

OAK, BAY TREES OR SYCAMORE TREES:

1. THERE ARE NO OAK, BAY AND/OR SYCAMORE TREES ON THIS LOT OR WITHIN 20 FT OF THIS PROPERTY

NOTES:

1. CALL "DIG ALERT" PRIOR TO ANY GROUND WORK OR EXCAVATION.
2. THE APPROVAL OF PLANS AND SPECIFICATIONS DOES NOT PERMIT THE VIOLATION OF ANY SECTION OF THE BUILDING CODE OR OTHER CITY ORDINANCE OR STATE LAW.
3. THE CONTRACTOR MUST PROVIDE PUBLIC PROTECTION IN ACCORDANCE WITH CBC SECTION 3306.1 FOR WORK ON ANY BUILDING AND STRUCTURE ADJACENT TO THE PUBLIC WAY.
4. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET. (R401.3)
5. NEW INSTALLATION OF GAS WATER HEATER SHALL HAVE ALL THE FOLLOWING AS PER 2019 CALIFORNIA ENERGY CODE 150.0(N):
- A. A 120V ELECTRICAL RECEPTACLE IS WITHIN 3 FEET FROM THE WATER HEATER AND ACCESSIBLE WITH NO OBSTRUCTIONS.
- B. A CATEGORY III OR IV VENT, OR A TYPE B VENT WITH STRAIGHT PIPE BETWEEN OUTSIDE TERMINATION AND THE WATER HEATER.
- C. A CONDENSATE DRAIN NO MORE THAN 2 INCHES HIGHER THAN THE BASE ON WATER HEATER FOR NATURAL DRAINING.
- D. A GAS SUPPLY LINE WITH CAPACITY OF AT LEAST 200,000 BTU/HR.

6. "HERS TESTING REQUIRED" AS REQUIRED PER TITLE-24 ENERGY CALCULATIONS.
7. "DUCT LEAKAGE TEST REQUIRED" AS REQUIRED PER TITLE-24 ENERGY CALCULATIONS.
8. ADDRESS NUMBERS: APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION SHALL BE PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET, ROAD, ALLEY, AND WALKWAYS GIVING ACCESS TO AND WITHIN THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS SHALL BE ARABIC NUMERALS OR ALPHABET LETTERS. NUMBERS SHALL BE A MINIMUM OF 4 INCHES (102 MM) HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH (12.7 MM) AND SHALL BE ILLUMINATED IN AN APPROVED MANNER (IF NUMBERS ARE ON THE EXTERIOR). NUMBER HEIGHT AND STROKE WIDTH SHALL BE INCREASED AS NEEDED FOR LEGIBILITY BASED ON VISIBILITY DISTANCE.
9. RETAINING WALLS / POOLS / SPAS / JACUZZIS / BOUNDARY WALLS / FENCES / TRELLIS / PATIO COVERS REQUIRE SEPARATE PERMITS.
10. NO NEW ROOFTOP EQUIPMENT IS ALLOWED.

CALIFORNIA PLUMBING CODE (2019 CPC)
NOTES REQUIRED ON THE PLANS
1. WATER PIPING MATERIALS WITHIN A BUILDING SHALL BE IN ACCORDANCE WITH SEC. 604.1 OF THE CALIFORNIA PLUMBING CODE. PEX, CPVC AND OTHER PLASTIC WATER PIPING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 604 OF THE CPC. INSTALLATION STANDARDS OF APPENDIX I OF THE CPC AND MANUFACTURERS RECOMMENDED INSTALLATION STANDARDS. CPVC WATER PIPING REQUIRES A CERTIFICATION OF COMPLIANCE AS SPECIFIED IN SEC 604.1.1 OF THE CPC PRIOR TO PERMIT ISSUANCE.

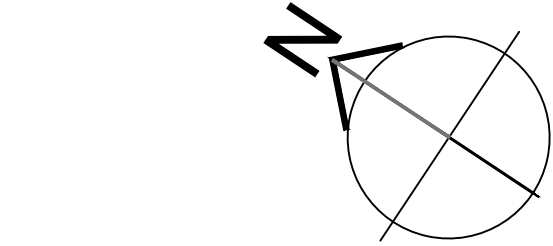
OCCUPANCY GROUP _____ (R-1)
DESCRIPTION OF USES _____ (SFD)
TYPE OF CONSTRUCTION _____ (V-B)
NUMBER OF STORIES _____ (1-STORY)
HEIGHT _____ (6'-0")
SPRINKLERS _____ (NO) - SEE BELOW
(E)SFD SPRINKLERS _____ (NO) - SEE BELOW
CLIMATE ZONE _____ (9)
YEAR SFD BUILT _____ (1941/1941)
WUI AREA (HIGH FIRE HAZARD AREA) _____ (NO)

SITE PLAN

SCALE: $\frac{1}{8}"=1'$
BACKWATER VALVE TO BE INSTALLED ON PRIVATE BUILDING SEWER PER BMC 8-1-313 AND REQUIREMENTS OF THE CITY'S CDD-BUILDING DEPARTMENT. IT IS NOTED AND ACKNOWLEDGED THAT CITY STAFF WILL NOT SIGN OFF ON THE FINAL BUILDING PERMIT APPROVAL AND/OR CERTIFICATE OF OCCUPANCY UNTIL THE OWNER/DEVELOPER PROVIDES PROOF THAT THE BACKWATER VALVE(S) HAVE BEEN INSTALLED.

PER BMC 9-3-407, BEST MANAGEMENT PRACTICES SHALL APPLY TO ALL CONSTRUCTION PROJECTS AND SHALL BE REQUIRED FROM THE TIME OF LAND CLEARING, DEMOLITION OR COMMENCEMENT OF CONSTRUCTION UNTIL RECEIPT OF A CERTIFICATE OF OCCUPANCY.

A MINIMUM 65% OF GENERATED DEBRIS SHALL BE RECYCLED, REUSED, OR DIVERTED FROM THE LANDFILL. A \$ 60.05 ADMINISTRATIVE FEE AND A REFUNDABLE DEPOSIT WILL BE COLLECTED AT THE TIME OF PERMIT ISSUANCE. THE DEPOSIT CAN BE REFUNDED IF RECYCLING RECEIPTS ARE SUBMITTED TO BUILDING DIVISION WITHIN 60 DAYS OF PERMIT FINAL (BMC 9-1-11-1012).



EX 6' HIGH CMU FENCE WALL

EX 6' HIGH CMU FENCE WALL

PROJECT INFORMATION

SITE ADDRESS 816 N BEL AIRE DR
BURBANK CA 91501
LOT/PARCEL AREA 6086 (SF)
ASSESSOR PARCEL NO. 2470-013-022
TAX RATE AREA (TRA) 02530
LOT 22
TRACT 7590
PROPERTY TYPE SINGLE FAMILY RESIDENTIAL
EXISTING FLOOR AREA 1660 (SF)
YEARS BUILD / EFFECTIVE 1941 / 1941
BEDROOMS / BATHROOMS 2 / 2
UNIT 1

T.O.W. = 11'-3"
5'-5" ABOVE GRADE
T.O.W. = 11'-1"
5'-5" ABOVE GRADE
T.O.W. = 10'-0"
5'-5" ABOVE GRADE
T.O.W. = 8'-2"
5'-5" ABOVE GRADE
T.O.W. = 7'-10"
5'-5" ABOVE GRADE
T.O.W. = 6'-2"
5'-5" ABOVE GRADE
T.O.W. = 5'-10"
5'-5" ABOVE GRADE

T.O.W. = 11'-4"
5'-5" ABOVE GRADE
T.O.W. = 11'-3"
5'-5" ABOVE GRADE
T.O.W. = 11'-1"
5'-5" ABOVE GRADE
T.O.W. = 10'-0"
5'-5" ABOVE GRADE
T.O.W. = 8'-2"
5'-5" ABOVE GRADE
T.O.W. = 7'-10"
5'-5" ABOVE GRADE
T.O.W. = 6'-2"
5'-5" ABOVE GRADE
T.O.W. = 5'-10"
5'-5" ABOVE GRADE

T.O.W. = 5'-9"
T.O.W. = 5'-10"
EXISTING SIDEWALK
T.O.W. = 5'-11"
T.O.W. = 6'-0"
EXISTING LANDSCAPING

BEL AIRE DR

EXISTING GARAGE

EXISTING LANDSCAPE

EXISTING SFD 1660 SF
NO FIRE SPRINKLERS -
816 N BEL AIRE DR

EXISTING LANDSCAPE

EXISTING LANDSCAPE

FRENCH DOOR STYLE
MAIN ENTRY GATE

T.O.W. = 5'-11"

T.O.W. = 6'-0"

EXISTING LANDSCAPING

SCOPE OF WORK:
LEGALIZING MINOR FENCE WALL @ EX SFD
PROPERTY - EX FRONT FENCE WALL HAS BEEN
HEIGHTENED BY A METAL FENCE WALL TO 6'-0"

SHEET INDEX

A-0.0 SITE PLAN

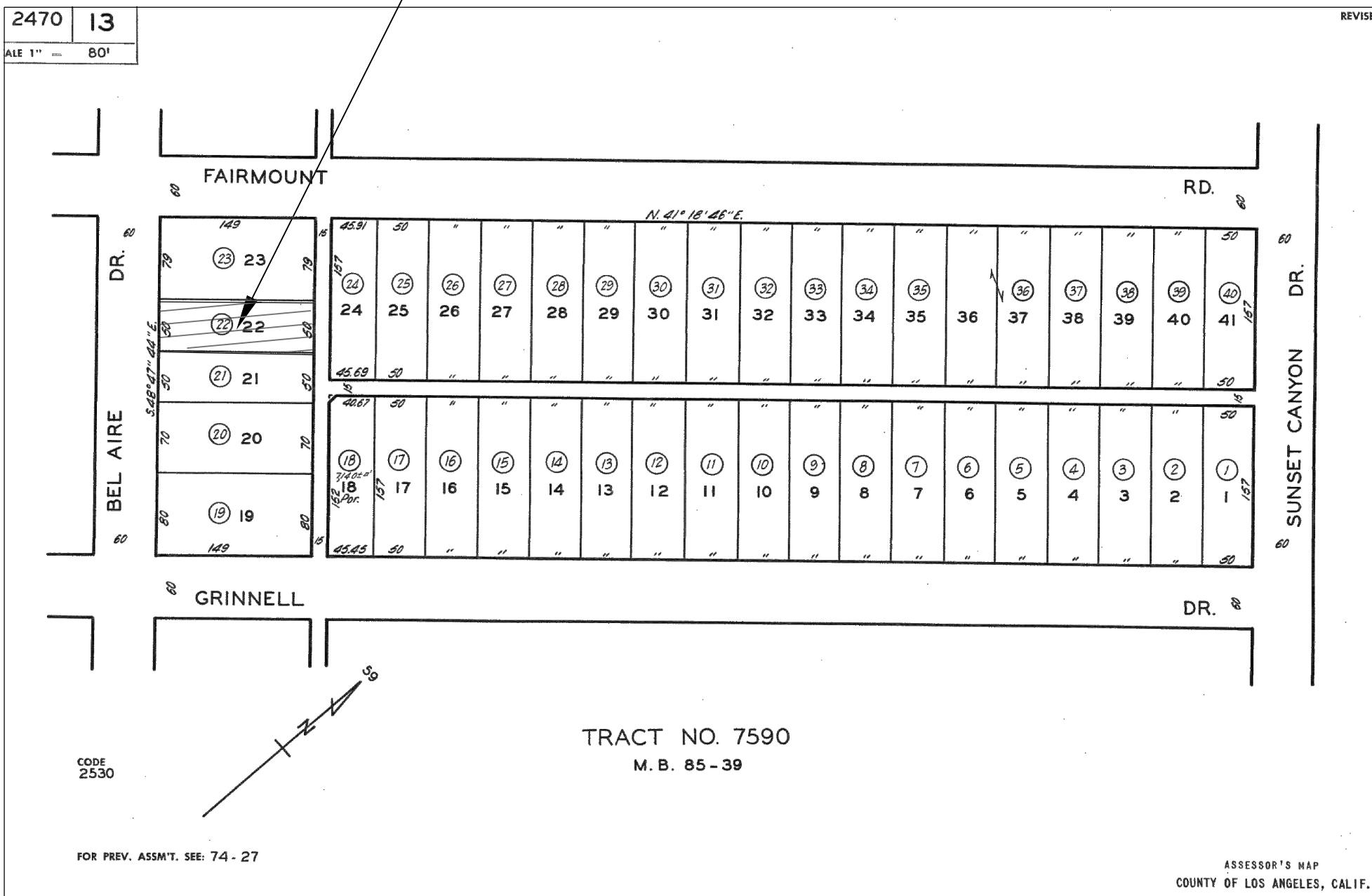
CA CODE INFORMATION:

PLANS TO COMPLY WITH THE FOLLOWING CODES:
BUILDING CODE: 2023 CALIFORNIA BUILDING CODE (CBC) / CALIFORNIA RESIDENTIAL CODE (CRC)
PLUMBING CODE: 2023 CALIFORNIA PLUMBING CODE (CPC)
MECHANICAL CODE: 2023 CALIFORNIA MECHANICAL CODE (CMC)
ELECTRICAL CODE: 2023 CALIFORNIA ELECTRICAL CODE (CEC)
ENERGY CODE: 2023 CALIFORNIA ENERGY CODE (CEC)
FIRE CODE: 2023 CALIFORNIA FIRE CODE (CFC)
GREEN: 2023 CA GREEN BUILDING CODE (CGBC)
LOCAL: 2023 BURBANK BUILDING STD CODE (BBSC)

ENGINEER'S STATEMENT:
STRUCTURAL DESIGN AND DETAILS FULLY CONFORM TO ALL
APPROPRIATE REQUIREMENTS OF THIS CODE, THE CBC.

T.O.W. = 5'-9"
T.O.W. = 5'-10"
T.O.W. = 5'-11"
T.O.W. = 6'-0"
FRENCH DOOR STYLE
MAIN ENTRY GATE
EX FENCE WALL @
FRONTAGE
STREETVIEW ELEVATION
(N) HEIGHTENING
OF EX FENCE
WALL TO 6' MAX
HEIGHT W/ OPEN
METAL GRATING
FENCING

PROJECT SITE



ASSESSOR MAP

DATE: 11/17/2025

PHANTOM 992 DESIGN
K-ROM DESIGN
14512 FRIAR ST
VAN NUYS CA 91411

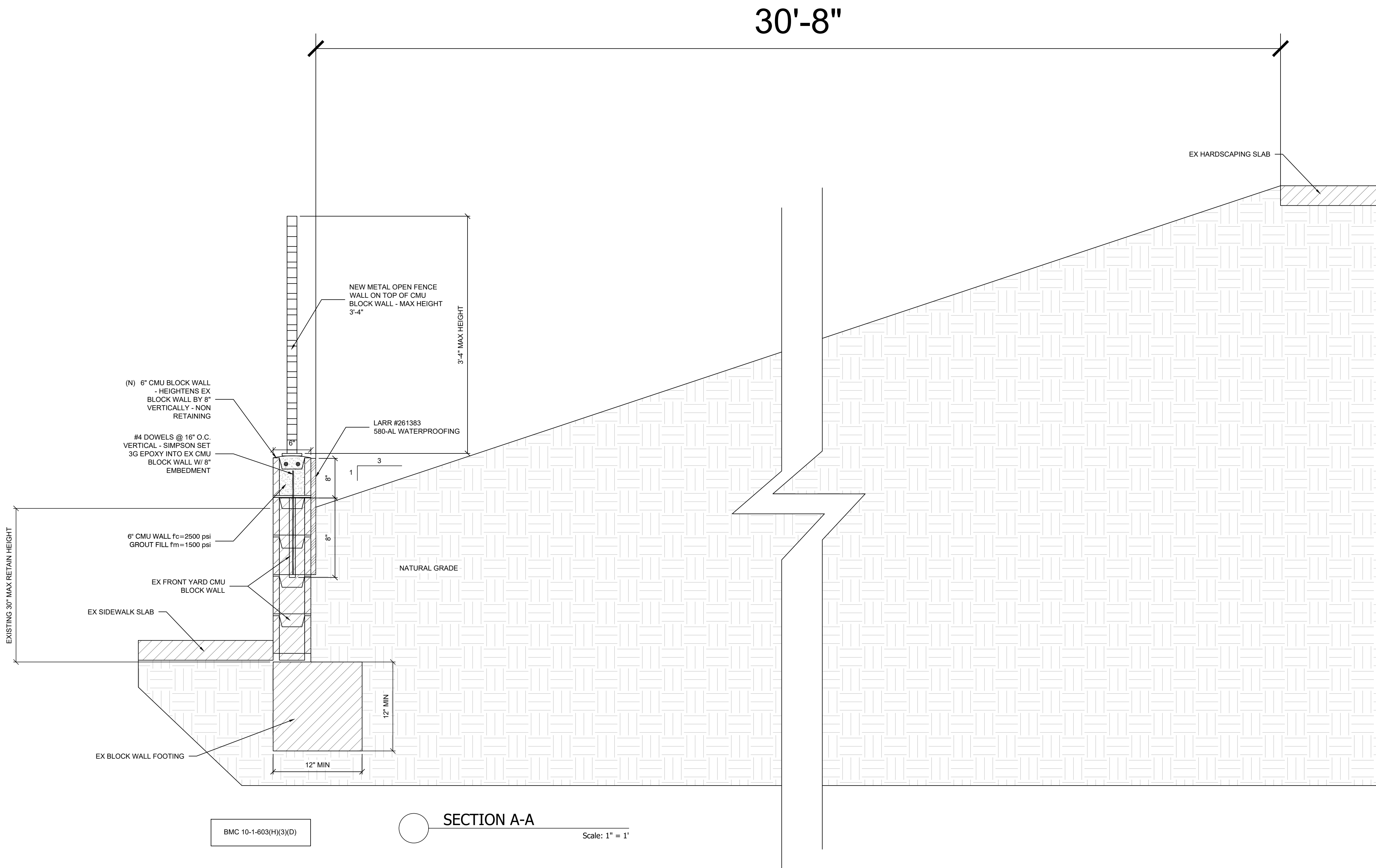
JOB ADDRESS:

816 N BEL AIRE DR
BURBANK CA 91501

REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			

SITE PLAN

A-0.0



DATE: 11/17/2025

PHANTOM 992 DESIGN
K-ROM DESIGN
14512 FRIAR ST
VAN NUYS CA 91411

JOB ADDRESS:
816 N BEL AIRE DR
BURBANK CA 91501

REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			

EX ELEVATIONS

STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

GOVERNING CODE: THE DESIGN AND CONSTRUCTION OF THIS PROJECT IS GOVERNED BY THE **"CALIFORNIA BUILDING CODE (LABC)", 2023 EDITION**, HEREAFTER REFERRED TO AS THE CBC, AS ADOPTED AND MODIFIED BY THE COUNTY OF LOS ANGELES, UNDERSTOOD TO BE THE AUTHORITY HAVING JURISDICTION (AHJ).

REFERENCE STANDARDS: REFER TO **CHAPTER 35 OF 2023 LABC** WHERE OTHER STANDINGS ARE NOTED IN THE DRAWINGS, USE THE LATEST EDITION OF THE STANDARD UNLESS A SPECIFIC DATE IS INDICATED. REFERENCE TO A SPECIFIC SECTION IN CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE STANDARD.

