## **GENERAL NOTES**

### A. GENERAL

- ALL STRUCTURAL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS, DRAWINGS, AND THE 2015 INTERNATIONAL BUILDING CODE.
- CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH RELATED TRADES AND WITH OTHER DESIGN DISCIPLINE REQUIREMENTS PRIOR TO MAKING SUBMITTALS. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT
- REFER TO OTHER DESIGN DISCIPLINE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION REQUIRED FOR THE SUBMITTALS AND INSTALLATION OF STRUCTURES, INCLUDING BUT NOT LIMITED TO DIMENSIONS, ELEVATIONS, SLOPES, LOCATIONS OF OTHER SYSTEMS AND EQUIPMENT, OPENINGS, WALLS, STAIRS, FINISHES, COATINGS, AND OTHER NON-STRUCTURAL ITEMS. NOTES PROVIDED ON THE DRAWINGS ARE INTENDED FOR USE IN CONJUNCTION WITH PROJECT
- DETAILS LABELED AS TYPICAL DETAILS ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE DEMARKED AT EACH LOCATION IN THE DRAWINGS. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS OF A SIMILAR NATURE. VERIFY APPLICABILITY BY SUBMITTALS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION DETAILS AND ACCURACY OF THE WORK; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY IN ACCORDANCE WITH GENERAL CONDITIONS AND DIVISION 1 SPECIFICATION REQUIREMENTS; AND FOR PERFORMING ALL WORK IN A SAFE AND SECURE MANNER IN ACCORDANCE WITH GOVERNING JOB SAFETY STANDARDS.
- CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE SITE, INCLUDING LOCATIONS OF ALL EXISTING STRUCTURES AND EXISTING UTILITIES ABOVE AND BELOW GROUND (AS ANY INFORMATION SHOWN IS APPROXIMATE AND NOT NECESSARILY COMPLETE.) CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO PERFORMING WORK.
- LOADS APPLIED DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS NOTED ON THE DRAWINGS OR THE CAPACITY OF PARTIALLY COMPLETED CONSTRUCTIONS AS DETERMINED BY THE CONTRACTOR. THE STRUCTURAL ELEMENTS OF THE PROJECT AS SHOWN IN THE CONSTRUCTION DOCUMENTS HAVE BEEN DESIGNED FOR THE SPECIFIED VERTICAL AND LATERAL FORCES ACTING ON THE COMPLETED BUILDING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE ALL REQUIRED SHORING AND BRACING NEEDED DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF THE PARTIALLY-COMPLETED STRUCTURE AND FOR CONSTRUCTION LOADINGS THAT EXCEED THE SPECIFIED DESIGN
- SHORING, BRACING, PROTECTING, AND MAINTAINING THE INTEGRITY OF ANY EXISTING, ADJACENT, AND/OR ONGOING PARTIALLY COMPLETED STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR.

