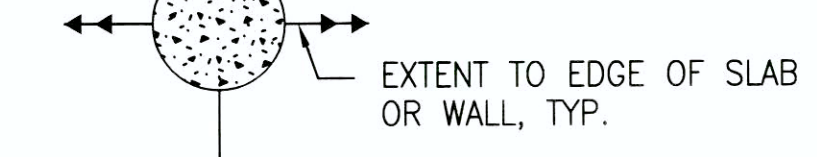
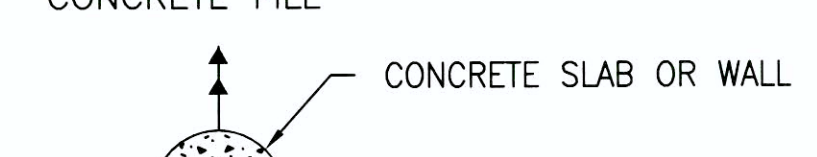
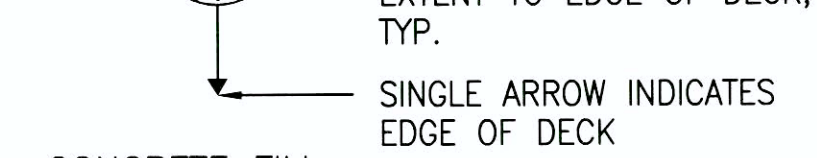
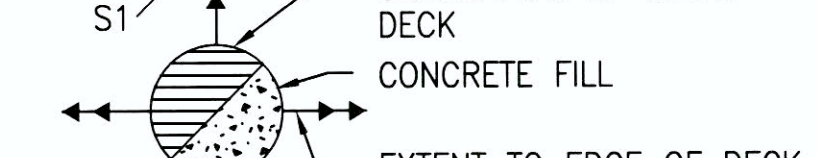
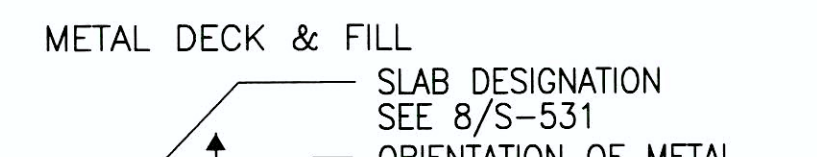
CENTER POINT OF CURVE