DEFINITIONS: THE FOLLOWING DEFINITIONS COVER THE MEANINGS OF CERTAIN TERMS USED IN THESE NOTES:

- **"ARCHITECT/ENGINEER"** - THE ARCHITECT OF RECORD AND THE STRUCTURAL/CIVIL ENGINEER OF RECORD.
- **"STRUCTURAL/CIVIL ENGINEER OF RECORD" (SER) OR (EOR)** - THE STRUCTURAL/CIVIL ENGINEER WHO IS LICENSED TO STAMP & SIGN THE STRUCTURAL DOCUMENTS FOR THE PROJECT. THE SER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM.
- **"SUBMIT FOR REVIEW"** - SUBMIT TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION.
- **"PER PLAN"** - INDICATED REFERENCES TO THE STRUCTURAL PLANS, ELEVATIONS AND STRUCTURAL GENERAL NOTES.
- **"ENGINEER OF RECORD"(EOR)** - A PROFESSIONAL ENGINEER (PE OR SE), LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, (TYPICALLY THE SER), DOCUMENTS STAMPED AND SIGNED BY THE EOR SHALL BE COMPLETED BY OR UNDER THE DIRECT SUPERVISION OF THE EOR.
- **"BIDDER-DESIGNED"** - COMPONENTS OF THE STRUCTURE THAT REQUIRE THE GENERAL CONTRACTOR, SUBCONTRACTOR, OR SUPPLIER WHO IS RESPONSIBLE FOR THE DESIGN, FABRICATION AND INSTALLATION OF SPECIALTY-ENGINEERED ELEMENTS IDENTIFIED IN THE CONTRACT DOCUMENTS TO RETAIN THE SERVICES OF AN SSE. SUBMITTALS OF "BIDDER-DESIGNED" ELEMENTS SHALL BE STAMPED AND SIGNED BY THE SSE.

SPECIFICATIONS: REFER TO THE PROJECT SPECIFICATIONS ISSUED AS PART OF THE CONTRACT DOCUMENTS FOR INFORMATION SUPPLEMENTAL TO THESE DRAWINGS

OTHER DRAWINGS: REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION INCLUDING BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, FINISHES, DRAINS, WATERPROOFING, RAILINGS, ELEVATORS, CURBS, DEPRESSIONS, MECHANICAL UNIT LOCATIONS, AND OTHER NON-STRUCTURAL ITEMS.

STRUCTURAL DETAILS: THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK. USE ENTIRE DETAIL SHEETS AND SPECIFIC DETAILS REFERENCED IN THE PLANS AS "TYPICAL" WHEREVER THEY APPLY. SIMILARLY, USE DETAILS ON ENTIRE SHEETS WITH "TYPICAL" IN THE SAME NAME WHEREVER THEY APPLY.

STRUCTURAL RESPONSIBILITIES: THE STRUCTURAL/CIVIL ENGINEER IS RESPONSIBLE FOR THEIR STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED FORM.

COORDINATION: THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DETAILS AND ACCURACY OF THE WORK; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR SELECTING FABRICATION PROCESSES; FOR TECHNIQUES OF ASSEMBLY; AND FOR PERFORMING WORK IN A SAFE AND SECURE MANNER.

PRE-CONSTRUCTION MEETINGS: THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING PRE-CONSTRUCTION MEETINGS PRIOR TO COMMENCING WORK. PRE-CON MEETINGS, SCHEDULED APPROXIMATELY TWO WEEKS PRIOR FROM THE START OF THE RELEVANT WORK, ARE REQUIRED FOR THE FOLLOWING PHASES OF CONSTRUCTION: **POST-TENSIONED SLABS, STRUCTURAL STEEL AND CONCRETE**. ATTENDEES FOR PRE-CONSTRUCTION MEETING ARE TO INCLUDE CONTRACTOR, RELEVANT SUBCONTRACTORS, FABRICATORS, INSPECTORS, ARCHITECT/ENGINEER, AND REPRESENTATIVE OF THE AUTHORITY HAVING JURISDICTION WHERE REQUIRED. MEETING AGENDAS ARE TO INCLUDE REVIEW OF THE WORK SCOPE, PROJECT SCHEDULE RELEVANT TO THE WORK, CONTACT INFORMATION OF RESPONSIBLE PARTIES, INSPECTION POINTS, REVIEW OF MATERIALS AD ANY SPECIAL CASES OR ISSUES, PROCEDURES FOR CLARIFICATIONS IF REQUIRED, TESTING AND ACCEPTANCE, ETC.

MEANS, METHODS AND SAFETY REQUIREMENTS: THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB-RELATED SAFETY STANDARDS SUCH AS OSHA AND DOSH (DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH). CONTRACTOR IS RESPONSIBLE TO ADHERE TO OSHA REGULATIONS. BOLTING AND FIELD WELDING AT ALL MEMBER CONNECTIONS IS TO BE COMPLETED PRIOR TO THE RELEASE OF THE MEMBER FROM THE HOISTING MECHANISM UNLESS REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR'S TEMPORARY BRACING AND SHORING DESIGN ENGINEER.

BRACING/SHORING DESIGN ENGINEER: THE CONTRACTOR SHALL AT HIS DISCRETION EMPLOY AN SSE, A REGISTERED PROFESSIONAL ENGINEER FOR THE DESIGN OF ANY TEMPORARY BRACING AND SHORING.

TEMPORARY SHORING, BRACING: THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

CONSTRUCTION LOADS: LOADS ON THE STRUCTURE DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS AS NOTED IN THE DESIGN CRITERIA & LOADS BELOW OR THE CAPACITY OF PARTIALLY COMPLETED CONSTRUCTION AS DETERMINED BY THE CONTRACTOR'S SSE FOR BRACING/SHORING.

CHANGES IN LOADING: THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY THE SER OF ANY ARCHITECTURAL, MECHANICAL, ELECTRICAL, OR PLUMBING LOAD IMPOSED ONTO THE STRUCTURE THAT DIFFERS FROM, OR THAT IS NOT DOCUMENTED ON THE ORIGINAL CONTRACT DOCUMENTS (ARCHITECTURAL/STRUCTURAL/MECHANICAL/ELECTRICAL OR PLUMBING DRAWINGS). PROVIDE DOCUMENTATION OF LOCATION, LOAD, SIZE AND ANCHORAGE OF ALL UNDOCUMENTED LEADS IN EXCESS OF 400 POUNDS. PROVIDE MARKED-UP STRUCTURAL PLAN INDICATING LOCATIONS OF ANY NEW EQUIPMENT OR LOADS. SUBMIT PLANS TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

NOTE PRIORITIES: PLAN AND DETAIL NOTES AND SPECIFIC LOADING DATA PROVIDED ON INDIVIDUAL PLANS AND DETAIL DRAWINGS SUPPLEMENTS INFORMATION IN THE STRUCTURAL GENERAL NOTES.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, PLANS/DETAILS OR REFERENCE STANDARDS, THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK. SHOULD ANY DISCREPANCY BE FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING WORK, UNLESS PRIOR TO THE SUBMISSION OF THE PRICE, THE CONTRACTOR ASKS FOR A DECISION FROM THE ARCHITECT AS TO WHICH SHALL GOVERN. ACCORDINGLY, ANY CONFLICT BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN THE CONTRACT PRICE.

SITE VERIFICATION: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.

ADJACENT UTILITIES: THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO EARTHWORK FOUNDATIONS, SHORING, AND EXCAVATION. ANY UTILITY INFORMATION SHOWN ON THE DRAWINGS AND DETAILS IS APPROXIMATE AND NOT NECESSARILY COMPLETE.

ALTERNATES: ALTERNATE PRODUCTS OF SIMILAR STRENGTH, NATURE AND FORM FOR SPECIFIED ITEMS MAY BE SUBMITTED WITH ADEQUATE TECHNICAL DOCUMENTATION (PROPER TEST REPORT, ETC.) TO THE ARCHITECT/ENGINEER FOR REVIEW. ALTERNATE MATERIALS THAT ARE SUBMITTED WITHOUT ADEQUATE TECHNICAL DOCUMENTATION OR THAT SIGNIFICANTLY DEVIATE FROM THE DESIGN INTENTS OF MATERIALS SPECIFIED MAY BE RETURNED WITHOUT REVIEW. ALTERNATES THAT REQUIRE SUBSTANTIAL EFFORT TO REVIEW WILL NOT BE REVIEWED UNLESS AUTHORIZED BY THE OWNER.

INSPECTIONS, QUALITY ASSURANCE, VERIFICATIONS AND TEST REQ'S

INSPECTIONS: FOUNDATIONS, FOOTINGS, UNDER SLAB SYSTEMS AND FRAMING ARE SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH CBC 110.3. CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS, VERIFICATIONS AND TESTS: SPECIAL INSPECTION, VERIFICATIONS AND TESTING SHALL BE DONE IN ACCORDANCE WITH CBC CHAPTER 17 AND THE STATEMENT OF SPECIAL INSPECTIONS HEREIN PER CBC SECTIONS 1704 AND 1705, INCLUDING 1705.11 FOR SEISMIC RESISTANCE FOR PROJECTS IN SEISMIC DESIGN CATEGORIES C, D, E AND F AS APPLICABLE.

SPECIAL INSPECTION AGENCY AND SPECIAL INSPECTORS: OWNER SHALL RETAIN AN "APPROVED AGENCY" PER CBC 1703 TO PROVIDE SPECIAL INSPECTIONS FOR THE PROJECT, SPECIAL INSPECTORS SHALL BE QUALIFIED PERSONS PER CBC 1704.2.1.

STATEMENT OF SPECIAL INSPECTIONS: SPECIAL INSPECTIONS AND TESTING PER CBC SECTIONS 1704 AND 1705 ARE REQUIRED FOR THE FOLLOWING:

FABRICATION SHOP INSPECTION: WHERE OFF-SITE FABRICATION OF GRAVITY LOAD BEARING MEMBERS & ASSEMBLIES IS PERFORMED, SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR COMPLIES WITH CBC 1704.2.

SOILS & FOUNDATION CONSTRUCTION PER CBC SECTION 1705.6

- **PERIODIC** INSPECTION OF SOILS EARTHWORK PER TABLE 1705.6 IS REQUIRED FOR:
 - FOOTING SOIL BEARING SURFACED PRIOR TO PLACING ANY REINFORCING STEEL
 - EXCAVATION DEPTH AND BEARING LAYER PRIOR TO PLACING ANY REINFORCING STEEL
 - COMPACTED FILL MATERIAL CLASSIFICATION
 - SUBGRADE PREPARATION PRIOR TO FILLING
- **CONTINUOUS** INSPECTION PER TABLE 1705.6 IS REQUIRED FOR:
 - FILLING OPERATIONS TO SATISFY REQUIREMENTS OF CBC TABLE 1705.6 AND THE GEOTECHNICAL REPORT LISTED UNDER SOILS AND FOUNDATIONS SECTION
 - COMPACTED FILL DENSITY TESTING OF EACH LIFT THICKNESS AND MATERIAL CLASSIFICATION

CONCRETE CONSTRUCTION PER CBC SECTION 1705.3 AND TABLE 1705.3 INCLUDING:

- **PERIODIC** INSPECTION REQUIRED FOR:
 - SIZE AND PLACEMENT OF ALL REINFORCING STEEL AND PT TENDONS PRIOR TO THE POUR
 - PLACEMENT CLEARANCES AROUND REINFORCING STEEL AND PT TENDONS AT EMBEDDED CONDUIT
 - PLACING AND SIZE OF CAST-IN-PLACE BOLTS AND EMBEDDED FABRICATIONS PRIOR TO THE POUR
 - SHAPE, LOCATION AND DIMENSIONS OF MEMBERS FORMED
 - USE OF THE REQUIRED DESIGN CONCRETE MIX
 - MAINTENANCE OF SPECIFIC CURING TEMPERATURE AND TECHNIQUES
 - VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS
 - VERIFICATION OF IN-SITU CONCRETE STRENGTH TO STRESSING OF PT TENDONS

- **CONTINUOUS** INSPECTION REQUIRED DURING THE
 - PLACING OF REINFORCED CONCRETE FOR PROPER APPLICATION TECHNIQUES
 - PLACING CONCRETE AROUND CAST-IN-PLACE BOLTS AND EMBEDS
 - SAMPLING OF FRESH CONCRETE
 - DETERMINATIONS OF SLUMP, AIR CONTENT AND TEMPERATURE
 - GROUTING OPERATION OF POST-INSTALLED BOLTS AND EMBEDS
 - PT TENDON STRESSING

SHOTCRETE CONSTRUCTION: PER CBC 1910 INCLUDING:

- **CONTINUOUS** INSPECTION REQUIRED DURING THE:
 - SHOTCRETE PLACEMENT FOR THE PRECONSTRUCTION TEST PANEL (IF REQUIRED BY THE AHJ OR THE EOR)
 - TAKING OF CORE SPECIMENS FOR CONSTRUCTION SPECIMENS
 - PLACING OF ALL PRODUCTION SHOTCRETE

STRUCTURAL MASONRY PER CBC SECTION 1705.4 AND 1705.12

LEVEL A - MASONRY CONSTRUCTION PER TMS 402-11/ACI 530-11/ASCE 6-11 SECTION 1.19.1:

- **PERIODIC** INSPECTION REQUIRED FOR:
 - SIZE, GRADE, PLACEMENT AND TYPE OF REINFORCING STEEL AND CONNECTORS
 - PROPORTIONS OF SITE-PREPARED MORTAR
 - PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40 DEGREES F)
 - PROTECTION OF MASONRY DURING HOT WEATHER (TEMP ABOVE 90 DEGREES F)
 - COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS

STRUCTURAL STEEL PER CBC 1704.2.5.1

A QUALIFIED SPECIAL INSPECTOR OF AN "APPROVED AGENCY" PROVIDING QUALITY ASSURANCE (QA) SPECIAL INSPECTIONS FOR THE PROJECT SHALL REVIEW AND CONFIRM THE FABRICATOR AND ERECTOR'S QUALITY CONTROL (QC) PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO AISC 360-10 CHAPTER N, THE AISC 303 CODE OF STANDARD PRACTICE, AWS D1.1-2010 STRUCTURAL WELDING CODE AND CURRENT CBC CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE WORK

- QA AGENCY PROVIDING SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING NDT PER AISC 360-10 SECTION N4
- VERIFY FABRICATOR AND ERECTOR QUALITY CONTROL PROGRAM PER AISC 360-10 SECTION N2
- VISUAL WELDING INSPECTION OF WELDS BY BOTH QC AND QA PERSONNEL SHALL BE PER TABLED LISTED IN AISC 360 SECTION N5
- INSPECTION TASKS FOR WELDING
 - PRIOR TO WELDING PER AISC 360-10 TABLE N5.4-1
 - DURING WELDING PER AISC 360-10 TABLE N5.4-2
 - AFTER WELDING PER AISC 360-10 TABLE N5.4-3
- NONDESTRUCTIVE TESTING (NDT) OF WELDS:
 - NON-DESTRUCTIVE WELDING (NDT) OF WELDED JOINTS PER AISC 360-10 N.5
 - RISK CATEGORY FOR DETERMINATION OF EXTENT OF NDT PER AISC 360 N5.5B IS NOTED IN THE DESIGN CRITERIA AND LOADS SECTION OF THESE GENERAL REQUIREMENTS
 - NDT PERFORMED SHALL BE DOCUMENTED AND REPORTS SHALL IDENTIFY THE TESTED WELD PIECE MARK AND LOCATION IN THE PIECE
 - FOR FIELD WORK, THE NDT REPORT SHALL IDENTIFY THE TESTED WELD BY LOCATION IN THE STRUCTURE, PIECE MARK AND LOCATION IN THE PIECE
 - FOR FIELD WORK, THE NDT REPORT SHALL IDENTIFY THE TESTED WELD BY LOCATION IN THE STRUCTURE, PIECE MARK AND LOCATION IN THE PIECE
- INSPECTION TASKS FOR BOLTING PER AISC 360-10 SECTION N5.6
 - PRIOR TO BOLTING PER AISC 360-10 TABLE N5.6-1 (NOT REQUIRED FOR SNUG-TIGHT JOINTS)
 - DURING BOLTING PER AISC 360-10 TABLE N5.6-2 (NOT REQUIRED FOR SNUG-TIGHT JOINTS)
 - AFTER BOLTING PER AISC 360-10 TABLE N5.6-3
- ADDITIONAL INSPECTION TASKS PER AISC 360-10 SECTION N5.7
- INSPECTION FOR COMPOSITE CONSTRUCTION SHALL BE DONE PER AISC 360-10 SECTION N6

WOOD CONSTRUCTION PER CBC SECTION 1705.5 & 1705.11.2:

- PERIODIC INSPECTION REQUIRED FOR VERIFICATION OF:
 - SHEAR WALLS: ANCHOR BOLTS, HOLD DOWNS (HD) AND CONTINUOUS ROD TIE-DOWN SYSTEMS (TDS) INCLUDING SQUASH BLOCKS, LPT SHEAR CONNECTORS, STRAP CONNECTORS, BOUNDARY EDGE NAILING, PLATE NAILING, AND PANEL EDGE SHEAR NAILING FOR SIZE & SPACING **WHERE FASTENER SPACING OF THE SHEATHING IS 4 INCHES OR LESS.**
 - DIAPHRAGMS: BLOCKING, STRAP CONNECTIONS, BOUNDARY EDGE AND PANEL SHEAR NAILING SIZE & SPACING **WHERE FASTENER SPACING OF THE SHEATHING IS 4 INCHES OR LESS**
 - MOISTURE CONTENT OF WOOD STUDS, PLATES, BEAMS AND JOISTS
 - PROPER BOTTOM PLATES SIZES (2X AND 3X) AND PLATE WASHERS
 - ROOF TRUSS "HURRICANE" CLIPS.

POST-INSTALLED ANCHORS TO CONCRETE AND MASONRY: SHALL COMPLY WITH CBC SECTION 1703. INSPECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE APPROVED ICC EVALUATION REPORT AND AS INDICATED BY THE DESIGN REQUIREMENTS SPECIFIED ON THE DRAWINGS. REFER TO THE POST INSTALLED ANCHORS SECTION OF THESE NOTES FOR ANCHORS THAT ARE THE BASIS OF THE DESIGN. SPECIAL INSPECTOR SHALL VERIFY ANCHORS ARE AS SPECIFIED IN THE POST INSTALLED ANCHORS SECTION OF THESE NOTES OR AS OTHERWISE SPECIFIED ON THE DRAWINGS. SUBSTITUTIONS REQUIRE APPROVAL BY THE SER AND REQUIRE SUBSTANTIATING CALCULATIONS AND CURRENT 2012 IRC RECOGNIZED ICC EVALUATION SERVICES (ES) REPORT. SPECIAL INSPECTOR SHALL DOCUMENT IN THEIR SPECIAL INSPECTION REPORT COMPLIANCE WITH EACH OF THE ELEMENTS REQUIRED WITHIN THE APPLICABLE ICC EVALUATION SERVICES (ES) REPORT

INSPECTION SUBMITTALS: SPECIAL INSPECTION REPORTS SHALL BE PROVIDED ON A WEEKLY BASIS. FINAL SPECIAL INSPECTION REPORTS WILL BE REQUIRED BY EACH SPECIAL INSPECTION FIRM PER CBC 1704.2.4. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ARCHITECT/ENGINEER AND THE AUTHORITY HAVING JURISDICTION FOR REVIEW

STRUCTURAL OBSERVATION: STRUCTURAL OBSERVATION SHALL BE PROVIDED FOR STRUCTURES CLASSIFIED AS SEISMIC DESIGN CATEGORY D, E AND F IN ACCORDANCE WITH CBC SECTION 1704.5 AND SECTION 107.3.4. STRUCTURAL OBSERVATION SITE VISITS WILL BE AS FOLLOWS: PRIOR TO FIRST FOUNDATION POUR, DURING SHEAR WALL CONSTRUCTION, PRIOR TO EACH UNIQUE ELEVATED SLAB POUR , PRIOR TO THE FIRST MILD REINFORCED SLAB, PRIOR RO THE FIRST POST-TENSIONED SLAB AND SEVERAL PERIODIC VISITS THEREAFTER, PERIODICALLY DURING FLOOR AND ROOF FRAMING AND AFTER ROOF DIAPHRAGM IS COMPLETE PRIOR TO ROOFING

CONTRACTOR RESPONSIBILITY: PRIOR TO ISSUANCE OF THE BUILDING PERMIT, THE CONTRACTOR IS REQUIRED TO PROVIDE THE AUTHORITY HAVING JURISDICTION A SIGNED, WRITTEN ACKNOWLEDGEMENT OF THE CONTRACTOR'S RESPONSIBILITIES ASSOCIATED WITH THE ABOVE STATEMENT OF SPECIAL INSPECTIONS ADDRESSING THE REQUIREMENTS IN CBC SECTION 1704.4 CONTRACTOR IS REFERRED TO CBC SECTIONS 1705.11.5 AND 1705.11.6 FOR ARCHITECTURAL AND MEP BUILDING SYSTEMS THAT MAY BE SUBJECT TO ADDITIONAL INSPECTIONS (BASED ON THE BUILDING'S DESIGNATED SEISMIC DESIGN CATEGORY LISTED IN THE CRITERIA), INCLUDING ANCHORAGE OF HVAC DUCTWORK CONTAINING HAZARDOUS MATERIALS, PIPING SYSTEMS AND MECHANICAL UNITS CONTAINING FLAMMABLE, COMBUSTIBLE OR HIGHLY TOXIC MATERIALS, ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER, EXTERIOR WALL PANELS AND SUSPENDED CEILING SYSTEMS.

