INSPECTION TABLES AND NOTES

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

ANSI / AISC 360 TABLE N5.4-1 INSPECTION TASKS PRIOR TO WELDING

INSPECTION TASKS PRIOR TO WELDING	QC	QA
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
MATERIAL IDENTIFICATION (TYPE / GRADE)	O	O
WELDER IDENTIFICATION SYSTEM [1]	O	O
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) - JOINT PREPARATION - DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACE) - TACKING (TACK WELD QUALITY AND LOCATION) - BACKING TYPE AND FIT (IF APPLICABLE)	O	O
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT-UP OF FILLET WELDS - DIMENSIONS (ALIGNMENT, GAPS @ ROOT) - CLEANLINESS (CONDITION OF STEEL SURFACE) - TACKING (TACK WELD QUALITY AND LOCATION)	O	O
CHECK WELDING EQUIPMENT	O	-

1 The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

ANSI / AISC 360 TABLE N5.4-2 INSPECTION TASKS DURING WELDING

INSPECTION TASKS DURING WELDING	QC	QA
USE OF QUALIFIED WELDERS	O	O
CONTROL AND HANDLING OF WELDING CONSUMABLES - PACKAGING - EXPOSURE CONTROL	O	O
NO WELDING OVER CRACKED TACKS	O	O
ENVIRONMENTAL CONDITIONS - WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED - SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTING WELDING MATERIALS - SHIELDING GAS TYPE / FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN / MAX) - PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES - INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEETS QUALITY REQUIREMENTS	O	O

ANSI / AISC 360 TABLE N5.4-3 INSPECTION TASKS AFTER WELDING

INSPECTION TASKS AFTER WELDING	QC	QA
WELDS CLEANED	O	O
SIZE, LENGTH, AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA - CRACK PROHIBITION - WELD / BASE-METAL FUSION - CRATER CROSS SECTION - WELD PROFILES - WELD SIZE - UNDERCUT - POROSITY	P	P
ARC STRIKES	P	P
k - AREA [2]	P	P
BACKING REMOVED, AND WELD TABS REMOVED (IF REQUIRED)	P	P
REPAIR ACTIVITIES	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P

2 When welding of doubler plates, continuity plates or stiffeners has been performed in the *k* - area, visually inspect the web *k* - area for cracks within 3 inches (75mm) of the weld

REQUIRED VERIFICATION & INSPECTION OF CONCRETE CONSTRUCTION (CBC TABLE 1705.3)

		FREQUENCY		
		CONT.	PER.	VER.
1.	INSPECT REINFORCEMENT AND VERIFY PLACEMENT.		X	
2.	VERIFY USE OF REQUIRED DESIGN MIX.		X	
3.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONRETE.	X		
	SPECIAL PROVISIONS FOR SEISMIC RESISTANCE			
4.	INSTALLATION OF (CHEMICAL \ EPOXY) ADHESIVE ANCHORS, RODS AND DOWELS	X		

a. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

NOTATION:

CONT.	CONTINUOUS INSPECTION
PER.	PERIODIC INSPECTION
VER.	VERIFICATION OF EACH ELEMENT, MATERIAL, TEST, SPECIFICATION, ETC.
X	DENOTES FREQUENCY OF INSPECTION
0	DENOTES FREQUENCY OF INSPECTION IS DEFINED IN SOME OTHER MANNER
O	OBSERVE - INSPECTOR SHALL OBSERVE THESE FUNCTIONS ON A RANDOM, DAILY BASIS
P	PERFORM - THESE INSPECTIONS SHALL BE PERFORMED PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM
D	DOCUMENT - INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS PER ANSI / AISC 341.

GENERAL REQUIREMENTS AND PREPARATION:

1. THIS INSPECTION AND OBSERVATION PROGRAM HAS BEEN DEVELOPED WITH THE UNDERSTANDING THAT THE OWNER SHALL DESIGNATE A RESPONSIBLE INDIVIDUAL OR FIRM, ACCEPTABLE TO THE REGISTERED DESIGN PROFESSIONAL (RDP) IN RESPONSIBLE CHARGE OF THE PROJECT AND BUILDING OFFICIAL, TO OVERSEE AND COORDINATE THE IMPLEMENTATION OF THE PROGRAM, AND MONITOR THE SPECIAL INSPECTION ACTIVITIES ON THE JOB SITE TO ASSURE THAT THE SPECIAL INSPECTORS PERFORM THEIR DUTIES, AS DESCRIBED HEREIN.
2. THE OWNER OR THE RDP SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS, INSPECTION AGENCIES OR FIRMS, APPROVED BY THE BUILDING OFFICIAL, TO PROVIDE INSPECTION DURING CONSTRUCTION ON THE TYPES OF WORK REQUIRING SPECIAL INSPECTION AS DEFINED IN CBC 1704.2.
3. THE OWNER OR ITS DESIGNEE SHALL EMPLOY MATERIALS TESTING LABORATORY / TESTING AGENCY AS APPROVED BY THE RDP AND THE BUILDING OFFICIAL TO PERFORM TESTS SPECIFIED IN THIS SECTION.

CONTRACTOR RESPONSIBILITIES (CBC SECTION 1704.4):

1. CONTRACTOR'S STATEMENT OF RESPONSIBILITY: EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-OR SEISMIC-FORCE RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND-OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTION SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL, THE RDP, AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT.
2. CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
   - A. ACKNOWLEDGEMENT OF AWARENESS OF THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS;
   - B. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL AND THE RDP;
   - C. PROCEDURE FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS; AND
   - D. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
3. SUBMITTALS:
   - A. SUBMIT SHOP DRAWINGS, DESIGN DATA, CERTIFICATIONS, MANUFACTURER'S FIELD REPORTS, AND OTHER QUALITY CONTROL SUBMITTALS AS REQUIRED BELOW FOR REVIEW BY THE RDP.
     - 1) CONCRETE MIX DESIGN
     - 2) STRUCTURAL STEEL SHOP DRAWINGS

STRUCTURAL NOTES

CONCRETE:

1. THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS:

   f'c = 4000 psi - CONCRETE CURB & BOLLARD FILL

2. ALL CONCRETE UNLESS NOTED OTHERWISE SHALL BE REGULAR WEIGHT TYPE (150 PCF). AGGREGATES SHALL CONFORM TO ASTM C-33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN .05% (MAXIMUM SIZE).
3. CEMENT SHALL CONFORM TO ASTM C-150 (TYPE II / V) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. CONCRETE MIX DESIGN FOR DESIGN COMPRESSIVE STRENGTH GREATER THAN 2500 P.S.I. SHALL BE PREPARED BY AN APPROVED TESTING LABORATORY AND SHALL BE STAMPED AND SIGNED BY A LICENSED ENGINEER, IN THE STATE OF JURISDICTION. MIX DESIGN SHALL THEN BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE USE OF A POLYMER BASED WATER REDUCING ADMIXTURE IS OPTIONAL, BUT IF USED, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

   MIX DESIGN REQUIREMENTS:

   DESIGN MIXES TO PROVIDE NORMAL WEIGHT CONCRETE WITH THE FOLLOWING REQUIREMENTS:

STRENGTH f'c (28 DAYS)	MAXIMUM ALLOWABLE SHRINKAGE (28 DAYS)	NOTES
4000 psi	.04%	CONCRETE CURB & BOLLARD FILL

   FLY ASH SHALL BE A MINIMUM OF 15%, MAXIMUM OF 25%, OF THE TOTAL CEMENTITIOUS MATERIAL OF ALL MIX DESIGNS FOR CONCRETE $\geq$ 4000 P.S.I.. FLY ASH WITH THESE SAME LIMITS MAY ALSO BE USED IN ANY OTHER MIX DESIGN FOR CONCRETE STRENGTH < 4000 P.S.I.

   FLY ASH SHALL CONFORM TO ASTM C-618, CLASS F, WITH MAXIMUM LOSS ON IGNITION (L.O.I.) TO BE 3%.

   MAXIMUM ALLOWABLE WATER-TO-CEMENT (w/c) RATIO SHALL INCLUDE THE TOTAL WEIGHT OF CEMENT AND FLY ASH.

5. CONCRETE SHALL BE CURED AND PROTECTED IN ACCORDANCE WITH ACI 308.1-11.
6. CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET. USE TREMIE OR PUMP.
7. LOCATION OF CONSTRUCTION JOINTS AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFIED OR DETAILED, SHALL BE APPROVED BY THE ENGINEER BEFORE PLACEMENT OF CONCRETE.
8. ALL CONCRETE WITH 28 DAY STRENGTH GREATER THAN 2500 PSI SHALL BE INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS AND FREQUENCY OF INSPECTION DEFINED IN CBC TABLE 1705.3 AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES. ANY EXCEPTIONS TO THIS REQUIREMENT WILL BE STATED ON THE PLANS OR SPECIFIC DETAILS.
9. PRIOR TO PLACING CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
10. SUPERIMPOSED LOADS SHALL NOT BE APPLIED TO ELEVATED STRUCTURAL CONCRETE MEMBERS PRIOR TO 7 DAYS MINIMUM AFTER CONCRETE PLACEMENT AND UNTIL 28 DAY STRENGTH HAS BEEN REACHED. SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE HAS REACHED DESIGN STRENGTH. RESHORING SHALL REMAIN IN PLACE 28 DAYS MINIMUM. AT NO TIME DURING THE RESHORING PROCESS SHALL THE CONCRETE MEMBER BE UNSUPPORTED.
11. PROVIDE 3/4" CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS AND COLUMNS AND VISIBLE EXTERIOR CONSTRUCTION JOINTS, U.N.O.
12. NON-SHRINK GROUT: SHALL CONFORM TO ASTM C-1107. MIN f'c = 6500 P.S.I. AT 28 DAYS.
13. ALL STRUCTURAL CONCRETE IS TO BE REINFORCED. UNLESS SHOWN OTHERWISE, SLABS ARE TO HAVE A MINIMUM REINFORCEMENT PERCENTAGE OF 0.20 CONTINUOUS EACH WAY AND WALLS ARE TO HAVE MINIMUM REINFORCEMENT PERCENTAGES OF 0.25 CONTINUOUS IN THE HORIZONTAL DIRECTION AND 0.15 CONTINUOUS IN THE VERTICAL DIRECTION.
14. CONCRETE FLOOR AND SLAB ON GRADE CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ACI 302, "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION". FLATNESS / LEVELNESS SHALL CONFORM TO THE REQUIREMENTS OF ASTM E1155 PER THE FOLLOWING RECOMMENDED VALUES:

CONCRETE REINFORCING STEEL:

1. REINFORCING STEEL FOR CONCRETE SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, (DEFORMATIONS SHALL BE IN ACCORDANCE WITH ASTM A 305 AS FOLLOWS:

   GRADE 60: (#4 BARS AND LARGER)

   GRADE 40: (#3 BARS)

   THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS SHALL NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 psi (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000psi) AND THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO ACTUAL YIELD STRENGTH SHALL NOT BE LESS THAN 1.25.

2. WWF SHALL CONFORM TO ASTM A 82 AND ASTM A 185. LAP 1 1/2 SPACES (9" MIN.)
3. DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS SHALL CONFORM TO A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES."
4. MIN. COVER FOR CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
   - A. CAST AGAINST EARTH .... 3"
   - B. CAST AGAINST FORM BELOW GRADE .... 2"
   - C. FORMED SLABS (#11 BAR & SMALLER) .... 3/4"
   - D. SLABS ON GRADE (FROM TOP OF SLAB) .... 1"
   - E. COLUMNS AND BEAMS (MAIN BARS) .... 2"
   - F. WALLS EXPOSED TO WEATHER (#6 - #18 BARS) .... 2"
(#5 & SMALLER) .... 1 1/2"
   - G. NOT EXPOSED TO WEATHER (#11 & SMALLER) .... 3/4"
5. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BEND SHALL BE MADE COLD.
6. PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
7. WHEN WELDING OF REINFORCING BARS IS REQUIRED, IN ADDITION TO THE REQUIREMENTS OF ASTM A-615, A REPORT OF MATERIAL PROPERTIES SHALL BE PROVIDED BY THE REINFORCING MANUFACTURER TO VERIFY THAT MATERIAL PROPERTIES ARE THOSE NECESSARY FOR CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D1.4, "STRUCTURAL WELDING CODE - REINFORCING STEEL". IN LIEU OF SUPPLYING A SUPPLEMENTAL REPORT, BARS CONFORMING TO ASTM A-706 MAY BE USED. E90XX ELECTRODES SHALL BE USED TO WELD REINFORCING BARS.
8. WHEN REQUIRED, CONTINUOUS INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION OF REINFORCING STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF CBC TABLE 1705.3 AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES. INSPECTION SHALL BE SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT, SLEEVES, AND EMBEDDED ITEMS MAY BE CORRECTED PRIOR TO PLACEMENT OF OVERLYING GRIDS OF REINFORCING STEEL.
9. FOR STANDARD REBAR HOOKS, SEE DETAIL 8 / SD1.1, AND FOR STANDARD REBAR SPLICE, SEE DETAIL 7 / SD1.1