REFERENCED ELEVATION



PLAN SYMBOLS



ABBREVIATIONS

(E)	EXISTING	K.O.	KNOCK-OUT
(N)	NEW	L	ANGLE
&	AND	Id	DEVELOPMENT LENGTH
@	AT	Idb	HOT DEVELOPMENT LENGTH
A.A.	ADHESIVE ANCHOR	LEV.	LEVEL
A.B.	ANCHOR BOLT	LLBB	LONG LEG BACK TO BACK
ABV	ABOVE	LLH	LONG LEG HORIZONTAL
ADJ.	ADJACENT	LLV	LONG LEG VERTICAL
ADGR.	AGGREGATE	LOC.	LOCATION
AL.	ALUMINUM	LONGIT.	LONGITUDINAL
ALT.	ALTERNATE	L.P.	LOW POINT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	Is	LAP SPLICE LENGTH
APPROX.	APPROXIMATE	LT	LIGHT
ARCH.	ARCHITECTURAL	LWC	LIGHTWEIGHT CONCRETE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LWC	LIGHTWEIGHT CONCRETE
A.C.	ASPHALT CONCRETE	M.B.	MAXIMUM
AWG	AMERICAN WIRE GAUGE	M.E.P.	MACHINE BOLT
BET.	BETWEEN	MECH.	MECHANICAL, ELECTRICAL, PLUMBING DOCUMENTS
B.LDG	BUILDING	M.T.D.	METAL
BLKG	BLOCKING	MTL	MANUFACTURER
BM, BMS	BEAM, BEAMS	MFR	MANUFACTURER
B.N.	BOUNDARY NAILING	MIN.	MINIMUM
B.O.F.	BOTTOM OF FOOTING	MISC.	MISCELLANEOUS
BOT.	BOTTOM	MTD.	MOUNTED
BSM	BASEMENT	N	NORTH
BSMT	BOTH SIDES	N.F.	NEAR FACE
B.S.	CHANNEL	N.I.C.	NOT IN CONTRACT
CL	CENTERLINE	N.S.	NEAR SIDE
C.I.P.	CAST IN PLACE	N.T.S.	NOT TO SCALE
C.J.	CONTROL JOINT	NO. or #	NUMBER
C.L.G.	CLEAR	NOM.	NOMINAL (DIAMETER)
CLR	CONCRETE MASONRY UNIT	NWC	NORMAL WEIGHT CONCRETE
CMU	CONCRETE	O.C.	ON CENTER
COL.	COLUMN	O.D.	OUTSIDE DIAMETER (DIM)
CONC.	CONNECTION	O.H.	OPPOSITE HAND
CONN.	CONSTRUCTION	OPNG	OPENING
CONSTR.	CONTINUOUS	OPP.	OPPOSITE
CONT.	COUNTERSINK	PC	PIECE, PIECES
CSK	COMPLETE PENETRATION	PC., PCS.	PERPENDICULAR
CP	CONCRETE	PLYWD	PLYWOOD
d	PENNY (NAIL SIZE)	PP	PARTIAL PENETRATION
DBL	DOUBLE	PR	PAIR
DK, DKG	DECK OR DECKING	PT	POINT
DET., DETS	DETAIL, DETAILS	PTN	PARTITION
DAG.	DIAGONAL	R.O.	ROUGH OPENING
DA or #	DIAMETER	R or RAD.	RADIUS
DIM., DIMS	DIMENSION, DIMENSIONS	REBAR	REINFORCING BAR
DIST.	DISTANCE	REF.	REFERENCE
DN	DOWN	REINF.	REINFORCED or REINFORCING
DO	DITTO	REQD	REQUIRED
DWL, DWLS	DOWEL, DOWELS	REV.	REVISE or REVISION
DWGS	DRAWING, DRAWINGS	RFG	ROOFING
E.A.	EACH	RSJ	ROLLED STEEL JOIST
E.A.	EXPANSION ANCHOR	S.A.D.	SEE ARCH. DOCUMENTS
E.F.	EACH FACE	SCHED.	SCHEDULE
E.S.	EACH SIDE	SECT.	SECTION
E.W.	EACH WAY	SHT	SHEET
ELEC.	ELECTRICAL	SHTS	SHEATHING
ELEV.	ELEVATION	SM.	SIMILAR
EMB.	EMBEDMENT	SL	SLOPE
E.N.	EDGE NAILING	SMD	SEE LANDSCAPE DRAWINGS
E.O.S.	EDGE OF SLAB	SMS	SHEET METAL SCREW
EQ.	EQUAL	S.O.G.	SLAB ON GRADE
EQUIP.	EQUIPMENT	SPEC.,	SPECIFICATION, SPECIFICATIONS
EXP.	EXPANSION JOINT	SQ.	SQUARE
EXT.	EXTERIOR	SS	STAINLESS STEEL
EXCAV.	EXCAVATION	STAGG.	STAGGER or STAGGERED
EXP.	EXPANSION	STD	STANDARD
F.F.	FAR FACE	STIFF.	STIFFENER
FDN	FOUNDATION	STR.	STIRRUP or STIRRUPS
FIN.	FINISH	STL	STEEL
FLR.	FLOOR, FLOORS	STRUC.	STRUCTURAL
FLRS	FLOOR, FLOORS	SUBST.	SUBSTITUTE
F.O.	FACE OF	SUSP.	SUSPENDED
F.O.C.	FACE OF CONCRETE	SYM.	SYMMETRICAL
F.O.S.	FACE OF STUDS	T&B	TOP AND BOTTOM
FP.	FIREPROOFING	T&G	TONGUE AND GROOVE
F.S.	FAR SIDE	THK	THICK
FT	FOOT or FEET	THRD	THREADED
FTG, FTGS	FOOTING, FOOTINGS	THRU	THROUGH
GA.	GAUGE	T.O.	TOP OF
GALV.	GALVANIZED	T.O.CONC.	TOP OF CONCRETE
GL.	GLASS or GLAZING	T.O.STL	TOP OF STEEL
GLB	GLU-LAM BEAM	T.O.SLAB	TOP OF STRUCTURAL SLAB
GRND	GROUND	TR.	TREAD
GR.	GRADE	TS	TUBE STEEL
GYP. BD.	GYPSON BOARD	TYP.	TYPICAL
H.D.G.	HOT DIPPED GALVANIZED	U.O.N.	UNLESS OTHERWISE NOTED
HDR	HEADER	URM	UNREINFORCED MASONRY
H.P.	HIGH POINT	VERT., (V)	VERTICAL
HSB	HIGH STRENGTH BOLTS	V.I.F.	VERIFY IN FIELD
HEIGHT	HEIGHT	W or WF	WIDE FLANGE
H.D.	HOLD-DOWN	W/O	WITHOUT
HSS	HOLLOW STRUCTURAL STEEL	WO	WOOD
HK, HKS	HOOK, HOOKS	W.P.	WORK POINT
HORIZ., (H)	HORIZONTAL	WT	WEIGHT
I.D.	INSIDE DIAMETER	WNM	WELDED WIRE MESH
INFO.	INFORMATION	X HVY.	EXTRA HEAVY
JST, JSTS	JOIST, JOISTS	XX HVY.	DOUBLE EXTRA HVY.
JT	JOINT		

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TRUE

Drawing Title
GENERAL NOTES SYMBOLS AND ABBREVIATIONS
Scale: **AS NOTED**

Approved: Project Director

Project Title
**VA Medical Center
Seismic Replacement And
Retrofit**

Location
San Francisco, CA

Date
10 / 22 / 2012

Checked

Drawn

Project Number
2941-001-00
Building Number
9, 10 & 22

Drawing Number
S-001

**Office of
Facilities
Management**