PREFABRICATED CONSTRUCTION: ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO CBC SECTION 1703.

SPECIAL INSPECTIONS				
SPECIAL INSPECTIONS (CBC 1705): SPECIAL INSPECTION SHALL BE COMPLETED BY A DEPUTY INSPECTOR LICENSED AND REGISTERED WITH THE GOVERNING BUILDING DEPT.				
ITEMS	CODE REFERENCE	REMARKS	TYPE	
CONCRETE OVER 2500 PSI	CBC 1705.3		P	☒
ANCHORS INSTALLED IN CONCRETE	CBC TABLE 1705.3		P	☐
POST INSTALLED ANCHORS / EPOXY	CBC TABLE 1705.3	SEE ALSO ICC APPROVAL	P	☒
REINFORCING STEEL AND STEEL TENDONS	CBC TABLE 1705.3		C	☐
STRUCTURAL STEEL	CBC 1705.2 , 1705.12.1		P/C	☒
STRUCTURAL STEEL WELDING	CBC 1705.2		C	☒
HIGH STRENGTH BOLTING	CBC 1705.2		C	☐
MASONRY CONSTRUCTION	CBC 1705.4		C	☐
HIGH-LOAD DIAPHRAGMS	CBC 1705.5.1		P	☐
WOOD CONSTRUCTION	CBC 1705.5, 1705.11.1		P/C	☒
COLD-FORMED STEEL	CBC 1705.11.2		P/C	☐
SHOTCRETE	CBC TABLE 1705.3		C	☐
DRIVEN DEEP FOUNDATIONS	CBC TABLE 1705.7		C	☐
SOILS	CBC TABLE 1705.6	SEE SOILS REPORT	P/C	☐
SPRAY-APPLIED FIRE RESISTIVE MATERIALS	CBC TABLE 1705.14		C	☐
SMOKE CONTROL SYSTEM	CBC TABLE 1705.18		P	☐
OTHER				☐

* C: CONTINUOUS P: PERIODIC

APPLICABLE BUILDING CODES	
2022 CALIFORNIA BUILDING CODE	2022 CBC
2022 CALIFORNIA RESIDENTIAL CODE	2022 CRC
2022 CALIFORNIA ELECTRIC CODE	2022 CEC
2022 CALIFORNIA PLUMBING CODE	2022 CPC
2022 CALIFORNIA MECHANICAL CODE	2022 CMC
2022 CALIFORNIA FIRE CODE	2022 CFC
2022 CALIFORNIA GREEN BUILDING STANDARDS	CALGreen
AMENDMENTS PER LOCAL CITY ORDINANCE	
AMERICAN INSITUTE OF STEEL CONSTRUCTION, LATEST ADOPTED EDITION	AISC
NDS WOOD DESIGN MANUAL, LATEST ADOPTED EDITION	NDS, NDS SUPPLEMENT, SDPWS
ASCE-7, LATEST ADOPTED EDITION	ASCE7-16
AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS	AISC 341-16
ACI: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY	ACI 318-19

DESIGN CRITERIA

OCCUPANCY	Risk Category of Building per 2019 CBC Table 1604.5 =
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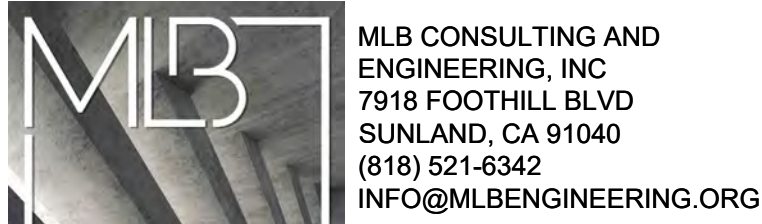
WIND DESIGN:	
MAIN WIND FORCE RESISTING SYSTEM	
Ultimate Design Wind Speed, V _{ULT} (MPH)	
Exposure Category	
Internal Pressure Coefficient	C _{pi} =
Topographic Factor	K _{zt} =
Wind Analysis Procedure Used:	
COMPONENT & CLADDING PRESSURES FOR DESIGN	
Wall Cladding, Typical Zone	
Wall Cladding, Edge Zone within 20 ft. of corners	
Roof Cladding, Middle Zone	
Roof Cladding, Edge Zone within 20 ft. of edge	
Roof Cladding, Corner Zone within 20 ft. of corners	

SEIMIC DESIGN:			
Site Classification per CBC 1613.3.2 & ASCE 7-16, CH. 20 Site Class =			
Seismic Design Category:	SDC =	D	
Seismic Importance Factor per ASCE 7-16 Table 1.5-2	I_e =	II	
Spectral Response Acceleration (Short Period)	S_s =	2.27000	
Spectral Response Acceleration (1-Second Period)	S₁ =	0.75000	
Spectral Design Response Coefficient (Short Period)	S_{DS} =	1.56000	
Spectral Design Response Coefficient (1-Second Period)	S_{D1} =	1.16000	

SEISMIC FORCE RESISTING SYSTEMS:			
Light-frame (wood) sheathed with wood structural panels rated for shear resistance (Wood Shearwalls)			
Response Modification Factor	R =	6.5	
System Overstrength Factor	Ω =	2.5	
Deflection Amplification Factor	C_d =	4	
Seismic Response Coefficient	C_s =		
Redundancy Factor	ρ =	1.3	
Special Reinforced Concrete Shearwalls			
Response Modification Factor	R =	5	
System Overstrength Factor	Ω =	2.5	
Deflection Amplification Factor	C_d =	5	
Seismic Response Coefficient	C_s =		
Redundancy Factor	ρ =	1.3	

DESIGN DEAD & LIVE LOADS			
OCCUPANCY OR USE	AREA	DL (PSF)	LL (PSF)
Roofs			
	Ordinary flat, pitched, and curved roofs	15	20
Residential			
	Uninhabitable attics without storage	15	10
	Uninhabitable attics with storage	15	20
	Private Rooms and Corridors serving them	20	40
Balcony and Decks		25	60
Stair and exitway ways			
	One- and two-family dwellings only	20	40
Misc.			
	Handrails and guardrails	30	50 plf / 200 lbs
WOOD-FRAMED WALLS	Exterior walls	19	
	Interior walls	14	

- (1) Top rail shall be designed to resist 50 PLF line load or 200 lb point load applied in any direction at any point. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 LB on an area not to exceed 1 ft square. These three loads are to be considered separately with worst case used for design.
- (2) Place 300lb concentrated load over 2'x2" area at any point to produce maximum stress. Area load and concentrated load are to be considered separately with worst case used for design.
- (3) Need not apply concurrently with other handrail and guardrail loads; applied over not more than 1 square foot
- (4) Apply concentrated wheel load over 4.5"x4.5" square area



SCOPE OF WORK	
PROJECT TEAM	
OWNER	
ARCHITECT	
CIVIL ENGINEER	MLB CONSULTING AND ENGINEERING 7918 FOOTHILL BLVD. SUNLAND, CA 91040 Phone: (818) 521-6342
GEO ENGINEER	Phone:
SURVEYOR	Phone:

STRUCTURAL NOTES

BY: , DATE: , REV: 1, 2, 3, 4, 5

DATE: 2025/07/11
JOB No.: MLB25-XXX

DESIGNED BY: HK
CHECKED BY: GB

816 N Bel Aire Dr
Burbank, CA 91501

S-0.10

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: CBC CHAPTER 18 "SOILS AND FOUNDATIONS."

GEOTECHNICAL REPORT: PREPARED BY: NONE

CONTRACTOR'S RESPONSIBILITIES: CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE GEOTECHNICAL REPORT AND SHALL FOLLOW THE RECOMMENDATIONS SPECIFIED THEREIN INCLUDING, BUT NOT LIMITED TO, SUBGRADE PREPARATIONS, PILE INSTALLATION PROCEDURES, GROUND WATER MANAGEMENT AND STEEP SLOPE BEST MANAGEMENT PRACTICES.

GEOTECHNICAL SUBGRADE INSPECTION: THE GEOTECHNICAL ENGINEER SHALL INSPECT ALL SUB-GRADES NO PREPARE SOIL BEARING SURFACES. PRIOR TO PLACEMENT OF FOUNDATION REINFORCING STEEL AND CONCRETE. GEOTECHNICAL ENGINEERS SHALL PROVIDE A LETTER TO THE OWNER STATING THAT SOULS ARE ADEQUATE TO SUPPORT THE "ALLOWABLE FOUNDATION BEARING PRESSURE(S)" SHOWN BELOW. ASSUMED VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL OR THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

ADVERSE SOILS: IF ADVERSE SOIL CONDITIONS ARE ENCOUNTERED, A SOILS INVESTIGATION REPORT MAY BE REQUIRED UNLESS ALREADY PROVIDED FOR THIS PROJECT.

DESIGN SOIL VALUES:

ALLOWABLE FOUNDATION BEARING PRESSURE*			
	D+L	Short Term	Allowable Bearing Surface
Continuous Footing	1,500	2,660	NATURAL GRADE
Isolated Pad Footing	1,500	2,660	

* The above bearing value(s) may be increased by **150 psf** for each additional foot of footing depth to a maximum of **4,000 psf** . The bearing capacity can be increased by one-third when considering short duration wind or seismic loads.

LATERAL EARTH PRESSURE*		
	Active EFP (pcf)	At-Rest EFP (pcf)
LEVEL BACKFILL	30	65
2:1 BACKFILL	43	65
1.5:1 BACKFILL	55	65

PASSIVE LATERAL PRESSURE (LBS. PER CUBIC FT.)

- WITHIN WEATHERED BEDROCK OR FILL..... 150 PCF
- MAX. ALLOW. FOR WEATHERED BEDROCK..... 4,000 PCF

COEFFICIENT OF SLIDING FRICTION..... NONE

FOOTINGS:

FOOTING REQUIREMENTS				
	Min. Width	Min. Depth ¹	Min. Embed. Into Approved Weathered Bedrock	Min. Embed. Into Approved Certified Fill
Cont. Ext. Ftg.	12"	24"	12"	24"
Int. Ext. Ftg.	12"	24"	12"	24"
Isolated Pad Footing	12"	24"	12"	24"

FOOTING DEPTH: TOPS OF FOOTINGS SHALL BE AS SHOWN ON PLANS WITH VERTICAL CHANGES AS INDICATED WITH STEPS IN FOOTINGS; LOCATIONS OF STEPS SHOWN AND APPROXIMATE AND SHALL BE COORDINATED WITH THE CIVIL GRADING PLANS. FOUNDATIONS SHALL BE EMBEDDED PER SCHEDULE ABOVE OR AS OTHERWISE INDICATED BY THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL.

CAST-IN PLACE CONCRETE

REFERENCE STANDARDS: CONFORM TO:

- (1) ACI 301-10 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"
- (2) CBC CHAPTER 19 "CONCRETE"
- (3) ACI 318-11/318R-11 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
- (4) ACI 117-10 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS

FIELD REFERENCE: THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES: CONFORM TO ACI 301 SECTION 4 "CONCRETE MIXTURES" AND CBC SECTION 1904.3

MATERIALS: CONFORM TO ACI 301 SECTION 4.2.1 "MATERIALS FOR REQUIREMTNS FOR CEMENTITIOUS MATERIALS, AGGREGATES, MIXING WATER AND ADMIXTURES.

SUBMITTALS: PROVIDE ALL SUBMITTALS REQUIRED BY ACI 301 SECTION 4.1.2. SUBMIT MIX DESIGNS FOR EACH MIX IN THE TABLE BELOW. SUBSTANTIATING STRENGTH RESULTS FROM PAST TEST SHALL NOT BE OLDER THAN 24 MONTHS PER ACI 318 SECTION 5.3.

TABLE OF MIX DESIGN REQUIREMENTS

MEMBER TYPE/ LOCATION	STRENGTH f _c (psi)	TEST AGE (DAYS)	MAX. AGGREGATE	EXPOSURE CLASS	MAX. W/C RATIO	AIR CONTENT	NOTES (1-8 TYP. UNO)
SLAB ON GRADE	2500	28	1"		0.45		
FOOTINGS	2500	28	1"		0.50		
ELEVATED SLABS AND BEAMS	4000	28			0.50		
CONCRETE COLUMNS	3000	28	3/4"		0.50		
GRADE BEAMS	3000	28	1"		0.50		
SITE RETAINING WALLS	3000	28	1"		0.50		
BASEMENT WALLS	4000	28	1"		0.50		
SHEAR WALLS	4000	28	3/4"		0.50		
SHOTCRETE WALLS	4000	28	3/4"		0.40		
PILES	4000	28			0.50		

TABLE OF MIX DESIGN REQUIREMENTS NOTES:

- 1. W/C RATIO : WATER-CEMENTATION MATERIAL RATIOS SHALL BE BE BASED ON THE TOTAL WEIGHT OF CEMENTATION MATERIALS. MAXIMUM RATIOS ARE CONTROLLED BY STRENGTH NOTED IN THE MIX DESIGN REQUIREMENTS AND DURABILITY REQUIREMENTS GIVEN IN ACI 318 SECTION 4.3.
- 2. CEMENTATION MATERIALS:
 - 2.a. CEMENTATION MATERIAL TYPES SHALL CONFORM TO ACI 318 TABLE 4.3.1, BASED ON THE EXPOSURE CLASSES INDICATED.
 - 2.b. THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 318 SECTIONS 4.4.2. MAXIMUM AMOUNT OF FLY ASH SHALL BE 25% OF TOTAL CEMENTATION CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY EOR.
 - 2.c. FOR CONCRETE USED IN ELEVATED FLOORS, MINIMUM CEMENTATION-MATERIALS CONTENT SHALL CONFORM TO ACI 301 TABLE 4.2.2.1. ACCEPTANCE OF LOWER CEMENT IS CONTINGENT ON PROVIDING SUPPORTING DATA TO THE SER FOR REVIEW AND ACCEPTANCE.
 - 2.d. CEMENTATION MATERIALS SHALL CONFORM TO THE RELEVANT ASTM STANDARDS LISTED IN ACI 318 SECTION 3.2.1
- 3. AIR CONTENT: CONFORM TO ACI 318 SECTION 4.4.1. MINIMUM STANDARDS FOR EXPOSURE CLASS ARE NOTED IN THE TABLE. IF FREEZING AND THAWING CLASS IS NOT NOTED, AIR CONTENT GIVEN IS THAT REQUIRED BY THE SER. TOLERANCE IS ±1-1/2%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
- 4. AGGREGATES SHALL CONFORM TO ASTM C33.
- 5. SLUMP: CONFORM TO ACI 301 SECTION 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
- 6. CHLORIDE CONTENT: CONFORM TO ACI 318 SECTION 4.3.1.
- 7. NON-CHLORIDE ACCELERATOR: NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE PLACED AT THE AMBIENT TEMPERATURES BELOW 50°F AT THE CONTRACTOR'S OPTION.
- 8. ACI 318, SECTION 4.2.1 EXPOSURE CLASSES SHALL BE ASSUMED TO BE F0, S0, P0, AND C0 UNLESS DIFFERENT EXPOSURE CLASSES ARE LISTED IN THE TABLE OF MIX DESIGN REQUIREMENTS THAT MODIFY THESE BASE REQUIREMENTS.
- 9. SHRINKAGE LIMIT: CONCRETE USED IN ELEVATED SLABS AND BEAMS SHALL HAVE A SHRINKAGE LIMIT OF 0.045% AT 28 DAYS MEASURED IN ACCORDANCE WITH ASTM C157. SUBMIT LABORATORY TEST RESULTS TO SER FOR APPROVAL PRIOR TO CONSTRUCTION.

FORMWORK & RESHORING: CONFORM TO ACI 301 SECTION 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SECTION 2.3.2 EXCEPT STRENGTH INDICATED IN SECTION 2.3.2.5 SHALL BE 0.75 f_c. RESHORING SHALL CONFORM TO SECTION 2.3.3. IN ADDITION, MILD REINFORCEMENT (NON POST-TENSIONED) SLABS SHALL BE CONTINUOUSLY RESHORED FOR A MINIMUM OF 14 DAYS FOLLOWING PLACEMENT OF CONCRETE OR 7 DAYS AFTER CONCRETE HAS REACHED 0.75 f_c. WHICHEVER IS LONGER. CONTRACTOR SHALL SUBMIT FORMWORK REMOVAL AND RESHORE INSTALLATION PROCEDURE AND DRAWINGS AS APPLICABLE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED FOR THE SER'S INFORMATION.

MEASURING, MIXING AND DELIVERY: CONFORM TO ACI 301 SECTION 4.3.

HANDLING, PLACING, CONSTRUCTING AND CURING: CONFORM TO ACI 301 SECTION 5. IN ADDITION, HOT WEATHER CONCRETING SHALL CONFORM TO ACI 305.1-06 AND COLD WEATHER CONCRETING SHALL CONFORM TO ACI 306.1-90.

CONCRETE CURING: PROVIDE CURING COMPOUNDS FOR CONCRETE AS FOLLOWS.

- 1. USE MEMBRANE CURING COMPOUNDS THAT ARE COMPATIBLE WITH AND WILL NOT AFFECT SURFACES TO BE COVERED WITH FINISH MATERIALS APPLIED DIRECTLY TO CONCRETE.
- 2. APPLY CURING COMPOUNDS AT A RATE EQUIVALENT TO THE RATE OF APPLICATION AT WHICH CURING COMPOUND WAS ORIGINALLY TESTED FOR IN CONFORMANCE TO THE REQUIREMENTS OF ASTM C 309-07 AND THE MANUFACTURER'S RECOMMENDATIONS.
- 3. SLUMP: CONFORM TO ACI 301 SECTION 4.2.2.2. SLUMP SHALL BE DETERMINED AT POINT OF PLACEMENT.
- 4. USE CURING COMPOUND COMPATIBLE WITH AND APPLIED UNDER DIRECTION OF SYSTEM MANUFACTURER OF PROTECTIVE SEALER.
- 5. APPLY TWO SEPARATE COATS WITH FIRST ALLOWED TO BECOME TACKY BEFORE APPLYING SECOND. DIRECTION OF SECOND APPLICATION SHALL BE AT RIGHT ANGLES TO THE DIRECTION OF FIRST.

