

CONCRETE:

- CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19 OF THE CBC, REFERENCED EDITION.
- REFER TO STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ALL MOLDS, GROOVES, ETC., TO BE CAST IN CONCRETE.
- REFER TO STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE LOCATION OF SLEEVES, INSERTS, ETC., IN CONCRETE.
- FOR SIZE, NUMBER AND EXACT LOCATION OF ALL SLAB OPENINGS, SEE STRUCT., MECH., ELECT & PLUMBING DRAWINGS.
- ALL REINFORCING BARS, ANCHOR BOLTS AND INSERTS SHALL BE WELL SECURED PRIOR TO POURING CONCRETE.
- STRUCTURAL CONCRETE COMPRESSIVE DESIGN STRENGTH AT 28 DAYS, UNLESS NOTED OTHERWISE IN THE CONTRACT PLANS AND/OR SPECIFICATIONS SHALL BE 3000 psi
- SPECIAL INSPECTION SHALL BE PROVIDED FOR ALL CONCRETE CONSTRUCTION AS SPECIFIED BY SECTION 1701 OF THE CBC, REFERENCED EDITION.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE 3/4" CHAMFER.

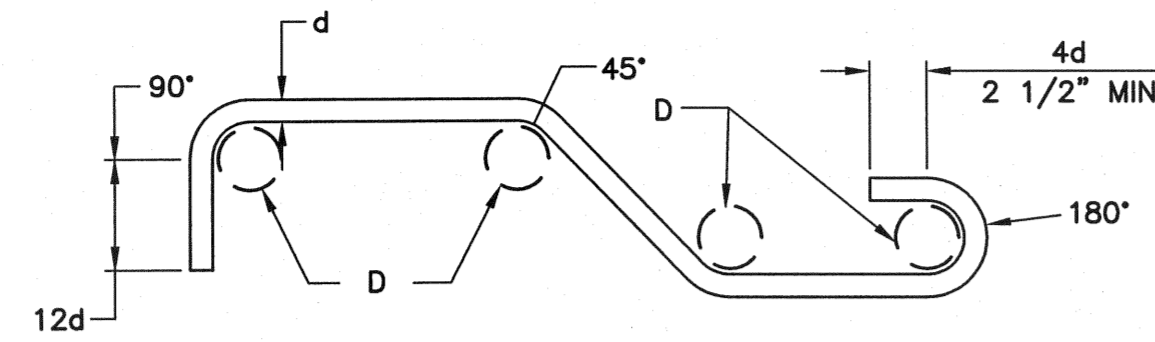
REINFORCING STEEL:

- DETAILING, FABRICATION AND PLACEMENT OF REINFORCING BARS (UNLESS OTHERWISE NOTED) MUST FOLLOW THE A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, A.C.I. 315 LATEST EDITION.
- ALL REINFORCING BARS SHALL CONFORM TO THE STANDARD SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT, ASTM DESIGNATION A615-85; GRADE 60 EXCEPT #3 RE-BARS SHALL BE GRADE 40.
- LAP ALL SPLICES IN CONCRETE AS "CLASS B" SPLICES MINIMUM, UNLESS OTHERWISE SHOWN.
- REINFORCING STEEL SHALL HAVE A MINIMUM CONCRETE COVER AS TABULATED BELOW UNLESS OTHERWISE NOTED.
 - FOOTINGS AND SLABS CAST AGAINST EARTH 3-IN.
 - WALLS AND SLABS EXPOSED TO WEATHER 2-IN.
- WHERE CONTINUOUS BARS ARE CALLED OUT, PROVIDE CONTACT SPLICES (AS REQUIRED) IN ACCORDANCE WITH REINFORCING STEEL NOTE NO. 3. STAGGER SPLICES OF ALL CONTINUOUS BARS.
- DOWELS INSTALLED INTO EXISTING CONCRETE SHALL BE DRILLED AND BONDED IN PLACE WITH EPOXY. EPOXY SHALL BE SIMPSON SET-XP OR HILTI HIT-RE 500-SD.
- BOTTOM STEEL OF SLABS, FOOTINGS AND GRADE BEAMS SHALL BE SUPPORTED OFF OF THE EARTH OR FORMS BY PRECAST CONCRETE BLOCKS WIRE TIED TO THE REINFORCEMENT.
- WHERE LAP LENGTHS ARE NOT SHOWN ON THE DRAWING LAPS SHALL BE AS SHOWN IN THE TABLE BELOW:

REINFORCEMENT LAP SPLICES:

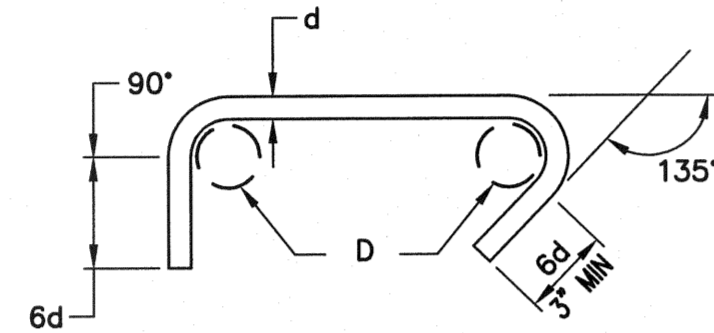
REINFORCED CONCRETE		$f'_c = 3000$ PSI AT 28 DAYS								
REINF LOCATION	REINFORCEMENT SIZE									
	#3 GR40	#4	#5	#6	#7	#8	#9	#10	#11	
ALL	20	38	47	56	82	94	106	119	132	

(LENGTH IN INCHES)



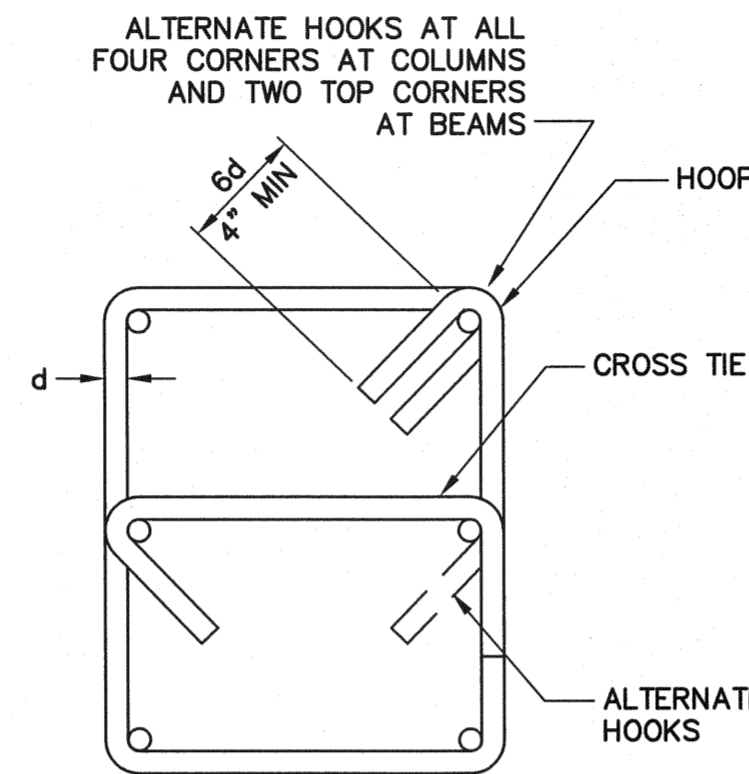
**TYPICAL HOOKS AND BENDS
(PRINCIPAL REINFORCING)**

D = 6d FOR #3 TO #8
D = 8d FOR #9 TO #11
D = 10d FOR #14 TO #18



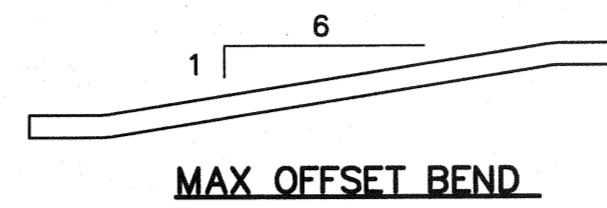
CROSS TIES AND STIRRUPS

MINIMUM D = 1 1/2" FOR #3
MINIMUM D = 2" FOR #4
MINIMUM D = 2 1/2" FOR #5

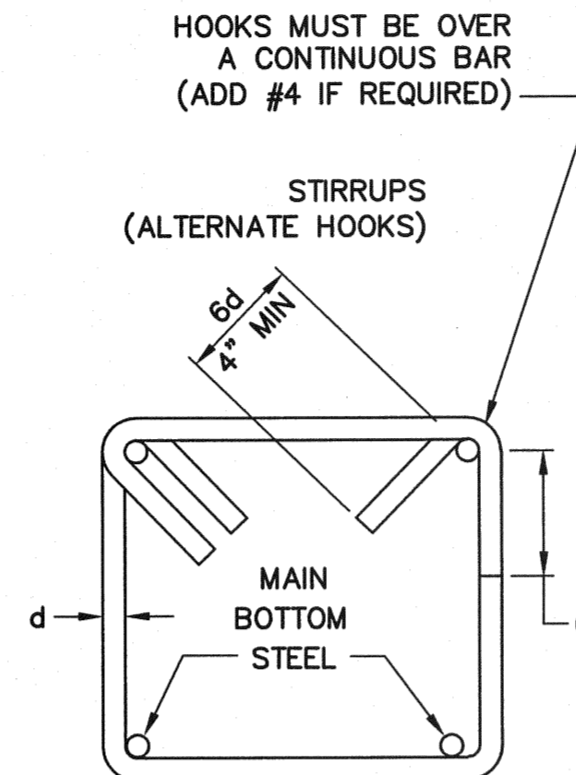


MAX SPACING = 12"
AT SEISMIC TIES UNO

COLUMN & BEAM TIE



NOTE:
ALL BENDS SHALL BE MADE COLD:



MAX SPACING = 12"
AT SEISMIC TIES UNO

BEAM STIRRUP

DESIGN CRITERIA:

- SEISMIC OCCUPANCY CATEGORY IV
 - $I_e = 1.50$
 - $S_s = 1.10g$
 - $S_1 = 0.37g$
 - $S = 0.78g$
 - $S = 0.41g$
 SEISMIC DESIGN CATEGORY D
 - $R_i = 3.0$
 - $R_c = 1.5$
 - Site Class D
- WIND OCCUPANCY CATEGORY IV
 - $I = 1.15$
 - BASIC WIND SPEED = 85 MPH (3-SECOND GUST)
 - EXPOSURE C

SPECIAL INSPECTION:

- SPECIAL INSPECTION AS SPECIFIED BY SECTION 1701 OF THE CBC, REFERENCED EDITION IS REQUIRED FOR:
 - ALL CONCRETE WORK.
 - ALL ANCHOR BOLT INSTALLATIONS.
 - ALL WELDING.
 - ALL EXPLOIED ANCHORS & REINFORCING.

GENERAL:

- NOTIFY SDG&E OF ANY DISCREPANCIES FOUND BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL NOTIFY SDG&E OF ANY SITE CONDITIONS NOT REFLECTED ON THE DRAWINGS; OF DISCREPANCIES IN MIN. DIMENSIONS INDICATED, SUCH AS GREATER RETAINED EARTH HEIGHTS, CONFLICT IN GRADES, EXTENTS OF BAD SOIL, DEPTH OF GROUND WATER, DEPTHS OF FOUNDATIONS, ETC., AND ESPECIALLY OF UNCOVERED AND UNEXPECTED UTILITY LINES.