### **B. FOUNDATION RELATED EARTHWORK**

- 1. RECOMMENDATIONS AND DESIGNS CONTAINED IN GEOTECHNICAL REPORTING AS FOLLOWS:
- THE GEOTECHNICAL REPORTING CONTAINS SPECIFIC REQUIREMENTS PERTAINING TO GRUBBING, SITE, SUBFLOOR AND BEARING SURFACE PREPARATION AND PROTECTION; STRUCTURAL FILL AND COMPACTION REQUIREMENTS; GROUND WATER MANAGEMENT; ETC. THAT ARE NOT NECESSARILY SHOWN BY THE DRAWINGS AND SPECIFICATIONS. ALSO, IBC CHAPTER 18 "SOILS AND FOUNDATION" REQUIREMENTS APPLY, UNLESS SPECIFICALLY NOTED OTHERWISE BY THE GEOTECHNICAL REPORTING, DRAWINGS OR SPECIFICATIONS. REPORT CONFLICTS BETWEEN THE REPORTING AND THE DRAWINGS AND SPECIFICATIONS TO THE ARCHITECT PRIOR TO COMMENCING ANY AFFECTED WORK.
- A LICENSED GEOTECHNICAL ENGINEER SHALL INSPECT AND REPORT ON ALL NATIVE SUB-GRADES FOR SLABS-ON-GRADE AND FOUNDATION PREPARED SOIL SURFACES PRIOR TO THE PLACEMENT OF ANY BACKFILL, FILL, AND FOUNDATION STRUCTURAL ELEMENTS. FOUNDATIONS AND FOOTING SHALL BEAR ON COMPETENT NATIVE SOILS OR COMPACTED STRUCTURAL FILLS IN ACCORDANCE WITH THE GEOTECHNICAL REPORTING.
- FOOTINGS, PILE CAPS, AND SLABS CAST DIRECTLY AGAINST THE EARTH SHALL BE SIDE-FORMED AS REQUIRED TO KEEP EARTH OUT OF THE CONCRETE. COMPACT DISTURBED LOAD BEARING SOIL IN DIRECT CONTACT WITH FOUNDATIONS TO ORIGINAL BEARING CAPACITY. AS WET WEATHER OR GROUND CONDITIONS WARRANT, PLACE A MINIMUM OF 6 INCHES OF CRUSHED STONE OR 12 INCHES OF SAND-GRAVEL WRAPPED IN GEOTEXTILE FABRIC FOR SUBGRADE PROTECTION BENEATH FOUNDATIONS, DO NOT ALLOW FOR STANDING WATER ON EARTH. IF OVER-EXCAVATION OCCURS, REPLACE MATERIAL WITH BACKFILL MEASURES SPECIFIED FOR USE UNDER FOUNDATIONS, AFTER ACCEPTANCE BY GEOTECHNICAL ENGINEER.
- UNLESS NOTED OTHERWISE, PLACE AND COMPACT BACKFILL IN EQUAL CONTINUOUS LAYERS NOT EXCEEDING A MAXIMUM OF 8" OF COMPACTED DEPTH FOR HAND-HELD COMPACTION EQUIPMENT AND A MAXIMUM OF 12" INCHES COMPACTED DEPTH FOR VIBRATORY ROLLERS. MAINTAIN OPTIMUM MOISTURE CONTENT OF BACKFILL MATERIALS TO ATTAIN COMPACTION
- AT EARTH RETAINING AND FOUNDATION WALLS, BACKFILL LIFTS TO NOT EXCEED 12 INCH DIFFERENCE IN ELEVATION UNTIL FINAL ELEVATION ARE REACHED ON BOTH SIDES OF THE WALL. AT BASEMENT WALLS, DO NOT BACKFILL UNTIL GROUND FLOOR AND CONNECTED ELEVATED FRAMED LEVELS SLABS HAVE BEEN COMPLETED AND THE CONCRETE AT WALLS AND FLOORS HAS ACHIEVED FULL DESIGN STRENGTH.
- THE CONSTRUCTION CONSIDERATIONS IN THE GEOTECHNICAL REPORTING AND PROJECT SPECIFICATIONS SHALL APPLY TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO PROOFROLLING SUBGRADES AT THE EXCAVATION AND/OR BEARING ELEVATIONS; REMOVING AND REPLACING LOOSE OR SOFT POCKETS, FILL SLOPE CONSTRUCTIONS, ETC.
- BACKFILL REQUIREMENTS:
- A. FILL WITHIN BUILDING ENVELOPE AND EXTENDING OUTWARD AT 1:1 SLOPE TO ACCEPTABLE NATIVE SOIL CONDITIONS: MATERIAL: "SAND-GRAVEL"; "GRANULAR"; "CRUSHED STONE" WITH GEOTEXTILE WRAP (SEE SECTIONS)
- COMPACTION: 95% MODIFIED PROCTOR
- B. BACKFILL DIRECTLY BELOW INTERIOR SLABS-ON-GRADE ASSEMBLIES (12 INCHES UNLESS NOTED OTHERWISE): "CRUSHED STONE" WITHOUT GEOTEXTILE WRAP
- b. COMPACTION: 95% MODIFIED PROCTOR
- C. BACKFILL BELOW PAVEMENT, WALKS, ENTRY SLABS IN VICINITY OF BUILDING:
- MATERIAL: "SAND-GRAVEL" "GRANULAR" "CRUSHED STONE" (SEE SECTIONS, LAND ARCH AND CIVIL) COMPACTION: 95% MODIFIED PROCTOR
- BACKFILL BEHIND RETAINING WALLS AND BASEMENT WALLS, OUTSIDE BUILDING ENVELOPE AND UNDER PAVEMENT, WALKS, ENTRY SLABS
- a. MATERIAL: "GRANULAR BACKFILL" COMPACTION: 95% MODIFIED PROCTOR