CONCRETE REINFORCEMENT

REFERENCE STANDARDS: CONFORM TO:

- 1. ACI 301-10 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE", SECTON 3 "REINFORCEMENT AND REINFORCEMENT SUPPORTS."
 - 2. ACI SP-66-04 "ACI DETAILING MANUAL" INCLUDING ACI 315-99 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
 - 3. CRSI MSP-09, 28TH EDITION, "MANUAL OF STANDARD PRACTICE."
 - 4. ANSI/AWS D1.4 "STRUCTURAL WELDING CODE - REINFORCING STEEL."
 - 5. CBC CHAPTER 19-CONCRETE
 - 6. ACI 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
 - 7. ACI 117-10 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS."
- SUBMITTALS: CONFORM TO ACI 301 SECTION 3.1.1 "SUBMITTALS, DATA, AND DRAWINGS." SUBMIT PLACING DRAWINGS SHOWING FABRICATION DIMENSIONS AND LOCATIONS FOR PLACEMENT OF REINFORCEMENT AND REINFORCEMENT SUPPORTS.

MATERIALS:

REINFORCING BARS.....ASTM A615, GRADE 60, DEFORMED BARS.
WELDABLE REINFORCING BARS.....ASTM A706, GRADE 60, DEFORMED BARS.
SMOOTH WELDED WIRE FABRIC.....ASTM A185
DEFORMED WELDED WIRE FABRIC.....ASTM A497
BAR SUPPORTS.....CRSI MSP-09, CHAPTER 3 "BAR SUPPORTS."
TIE WIRE.....16 GAGE OR HEAVIER, BLACK ANNEALED.
STUD RAILS.....ASTM A1044
HEADED DEFORMED BARS.....ASTM A970

EARTHQUAKE REQUIREMENTS: LONGITUDINAL BARS IN SHEAR WALLS SHALL CONFORM TO ASTM A706, GRADE 60 OR SHALL CONFORM TO THE FOLLOWING:

- 1. WELDING: WELDING IS NOT PERMITTE EXCEPT AS SPECIFIED IN THE DRAWINGS. WELD IN ACCORDANCE WITH AWS D1.4
- 2. MILL TESTS: SUBMIT MILL CERTIFICATES INDICATING PHYSICAL AND CHEMICAL PROPERTIES.
- 3. YIELD STRENGTH: ACTUAL YIELD STRENGTH, BASED ON MILL TESTS, DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI. (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI.)

FABRICATION: CONFORM TO ACI 301, SECTION 3.2.2. "FABRICATION", AND ACI SP66 "ACI DETAILING MANUAL.

CONCRETE COVER: CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE IN THE DRAWINGS.

CONCRETE CAST AGAINST EARTH.....3"
CONCRETE EXPOSED TO EARTH OR WEATHER.....2"
TIES IN COLUMNS AND BEAMS.....1-1/2 "
BARS IN SLABS.....1"
BARS IN WALLS.....3/4"

SPICES: CONFIRM TO ACI 301, SECTION 3.3.2.7. "SPICES". REFER TO "TYPICAL LAP SPICE AND DEVELOPMENT LENGTH SCHEDULE" FOR TYPICAL REINFORCEMENTS SPICES. REFER TO "COLUMN VERTICAL REINFORCING SPICE SCHEDULE" FOR THOSE SPECIFIC ELEMENTS. SPICES INDICATED ON INDIVIDUAL SHEETS SHALL CONTROL OVER THE SCHEDULE. MECHANICAL CONNECTIONS MAY BE USED WHEN APPROVED BY THE SER. FOR REINFORCING WITHIN THE LATERAL SYSTEM (SHEAR WALLS) AND REINFORCING CONNECTING DIAPHRAGM SLAB TO THE LATERAL SYSTEM, MECHANICAL SPICE STRENGTH IS INCREASED TO DEVELOP 100 PERCENT OF THE SPECIFIED TENSILE STRENGTH OF THE SPICES BAR.

STUDRAILS: WHERE STUDRAILS ARE INDICATED ON THE DRAWINGS THE FOLLOWING SYSTEMS ARE ACCEPTABLE. STUDRAILS (ALSO REFERRED TO AS PUNCHING SHEAR RESISTOR RAILS) SHALL CONFORM TO ASTM A1044 AND BE FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH THE APPLICABLE ICC-ESR REPORT AND MANUFACTURER'S INSTRUCTIONS, USING CHAIR PROVIDED BY THE MANUFACTURER TO POSITION RAILS AT THE PROPER HEIGHT. SUBMIT CURRENT MANUFACTURER'S DATA AND ICC ESR REPORT OF ALTERNATE SYSTEMS TO SER FOR APPROVAL.

- 1. DECON "STUDRAILS" - ICC ESR-2494
- 2. SIMPSON STRONG-TIE "PUNCHING SHEAR RESISTOR RAILS (PSRR) - ICC ESR-2992]

FIELD BENDING: CONFORM TO ACI 301 SECTION 3.3.2.8 "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD FOR THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS. BARS SHALL NOT BE BENT PAST 45 DEGREES.

SHOTCRETE

REFERENCE STANDARDS: CONFORM TO:

- 1. CBC SECTION 1910 "SHOTCRETE",
- 2. ACI 506.2-95 "SPECIFICATION FOR SHOTCRETE"
- 3. ACI 506R-05 "GUIDE TO SHOTCRETE",
- 4. ACI 301-10 "SPECIFICATIONS FOR STRUCTURAL CONCRETE."

SUBMITTALS: SUBMIT SHOP DRAWINGS FOR REVIEW INCLUDING:

- 1. PROPOSED MIX DESIGN SHOWN BELOW. INCLUDE DATA REQUIRED BY ACI 506.2 SEC. 1.5 "SUBMITTALS"
- 2. PRECONSTRUCTION TEST PANEL RESULTS. AFTER SHOOTING, THE SPECIAL INSPECTOR SHALL SUBMIT CORE EVALUATION REPORTS TO INSURE THAT PROPER REBAR ENCASEMENT AND NUZZLING TECHNIQUES HAVE BEEN ACHIEVED.
- 3. CONSTRUCTION TEST SPECIMEN RESULTS. SPECIAL INSPECTOR SHALL SUBMIT CORE STRENGTH REPORTS.

MATERIALS: CONFORM ACI 506.2 SEC. 2 "MATERIALS" FOR CEMENTS, AGGREGATE, REINFORCEMENT , WATER, ADMIXTURES AND CURING MATERIALS

REINFORCEMENT: CONFORM TO CBC SEC. 1910.4 "REINFORCEMENT" AND CONCRETE REINFORCEMENT SECTION THIS SHEET.

SPICES: CONFORM TO CBC SEC. 1910.4.3, "SPICES", FOR NON-CONTANT LAP SPICES

PRECONSTRUCTION TESTS: PREPARE PRECONSTRUCTION TEST PANELS, AS DEFINED BY THE SER, FOR EACH PROPOSED MIX DESIGN AND NOZZELMAN IN ACCORDANCE WITH CBC SEC 1910.5 "PRECONSTRUCTION TESTS" AND ACI 506.3 SEC 2.6.2 "PRECONSTRUCTION TESTING". TEST PANELS WILL BE CORED ARE MOST CONGESTED REINFORCING AND EVALUATED BY THE TESTING LABORATORY. EACH NOZZELMAN MUST PASS THE EVALUATION BEFORE PROCEEDING WITH THE WORK.

CONSTRUCTION TESTS: CONFORM TO CBC SEC 1910.10 "STRENGTH TESTS" AND ACI 506.2 SEC 1.6.2 "CONSTRUCTION TESTING". TAKE CORE SPECIMENS FOR EACH 50 CU YDS PLACED BUT NOT LESS THAN ONCE EACH SHIFT. THE CORES MAY BE TAKEN FROM THE ACTUAL CONSTRUCTION WORK OR SAMPLE PANELS SHOT DURING THE COURSE OF WORK. LOCATION OF CORES TAKEN FROM ACTUAL CONSTRUCTION WORK MUST BE APPROVED BY THE SER PRIOR TO COMMENCING WORK. SAMPLE PANELS SHALL BE AT LEAST 12"x12"x7'-1/4". THREE CORES SHALL BE TAKEN FROM EACH SAMPLE PANEL AND THE CORES MAY EITHER FIELD CURED OR LABORATORY CURED. LABORATORY CURED SAMPLES HAVE AN AVERAGE STRENGTH EQUAL TO OR GREATER THAN F'C WITH NO INDIVIDUAL SAMPLE BREAKING AT LESS THAN 0.75 F'C. FIELD SURED SAMPLES SHOULD HAVE AN AVERAGE STRENGTH OF AT LEAST 85 F'C WITH NO INDIVIDUAL SAMPLES BREAKING AT LESS THAN 0.75 F'C.

CONSTRUCTION: CONFORMS TO CBC SEC 1910 AND ACI 506.2 SEC 3 "EXECUTION" FOR EXAMINATION, BATCHING AND MIXING, SURFACE PREPARATION, JOINTS, ALIGNMENT CONTROL, APPLICATION, FINISHING, HOT WEATHER, COLD WEATHER, PROTECTION, CURING, AND TOLERANCES. THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING WEATHER RELATED PRECAUTIONS.

REINFORCED UNIT MASONRY

REFERENCE STANDARDS: CONFORM TO:

- 1. CBC CHAPTER 21 "MASONRY."
- 2. ACI 530-11/ASCE 5-11/TMS 402-11 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES." HEREIN REFERENCED AS MSJC.
- 3. ACI 530.1-11/ASCE 6-11/TMS 602-11 "SPECIFICATION FOR MASONRY STRUCTURES." HEREIN REFERENCED AS MSJC.1
- 4. ACI SP-66 "ACI DETAILING MANUAL" INCLUDING ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
- 5. ANSI/AWS D1.4 "STRUCTURAL WELDING CODE: REINFORCING STEEL."

SUBMITTALS: CONFORM TO MSJC.1 SECTION 1.2. SUBMIT SHOP DRAWINGS FOR REVIEW INCLUDING:

- 1. MASONRY REINFORCEMENT, SIZE, LAYOUT, AND GRADE IN ACCORDANCE WITH PLANS.
- 2. MATERIAL CERTIFICATES FOR ALL STEEL REINFORCING, ANCHORS, TIES AND METAL ACCESSORIES CERTIFYING COMPLIANCE WITH REQUIRED STRENGTH, GRADE AND ASTM STANDARDS.
- 3. CERTIFICATION LETTERS FOR MASONRY BLOCK AND GROUT MIX DESIGNS CERTIFYING COMPLIANCE WITH REQUIRED STRENGTH AND RESPECTIVE ASTM STANDARDS \
- 4. MIX DESIGNS FOR EACH GROUT MIX INDICATING TYPE AND PROPORTIONS OF INGREDIENTS IN COMPLIANCE PROPORTION SPECIFICATION.
- 5. LOCATION OF EXPANSION AND CONTROL JOINTS.
- 6. PRODUCT INFORMATION, ICC ESR REPORTS AND MATERIAL CERTIFICATIONS CERTIFYING COMPLIANCE FOR ALL NON-PRE-APPROVED POST-INSTALLED ANCHORS.
- 7. HOT AND/OR COLD WEATHER CONDUCTION PROCEDURES.
- 8. HIGH GROUT LIFT PROCEDURES.

STRENGTH: THE ASSUMED COMPRESSIVE STRENGTH OF MASONRY ASSEMBLAGE, F_m IS 1500 PSI BASED ON CBC SECTION 2015.2.2.1.2 FOR CONCRETE MASONRY.

MATERIALS:

- 1. CONCRETE MASONRY UNITS: CONFORM TO ASTM C 90, TYPE-I (MOISTURE CONTROLLED), MEDIUM WEIGHT (APPROX. 115 PCF) UNITS. PROVIDE 1900 PSI COMPRESSIVE STRENGTH TO ACHIEVE MASONRY ASSEMBLY STRENGTH INDICATED ABOVE UNDER STRENGTH
- 2. MORTAR: CONFORM TO ASTM C270, TYPE S, AND CBC SECTION 2103.9 "MORTAR."
- 3. GROUT: CONFORM TO ASTM C476 AND CBC SECTION 2103.13 PROPORTION SPECIFICATION.
- 4. REINFORCING BARS: CONFORM TO ASTM A615, GRADE 60 DEFORMED BARS AND CBC SECTION 2103.14 UNLESS NOTED OTHERWISE. LAP SPICES SHALL BE AS NOTED ON PLANS. FABRICATION SHALL BE IN ACCORDANCE WITH MSJC.1 SECTION 2.7.
- 5. JOINT REINFORCEMENT: CONFORM TO ASTM A951 AND CBC SECTION 2103.14.
- 6. ANCHORS, TIES AND ACCESSORIES: CONFORM TO CBC SECTION 2103.14 AND MSJC.1 SECTION 2.4D.
- 7. WATER: SHALL BE CLEAN AND POTABLE
- 8. ADMIXTURES: ADMIXTURES SHALL NOT BE USED UNLESS APPROVED BY SER.
- 9. POST-INSTALLED ANCHORS IN MASONRY: REFERENCE THE POST-INNNSTALLED ANCHORS SECTION FOR APPLICABLE POST-INSTALLED ANCHORS IN MASONRY.
- 10. SECOND-HAND UNITS: SHALL NOT BE USED UNLESS APPROVED BY EOR

QUALITY ASSURANCE: CONFORM TO CBC SECTION 2105 "QUALITY ASSURANCE"

- 1. MASONRY UNITS: A LETTER OF CERTIFICATION FROM THE MANUFACTURER OF THE UNITS SHALL BE PROVIDED TO THE SER PRIOR TO THE DELIVERY OF THE UNITS TO THE JOBSITE TO ENSURE THE UNITS COMPLY WITH THE COMPRESSIVE STRENGTH SPECIFIED ABOVE AND ASTM C 90.
- 2. MORTAR: NO MORTAR TESTING IS REQUIRED.
- 3. GROUT: A LETTER OF CERTIFICATION FROM THE SUPPLIER OF THE GROUT SHALL BE PROVIDED TO THE EOR PRIOR TO DELIVERY OF THE GROUT TO THE JOBSITE TO ENSURE THAT THE GROUT COMPLIES WITH ASTM C 476.

DELIVERY, STORAGE AND HANDLING: DELIVERY, STORAGE AND HANDLING OF MATERIALS USED FOR MASONRY CONSTRUCTION SHALL BE PER MSJC.1, SECTION 1.7.

SPECIAL INSPECTION: SPECIAL INSPECTIONS SHALL BE PERFORMED PER THE "TESTS AND INSPECTIONS" SECTION OF THE STRUCTURAL GENERAL NOTES

ANCHORS, TIES AND CONNECTORS: MASONRY ANCHORS, TIES AND CONNECTORS SHALL BE A SPECIFIED ON STRUCTURAL DRAWINGS. CONSULT ARCHITECTURAL DRAWINGS FOR MASONRY ANCHOR TIES NOT INCLUDED ON THE STRUCTURAL DRAWINGS.

EMBEDDED ITEMS: EMBEDDED ITEMS AND ACCESSORIES SHALL BE IN ACCORDANCE WITH MSJC SECTION 1.15 AND INSTALLED IN ACCORDANCE WITH MSJC.1 SECTION 3.3D. POSITION AND SECURE IN PLACE EXPANSION JOINT MATERIAL, ANCHORS AND OTHER STRUCTURAL AND NON-STRUCTURAL EMBEDDED ITEMS BEFORE PLACING GROUT. CONTRACTOR SHALL REFER TO STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ETC. AND COORDINATE ALL EMBEDDED ITEMS.

POST-INSTALLED ANCHORS TO MASONRY: ANCHOR LOCATIONS, TYPE, DIAMETER AND EMBEDMENT SHALL BE AS INDICATED ON DRAWINGS. REFERENCE THE POST INSTALLED ANCHORS SECTION FOR APPLICABLE POST-INSTALLED ANCHOR ADHESIVES. ANCHORS SHALL BE INSTALLED AND INSPECTED IN STRICT ACCORDANCE WITH THE APPLICABLE ICC-EVALUATION SERVICE REPORT (ESR). SPECIAL INSPECTION SHALL BE PER THE TEST AND INSPECTIONS SECTION.

MASONRY REINFORCING STEEL: MASONRY REINFORCING SHALL BE AS NOTED ON PLANS AND SHALL BE SECURELY PLACED IN ACCORDANCE WITH CBC SECTIONS 2104.1.1, 2106, AND 2108 AND MSJC SECTION 1.16. UNLESS OTHERWISE NOTED ON THE PLANS, THE MINIMUM WALL REINFORCEMENT SHALL BE AS FOLLOWS:

BOND BEAMS WITH HORIZONTAL BAR OR BARS SHALL BE PROVIDED AT 48 INCHES ON CENTER MINIMUM AND AT ALL FLOOR AND ROOF LINES AND AT THE TOP OF THE WALL. PROVIDE A BOND BEAM WITH HORIZONTAL BAR OR BARS OVER ALL OPENINGS, AND EXTEND THESE BARS 2'-0" PAST THE OPENING AT EACH SIDE. PROVIDE A BAR OR BARS VERTICALLY FOR THE FULL HEIGHT OF THE WALL AT EACH SIDE OF OPENINGS, WALL ENDS AND INTERSECTIONS. DOWELS TO MASONRY WALLS SHALL BE EMBEDDED A MINIMUM OF 1'-6" OR HOOKED INTO SUPPORTING STRUCTURE AND BE OF THE SAME SIZE AND SPACING AS WALL REINFORCING. REINFORCING STEEL SHALL BE AS SPECIFIED UNDER "MATERIALS" SECTION. PROVIDE CORNER BARS TO MATCH THE HORIZONTAL WALL REINFORCING AT ALL WALL INTERSECTIONS. ALL BARS SHALL BE LAPPED A MINIMUM 48 DIAMETERS OR 1'-6" MINIMUM UNLESS NOTED ON THE PLANS.

LINTELS: REINFORCED MASONRY LINTELS TO BE INSTALLED OVER ALL OPENINGS UNLESS OTHERWISE INDICATED ON DRAWINGS. DO NOT SPLICE REINFORCING BARS WITHIN LINTELS AND MAINTAIN 8 INCH BEARING MINIMUM ON EACH SIDE. UNLESS OTHERWISE NOTED ON THE PLANS, THE MINIMUM REINFORCEMENT FOR LINTELS IN 8" MASONRY SHALL BE AS FOLLOWS:

- 1. OPENINGS UP TO 42 INCHES WIDE: (2) #4 AT THE BOTTOM WEB OF 8 INCH DEEP LINTEL
- 2. OPENINGS 42 TO 78 INCHES WIDE: (2) #4 AT BOTTOM WEB OF 16 INCH DEEP LINTEL
- 3. OPENINGS OVER 78 INCHES WIDE: REINFORCE PER DRAWINGS

CONSTRUCTION: MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH CBC SECTION 2104 "CONSTRUCTION", AND MSJC.1 PART 3 "EXECUTION."

COLD AND HOT WEATHER CONSTRUCTION: COLD AND HOT WEATHER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 2104.3 AND 2104.4.

BLOCK PATTERN: USE RUNNING BOND UNLESS NOTED. FOR STACK BOND, FOLLOW CRITERIA IN MSJC SECTION 1.11.

GROUTED CELLS: FILL ALL CELLS WITH GROUT UNLESS NOTED OTHERWISE N PLANS. MINIMUM GROUTING SPACES AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH MSJC SECTION 1.16 AND MSJC SECTION 3.5.

GROUT POUR HEIGHT: GROUT POUR HEIGHT SHALL NOT EXCEED HEIGHT SPECIFIED IN MSJC.1 SECTION 3.5C.

- MASONRY BOCKS SHALL BE ADEQUATELY BRACED TO WITHSTAND FLUID PRESSURES OR GROUT POUR, SEE TEMPORARY BRACING.