- ALL WORK NOT DETAILED OR NOTED SHALL BE CONSTRUCTED IN ACCORDANCE WITH OTHER SIMILAR WORK SHOWN ON THE DRAWINGS AND ON TYPICAL DETAILS.
- NO PIPES OR DUCTS SHALL BE PLACED IN FOUNDATIONS UNLESS SPECIFICALLY DETAILED OR APPROVED BY SDG&E.
- DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDING SHORING, FORMING, AND TEMPORARY BRACING. HE SHALL UNDERTAKE ALL NECESSARY MEASURES TO INSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE REVIEW OF THESE MEASURES.

SOIL & FOUNDATION:

- REFERENCES:
 - GEOTECHNICAL INVESTIGATION: "SUNCREST SUBSTATION - SDG&E 500KV SUNRISE POWERLINK PROJECT" BY URS CORPORATION, DATED JUNE 8, 2009.
- ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF (DEAD PLUS LIVE) (1/3 INCREASE ALLOWED FOR TRANSIENT WIND / SEISMIC LOADS).
- NO CONCRETE OR REBAR SHALL BE PLACED IN ANY FOUNDATION UNTIL THE EXCAVATION HAS BEEN INSPECTED BY SDG&E.



REINFORCING HOOK & BEND DETAILS

NO SCALE

REVISIONS

NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.	WORK DONE	DATE:	BY:	APP'D:	NO.

SAN DIEGO GAS & ELECTRIC COMPANY
SAN DIEGO, CALIFORNIA

SUNCREST SUBSTATION
STRUCTURAL NOTES FOR WATER SYSTEM

DRAWN BY: APS	DATE: 3/24/10	SCALE: 1"=30'	W.O.: -	REV.: 0
CHECKED BY: RWM	DATE: -			
APPROVED BY: CR	DATE: -	SHEET 53 OF 66		
CAD NO.: GPS3	PLOT SCALE: 1=1			

SCR-C-053

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