GENERAL:

1. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE ENGINEER.
2. WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST EDITION OF THE CBC, C.A.C. TITLE 24, AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
3. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS THEY SHALL BE REPORTED TO THE ENGINEER SO THAT THE PROPER REVISION MAY BE MADE. MODIFICATIONS OF DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
6. THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO BRACING, TEMPORARY SUPPORTS, AND SHORING. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCH./ENG. SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ARCH./ENG. DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCH./ENG., WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONTRACTORS PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
7. ASTM DESIGNATIONS AND ALL STANDARDS REFER TO THE LATEST AMENDMENTS.
8. CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION. SUBMIT ELECTRONIC MEDIA TO ENGINEER AS REQUIRED.
9. SAFETY: CONFORM TO APPLICABLE CAL / OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ARCHITECT/ENGINEER OR OWNER.
10. HAZARDOUS MATERIALS: UNLESS OTHERWISE PROVIDED, THE ENGINEER AND HIS CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, PRESENCE, HANDLING, REMOVAL OR DISPOSAL OF OR EXPOSURE OF PERSONS TO HAZARDOUS MATERIALS IN ANY FORM AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL, LATEST EDITION.
2. STRUCTURAL SHAPES AND PLATES SHALL CONFORM TO THE FOLLOWING U.N.O.:

W AND WT SHAPES	ASTM A 992
C / MC / M / S / HP SHAPES	ASTM A 36
ANGLES AND PLATES	ASTM A 36
HEADED STUDS	ASTM A 108

3. ERECTION AND SHOP DETAIL DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION AND ERECTION. SUBMIT TWO SETS FOR REVIEW.
4. MACHINE BOLTS CONFORMING TO ASTM A 307 SHALL BE USED ONLY WHERE NOTED; NUTS SHALL CONFORM TO ASTM A 563.
5. ALL STRUCTURAL BOLTS SHALL BE 7/8" Ø CONFORMING TO ASTM A 325-N, PRE-TENSIONING NOT REQUIRED U.N.O.
6. HIGH STRENGTH BOLTS NOTED AS "SC" SHALL BE INSTALLED AND PRE-TENSIONED PER THE AISC REQUIREMENTS FOR SLIP CRITICAL CONNECTIONS.
7. HIGH STRENGTH BOLTS NOTED AS "PT" HAVE BEEN DESIGNED WITH THE ALLOWABLE VALUES FOR TYPE "N" BEARING CONNECTIONS AND SHALL BE PRETENSIONED PER THE AISC REQUIREMENTS FOR PRE-TENSIONED BOLTS.
8. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A 325 OR A 490 BOLTS, LATEST EDITION.
9. ALL WELDING SHALL COMPLY WITH AWS D1.1 AND SHALL BE DONE BY WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED. WELDING OF REBAR SHALL CONFORM TO AWS D1.4.
10. ALL WELDS USED ON STRUCTURAL MEMBERS AND CONNECTIONS SHALL BE DONE WITH E70XX ELECTRODES OR E7XT-X WIRE THAT CAN PRODUCE WELDS WITH A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS @ 0° F, AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD OR MANUFACTURER CERTIFICATION.
11. WHERE WELDS SHOWN ON THE DESIGN DRAWINGS ARE DESIGNATED AS "DEMAND CRITICAL", THE E70XX ELECTRODES OR E7XT-X WIRE MUST PROVIDE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS @ -20° F AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD OR MANUFACTURER CERTIFICATION AND 40 FT-LBS @ 70° F AS DETERMINED BY AISC SEISMIC DESIGN MANUAL, APPENDIX X OR OTHER APPROVED METHOD.
12. ALL WELDING SHALL BE DONE EITHER IN THE SHOP OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION PER CBC SECTION 1704.2.5.1 OR WITH SPECIAL INSPECTION PER ANSI/AISC 360-16 CHAPTER N, AND ANSI/AISC 341-16 CHAPTER J AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES.
13. ALL SPECIAL INSPECTIONS FOR STRUCTURAL AND MISCELLANEOUS STEEL AND THE FREQUENCY OF INSPECTION SHALL BE AS REQUIRED BY ANSI/AISC 360-16 CHAPTER N, AND ANSI/AISC 341-16 CHAPTER J AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES.
14. ALL STRUCTURAL STEEL IN THE SEISMIC LOAD RESISTING SYSTEM SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION. SEE ADDITIONAL NOTES WHERE APPLICABLE.
15. EXCEPT WHERE NOTED, ALL CARBON STEEL MEMBERS SHALL BE PAINTED WITH PRIME COAT PER THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND THE STEEL CONSTRUCTION MANUAL. THE EXCEPTION FOR STEELWORK CONCEALED BY INTERIOR BUILDING FINISH SHALL NOT BE APPLICABLE.