GROUT LIFTS: UNLESS OTHERWISE NOTES, GROUT LIFTS AND POUR HEIGHT SHALL NOT EXCEED 5FT 4IN. GROUT LIFTS SHALL NOT EXCEED SPACING OF INTERMEDIATE REINFORCED BOND BEAMS. GROUT LIFTS EXCEEDING 5FT 4IN SHALL BE APPROVED BY SER.

REINFORCING COVER AND CLEARANCE REQUIREMENTS: UNLESS OTHERWISE NOTED:

CLEAR DISTANCE BETWEEN PARALLEL BARS (AND BETWEEN ADJACENT PAIRS OF LAP SPICED BARS) SHALL BE EQUAL TO THE BAR ADJACENT BAR DIAMETER (FOR BARS GREATER THAN #8), AND NOT LESS THAN:

- 1. 1" AT 8" AND SMALLER BLOCK,
- 2. 2" AT 10" BLOCK
- 3. 3" AT 12" BLOCK

CLEARANCE (CLEAR SPACE) BETWEEN THE BLOCK AND REINFORCING SHALL BE:

- 1. 1/2" AT FINE GROUT
- 2. 1/2" AT COURSE GROUT

MASONRY COVER (INCLUDING GROUT AND BLOCK WALL) AT MASONRY FACE EXPOSED TO EARTH OR WEATHER SHALL BE:

- 1. 1 1/2" MINIMUM
- 2. 2" FOR BARS #6 AND LARGER

CONTROL AND EXPANSION JOINTS: REFERENCE DRAWINGS FOR TYPICAL DETAILS OF MASONRY CONTROL AND EXPANSION JOINTS. LOCATION OF CONTROL AND EXPANSIONS JOINTS SHALL BE APPROVED BY SER. UNLESS OTHERWISE INDICATED ON DRAWINGS, INSTALL CONTROL AND EXPANSION JOINTS AT THE FOLLOWING:

- 1. CONTINUOUS WALLS: VERTICAL JOINTS AT THE LESSER OF 1.5 TIMES THE WALL HEIGHT OR 25 FEET ON CENTER MAXIMUM.
- 2. CORNERS AND INTERSECTING WALLS: FIRST VERTICAL JOINT FROM THE CORNER AT LESSER OF 1.2 TIMES THE WALL HEIGHT OR 16 FEET.
- 3. ABRUPT CHANGES IN WALL HEIGHT AND WALL THICKNESS, SUCH AS ADJACENT TO COLUMNS OR PILASTERS.

TEMPORARY BRACING: CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING OF MASONRY DURING CONSTRUCTION. REFERENCE "CONTRACTOR RESPONSIBILITIES" SECTION FOR FURTHER INFORMATION AND REQUIREMENTS.

POST-INSTALLED ANCHORS (INTO CONCRETE AND MASONRY)

REFERENCE STANDARDS: CONFORM TO:

- 1. CBC CHAPTER 19 "CONCRETE"
- 2. ACI 318-11 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
- 3. CBC CHAPTER 21 "MASONRY"
- 4. ACI 530-11/ASCE 5-11/TMS402-11 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"

POST-INSTALLED ANCHORS: INSTALL ONLY WHERE SPECIFICALLY SHOWN IN DETAILS AND PLANS OR ALLOWED BY EOR. ALL POST-INSTALLED ANCHORS TYPES AND LOCATIONS SHALL BE APPROVED BY THE EOR AND SHALL HAVE A CURRENT ICC-EVALUATIONS SERVICE REPORT THAT PROVIDES RELEVANT DESIGNS VALUES NECESSARY TO VALIDATE THE AVAILABLE STRENGTH EXCEEDS THE REQUIRED STRENGTH. ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE TO ICC-ESR AND MANUFACTURER'S INSTRUCTIONS. NO REINFORCING BARS SHALL BE DAMAGED DURING INSTALLATION OF POST-INSTALLED ANCHORS. SPECIAL INSPECTION SHALL BE PER THE TESTS AND INSPECTIONS SECTION. ANCHOR TYPE, DIAMETER AND EMBEDMENT SHALL BE AS INDICATED ON DRAWINGS.

- 1. ADHESIVE ANCHORS: THE FOLLOWING ADHESIVE-TYPE ANCHORING SYSTEMS HAVE BEEN USED IN THE DESIGN AND SHALL BE USED FOR ANCHORAGE TO CONCRETE AND MASONRY, AS APPLICABLE AND IN ACCORDANCE WITH CORRESPONDING CURRENT ICC ESR REPORT. DRILLED-IN ANCHOR EMBEDMENT LENGTHS SHALL BE AS SHOWN ON DRAWINGS, OR NOT LESS THAN 7 TIMES THE ANCHOR NOMINAL DIAMETER (7D).
 - a. HILTI "HIT-HY 200" - ICC ESR- 3187 FOR ANCHORAGE TO CONCRETE WITH MIN EMBEDMENT DEPTH OF 20 BAR DIAMETERS
 - b. HILTI "HIT-HY 500 SD" - ICC ESR-2322 FOR CONCRETE ONLY
 - c. SIMPSON "SET-XP" - ICC ESR 2508 FOR ANCHORAGE TO CONCRETE IAPMO 265 FOR ANCHORAGE TO MASONRY
 - d. POWERS "PE1000" -ICC ESR 2583 FOR ANCHORAGE TO CONCRETE
 - e. HILTI "HY-150 MAX" -ICC ESR-1967- FOR ANCHORAGE TO MASONRY ONLY
- 2. EXPANSION ANCHORS: THE FOLLOWING EXPANSION TYPE ANCHORS ARE PRE-APPROVED FOR ANCHORAGE TO CONCRETE OR MASONRY IN ACCORDANCE WITH CORRESPONDING CURRENT ICC ESR REPORT:
 - a. HILTI "KWIK BOLT TZ" - ICC ESR-1917 FOR CONCRETE ONLY
 - b. SIMPSON "STORNS-BOLT Z" - ICC ESR-3037 FOR CONCRETE ONLY
 - c. POWERS "POWER-STUD-SD1" - ICC ESR-28181 FOR CONCRETE ONLY AND ICC ESR-2966 FOR MASONRY ONLY
 - d. HILTI "KWIK BOLT 3" -ICC ESR-1385 FOR ANCHORAGE TO MASONRY ONLY
 - e. SIMPSON "WEDGE-ALL" -ICC ESR-1396 FOR ANCHORAGE TO MASONRY ONLY
- 3. SCREW ANCHORS: THE FOLLOWING SCREW TYPE ANCHOR IS PRE-APPROVED FOR ANCHORAGE TO CONCRETE OR MASONRY IN ACCORDANCE WITH COR

STRUCTURAL STEEL

REFERENCE STANDARDS: CONFORM TO:

- 1. CBC CHAPTER 22- "STEEL"
- 2. NAS/AISC 303-10- "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES"
- 3. ANSI/AISC 325-10- "STEEL CONSTRUCTION MANUAL"
- 4. ANSI/AISC 360-10- "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
- 5. AWS D1.1:2010- "STRUCTURAL WELDING CODE-STEEL"
- 6. 2009 RCSC- "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS"
- 7. ANSI/AISC 341-10- "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS"
- 8. AWS D1.8:2009- "STRUCTURAL WELDING CODE- SEISMIC SUPPLEMENT"

SPECIAL PROVISIONS FOR ELEMENTS OF THE SEISMIC FORCE RESISTING SYSTEM (SFRS): SELECTED STEEL ELEMENTS OF THIS PROJECT ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM (SFRS) AND, THUS ARE SUBJECT TO SPECIAL REQUIREMENTS DETAILED IN THE AISC "SEISMIC PROVISIONS". ELEMENTS OF THE SFRS DESIGNATED ON PLANS. REFER TO DRAWING LEGEND FOR SYMBOLS USED TO DESIGNATE ELEMENTS ON THE PLANS AND STRUCTURAL STEEL SEISMIC PROVISIONS SECTION OF GENERAL NOTES FOR SUPPLEMENTAL REQUIREMENTS.

SUBMITTALS: SUBMIT THE FOLLOWING DOCUMENTS TO THE SER FOR REVIEW:

- 1. SHOP DRAWINGS COMPLYING WITH AISC 360 SECTIONS M1 AND N3 AND AISC 303 SECTION 4.
- 2. ERECTION DRAWINGS COMPLYING AISC 360 SECTION M1 AND N3 AND AISC 303 SECTION 4
- 3. WELD PROCEDURE SPECIFICATION (WPS'S) FOR SHOP AND FIELD WELDING.
- 4. MANUFACTURER'S CERTIFICATES OF CONFORMANCE FOR ELECTRODES, FLUXES AND GASES (WELDING CONSUMABLES).

MAKE COPIES OF THE FOLLOWING DOCUMENTS "AVAILABLE UPON REQUEST" TO THE SER OR OWNER'S INSPECTION AGENCY IN ELECTRONIC OR PRINTED FORM PRIOR TO FABRICATION PER AISC 360 SECTION N3.2 REQUIREMENTS:

- 1. FABRICATOR'S WRITTEN QUALITY CONTROL MANUAL THAT INCLUDES, AS A MINIMUM:
 - 1.a. MATERIAL CONTROL PROCEDURES
 - 1.b. INSPECTION PROCEDURES
 - 1.c. NON-CONFORMANCE PROCEDURES
- 2. STEEL & ANCHOR ROD SUPPLIERS' MATERIAL TEST REPORTS (MTR'S) INDICATING THE COMPLIANCE WITH SPECIFICATIONS.
- 3. FASTENER MANUFACTURER'S CERTIFICATION DOCUMENTING CONFORMANCE WITH THE SPECIFICATION.
- 4. FILLER METAL MANUFACTURER'S PRODUCT DATA FOR SMAW, FCAW AND GMAW INDICATING:
 - 4.a. PRODUCT SPECIFICATION COMPLIANCE
 - 4.b. RECOMMENDED WELDING PARAMETERS
 - 4.c. RECOMMENDED STORAGE AND EXPOSURE REQUIREMENTS INCLUDING BAKING
 - 4.d. LIMITATIONS OF USE
- 5. WELDED HEADED (SHEAR) STUD ANCHORS MANUFACTURER'S CERTIFICATIONS INDICATING AND MEET SPECIFICATIONS.
- 6. PROCEDURE QUALIFICATION RECORDS (POQ'S) FOR WPS'S THAT ARE NOT PREQUALIFIED IN ACCORDANCE WITH AWS.
- 7. WELDING PERSONNEL PERFORMANCE QUALIFICATION RECORDS (WPOP) AND CONTINUITY RECORDS CONFORMING TO AWS STANDARDS.

MATERIALS: STRUCTURAL STEEL MATERIALS SHALL CONFORM TO MATERIALS AND REQUIREMENTS LISTED IN AISC 360 SECTION A3 INCLUDING, BUT NOT LIMITED TO:

STRUCTURAL JOINTS USING HIGH-STRENGTH BOLT:

- 1. ASTM A325-N BOLTS- "THREADS NOT EXCLUDED IN THE SHEAR PLANE."
- 2. HIGH-STRENGTH BOLTED JOINTS HAVE BEEN DESIGNED AS "BEARING" CONNECTIONS.
- 3. PROVIDE ASTM BOLT GRADE AND TYPE AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
- 4. PROVIDE WASHERS OVER OUTER PLY OF SLOTTED HOLES AND OVERSIZE HOLES PER RCSC TABLE 6.1.
- 5. PROVIDE NUT AND WASHERS GRADES, TYPES AND FINISHES CONFORMING TO RCSC SPECIFICATION TABLE 2.1.
- 6. PROVIDE FASTENER ASSEMBLIES FROM A SINGLE SUPPLIER.
- 7. JOINT TYPES SHALL BE:
- 8. ST - "SNUG TIGHT FOR TYPICAL BEAM END "SHEAR" CONNECTIONS, UNLESS NOTED OTHERWISE.
- 9. SC - "SLIP CRITICAL", WHERE SPECIFICALLY INDICATED. PROVIDE WITH CLASS A FAYING SURFACE.
- 10. INSTALL BOLTS IN JOINTS IN ACCORDANCE WITH THE RCSC SPECIFICATION SECTION 8 AND TABLE 4.1
- 11. INSPECTION IS PER RCSC SECTION 9.

ANCHORAGE TO CONCRETE:

- 1. EMBEDDED STEEL PLATES FOR ANCHORAGE TO CONCRETE: PLATES (PL) EMBEDDED IN CONCRETE WITH STUDS (WHS) OR DOWEL BAR ANCHORS (DBA) SHALL BE OF THE SIZES AND LENGTHS AS INDICATED ON THE PLANS WITH MINIMUM 1/2" DIA. WHS X 6" LONG BUT PROVIDE NOT LESS THAN 1/2" INTERIOR COVER OR 1 1/2" EXTERIOR COVER TO THE OPPOSITE FACE OF CONCRETE, UNLESS NOTED OTHERWISE.
- 2. COLUMN ANCHOR RODS AND BASE PLATES: ALL COLUMNS (VERTICAL MEMBER ASSEMBLIES WEIGHING OVER 300 POUNDS) SHALL BE PROVIDED WITH A MINIMUM OF FOUR 1/2" DIAMETER ANCHOR RODS. COLUMN BASE PLATES SHALL BE AT LEAST 1/2" THICK, UNLESS NOTED OTHERWISE. CAST-IN-PLACE ANCHOR RODS SHALL BE PROVIDED UNLESS OTHERWISE APPROVED BY THE ENGINEER. UNLESS NOTED OTHERWISE, EMBEDMENT OF CAST-IN-PLACE ANCHOR RODS SHALL BE 12 TIMES THE ANCHOR DIAMETER (12D)

FABRICATION:

- 1. CONFORM TO AISC 360 SECTION M2 "FABRICATION" AND AISC 303 SECTION 6 "SHOP FABRICATION"
- 2. QUALITY CONTROL (QC) SHALL CONFORM TO:
 - a. AISC 360 CHAPTER N "QUALITY CONTROL AND QUALITY ASSURANCE" AND
 - b. AISC 303 SECTION 8 "QUALITY CONTROL".
 - c. FABRICATOR AND ERECTOR SHALL ESTABLISH AND MAINTAIN WRITTEN QUALITY CONTROL (QC) PROCEDURES PER AISC 360 SECTION N3.
 - d. FABRICATOR SHALL PREFORM SELF-INSPECTIONS PER AISC 360 SECTION N5 TO ENSURE THAT THEIR WORK IS PERFORMED IN ACCORDANCE WITH CODE OF STANDARD PRACTICE, THE AISC SPECIFICATION, CONTRACT DOCUMENTS AND THE APPLICABLE BUILDING CODE.
 - e. QC INSPECTIONS MAY BE COORDINATED WITH QUALITY ASSURANCE INSPECTIONS PER SECTION N5.3 WHERE FABRICATORS QA PROCEDURES PROVIDE THE NECESSARY BASIS FOR MATERIAL CONTROL, INSPECTION, AND CONTROL OF THE WORKMANSHIP EXPECTED BY THE SPECIAL INSPECTOR

WELDING:

- 1. WELDING SHALL CONFORM TO AWS D1.1 AND D1.8 AS APPLICABLE FOR SEISMIC ELEMENTS WITH PREQUALIFIED WELDING PROCESSES EXCEPT MODIFIED BY AISC 360 SECTION J2 AND AISC 341 AS APPLICABLE. WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.1 (AND D1.8 FOR DEMAND CRITICAL WELDS WHERE APPLICABLE) REQUIREMENTS
- 2. USE 70KSI STRENGTH, LOW-HYDROGEN TYPE ELECTRODES (E7018) OR E71T AS APPROPRIATE FOR THE PROCESS SELECTED.
- 3. WELDING OF HIGH STRENGTH ANCHOR RODS IS PROHIBITED UNLESS APPROVED BY ENGINEER
- 4. WELDING OF HEADED STUD ANCHORS SHALL BE IN ACCORDANCE WITH AWS D1.1 CHAPTER 7 "STUD WELDING"

ERECTION:

- 1. CONFORM TO AISC 360 SECTION M4 "ERECTION" AND AISC 303 SECTION 7 "ERECTION"
- 2. CONFORM TO AISC 360 CHAPTER N "QUALITY CONTROL AND QUALITY ASSURANCE" AND AISC 303 SECTION 8
- 3. THE ERECTOR SHALL MAINTAIN DETAILED ERECTION QUALITY CONTROL PROCEDURES THAT ENSURE THAT THE WORK IS PERFORMED ON ACCORDANCE WITH THESE REQUIREMENTS AND THE CONTRACT DOCUMENTS
- 4. STEEL WORK SHALL BE CARRIED UP TRUE AND PLUMB WITHIN THE LIMITS DEFINES IN AISC 303 SECTION 7.13.
- 5. HIGH STRENGTH BOLTING SHALL COMPLY WITH THE RCSC REQUIREMENTS INCLUDING RCSC SECTION 7.2 "REQUIRED TESTING", AS APPLICABLE AND AISC 360 CHAPTER J, SECTION M2.5 AND SECTION N5.6.
- 6. WELDING OF HEADED STUD ANCHORS SHALL BE IN ACCORDANCE WITH AWS D1.1 CHAPTER 7 "STUD WELDING.
- 7. PROVIDE HEADED (SHEAR) STUD ANCHORS WELDED THROUGH METAL DECK TO TOPS OF BEAMS DENOTED IN PLANS

- 8. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SAFETY PROTECTION REQUIRED AISC 360 SECTION M4.2 AND AISC 303 SECTION 7.10 AND 7.11.

PROTECTIVE COATING REQUIREMENTS

- 1. SHOP PAINTING: CONFORM TO AISC 360 SECTION M3 AND AISC 303 SECTION 6.5 UNLESS OTHERWISE SPECIFIED BY THE PROJECT SPECIFICATIONS
- 2. INTERIOR STEEL:
 - a. UNLESS NOTED OTHERWISE, **DO NOT PAINT** ANY STEEL SURFACES MEETING THE FOLLOWING CONDITIONS:
 - CONCEALED BY INTERIOR BUILDING FINISHES,
 - FIREPROOFED,
 - EMBEDDED IN CONCRETE,
 - SPECIALLY PREPARED AS A "FAYING SURFACE" FOR TYPE-SC "SLIP-CRITICAL" CONNECTIONS INCLUDING BOLTED CONNECTIONS THAT FORM A PART OF THE SEISMIC FORCE RESISTING SYSTEM GOVERNED BY AISC 341 UNLESS THE COATING CONFORMS TO REQUIREMENTS OF THE RCSC BOLT SPECIFICATION AND IS APPROVED BY THE ENGINEER.
 - WELDED; IF AREA REQUIRES PAINTING, DO NOT PAINT UNTIL AFTER WELD INSPECTIONS AND NON-DESTRUCTIVE TESTING REQUIREMENT, IS ANY, AE SATISFIED
 - b. INTERIOR STEEL, EXPOSED TO VIEW, SHALL BE PAINTED WITH ONE COAT OF THE SHOP PRIMER UNLESS OTHERWISE INDICATED IN THE PROJECT SPECIFICATIONS. FIELD TOUCH-UPS TO MATCH THE FINISH COAT OF AS OTHERWISE INDICATED IN THE PROJECT SPECIFICATIONS.

- 1. EXTERIOR STEEL: EXPOSED EXTERIOR STEEL SHALL BE PROTECTED BY EITHER:

- a. PAINT WITH AN EXTERIOR MULTI-COAT SYSTEM AS PER THE PROJECT SPECIFICATIONS. FIELD TOUCH-UP PAINTING SHALL BE AS PER THE PROJECT SPECIFICATIONS.
- b. GALVANIZING: UNLESS PROTECTED WITH A PAINT SYSTEM, EXPOSED STEEL (OUTSIDE THE BUILDING ENVELOPE) SHALL BE HOT DIPPED GALVANIZED, WHERE NOTED ON PLANS OTHERWISE INDICATED BY THE FINISHES SPECIFIED BY THE ARCHITECT. APPLY FIELD TOUCH-UPS PER PROJECT SPECIFICATIONS.