SIEVE DESIGNATION

4 INCH

1/2 INCH

3/4 INCH

No.4

3/8 INCH

BACKFILL ALONG EXTERIOR OF BUILDING AGAINST WALLS AND NOT UNDER PAVEMENT, WALKS, ENTRY SLABS: MATERIAL: "SUITABLE NATIVE SOIL" COVERED BY 2 FEET DEEP BY 4 FEET WIDTH OF "LESS PERMEABLE FILL COMPACTION: 92% MODIFIED PROCTOR

% BY WEIGHT PASSING SIEVES

50-85

BACKFILL MATERIALS: RECYCLED CONCRETE AGGREGATE TO BE USED IN WHOLE OR BLENDED WITH OTHER AGGREGATES TO ACHIEVE GRADATIONS BELOW. ONSITE MATERIALS MEETING THE FOLLOWING CLASSIFICATIONS MAY BE USED: A. "SAND-GRAVEL":

1E 7E

	•	No. 4	45-75			
	•	No. 100	10-35			
	•	No. 200	0-6			
B.	"GRANULAR":					
	<ul> <li>SIEVE I</li> </ul>	DESIGNATION % B	/ WEIGHT PASSING SIEVES			
	•	No. 4	100			
	•	No. 10	30-95			
	•	No. 40	10-60			
	•	No. 200	0-8			
	•					
C.	"CRUSHED STONE" WITH GEOTEXTILE FABRIC:					
	• SIEVE I	DESIGNATION	% WEIGHT BY PASSING SIEVES			
	•	1 INCH	100			
		DESIGNATION	% WEIGHT BY PASSING SIEVES			

D. "SUITABLE NATIVE SOIL": ON SITE SAND OR GRAVEL REASONABLY FREE OF LOAM, SILT, CLAY, OR ORGANIC MATTER.

0-10

90-100

0-55

- E. "LESS PERMEABLE FILL" GLACIAL TILL (SEE GEOTECHNICAL REPORT)
- "RECYCLED CONCRETE AGGREGATE" STOCKPILED ON SITE FROM DECONSTRUCTION PROJECT. SUBMIT GRADATIONS PRIOR TO ANY REQUIRED BLENDING; AS WELL AS FOR BLENDED AGGREGATES. MUST BE USED AS IS OR INTEGRAL WITH "SAND-GRAVEL"; "GRANULAR"; "CRUSHED STONE" FILLS OR BACKFILLS ABOVE.
- GEOTEXTILE FABRIC: NON-WOVEN WITH 12 LAPPED SEAMS SEE GEOTECHNICAL REPORTING FOR USE AND MEETING:
- GRAB STRENGTH OF 80 POUNDS MINIMUM MEETING ASTM D4632 PUNCTURE STRENGTH OF 25 POUNDS MINIMUM MEETING ASTM D4833
- TRAPEZOID TEAR OF 25 POUNDS MINIMUM MEETING ASTM D4533
- APPARENT OPENING SIZE OF NO. 70-100 (US SIEVE) MEETING ASTM D4751
- INSULATION AT EXTERIOR SLABS AND WALKS (NOT PAVEMENTS): EXTRUDED POLYSTYRENE, STRENGTH OF 40 PSI (UNO)AND RATED FOR UNDERSLAB/UNDERGROUND USE. STAGGER AND DO NOT TAPE BOARD JOINTS.