ADHESIVE ANCHORS FOR CONCRETE:

1. ANCHOR EMBEDMENT AND NOMINAL DIAMETER OF RODS SHALL BE AS SHOWN ON DRAWINGS.
2. ADHESIVE STUD ASSEMBLIES SHALL CONSIST OF A THREADED RODS, FLAT WASHER, AND HEX NUT. FLAT WASHER MAY BE OMITTED WHERE PLATE WASHERS ARE CALLED FOR.
3. HILTI ADHESIVE SYSTEMS:
   - A. FAST CURE: HIT HY-200 PER ICC ESR-3187
   - B. SLOW CURE: HIT RE-500 V3 PER ICC ESR-3814
   - C. ROD MATERIAL SHALL BE THREADED ROD CONFORMING TO ASTM F 1554, GRADE 36, U.N.O.
5. NUTS SHALL CONFORM TO ASTM A 563, AMERICAN STANDARD HEAVY HEX.
6. FLAT WASHERS SHALL CONFORM TO ASTM F 435.
7. GALVANIZED RODS, WHERE CALLED FOR, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123. NUTS AND WASHERS SHALL BE SUPPLIED WITH A HOT DIP GALVANIZED FINISH. BOLTS AND NUTS SHALL HAVE THEIR THREADS CHASED AFTER GALVANIZING.
8. ROD PROJECTION FROM FACE OF CONCRETE SHALL BE DETERMINED BY THE CONTRACTOR, CONSIDERING THE THICKNESS OF THE GROUT, THICKNESS OF THE MATERIAL THROUGH WHICH THE ROD MUST PROJECT, WASHER THICKNESS, NUT THICKNESS, PLUS A MINIMUM OF 1/4" PROJECTION BEYOND THE FACE OF THE NUT.
9. DRILL TYPE, HOLE DIAMETER AND PREPARATION SHALL BE AS REQUIRED BY THE ADHESIVE SYSTEM MANUFACTURER.
10. SPECIAL INSPECTION, IN ACCORDANCE WITH THE REQUIREMENTS OF CBC TABLE 1705.3 AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES AND CBC SECTION 1705.1.1, IS REQUIRED DURING INSTALLATION OF ALL ANCHOR RODS.
11. OTHER ADHESIVE ANCHORING SYSTEMS SHALL ONLY BE USED WITH THE APPROVAL OF THE ENGINEER.
12. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION TO SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI, PER ACI 318-14 17.8.2.2. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
13. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL, PER ACI 318-14 17.8.2.4.
14. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS, PER ACI 318-14 17.1.2.

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
A/C	AIR CONDITIONING
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AISC	AMER. INSTITUTE OF STEEL CONST.
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
ANSI	AMER. NATIONAL STANDARDS INSTITUTE
APP(D)	APPROVE(D)
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECTURAL
ASTM	AMER. SOC. FOR TESTING & MATERIAL
AVG	AVERAGE
AWS	AMERICAN WELDING SOCIETY
BET'N	BETWEEN
BF	BOTH FACES
BFF	BELOW FINISH FLOOR
BLDG	BUILDING
BLK(G)	BLOCK(ING)
BM	BEAM
B.N.	BOUNDARY NAIL
BOT	BOTTOM
BRG	BEARING
BS	BOTH SIDES
CF	CUBIC FEET
CHKD PL	CHECKERED PLATE
C.I.	CAST IRON
CJ	CONSTRUCTION OR CONTRACTION JOINT
CLR	CLEAR (CLEARANCE)
COL	COLUMN
COLA	CITY OF LOS ANGELES
COLL	COLLATERAL LOAD
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS OR CONTINUED
CONV	CONVEYOR
CORR	CORRECTIONS
CTR	CENTER
CMU	CONCRETE MASONRY UNITS
CU	CUBIC
CU YD	CUBIC YARDS
DBL	DOUBLE
DBLR	DOUBLER
DEPT	DEPARTMENT
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIR	DIRECTION
DL	DEAD LOAD
D.N.	DIAPHRAGM NAILING
DN	DOWN
DO	DITTO
DP	DEPTH (DEEP)
D.S.	DOWNSPOUT
DWG(S)	DRAWING(S)
DWL	DOWEL
(E)	EXISTING
EA	EACH
EF	EACH FACE
EHS	EXTRA HIGH STRENGTH
EL	ELEVATION (HEIGHT)
ELEC	ELECTRICAL
ELEV	ELEVATION (VIEW)
EMB	EMBEDDED, EMBEDMENT
E.N.	EDGE NAIL
ENGR	ENGINEER
E.O.S.	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXP JT	EXPANSION JOINT
EXT	EXTERIOR

FD	FLOOR DRAIN
FDN	FOUNDATION
FIN	FINISH(ED)
FJ	FLOOR JOIST
FL	FLOOR(ING)
FLG	FLANGE(S)
F.N.	FIELD NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FULL PENETRATION
FRMG	FRAMING
FS	FAR SIDE
FT	FEET, FOOT
FTG	FOOTING
F.W.	FIELD WELD
GA	GAGE
GALV	GALVANIZE(D)
GEN	GENERAL
GLB	GLU-LAM BEAM
GR	GRADE
GYP BD	GYPBOARD
HDR	HEADER
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HANDRAIL
HS	HIGH STRENGTH
HT	HEIGHT
ICC	INTERNATIONAL CODE COUNCIL
ID	NSIDE DIAMETER
I.F.	INSIDE FACE
IN.	INCH
INCL	INCLUDE(ING)
INFO	INFORMATION
INSP.	INSPECTION
INT	INTERIOR
INTERM	INTERMEDIATE
JT	JOINT
JST	JOIST
K	KIPS (1000 POUNDS)
KB	KNEE BRACE
KSI	KIPS PER SQ. IN.
LAT	LATERAL
LB	POUND
LG	LENGTH (LONG)
LL	LIVE LOAD
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
(N)	NEW
N	NORTH
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
o/c	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OH	OVERHEAD OR OVERHANG
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD

PAF	POWDER ACTUATED FASTENER
PCF	POUNDS PER CU. FT.
PEMB	PRE-ENGINEERED METAL BUILDING
PLYWD	PLYWOOD
PNL	PANEL
PROJ	PROJECTION
PSF	POUNDS PER SQ. FT.
PSI	POUNDS PER SQ. IN.
PT	POINT
PVMT	PAVEMENT
QTY	QUANTITY
RAD	RADIUS
RD	ROOF DRAIN
RECT	RECTANGULAR
REF	REFER(ENCE)
REINF	REINFORCEMENT
REQD	REQUIRED
REV	REVISION
RF	RIGID FRAME
RJ	ROOF JOIST
RM	ROOM
RQMT	REQUIREMENT
RR	RESEARCH REPORT
SCHED	SCHEDULE
S.D.	STORM DRAIN
SECT	SECTION
SHT(G)	SHEET(ING)
SIM	SIMILAR
S.M.	SHEET METAL
S.P.	STANDARD PIPE
SP	SPACE(S)
SPEC	SPECIFICATION(S)
SQ	SQUARE
STAGG	STAGGERED
STD	STANDARD
STL	STEEL
STIF	STIFFENER
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
T & B	TOP AND BOTTOM
TEMP	TEMPORARY
THK	THICK, THICKNESS
THRU	THROUGH
T.N.	TOP OF NAILER
T.O.	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FRAMING
TOL	TOP OF LEDGER
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANSV	TRANSVERSE
TS	STRUCTURAL TUBE
TYP	TYPICAL
ULT	ULTIMATE
UNO	UNLESS NOTED OTHERWISE
VER	VERIFY
VERT	VERTICAL
VOL	VOLUME
W	WIDE, WIDTH, WIDE FLANGE STEEL BEAM
w/	WITH
WD	WOOD
w/o	WITHOUT
WP	WORKING POINT
WS	WATER STOP
WT	WEIGHT
WWF	WELDED WIRE FABRIC

STRUCTURAL SYMBOLS

&	AND	⅃L	DBL. ANGLE	C	STRUCTURAL CHANNEL
L	ANGLE	[	LIGHT GA. CHANNEL	S̶	STRUCTURAL LINE
@	AT	d	PENNY (NAIL GRADE)	"t"	THICKNESS OF THINNER MATERIAL
℄	CENTERLINE	PL	PLATE	ʃ	LIGHT GA. PURLIN OR GIRT
Ø	DIAMETER	#	POUND OR NUMBER		

DESIGN LOADS: PER 2019 CBC

PUSHWALLS:

TRASH LOAD = 50 psf (UNFORM)

WHEEL LOADER BUCKET IMPACT = 1k/ft (LINE LOAD)

FLUID PRESSURE WASTE LOADING = 20 psf/ft

SEISMIC:

SEISMIC IMPORTANCE FACTOR, I = 1.0

RISK CATEGORY: II

MAPPED SPECTRAL RESPONSE ACCELERATION, S_S = 1.988g

MAPPED SPECTRAL RESPONSE ACCELERATION, S_1 = 0.704g

SITE CLASS: D

SPECTRAL RESPONSE COEFFICIENT, S_{DS} = 1.590

SPECTRAL RESPONSE COEFFICIENT, S_{D1} = 0.748

SEISMIC DESIGN CATEGORY: D

SEISMIC = 0.636 W_P (SEE BELOW)

PUSHWALLS:

SEISMIC DEMANDS ON NON STRUCTURAL ELEMENTS

CANTILEVERED ELEMENTS INTERIOR NON STRUCTURAL WALLS

COMPONENT RESPONSE MODIFICATION FACTOR, R_P = 2.5

AMPLIFICATION FACTOR, a_P = 2.5

COMPONENT SEISMIC DESIGN FORCE, F_P = 0.636 W_P

PROJECT SCOPE SUMMARY:

CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A 12' HIGH X APPROXIMATELY 90' LONG STEEL PUSHWALL THAT SHALL BE CONSTRUCTED WITH TEN (10) W10 POSTS SUPPORTED ON STEEL BASE PLATES, WHICH WILL BE THRU-BOLTED TO THE EXISTING ELEVATED CAST-IN-PLACE CONCRETE SLAB AND BEAMS. THE PUSHWALL WILL BE COMPLETED WITH 1/2" PLATE SUPPORTED ON THREE (3) W10 GIRTS LOCATED AT THE TOP, MID-HEIGHT AND NEAR THE BOTTOM OF EACH BAY BETWEEN POSTS. ALL SEAMS BETWEEN THE PUSHWALL PLATES SHALL BE CONTINUOUSLY SEAL WELDED TO CREATE A CONTINUOUS SURFACE. REFERENCE THE CONNECTION DETAILS PRESENTED ON SD1.1.

THE 2'-10" WIDE SPACE BEHIND AND BETWEEN PUSHWALL POSTS SHALL BE FINISHED BY CONSTRUCTING AN APPROXIMATELY 10" HIGH CAST-IN-PLACE CONCRETE CURB, WHICH WILL COVER THE BASE PLATES TO CREATE A LEVEL HOUSEKEEPING SURFACE.

PRIOR TO ANY DRILLING REQUIRED TO INSTALL NEW THRU-BOLTS AND ADHESIVELY ANCHORED REINFORCEMENT, CONTRACTOR SHALL PERFORM ULTRASONIC TESTING TO DETERMINE THE LAYOUT AND LOCATION OF THE EXISTING CONCRETE SLAB AND BEAM REINFORCEMENT. CONTRACTOR SHALL SUBMIT A REPORT TO THE ENGINEER SHOWING THE LAYOUT AND LOCATION OF REINFORCEMENT RELATIVE TO THE NEW PUSHWALL POST BASE. REFERENCE THE CONNECTION DETAILS PRESENTED ON SD1.1 FOR DRILLING LOCATIONS AT EACH POST.

APPROVED

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BUILDING SAFETY DIVISION
CITY OF CULVER CITY

Void, without Authorized Initial/Signature

JRMA
ARCHITECTS ENGINEERS

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WWW.JRMA.COM

Project Revision

A	50% Client Review	01.29.20
B	90% Client Review	02.14.20
C	100% Client Review	04.29.20
D	Bldg. Dept. Submittal	05.01.20

PROPOSED PUSHWALL FOR:

CULVER CITY TRANSFER STATION

9255 JEFFERSON BLVD.
CULVER CITY, CA

REGISTERED PROFESSIONAL ENGINEER
JAMES R. MILLER
S 3046
STRUCTURAL
STATE OF CALIFORNIA

MAY 01 2020

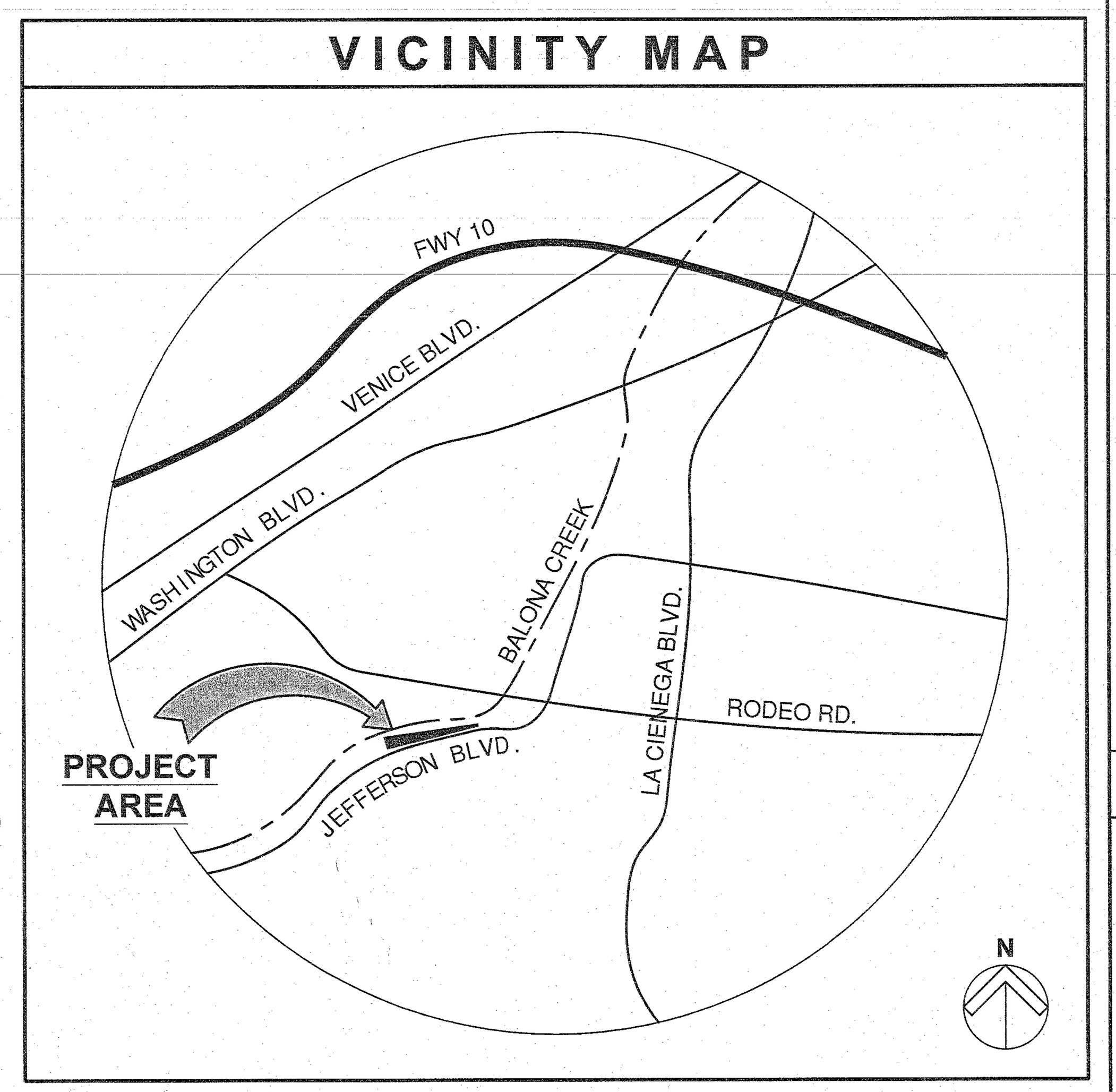
STRUCTURAL NOTES

DATE	AS NOTED	SCALE:	AS NOTED
DWN	JD	CHK	ML

JRMA Project No.
5457-B

S1.1

(B) B20-0331 DUE: 5/20/20 (5DAY)



EXISTING FLOOR FRAMING PLAN

SCALE 1/8" = 1'-0" (1)

NOTES

1. FOR GENERAL NOTES AND INFORMATION NOT SHOWN, SEE SHEET S1.1.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS PRIOR TO ANY FABRICATION AND/OR CONSTRUCTION. NOTIFY ENGINEER IF THERE ARE ANY DISCREPANCIES.

LEGEND

(#) REVISION / DELTA

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PROPOSED PUSHWALL FOR:

CULVER CITY TRANSFER STATION

9255 JEFFERSON BLVD.
CULVER CITY, CA

MAY 01 2020

EXISTING FLOOR FRAMING PLAN

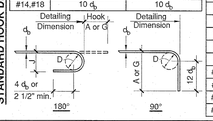
AS NOTED	AS NOTED
DATE	SCALE:
JD	ML
DWN	CHK

JRMA Project No. 5457-B

S2.1

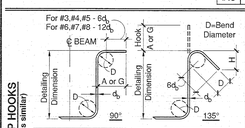
STANDARD HOOK DETAILS

Bar Sizes	D=Finished Inside Bend Diameter	
	Standard Hooks	Stirrup/Tie Hooks
#3,#4,#5	6 d_b	4 d_b
#6,#7,#8	6 d_b	6 d_b
#9,#10,#11	8 d_b	8 d_b
#14,#18	10 d_b	10 d_b



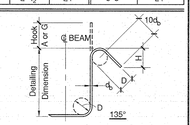
Bar Size	Dimensions of Standard 180° hooks - all grades			Dimensions of Standard 90° hooks - all grades	
	A or G	J	D	A or G	D
#3	5"	3"	2½"	6"	2½"
#4	6"	4"	3"	8"	3"
#5	7"	5"	3¾"	10"	3¾"
#6	8"	6"	4½"	1'-0"	4½"
#7	10"	7"	5¼"	1'-2"	5¼"
#8	11"	8"	6"	1'-4"	6"
#9	1'-3"	11¼"	9½"	1'-7"	9½"
#10	1'-5"	1'-1½"	10¾"	1'-10"	10¾"
#11	1'-7"	1'-2¾"	12"	2'-0"	12"
#14	2'-3"	1'-9¾"	18¼"	2'-7"	18¼"
#18	3'-0"	2'-4¾"	24"	3'-5"	24"

STIRRUP HOOKS
(Tie ends similar)