ARCHITECTURALLY EXPOSED STRUCTUAL STEEL: STEEL IDENTIFIED BY ARCHITECT ON THE ARCHITECTURAL DRAWINGS AS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL CONFORM AISC 303 SECTION 10

STRUCTURAL STEEL-SEISMIC PROVISIONS

REFERENCE STANDARDS: CONFORM TO THE STANDARDS IN THE STRUCTURAL STEEL SECTION AND THE FOLLOWING:

- 1. ANSI/AISC 341-10 - "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS"
- 2. AWS D1.8:2009 - "STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT"

SCOPE: IN ADDITION TO THE STANDARDS SPECIFIED IN THE STRUCTURAL STEEL SECTION OF THESE GENERAL REQUIREMENTS, STRUCTURAL STEEL THAT TRANSFERS SEISMIC LOADS TO THE DESIGNATED SEISMIC FORCE RESISTING SYSTEM (SFRS) DEFINED IN THE DESIGN CRITERIA AND LOADS SECTION OF THESE GENERAL REQUIREMENTS, SHALL COMPLY WITH APPLICABLE SEISMIC PROVISIONS BELOW.

SEISMIC FORCE RESISTING SYSTEM (SFRS): THE SFRS IS AN ASSEMBLAGE OF BEAMS, COLUMNS, BRACES AND WALLS THAT HAVE BEEN SPECIALLY PROPORTIONED INTO VERTICAL FRAME AND SHEAR WALL SYSTEMS TO RESIST LATERAL SEISMIC FORCED. BEYOND THE FRAMES AND WALLS ARE TYPICALLY OTHER HORIZONTAL MEMBERS CONNECTING TO THE VERTICAL SHEAR-RESISTING FRAMES AND WALLS THAT "DRAGS", AND "DIAPHRAGMS" (SUCH AS THE FLOOR SLAB AND ROOF DECK), WHICH ALSO FORM PART OF THE SFRS AND ARE SUBJECT TO THE "SEISMIC PROVISIONS" OF AISC 341.

DESIGNATION OF PRIMARY SFRS FRAMING SYSTEM FOR THIS PROJECT IS PROVIDED IN THE DESIGN CRITERIA AND LOADS SECTION OF THESE GENERAL REQUIREMENTS. STABILITY OF THE STRUCTURE UNDER SEISMIC LOADS IS RELIANT UPON STRUCTURAL STEEL COLLECTORS, DRAG AND DIAPHRAGM CHORDS WHICH ARE GOVERNED BY THE SEISMIC PROVISIONS.

LOWEST ANTICIPATED SERVICE TEMPERATURE (LAST): THE PRIMARY SFRS FRAMING FOR THIS PROJECT IS TO BE ENCLOSED AND EXPECTED TO B MAINTAINED WITH THE LAST OF 50 DEGREES FAHRENHEIT.

STRUCTURAL MEMBERS AND THEIR CONNECTIONS CONSIDERED IN THE DESIGN OF THE SFRS ARE SUBJECT TO THE SPECIAL SEISMIC PROVISIONS OF THIS SECTION. SUBJECT ELEMENTS REQUIRE SPECIAL ATTENTION TO DETAILING, MATERIAL CONTROL, DOCUMENTATION, FABRICATION, INSPECTION, AND PROTECTIONS FROM ALL TRADES. SPECIAL REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO:

- 1. IDENTIFICATION OF SFRS MEMBERS AND THEIR CONNECTIONS ON SHOP AND ERECTION DRAWINGS; INCLUDE SPECIAL DETAILING, WELDING AND INSPECTION REQUIREMENTS AND LIMITATIONS ON WHERE OTHER TRADES ARE RESTRICTED FROM ANY ATTACHMENTS. REFER TO AISC 341 SECTION D1.3 PROTECTED ZONES.
- 2. CONNECTION CONFIGURATIONS DETAILED TO SCALE, INCLUDING THE LAYOUT OF BOLTS, PLATES, WELDS AND ANY SPECIAL ERECTION PROCEDURES AND WELDING SEQUENCE REQUIREMENTS.
- 3. DEMAND CRITICAL WELDS (DCW) SHALL BE NOTED ON SHOP AND ERECTION DRAWINGS.
- 4. MEMBERS AND PLATES SUBJECT TO CHARPY V-NOTCH (CVN) TOUGHNESS TESTINGS.
- 5. INDICATE STEEL ELEMENTS WHERE LOWEST ANTICIPATED SERVICE TEMPERATURE, (LAST) IS BELOW 50 DEGREES F.

QUALITY CONTROL AND QUALITY ASSURANCE PLAN: QUALITY CONTROL (QC) (BY CONTRACTOR) AND QUALITY ASSURANCE (QA) (BY AN APPROVED SPECIAL INSPECTION AGENCY) FOR MEMBERS OF THE SFRS SHALL BE PROVIDED IN ACCORDANCE WITH AISC 341, CHAPTER J AND COORDINATED PER SECTION J6.4.

- 1. FABRICATOR AND ERECTOR SHALL HAVE QUALITY CONTROL PROGRAM PER AISC 360 SECTION N2
- 2. FABRICATOR AND ERECTOR SHALL PROVIDE ACCESS TO THE QUALITY ASSURANCE/SPECIAL INSPECTION AGENCY, PRIOR TO THE START OF WORK, FOR PURPOSES OF REVIEW OF THE QUALITY CONTROL PROGRAM REQUIRED PER AISC 360 SECTION N2 PER CBC 1704.2.5.1
- 3. SPECIAL INSPECTIONS REQUIRED PER CBC SECTIONS 1705.2.1 AND 1705.11.1 AND THE STATEMENT OF SPECIAL INSPECTIONS SECTION OF THESE GENERAL REQUIREMENTS.

SUBMITTALS:

- 1. SUBMIT FABRICATOR AND ERECTOR DOCUMENTS PER AISC 360 SECTION N3 AND AISC 341 SECTION J2.1.
- 2. SHOP DRAWINGS OF THE SFRS SHALL BE PREPARED IN ACCORDANCE WITH AISC 303 SECTION 4, AISC 341
- 3. SECTIONS A4.1, A4.2, AND I1 AND SHALL INCLUDE THE FOLLOWING:
 - 3.1 DESIGNATION OF THE SFRS
 - 3.2 MEMBER AND CONNECTIONS OF THE SFRS CLEARLY IDENTIFIED
 - 3.3 PRE-TENSIONED BOLTS AND FAYING SURFACE PREPARATION LOCATIONS IN SFRS
 - 3.4 WELD ACCESS HOLD DIMENSIONS, SURFACE PROFILE AND FINISH REQUIREMENTS
 - 3.5 NDT WHERE PERFORMED BY THE FABRICATOR
- 4. WELD PROCEDURES SPECIFICATIONS (WPS'S)
- 5. BOLT INSTALLED PROCEDURES
- 6. CHARPY V-NOTCH CONFORMANCE CERTIFICATION FOR WELDING ELECTRODES, FLUXES AND SHIELDING
- 7. GASES
- 8. MATERIAL DATA FOR DEMAND CRITICAL WELDS PER AISC 341 J2.1(3).
- 9. CHARPY V-NOTCH CONFORMANCE CERTIFICATION/VERIFICATION TEST RESULTS FOR "HEAVY SHAPES" OR JUMBO SECTIONS, IF APPLICABLE.
- 11. SPECIFIC ASSEMBLY ORDER, WELDING SEQUENCE, WELDING TECHNIQUE, OR OTHER SPECIAL PRECAUTIONS
- 12. FOR JOINTS OR GROUPS OF JOINTS WHERE SUCH ITEMS ARE DESIGNATED TO BE SUBMITTED TO THE SER.

SFRS MATERIALS: STRUCTURAL STEEL PART OF THE SFRS SHALL MEET THE REQUIREMENTS OF AISC 341, SECTION A3.1. REFERENCE THE MATERIALS SECTION OF THE STRUCTURAL STEEL FOR SPECIFIC ASTM SPECIFICATIONS.

HEAVY SECTIONS - SPECIAL REQUIREMENTS: IN ADDITION TO AISC 360 A3.1C REQUIREMENTS: HOT-ROLLED SHAPES WITH FLANGES 1 1/2 INCH THICK AND THICKER SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT 70 DEGREES F TESTED IN THE ALTERNATE CORE LOCATION AS DESCRIBED IN ASTM A6 SUPPLEMENTARY REQUIREMENT S30

PLATES, 2 INCHES THICK AND THICKER SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT 70 DEGREES F MEASURED AT ANY LOCATION PERMITTED BY ASTM A673, FREQUENCY P, WHERE THE PLATE IS USED FOR:

- A. CONNECTION PLATES WHERE INELASTIC STRAIN UNDER SEISMIC LOADING IS EXPECTED
- B. BUILT-UP MEMBERS

SFRS BOLTED JOINT REQUIREMENTS: ALL BOLTS SHALL BE INSTALLED AS PRE-TENSIONED HIGH-STRENGTH BOLTS OF SIZE AND ORIENTATIONS AS SHOWN ON THE DRAWINGS. BOLT HOLES SHALL STANDARD HOLES OR SHORT-SLOTTED PERPENDICULAR TO THE APPLIED LOAD UNLESS OTHERWISE NOTED. EXCEPTION: FOR DIAGONAL BRACES IN OCBF, SCBF, OR EBF FRAMES, OVERSIZED HOLES ARE PERMITTED IN ONE CONNECTION PLY PROVIDED

BRACE CONNECTION STRENGTH IS BASED ON SLIP-CRITICAL CAPACITIES. ALL BOLTED JOINTS SHALL BE PREPARED WITH CLASS A FAYING SURFACES (OR BETTER) PER RCSC SPECIFICATION SECTION 3.2 AND SHALL HAVE FAYING SURFACES PREPARED AND BOLTS INSTALLED IN ACCORDANCE WITH JOINT TYPE SC - CLASS A (UNCOATED) - "SLIP-CRITICAL" PER RCSC SPECIFICATION TABLE 4.1 AND SECTION 8.2. INSPECTIONS SHALL BE PER RCSC SECTION 9.3

SFRS WELDING REQUIREMNTS: ALL WELDING SHALL BE DONE WITH APPROPRIATE WELD PROCEDURES PREPARED THE SEISMIC SUPPLEMENT, AWD D1.8, INCLUDING, BOTH SHOP FABRICATION AND FIELD ERECTION WELDING.

- 1. WELDING PROCEDURE SPECIFICATIONS (WPS): WELDING SHALL BE DONE WITH APPROPRIATE WELD PROCEDURES PREPARED IN ACCORDANCE WITH AWS D1.1, AWS D1.8 CLAUSES 6.1. SUBMIT FOR REVIEW PER AISC 341 SECTION
- 2. FILLER METAL: WELDS OF MEMBERS OF THE SFRS SHALL BE MADE WITH FILLER METAL CONFORM TO THE REQUIREMENTS OF AISC 341 SECTION A3.4 AND AWS D1.8 CLAUSES 6.3, WHICH CAN PRODUCE WELDS THAT HAVE MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FOOT-POUNDS AT 0 DEGREES FAHRENHEIT. SUBMIT EVIDENCE OF COMPLIANCE.
- 3. WELD (RUNOFF) TABS: REMOVE WELD (RUNOFF) TABS, UNLESS NOTED OTHERWISE, AND GRIND SURFACES PER AWS D1.8 CLAUSES 6.11 UNLESS NOTED OTHERWISE.
- 4. CONTINUITY PLATES AND STIFFENERS PLACED INTO THE WEBS OF ROLLED SHAPED SHALL BE DETAILED IN ACCORDANCE WITH AWS D1.8 CLAUSES 4.1.
- 5. WELD ACCESS HOLES OF DEMAND CRITICAL WELDS SHALL EITHER BE PER AWS D1.8 SECTION 6.10.1.2. OR AS OTHERWISE PERMITTED PER AISC 360 SECTION J1.6.
- 6. BACKING BARS:
 - a. BACKING IN GROOVE WELDED BUTT SPLICED OF COLUMNS NEED NOT BE REMOVED
 - b. BACKING IN GROOVE WELDS OF COLUMNS TO BASEPLATES SHALL BE REMOVED EXCEPT WHEN BACKING IS PLACED AND REINFORCED PER THE REQUIREMENTS OF AISC 341 SECTION D2.6
- 7. TACK WELDS: ALL TACK WELDS PART OF THE SFRS SHALL COMPLY WITH REQUIREMENTS OF AWS D1.8 SECTION 6.16
- 8. DEMAND CRITICAL WELDS (DCW): WELDS DESIGNATED AS "DEMAND CRITICAL WELDS" OR "DCW" IN THE TAIL OF WELD SYMBOLS ON DRAWINGS SHALL COMPLY WITH THE ADDITIONAL REQUIREMENTS OF SECTIONS A3.4B AND I2.3 IN AISC 341 AND SHALL BE MADE WITH FILLER METALS CAPABLE OF PROVIDING A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LB AT 0 DEGREES FAHRENHEIT AND 40 FT-LB AT 70 DEGREES FHARENHEIT AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD OR MANUFACTURER CERTIFICATION. UNLESS OTHERWISE NOTES, THE FOLLOWING NOTED, THE FOLLOWING WELDS IN THE SFRS SHALL BE CONSIDERED "DEMAND CRITICAL":
- 9. COMPLETE-JOINT-PENETRATION (CJP) GROOVE WELDS OF:
 - a. COLUMN SPLICES
 - b. COLUMN-TO-BASEPLATE
 - c. BEAM FLANGE-TO-COLUMN FLANGE, UNLESS OTHERWISE NOTED IN AISC 358
 - d. BEAM WEB-TO-COLUMN FLANGE, UNLESS OTHERWISE NOTED IN AISC 358

STEEL STAIRS

REFERENCE STANDARDS: CONFORM TO:

- 1. CBC CHAPTER 10 - "MEANS OF EGRESS", CBC TABLE 1607.1
- 2. NAAMM - "METALS STAIRS MANUAL"
- 3. ANSI/AISC 360-10 - "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
- 4. AISI 2007 - "NORTH AMERICA SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"
- 5. AWS D1.1-0 "STRUCTURAL WELDING CODE- STEEL".
- 6. AWS D1.3-08 "STRUCTURAL WELDING CODE- SHEET STEEL"

SUBMITTALS: STEEL STAIRS ARE TO BE PREPARED BY A SSE. REFERENCE DEFINITIONS AND DEFERRED SUBMITTALS ABOVE. SUBMIT STRUCTURAL CALCULATIONS AND SHOP DRAWINGS (COMPONENT DESIGN DRAWINGS) STAMPED BY A PROFESSIONAL CIVIL PF STRUCTURAL ENGINEER REGISTERED OM THE STATE OF CALIFORNIA.

MATERIALS:

STRUCTURAL WF SHAPES.....ASTM A992 - GR50
STEEL CHANNELS, ANGLES, AND PLATES & BAR.....ASTM A36
SHEET STEEL (GALVANIZED).....ASTM A446
STEEL PIPE RAIL.....ASTM A53, GRADE B
STEEL TUBING.....ASTM A500, GRADE B
STEEL ROD.....ASTM A36 OR A307
STEEL DECK.....1- 1/2" COMPOSITE FLOOR DECK
BOLTS.....ASTM A325N
WELDS, STRUCTURAL STEEL.....AWS D1.1
WELDS, SHEET STEEL.....AWS D1.3
WELDED HEADED STUDS (WHS).....ASTM A108, AWS D1.1
HEADED CONCRETE ANCHORS (HCA).....ASTM A108, AWS D1.1

STRUCTURAL REQUIREMENTS:

- 1. SCOPE: INCLUDE TREADS, RISERS, STINGERS, LANDINGS, RAILINGS AND ALL CONNECTIONS INCLUDING CONNECTIONS TO THE PRIMARY STRUCTURE UNLESS NOTED OTHERWISE. ALL INSERTS REQUIRED FOR ATTACHMENT TO THE PRIMARY STRUCTURE SHALL BE DESIGNED AND PROVIDED BY THE STAIR SUPPLIER.
- 2. LOADS: STAIR TREADS SHALL BE DESIGNED FOR 100 PSF LIVE LOAD OR 300LB. CONCENTRATED LOAD PLACED TO PRODUCE MAXIMUM STRESS, WHICHEVER CONTROLS. STRINGERS AND LANDINGS SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. LIVE LOAD DEFLECTION SHALL NOT EXCEED 1/360 OF THE SPAN. THE STAIR ASSEMBLY AND ATTACHMENT TO THE MAIN STRUCTURE SHALL BE DESIGNED FOR LATERAL LOADS PER CBC CHAPTER 16
- 3. RAILINGS: THE COMPLETED HANDRAIL, GUARDRAIL, AND SUPPORTING STRUCTURE AND THEIR CONNECTIONS SHALL BE DESIGNED TO RESIST LOADS AS SPECIFIED IN THE CBC SECTION 1607.8.
- 4. ARCHITECTURAL REQUIREMENTS: CONFORM TO SHAPE AND CONFIGURATION SHOWN ON THE ARCHITECTURAL DRAWINGS. CONSULT THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL STEEL SHALL BE PAINTED PER PROJECT SPECIFICATIONS WITH ONE COAT OF STANDARD SHOP PRIMER UNLESS NOTED OTHERWISE ON THE DRAWINGS OR IN THE SPECIFICATIONS
- 5. CONCRETE FILL: CONFORM TO NOTES, THIS SHEET FOR CAST-IN-PLACE CONCRETE AND CONCRETE REINFORCEMENT. PROVIDE MINIMUM 3000 PSI CONCRETE AND WWF 6X6-W1.4 OR FIBER MESH UNLESS NOTED ON THE DRAWINGS.