### C. CONCRETE

- CODES AND STANDARDS: COMPLY WITH THE PROVISIONS OF THE LATEST EDITIONS OF:
- ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
- ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI 304 "GUIDE FOR MIXING, TRANSPORTING AND PLACING CONCRETE"
- ACI 305 "HOT WEATHER CONCRETING"
- ACI 306 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING" ACI 308 "STANDARD PRACTICE FOR CURING CONCRETE".
- CONCRETE TESTING: THE CONTRACTOR SHALL PREPARE A SET OF 4 CYLINDERS/TEST SET TO BE TESTED AT AN INDEPENDENT LABORATORY. THE CYLINDERS SHALL BE TAKEN FROM ONE CONCRETE TRUCK AND LABELED WITH DATE, TRUCK NUMBER, AND LOCATION OF CONCRETE PLACEMENT. EACH SAMPLE SHALL ALSO BE TESTED FOR SLUMP, AIR CONTENT, AND TEMPERATURE. THE CYLINDERS SHALL BE TESTED AS FOLLOWS: 1 AT 7 DAYS; 2 AT 28 DAYS; AND A THIRD HELD FOR A 56 DAY BREAK IF REQUIRED. TEST CYLINDERS SHALL BE TAKEN AT LEAST ONCE PER PLACEMENT OR AT THE FOLLOWING INCREMENTS:
- WALLS AND FOOTINGS: 50 CUBIC YARDS ISOLATED FOOTINGS: 25 CUBIC YARDS
- SLABS: 50 CUBIC YARDS
- FIELD TESTING SHALL BE PERFORMED BY A GRADE I ACI (MINIMUM)FIELD TESTING TECHNICIAN.
- SUBMIT MIX DESIGN AND EITHER TRIAL MIX DESIGNS OR HISTORIC FIELD DATA FOR APPROVAL IN ACCORDANCE WITH ACI 318, CHAPTER 5, INCLUDE TECHNICAL DATA SHEETS, GRADATIONS, AND MATERIAL VERIFICATIONS ON ALL COMPONENTS. SUBMIT MIX DESIGNS, PRIOR TO PLACEMENT OF CONCRETE, TRANSIT MIX SHALL CONFORM TO ASTM C94.
- COMPRESSIVE MIXTURES ARE NORMAL WEIGHT CONCRETE AS DELINEATED IN TABLE BELOW; SEE 03 3000 & NOTES BELOW FOR ADDITIONAL INFORMATION. LIMIT SLUMPS TO 3" TO 5".
- MAXIMUM AGGREGATE SIZE IN ACCORDANCE W/ ACI 301; CLEARLY NOTE LOCATION WHERE AGGREGATES GREATER THAT 3/2" MAXIMUM SIZE ARE PROPOSED FOR USE.
- NO CHLORIDE OR OTHER UNAUTHORIZED ADMIXTURES SHALL BE USED. MAINTAIN MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) IN CONCRETE, BY WEIGHT OF CEMENT AT LESS THAN 1.00 FOR NON-EXPOSED CONCRETES AND 0.30 FOR EXTERIOR EXPOSED
- 7. WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT PLACE AND PROTECT CONCRETE IN ACCORDANCE WITH ACI STANDARDS LISTED ABOVE.
- CONCRETE PLACEMENT MAY REQUIRE ADJUSTMENT OF REINFORCEMENT, EMBEDDED ITEMS OR ANCHOR BOLTS. REVIEW DRAWINGS IDENTIFY THESE LOCATIONS TO ARCHITECT PRIOR TO SUBMITTALS. PROVIDE ADDITIONAL SUPERVISION AT ALL STEEL TO CONCRETE CONNECTION LOCATIONS AND MODIFY PLACEMENT MEASURES TO ACCOUNT FOR CONGESTIONS.
- COMPLY WITH ACI CODES AND PLACE CONCRETE IN A CONTINUOUS OPERATION WITHIN PLANNED JOINTS OR SECTIONS. DO NOT PERMIT COLD JOINTS TO OCCUR.
- CURING: COVER OR WET CURE ALL ELEMENTS. BEGIN INITIAL CURING AS SOON AS FREE WATER HAS DISAPPEARED FROM EXPOSED SURFACES. WHERE POSSIBLE, KEEP CONTINUOUSLY WET FOR 72 HOURS. CONTINUE CURING BY USE OF MOISTURE RETAINING COVER. USE OF MEMEBRANE-FORNING CURING COMPOUNDS IS PROHIBITED.
- 11. SEE 03 3000 FOR SURFACE FINISHES. NOTE EXPOSED WALL REQUIREMENTS IN SPECIFICATIONS.
- PROVIDE CONTROL AND CONSTRUCTION JOINTS BY DETAIL AND SPECIFICATION REQUIREMENTS. SHOW LOCATION ON REINFORCING SUBMITTAL FOR COORDINATION WITH FLOORING, EQUIPMENT AND OTHER CONTRACTOR REQUIREMENTS. SLABS SAW-CUT CONTROL JOINTS AS SOON AS CONCRETE HAS HARDENED ENOUGH TO WALK ON SURFACE WITHOUT
- DAMAGING CONCRETE AND NO MORE THAN 4 HOURS AFTER FINAL TROWEL. JOINT SPACING SHALL, UNLESS NOTED OTHERWISE, NOT EXCEED 36 TIMES THE SLAB THICKNESS OR 18 FEET B. WALLS CONTROL JOINTS: NOT EXCEEDING 20 FEET AND AT EACH INTEGRAL PILASTER; CONSTRUCTION JOINTS AT 80 FEET
- OF MAXIMUM SPACING. HEADED STUD ANCHORS, DEFORMED BAR ANCHORS (DBA'S), AND OTHER EMBEDDED ITEMS AS SPECIFIED FOR STRUCTURAL