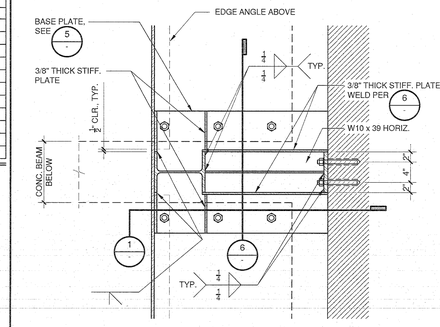
Bar Size	D	90° A or G	90° Approx. H	135° A or G	135° Approx. H
#3	1½"	4"	2¾"	4"	3¾"
#4	2"	4½"	3"	4½"	4"
#5	2½"	6"	3¾"	5½"	4¾"
#6	4½"	1'-0"	4½"	7½"	5½"
#7	5¼"	1'-2"	5¼"	9"	6½"
#8	6"	1'-4"	6"	10½"	7½"

SEISMIC STIRRUP/TIE



Bar Size	135° Seismic Hook D	135° A or G	135° Approx. H
#3	1½"	5"	3¾"
#4	2"	6½"	4¾"
#5	2½"	8"	5¾"
#6	4½"	10½"	6½"
#7	5¼"	1'-0½"	7½"
#8	6"	1'-2½"	9"

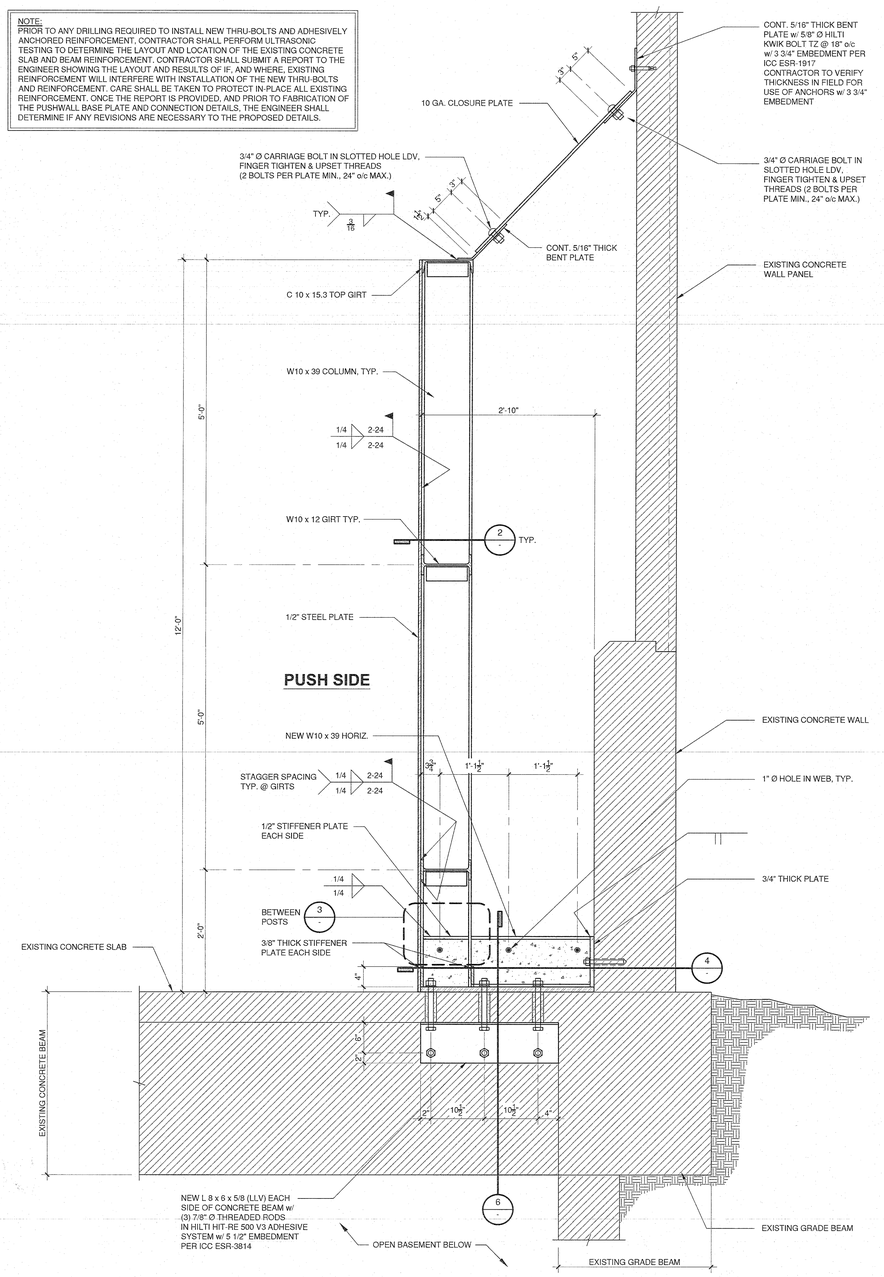
STANDARD REBAR HOOK
SCALE: NTS — 8



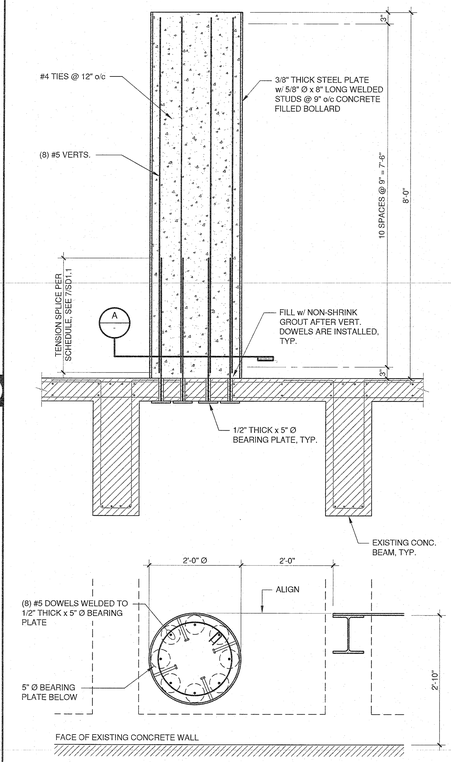
PLAN VIEW

CONNECTION DETAIL
SCALE: NTS — 4

NOTE:
PRIOR TO ANY DRILLING REQUIRED TO INSTALL NEW THRU-BOLTS AND ADHESIVELY ANCHORED REINFORCEMENT, CONTRACTOR SHALL PERFORM ULTRASONIC TESTING TO DETERMINE THE LAYOUT AND LOCATION OF THE EXISTING CONCRETE SLAB AND BEAM REINFORCEMENT. CONTRACTOR SHALL SUBMIT A REPORT TO THE ENGINEER SHOWING THE LAYOUT AND RESULTS OF IF, AND WHERE, EXISTING REINFORCEMENT WILL INTERFERE WITH INSTALLATION OF THE NEW THRU-BOLTS AND REINFORCEMENT. CARE SHALL BE TAKEN TO PROTECT IN-PLACE ALL EXISTING REINFORCEMENT. ONCE THE REPORT IS PROVIDED, AND PRIOR TO FABRICATION OF THE PUSHWALL BASE PLATE AND CONNECTION DETAILS, THE ENGINEER SHALL DETERMINE IF ANY REVISIONS ARE NECESSARY TO THE PROPOSED DETAILS.