STRUCTURAL STEEL MATERIALS	
WIDE FLANGE (WF), TEE (WT) SHAPES	ASTM A992 FY=50 KSI
STRUCTURAL (S), (W) & (HP) SHAPES	ASTM A36, FY=36 KSI
CHANNEL (C) & ANGLE (L) SHAPES	ASTM A36 FY=36 KSI
STRUCTURAL PLATE (PL)	ASTM A36 FY=36 KSI
HIGH STRENGTH PLATE (GR 50 PL)	ASTM A572 FY=50 KSI
HOLLOW STRUCTURAL SECTION-SQUARE/RECT(HSS)	ASTM A500 GRADE B FY= 46 KSI
STRUCTURAL PIPE (PIPE) 12" DIA. AND LESS	ASTM A53 GRADE B FY= 35 KSI
HOLLOW STRUCTURAL SECTION-ROUND (HSS)	ASTM A500 GRADE B FY= 42 KSI
HIGH STRENGTH HEAVY HEX STRUCTURAL BOLTS	ASTM A325/F1852 TYPE 1 OR 3, PLAIN OR GALVANZED (AS REQ'D)
HEAVY HEX NUTS	ASTM A563 GRADE AND FINISH PER RCS TABLE 2.1
WASHERS (HARDENED FLAT OR BEVELED)	ASTM F436 GRADE AND FINISH PER RCSC TABLE 2.1
ANCHOR RODS (ANCHOR BOLTS, TYPICAL)	ASTM F1554 GR.36
ANCHOR RODS (HIGH STRENGTH)	ASTM F1554 GR.55 (WELD ABLE) PER SUPPLEMENT S1
MILD THREADED RODS	ASTM A36 FY= 36 KSI
HIGH STRENGTH THREADED RODS	ASTM A36 FY= 50 KSI
HIGH STRENGTH THREADED RODS	ASTM A193 GRADE B7 FY = 100 KSI
WELDED HEADED (SHEAR) STUD ANCHORS	ASTM A108-NELSON/TRW S3L
WELDED HEADED STUD (WHS) ANCHORS	ASTM A108 NELSON /TRW H4L
DOWEL BAR ANCHORS (DBA)	ASTM A496- NELSON/TRW D2L FY = 70 KSI



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BY

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DESCRIPTION

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DATE: 2025/07/11
JOB NO: MLB25-XXX

REGISTERED PROFESSIONAL ENGINEER
GEGAW BURNALYAN
No. C 76761
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STATE OF CALIFORNIA

DESIGNED BY: HK
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STRUCTURAL NOTES

S-0.12

WOOD FRAMING

REFERENCE STANDARDS: CONFORM TO:

- 1. CBC CHAPTER 23 "WOOD"
- 2. NDS - "2018 NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION"
- 3. ANSI/AWS - SDPWS-2015: SPECIAL DESIGN PROVISIONS FOR WIND & SEISMIC WITH COMMENTARY
- 4. APA PDS-04 PLYWOOD DESIGN SPECIFICATIONS
- 5. ANSI/TPI 1-2007 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION"
- 6. BCSI "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATED CONNECTED WOOD TRUSSES"
- 7. TPI DSB "RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES"
- 8. APA REPORT TT-045B "MINIMUM NAIL PENETRATION FOR WOOD STRUCTURAL PANEL CONNECTIONS SUBJECT TO LATERAL LOADS"

SUBMITTALS: SUBMIT SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE MEMBER SIZE, SPACING, CAMBER, MATERIAL TYPE, GRADE, SHOP AND FIELD ASSEMBLY DETAILS AND CONNECTIONS, TYPES AND LOCATION OF BOLTS AND OTHER FASTENERS. SUPPLY SHOP DRAWINGS FOR THE FOLLOWING:

- 1. GLUED LAMINATED MEMBERS
- 2. PSL MEMBERS
- 3. LVL MEMBERS
- 4. LSL MEMBERS
- 5. TAPERED & PARALLEL WOOD I JOISTS (SOLID WEB-WOOD JOISTS)
- 6. PANELIZED WOOD WALLS & CONNECTION DETAILS
- 7. WOOD TIE-DOWN SYSTEMS

DEFERRED SUBMITTALS: SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY THE EOR IN THE STATE OF CALIFORNIA FOR ALL MEMBERS AND CONNECTIONS DESIGN BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS AND WEB STEIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE NOTED UNDER "DEFERRED SUBMITTALS" SECTION SPECIFIC DETAILS. PRODUCTS INCLUDED ARE:

- 1. SOLID WEB WOOD JOISTS (I-JOISTS)
- 2. WOOD TIE DOWN SYSTEMS; CONTINUOUS ROD HOLD-DOWN SYSTEMS, WITH TAKE-UP DEVICES, SHALL BE SPECIFIED AND REQUIRED AT EACH FRAMING LEVEL. ADDITIONAL FRAMING MEMBERS SHALL BE PROVIDED PER THE SYSTEM REQUIREMENTS REFER TO DETAILS AND LOADING ON THE STRUCTURAL DRAWINGS.

IDENTIFICATIONS: ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:

- 1. SAWN LUMBER, CONFORM TO GRADING RULES OF WWPA, WCLUB OR NLGA AND "TABLE OF SAWN LUMBER" FOUND ON THIS SHEET. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.
- 2. WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFFERBOARD, PARTICLEBOARD, T1-11 SLIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL WITH T&G JOINT. ARCHITECT MAY DISALLOW OSB. CONFIRM WITH ARCHITECT. CONFORM TO "CONSTRUCTION AND INDUSTRIAL PLYWOOD" BASED ON PRODUCT STANDARD PS 1-07 BY THE U.S. DEPT OF COMMERCE, AND "PERFORMANCE STANDARD FOR WOOD-BASED STRUCTURAL-USE PANELS" BASED ON PRODUCT PS 2-04 BY THE U.S. DEPT. OF CINNERCE AND "PLYWOOD DESIGN SPECIFICATION" BASED ON APA PDS-04 BY THE AMERICAN PLYWOOD ASSOCIATION. UNLESS NOTED OTHERWISE, SHEATHING SHALL COMPLY WITH THE "TABLE OF SHEATHING" FOUND ON THIS SHEET.
- 3. GLUED LAMINATED TIMBER: CONFORM TO AITC 117-2004 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUE-LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." CAMBER ALL GLUED LAMINATED BEAMS, EXCEPT CANTILEVERED AND CONTINUOUS BEAMS, TO 3000' RADIUS, UNLESS SHOWN OTHERWISE ON PLANS.
- 4. ENGINEERED WOOD PRODUCTS (TrusJoist): THE FOLLOWING MATERIALS ARE BASED ON LUMBER MANUFACTURED BY TrusJoist AND WERE USED FOR THE DESIGN AS SHOWN ON PLANS. ALTERNATE PRODUCTS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD AND STIFFNESS PROPERTIES AND ARE REVIEWED AND APPROVED BY THE EOR. A HUD MATERIAL RELEASE FORM IS REQUIRED FORE ALL MANUFACTURED WOOD PRODUCTS LISTED BELOW:
 - a. LAMINATED VENEER LUMBER (LVL): CONFORM TO ICC-ES REPORT NO. ESR-1387 OR CCMC REPORT NO. 08675-R.
 - b. PARALLEL STRAND LUMBER (PSL): CONFORM TO ICC-ES REPORT NO. ESR-1387 OR CCMC REPORT NO. 11161-R
 - c. LAMINATED STRAND LUMBER (LSL): CONFORM TO ICC REPORT NO. ESR-1387 OR CCMC REPORT NO. 12627-R.
 - d. PARALLEL CHORD I-JOISTS (DEFERRED SUBMITTAL): CONFORM TO ICC REPORT NO. ESR-1153. THE MANUFACTURER SHALL DESIGN THE JOISTS FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. JOISTS SHALL HAVE WOOD CHORDS AND SOLID WOOD WEBS. JOISTS SHALL BE TAPERED OR PARALLELL AS SHOWN ON THE PLANS.
- 5. TIMBER CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY AS SPECIFIED IN THEIR LATEST CATALOG. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE EOR. PRIOR TO ORDERING, CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER. WHERE STRAPS ARE USED AS HOLD-DOWNS, NAIL STRAPS TO WOOD FRAMING JUST PRIOR TO DRYWALL APPLICATION, AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW WOOD TO SHRINK AND THE BUILDING TO SETTLE. PREMATURE NAILING OF THE STRAP MAY LEAD TO STRAP BUCKLING AND POTENTIAL FINISH DAMAGE.
- 6. WHERE CONNECTORS ARE IN EXPOSED EXTERIOR APPLICATIONS IN CONTACT WITH PRESERVATIVE TREATED WOOD (PT) OTHER THAN COA, CONNECTORS SHALL BE EITHER BATCH HOT-DIPPED GALVANIZED (HDG), MECHANICALLY GALVANIZED (ASTM B685, CLASS 55 MINIMUM) STAINLESS STEEL, OR PROVIDED WITH 1.85 OZ/SF OF ZINC GALVANIZING EQUAL TO OR BETTER THAN SIMPSON ZMAX FINISH.
- 7. FASTENERS (NAILS, BOLTS, SCREWS, ETC) ATTACHING TIMBER CONNECTORS (JOIST HANGERS, POST CAPS, AND BASES, ETC) TO PT WOOD SHALL HAVE SIMILAR CORROSION RESISTANT PROPERTIES (MATCHING PROTECTIVE TREATMENTS) AS THE PROTECTED CONNECTOR. FASTENERS (NAILS, BOLTS, SCREWS, ETC.) ATTACHING SAWN TIMBER MEMBERS OR SHEATHING (SHEAR WALLS) TO PT WOOD SHALL BE CORROSION RESISTANT; NAILS AND LAG BOLTS SHALL BE EITHER HDG (ASTM A153) OR STAINLESS STEEL. VERIFY THE SUITABILITY OF THE FASTENER PROTECTION/COATING WITH THE WOOD TREATMENT CHEMICAL MANUFACTURER/SUPPLIER. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.
- 8. LAG BOLTS/BOLTS: CONFORM TO ASTM A307 AND CBC SECTION 2304.9

ROOF AND FLOOR PANELS: UNLESS NOTED OTHERWISE ON DRAWINGS, INSTALL ROOF AND FLOOR PANELS WITH LONG DIMENSIONS ACROSS SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS. END JOINTS SHALL OCCUR OVER SUPPORTS. HUD MATERIALS BULLETIN 40C GRADE MARKING OF SHEATHING CERTIFICATION IS REQUIRED.

NAILING REQUIREMENTS: CONFORM TO CBC SECTION 2304.9 "CONNECTIONS AND FASTENERS." UNLESS NOTED ON PLANS, NAIL PER TABLE 2304.9.1. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEARWALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING. ALTERNATE NAILS MAY BE USED BUT ARE SUBJECT TO REVIEW AND APPROVAL BY THE EOR. SUBSTITUTION OF STAPLES FOR THE NAILING OF RATED SHEATHING IS SUBJECT TO REVIEW BY THE EOR PRIOR TO CONSTRUCTION.

STANDARD LIGHT-FRAME CONSTRUCTION: UNLESS NOTED ON THE PLANS, CONSTRUCTION SHALL CONFORM TO CBC SECTION 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION."

NAILERS ON STEEL COLUMNS AND BEAMS: WOOD 3X NAILERS ARE GENERALLY REQUIRED ON ALL HSS COLUMNS AND STEEL BEAMS ABUTTING OR EMBEDDED WITHIN WOOD FRAMING. UNLESS NOTED OTHERWISE, ATTACH WITH 5/8" DIAMETER BOLTS OR WELDED STUDS @ 16" ON CENTERS, WOOD

NAILERS ON BEAMS SUPPORTING JOIST HANGER SHALL BE FLUSH WITH BEAM FLANGE.

MOISTURE CONTENT: WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE. REFER TO "TESTING & INSPECTIONS" FOR THE VERIFICATION OF THESE LIMITS. THE MAXIMUM MOISTURE CONTENT REQUIRED MAY BE LESS THAN 19% WHEN BASED ON A PARTICULAR CLADDING/INSULATION SYSYTEM. REFER TO THE ARCHITECTURAL DRAWINGS, AND PROJECT SPECIFICATIONS, OR WITH CLADDING INSTALLER FOR MAXIMUM RECOMMENDED MOISTURE CONTENT.

SHRINKAGE COMPENSATION FOR MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS: MEP SYSTEMS, INCLUDING DUCTWORK, PIPES, AND OTHER ELEMENTS THAT RUN CONTINUOUSLY BETWEEN LEVELS SHALL BE INSTALLED/DESIGNED IN SUCH A MANNER TO ACCOMMODATE SHRINKAGE IN THE WOOD FRAMING. WOOD SHRINKAGE AMOUNTS WILL VARY DEPENDING ON THE CONSTRUCTION PROCESS AND MATERIALS USED. THE ANTICIPATED SHRINKAGE UNDER TYPICAL CONDITIONS IS EXPECTED TO RANGE BETWEEN 1/8" TO 1/4" PER FLOOR.

CLADDING COMPATIBILITY: THE ARCHITECT/OWNER SHALL REVIEW THE CLADDING AND INSULATION SYSTEMS PROPOSED FOR THE PROJECT WITH RESPECT TO THEIR PERFORMANCE OVER WOOD STUDS WITH MOISTER CONTENTS GREATER THAN 19%. EIFS SYSTEMS SHOULD BE AVOIDED ON WOOD-FRAMED PROJECTS DUE TO PROBLEMS WITH MOISTURE PROOFING.

PRESERVATIVE TREATMENT (PT): WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" IN ACCORDANCE WITH CBC SECTION 2304.11 "DECAY AND TERMITE PROTECTION" SHALL CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK. FASTENERS OR ANCHORS IN TREATED WOOD SHALL BE OF STAINLESS STEEL OR HOT-DIPPED GALVANIZED OR AS PER CBC 2304.9.5. HUD UM48a PRESSURE-TREATED LUMBER AND PLYWOOD CERTIFICATION IS REQUIRED.

TABLE OF SHEATHING - USE, MINIMUM THICKNESS AND MINIMUM APA RATING				
LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE	EXPOSURE
Roof	15/32"	32/16	C-D	1
Floor	23/32" T&G	24 OC	STUD-I-FLOOR	1
Walls	15/32"	32/16	C-D	1

TABLE OF SAWN LUMBER			
MEMBER USE	SIZE	SPECIES	GRADE
Stud	2x4, 3x4, 2x6, 3x6	Doug Fir Larch	No.2
Sill Plate	2x4, 3x4, 2x6, 3x6	PT Doug Fir Larch	No.2
Post	4x4, 4x6, 4x8	Doug Fir Larch	No.2
Floor or Roof Joist	2x6 through 2x12	Doug Fir Larch	No.2
Beam	4x8 through 4x12	Doug Fir Larch	No.2
Beam	6x8 through 6x12	Doug Fir Larch	No.1
Post or Timber	6x6, 8x8	Doug Fir Larch	No.1

TABLE OF ENGINEERED WOOD REQUIREMENTS							
TYPE	USE	WIDTHS	E (10 ⁶) (psi)	F _b (psi)	F _v (psi)	F _c // (psi)	
LSL Rimboard	Rimboard or Stair Stringer	1 1/2"	1.3E	1700	400	1835	
Timberstrand LSL	Header, Beam or Column < 9" depth	3 1/2"	1.3E	1700	400	1835	
Timberstrand LSL	Rimboard, Header or Beam ≥ 9" depth	1 3/4", 3 1/2"	1.55E	2325	310	2170	
Timberstrand LSL	Wall Stud 2x4 & 2x6	1 1/2"	1.3E	1700	400	1300	
	Wall Stud > 2x6	1 1/2"	1.5E	2250	400	1950	
MicroIam LVL	Header, Beam	1 3/4"	2.0E	2600	285	2510	
Parallam PSL	Header, Beam	3 1/2", 5 1/4", 7"	2.0E	2900	290	2900	
Parallam PSL	Column	3 1/2", 5 1/4", 7"	1.8E	2400	190	2500	

TABLE OF GLULAM AND GRADE				
MEMBER	SIZES	SPECIES	COMB. SYMBOL	USES
Beams	All	DF/DF	24F-V4	Simple Spans
Beams	All	DF/DF	24F-V4	Continuous or with Cantilever Spans
Columns	All	DF	L2	Post, Truss Member

NAILING SCHEDULE

ROOF		
1. Blocking between ceiling joists rafters or trusses to top plate or framing below	3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Each end, toenail
Blocking between rafters or truss not at the wall top plate, to rafter or truss	2-8d common (2 1/2" x 0.131") 2-3" x 0.131" nails 2-3" 14 gage staples	Each end, toenail
Flat blocking to truss and web filler	2-16d common (3 1/2" x 0.162" 3-3" x 0.131" nails 3-3" 14 gage staples	End nail
	16d common (3 1/2" x 0.162") @ 6" o.c. 3" x 0.131" nails @ 8" o.c. 3" x 14 gage staples @ 6" o.c.	Face nail
2. Ceiling joists to top plate	3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Each joist, toenail
3. Ceiling joist not attached to parallel rafter, laps over partitions (no thrust) (see Section 2308.7.3.1, Table 2308.7.3.1)	3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Face nail
4. Ceiling joist attached to parallel rafter (heel joint) (see Section 2308.7.3.1, Table 2308.7.3.1)	Per Table 2308.7.3.1	Face nail
5. Collar tie to rafter	3-10d common (3 1/2" x 0.148"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Face nail
6. Rafter or roof truss to itop plate (See Section 2308.7.5, Table 2308.7.5)	3-10d common (3 1/2" x 0.148"); or 3-16d box (3 1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Toenail ^f
7. Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam	2-16d common (3 1/2" x 0.162"); or 3-10d box (3 1/2" x 0.128"); or 3-3" x 0.131 nails; or 3-3" 14 gage staples, 7/16" crown; or 3-10d common (3 1/2" x 0.148"); or 4-16d box (3 1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	End nail Toenail

WALL		
8. Stud to stud (not at braced wall panels)	16d common (3 1/2" x 0.162"); 10d box (3" x 0.128"); or 3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	24" o.c. face nail 16" o.c. face nail
9. Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common (3 1/2" x 0.162"); or 16d box (3 1/2" x 0.135"); or 3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	16" o.c. face nail 12" o.c. face nail 12" o.c. face nail
10. Built-up header (2" to 2" header)	16d common (3 1/2" x 0.162"); or 16d box (3 1/2" x 0.135")	16" o.c. each edge, face nail 12" o.c. each edge, face nail
11. Continuous header to stud	4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128")	Toenail
12. Top plate to top plate	16d common (3 1/2" x 0.162"); or 10d box (3" x 0.128"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown	16" o.c. face nail 12" o.c. face nail
13. Top plate to top plate, at end joints	8-16d common (3 1/2" x 0.162"); or 12-10d box (3 1/2" x 0.128"); or 12-3" x 0.131" nails; or 12-3" 14 gage staples, 7/16" crown	Each side of end joint, face nail (minimum 24" lap splice length each side of end joint)
14. Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3 1/2" x 0.162"); or 16d box (3 1/2" x 0.135"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown	16" o.c. face nail 12" o.c. face nail
15. Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common (3 1/2" x 0.162"); or 3-16d box (3 1/2" x 0.135"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	16" o.c. face nail
16. Stud to top or bottom plate	4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown or 2-16d common (3 1/2" x 0.162"); or 3-10d box (3 1/2" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Toenail End nail
17. Top plates, laps at corners and intersections	2-16d common (3 1/2" x 0.131"); or 3-10d box (3 1/2" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Face nail
18. 1" brace to each stud and plate	2-8d common (2 1/2" x 0.131"); or 2-10d box (3 1/2" x 0.128"); or 2-3" x 0.131" nails; or 2-3" 14 gage staples, 7/16" crown	Face nail
19. 1" x 6" sheathing to each bearing	2-8d common (2 1/2" x 0.131"); or 2-10d box (3 1/2" x 0.128"); or	Face nail
20. 1" x 8" and wider sheathing to each bearing	3-8d common (2 1/2" x 0.131"); or 3-10d box (3 1/2" x 0.128"); or	Face nail

FLOOR		
21. Joist to sill, top plate, or girder	3-8d common (2 1/2" x 0.131"); or 3-10d box (3 1/2" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Toenail
22. Rim joist, band joist, or blocking to top plate, sill or other framing below	8d common (2 1/2" x 0.131"); or 10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	6" o.c., toenail
23. 1" x 6" subfloor or less to each joist	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128")	Face nail
24. 2" subfloor to joist or girder	2-16d common (3 1/2" x 0.162")	Face nail
25. 2" planks (plank & beam - floor & roof)	2-16d common (3 1/2" x 0.162")	Each bearing, face nail
	20d common (4" x 0.192")	32" o.c., face nail at top and bottom staggered on opposite sides
26. Built-up girders and beams, 2" lumber layers	10d box (3" x 0.128"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown And: 2-20d common (4" x 0.192); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	24" o.c., face nail at top and bottom staggered on opposite sides Ends and at each splice, face nail
27. Ledger strip supporting joists or rafters	3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Each joist or rafter, face nail
28. Joist to band joist or rim joist	3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	End nail
29. Bridging or blocking to joist, rafter or truss	2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-3" x 0.131" nails; or 2-3" 14 gage staples, 7/16" crown	Each end, toenail

Wood structural panels (WSP), subfloor, roof and interior wall sheathing to framing and particle wall sheathing to framing ^d			
		Edges (inches)	Intermediate supports (inches)
	6d common or deformed (2" x 0.113") (subfloor and wall)	6	12
	8d common or deformed (2 1/2" x 0.131") (roof) or RSRs-01 (2 3/8" x 0.113") nail (roof)	6	12
30. 3/8" - 1/2"	2 3/8" x 0.113" nail (subfloor and wall)	6	12
	1 3/4" 16 gage staple, 7/16" crown (subfloor and wall)	4	8
	2 3/8" x 0.113" nail (roof)	4	8
	1 3/4" 16 gage staple, 7/16" crown (roof)	3	6
31. 19/32" - 3/4"	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113") (subfloor and wall)	6	12
	8d common or deformed (2 1/2" x 0.131") (roof) or RSRs-01 (2 3/8" x 0.113") nail (roof)	6	12
	2 3/8" x 0.113" nail; or 2" 16 gage staple, 7/16" crown	4	8
32. 7/8" - 1/4"	10d common (3" x 0.148"); or 8d deformed (2 1/2" x 0.131")	6	12

Other Exterior Wall Sheathing			
33. 1/2" fiberboard sheathing ^b	1 1/2" galvanized roofing nail (7/16" head diameter); or 1 1/4" 16 gage staple with 7/16" or 1" crown	3	6
34. 19/32" - 3/4"	1 3/4" galvanized roofing nail (7/16" head diameter); or 1 1/2" 16 gage staple with 7/16" or 1" crown	3	6

Wood structural panels, combination subfloor underlayment to framing			
35. 3/4" and less	8d common (2 1/2" x 0.131"); or 6d deformed (2" x 0.113")	6	12
36. 7/8" - 1"	8d common (2 1/2" x 0.131"); or 8d deformed (2 1/2" x 0.131")	6	12
37. 1 1/8" - 1 1/4"	10d common (3" x 0.148"); or 8d deformed (2 1/2" x 0.131")	6	12

Panel siding to framing			
38. 1/2" or less	6d corrosion-resistant siding (1 7/8" x 0.106"); or 6d corrosion-resistant casing (2" x 0.090")	6	12
39. 5/8"	8d corrosion-resistant siding (2 3/8" x 0.128"); or 8d corrosion-resistant casing (2 1/2" x 0.113")	6	12
Interior paneling			
40. 1/4"	4d casing (1 1/2" x 0.080"); or 4d finish (1 1/2" x 0.072")	6	12
41. 3/8"	6d casing (2" x 0.099"); or 6d finish (Panel supports at 24 inches)	6	12

FOR SI: 1 INCH = 25.4 mm.

- a. NAILS SPACED AT 6 INCHES AT INTERMEDIATE SUPPORTS WHERE SPANS ARE48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.
- b. SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NONSTRUCTURAL APPLICATIONS. PANEL SUPPORTS AT 16 INCHES (20 INCHES IF STRENGTH AXIS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED).
- c. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE AND THE CEILING JOIST IS FASTENED TO THE TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE RAFTER SHALL BE PERMITTED TO BE REDUCED TO ONE NAIL.
- d. RSRs-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667



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1			
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5			

DATE: 2025/07/11
JOB NO: MLB25-XXX



DESIGNED BY: HK
CHECKED BY: GB

816 N Bel Aire Dr
Burbank, CA 91501

STRUCTURAL NOTES

S-0.13

REQUIRED NOTES ON PLANS

MATERIAL SPECIFICATION & INSPECTIONS

1.

CONTRACTORS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTION SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE LADBS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT. (1704.4)
2.

CONTINUOUS SPECIAL INSPECTION BY A REGISTERED DEPUTY INSPECTOR IS REQUIRED FOR FIELD WELDING, POST-INSTALLED ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED TO RESIST TENSION LOADS, SHOTCRETE PLACEMENT, CONCRETE STRENGTH ($f'c > 2500$ PSI, SPRAYED-ON FIREPROOFING, ENGINEERED MASONRY, HIGH-LIFT GROUTING, , HIGH LOAD DIAPHRAGMS AND SPECIAL MOMENT-RESISTING CONCRETE FRAMES, AND HELICAL PILE FOUNDATIONS. (1705 & CHAPTERS 19, 21, AND 22)
3.

FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD. (2304.12.1.4)
4.

FIELD WELDING TO BE DONE BY WELDERS CERTIFIED BY THE LADBS FOR (STRUCTURAL STEEL)(REINFORCING STEEL)(LIGHT GAUGE STEEL). CONTINUOUS INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED.
5.

SHOP WELDS MUST BE PERFORMED IN A LADBS LICENSED FABRICATOR'S SHOP.
6.

LADBS LICENSED FABRICATOR IS REQUIRED FOR (TRUSSES), (STRUCTURAL STEEL).
7.

GLUED-LAMINATED TIMBERS MUST BE FABRICATED IN A LADBS LICENSED SHOP. IDENTITY GRADE SYMBOL AND LAMINATION SPECIES PER 2018 NDS SUPPLEMENT TABLE 5A.
8.

PROVIDE LEAD HOLE 40%-70% OF THREADED SHANK DIAMETER AND FULL DIAMETER FOR SMOOTH SHANK PORTION.\
9.

PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS. (1707.5.12.2)
10.

SPECIAL ACTIVITY INSPECTION IS REQUIRED FOR (BUILDINGS OVER 5 STORIES OR 60' IN HEIGHT) (BUILDINGS OVER 50,000 SQ. FT. OF GROUND FLOOR AREA) (BUILDING OVER 200,000 SQ. FT. OF TOTAL FLOOR AREA.) (1705.1.6)
11.

A COPY OF THE LOS ANGELES RESEARCH REPORT AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE.

FOUNDATIONS AND GRADING

1.

IF ADVERSE SOIL CONDITIONS ARE ENCOUNTERED, A SOILS INVESTIGATION REPORT MAY BE REQUIRED.

SHEAR WALLS

1.

HOLD-DOWN CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS; AND HOLD-DOWNS SHALL BE FINGER TIGHT AND ½ WRENCH TURN JUST PRIOR TO COVERING THE WALL FRAMING. CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE STEEL PLATE WASHERS ON THE POST ON THE OPPOSITE SIDE OF THE ANCHORAGE DEVICE. PLATE SIZE SHALL BE A MINIMUM OF 0.299 INCH BY 3 INCHES BY 3 INCHES. (2305.5)
2.

ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING". FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES. PLYWOOD SPANS SHALL CONFORM WITH TABLE 2304.8(1).
3.

ALL DIAPHRAGM AND SHEAR WALL NAILING SHALL UTILIZE COMMON NAILS OR GALVANIZED BOX.
4.

ALL BOLT HOLES SHALL BE DRILLED 1/32 TO 1/16" OVERSIZED. (NDS 12.1.3.2)
5.

HOLD-DOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.

STRUCTURAL OBSERVATION PROGRAM
AND DESIGNATION OF THE
STRUCTURAL OBSERVER

PROJECT ADDRESS: 816 N Bel Aire Dr. Burbank, CA 91501 PERMIT APPL. NO.: ____

Description of Work: **EX FRONT YARD FENCE WALL REMODEL**

Owner: _____ Architect: _____ Engineer: GEGAM BURNAZYAN

STRUCTURAL OBSERVATION (only checked items are required)			
Firm or Individual to be responsible for the Structural Observation: Name: MLB CONSULTING AND ENGINEERING Phone: (818) 521-6342 Calif. Registration: C76761			
FOUNDATION	WALL	FRAME	DIAPHRAGM
☒ Footing, Stem Walls, Piers	☐ Concrete	☐ Steel Moment Frame	☐ Concrete
☐ Mat Foundation	☐ Masonry	☐ Steel Braced Frame	☐ Steel Deck
☐ Caisson, Piles, Grade Beams	☒ Wood	☐ Concrete Moment Frame	☒ Wood
☐ Stepp' g/Retain' g Foundation, Hillside Special Anchors	☐ Others:	☐ Masonry Wall Frame	☐ Others:
☐ Others:		☐ Others:	

DECLARATION BY OWNER
I, the Owner of the project, declare that the above listed firm or individual is hired **by me** to be the Structural Observer.

Signature _____ Date _____

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD (required if the Structural Observer is different from the Architect or Engineer of Record)

I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

SHALL BE ENGINEER OF RECORD

Signature _____ License No. _____ Date _____

P/BC 2017-024

GENERAL NOTES FOR STRUCTURAL OBSERVATION

- (1) Structural Observation is required for the structural system in accordance with the Information Bulletin No. P/BC 2017-024. Structural Observation is the visual observation at the construction site of the elements and connections of the structural system at significant construction stages, and the complete structure for general conformance to the approved plans and specifications. Structural Observation does not waive the responsibility for the inspections required of the building inspector or the deputy inspector.
- (2) The owner shall employ a State of California registered civil or structural engineer or licensed architect to perform the Structural Observation. The Los Angeles Department of Building and Safety (LADBS) requires the use of the engineer or architect, or his/her designee responsible for the structural design who are independent of the contractor.
- (3) The Structural Observer shall provide evidence of employment by the owner or the owner's representative. A letter from the owner, the owner's representative, or a copy of the agreement for services shall be sent to the building inspector before the first site visit.
- (4) The owner or owner's representative shall coordinate and call for a meeting between the engineer or architect responsible for the structural design, Structural Observer, contractor, affected subcontractors and deputy inspectors. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the first observation report submitted to the building inspector.
- (5) The Structural Observer shall perform site visits at those steps in the progress of the work that allow for correction of deficiencies without substantial effort or uncovering of the work involved. At a minimum, the listed significant construction stages on either the "Structural Observation/Significant Construction Stages" form or the "Structural Observation Program and Designation of the Structural Observer" form IN/Form.08 (Part 2) require a site visit and an observation report from the Structural Observer.
- (6) The Structural Observer shall prepare a report of the "Structural Observation Report Form" IN/Form.08 (Part 1) for each significant stage of construction observed. The original of the Structural Observation report shall be sent to the building inspector's office and shall be signed and sealed (wet stamp) by the responsible Structural Observer. One copy of the observation report shall be attached to the approved plans. The copy attached to the plans shall be signed and sealed (wet stamp) by the responsible Structural Observer or their designee. Copies of the report shall also be given to the owner, contractor, and deputy inspector. Any deficiency noted on the observation report will become the responsibility of the structural engineer or architect of record to verify its completion by the Structural Observer.
- (7) A final observation report must be submitted which shows that all observed deficiencies were resolved and structural system generally conforms with the approved plans and specifications. The Los Angeles Department of Building and Safety (LADBS) will not accept the structural work without the final observation report and the correction of specific deficiencies noted during normal building inspection.
- (8) The Structural Observer shall provide the original stamped and signed "Structural Observation Report Form" to the City of Los Angeles Department of Building and Safety Building Inspector.
- (9) When there is a need to replace the Structural Observer of record, the owner shall:

a) Notify the building inspector in writing before the next inspection by submitting completed "Structural Observation Program and Designation of the Structural Observer" form IN/Form.08 (Part 2).

b) Call an additional preconstruction meeting, and

c) Furnish the replacement Structural Observer with a copy of all previous observation reports.

d) The new Structural Observer must be designated by the engineer or architect of record.

The replacement Structural Observer shall approve the correction of the original observed deficiencies unless otherwise approved by plan check supervision. The policy of the Department shall be to correct any properly noted deficiencies without consideration of their source.
- (10) The engineer or architect of record shall develop all changes relating to the structural systems. The building department shall review and approve all changes to the approved plans and specifications.



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REV	DATE	DESCRIPTION	BY
1			
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DATE: 2025/07/11

JOB NO: MLB25-XXX

REGISTERED PROFESSIONAL ENGINEER

GEGAM BURNAZYAN

No. C 76761

CIVIL

STATE OF CALIFORNIA

DESIGNED BY: HK

CHECKED BY: GB

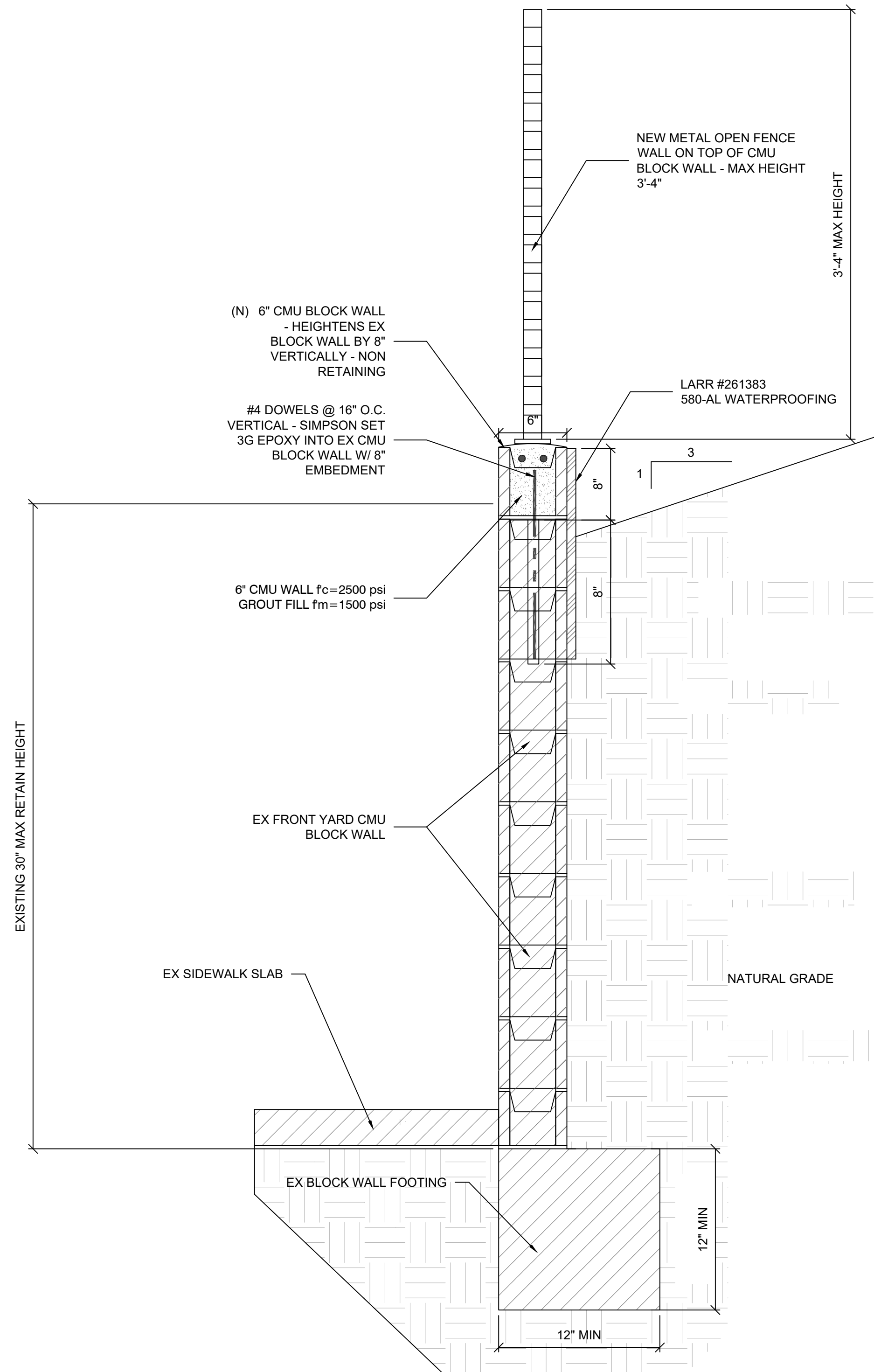
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STRUCTURAL NOTES

S-0.14



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1

CONC. SITE WALL MAX RETAINING HEIGHT 30"

SCALE: 1"=1'-0"

REV	DATE	DESCRIPTION	BY
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-

DATE: 2025/07/11
JOB NO: MLB25-XXX

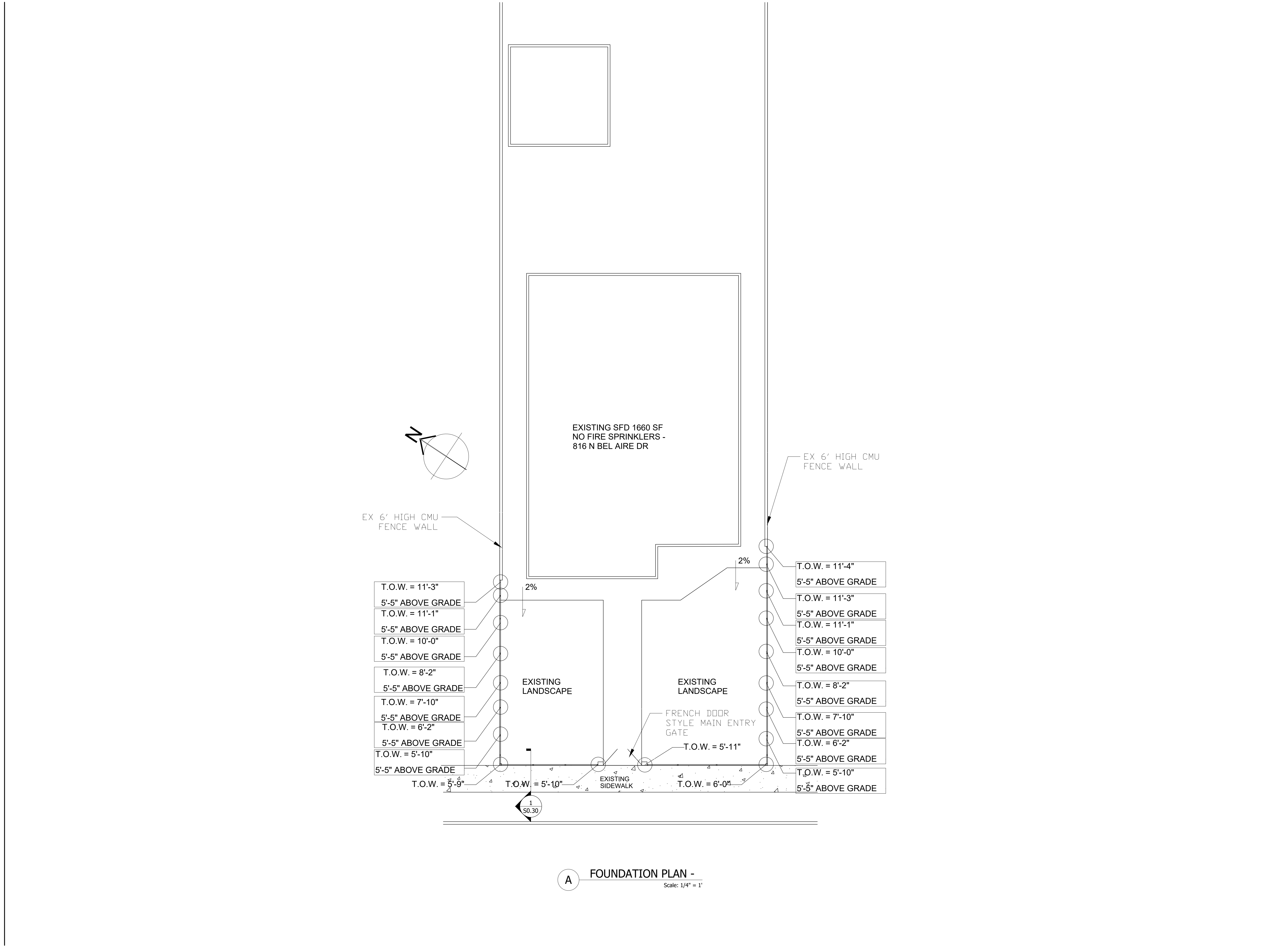


DESIGNED BY: HK
CHECKED BY: GB

816 N Bel Aire Dr
Burbank, CA 91501

RET. WALL DETAILS

S-0.30



A FOUNDATION PLAN -
Scale: 1/4" = 1'

LEGEND	

REV	DATE	DESCRIPTION	BY
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-

DATE: 2025/07/11
JOB NO: MLB25-XXX

REGISTERED PROFESSIONAL ENGINEER
GEGAW BURNALYAN
No. C 76761
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STATE OF CALIFORNIA

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FOUNDATION PLAN

S-1