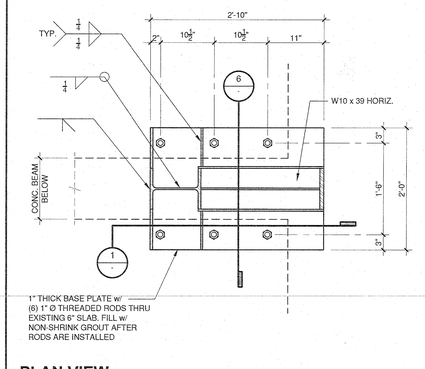


STEEL PUSHWALL SECTION
SCALE: NTS — 1



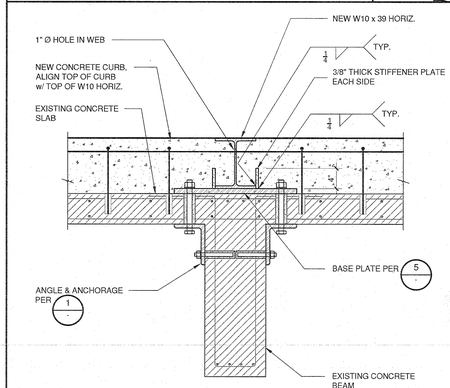
SECTION A

CONCRETE FILLED BOLLARD
SCALE: NTS — 9



PLAN VIEW

BASE PLATE DETAIL
SCALE: NTS — 5



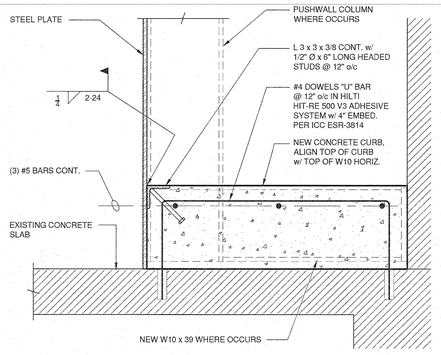
CONNECTION DETAIL
SCALE: NTS — 6

CLASS B REBAR TENSION SPLICE LENGTH
(PROVIDED CONCRETE COVER, CLEAR BAR SPACING AND TRANSVERSE REINFORCEMENT ARE IN COMPLIANCE WITH ACI 318-14, CHAPTER 25)

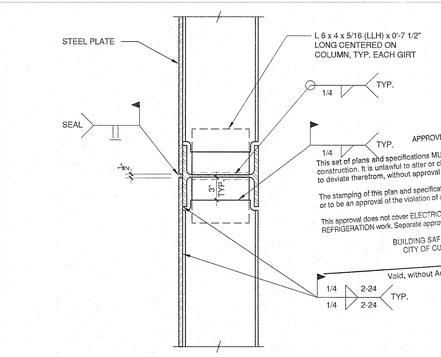
f'c	LOCATION	Fy	BAR SIZE 3	4	5	6	7	8	9	10	11
			SPLICE LENGTH IN INCHES								
2500 psi NORMAL WEIGHT CONCRETE	*TOP BARS AND HORIZONTAL WALL STEEL	40	20	27	34	41	59	68	76	86	95
		60	30	41	51	61	89	101	114	129	143
	OTHER BARS	40	16	21	26	31	46	52	59	66	73
		60	23	31	39	47	68	78	88	99	110
3000 psi NORMAL WEIGHT CONCRETE	*TOP BARS AND HORIZONTAL WALL STEEL	40	19	25	31	37	54	62	70	78	87
		60	28	37	46	56	81	93	104	118	131
	OTHER BARS	40	14	19	24	28	42	47	54	60	67
		60	21	28	36	43	62	71	80	90	100
4000 psi NORMAL WEIGHT CONCRETE	*TOP BARS AND HORIZONTAL WALL STEEL	40	16	21	27	32	47	53	60	68	75
		60	24	32	40	48	70	80	90	102	113
	OTHER BARS	40	12	16	21	25	38	41	46	52	58
		60	18	25	31	37	54	62	70	78	87
5000 psi NORMAL WEIGHT CONCRETE	*TOP BARS AND HORIZONTAL WALL STEEL	40	14	19	24	29	42	48	54	61	67
		60	22	29	36	43	63	72	81	91	101
	OTHER BARS	40	11	15	18	22	32	37	41	47	52
		60	17	22	28	33	48	55	62	70	78
6000 psi NORMAL WEIGHT CONCRETE	*TOP BARS AND HORIZONTAL WALL STEEL	40	13	17	22	26	38	44	49	55	62
		60	20	26	33	39	57	65	74	83	92
	OTHER BARS	40	10	13	17	20	29	34	38	43	47
		60	15	20	25	30	44	50	57	64	71

* TOP BARS ARE ANY HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE SPLICE.

CLASS B REBAR SPLICE
SCALE: NTS — 7



PUSHWALL BASE SECTION
SCALE: NTS — 3



PLAN VIEW

PUSHWALL SECTION
SCALE: NTS — 2

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Project Revision

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2	90% Client Review	02.14.20
3	100% Client Review	04.29.20
4	Bldg. Dept. Submittal	05.01.20

PROPOSED PUSHWALL FOR:

CULVER CITY TRANSFER STATION

9255 JEFFERSON BLVD. CULVER CITY, CA

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PUSHWALL DETAILS

AS NOTED	AS NOTED
DATE JD	SCALE ML
DWN	CHK

JRMA Project No. 5457-B

SD1.1