STEEL. ALL WELDS FOR STUDS AND DBA'S SHALL BE AUTOMATICALLY WELDED WITH MANUFACTURER'S EQUIPMENT AND

- CONCRETE MIXES AS SCHEDULED AND: SLUMP: 3-5" BEFORE ADDITION OF WATER REDUCER, 6-8" AFTER ADDITION OF WATER REDUCER
- ALL CONCRETE NORMALWEIGHT
- D. CONCRETE REINFORCEMENT SHOP DRAWINGS SHALL BE PROVIDED PRIOR TO START OF CONCRETE PLACING AND BE IN ACCORDANCE WITH:
- ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
- ACI SP-66 "ACI DETAILING MANUAL"

RECOMMENDATIONS FOR FLUX FILLED HEADS.

- CRSLMSP "MANUAL FO STANDARD PRACTICE"
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. SHOW ALL SLABS IN PLAN AND ALL WALLS IN ELEVATION WITH OPENINGS AND PENETRATIONS SHOWN BASED ON MEP COORDINATION SUBMITTALS AND ARCHITECTURAL REQUIREMENTS. SUBMIT PROPOSED CONTROL AND CONSTRUCTION JOINTS FOR REVIEW ON REINFORCING SUBMITTALS
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60, STEEL BARS PER ASTM A305, UNLESS NOTED OTHERWISE.
- PROVIDE EPOXY-COATED BARS WHERE SHOWN MEETING ASTM A775 AND USING EPOXY COATED SUPPORTS, COATED WIRE, AND EPOXY COATING FOR REPAIR OF SURFACE PRIOR TO POURING.
- WHERE SPECIFICALLY SHOWN ON THE DRAWINGS, WELD REINFORCING BARS IN ACCORDANCE WITH AWSD1.4 PRE-QUALIFIED JOINT, ELECTRODE 9E90 LOW HYDROGEN) AND PROCESS REQUIREMENTS INCLUDING COORDINATED WITH MILL CERTIFIED CARBON EQUIVALENT. ALTERNATIVELY, ASTM A706, GRADE 60 MAY BE SUBSTITUTED, INDICATE MATERIAL AND WELDING REQUIREMENTS ON SUBMITTAL. DO NOT WELD AT LOCATIONS NOT DETAILED, UNLESS SUBMITTED AND REVIEWED BY ARCHITECT.
- FIELD BENDING OR REINFORCEMENT SHALL CONFORM TO ACI 301, INCLUDING PRE-HEAT REQUIREMENTS.
- WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 70,000 PSI. LAP ONE CROSS WIRE SPACING PLUS 2". SUPPORT MESH ON CHAIRS PER CRSI W/#4 AT 4'-0"oc, EACH WAY.
- PROVIDE MINIMUM CONCRETE COVER TO REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:
- BOTTOM OF FOOTINGS, GRADE BEAMS, AND SLABS-ON-GRADE: 3"
  - SIDES OF FOOTINGS AND GRADE BEAMS: 2" FOUNDATION WALLS, FROST WALLS, RETAINING WALLS, PIT WALLS: 2"
  - EXTERIOR WALLS (EXPOSED TO WEATHER): 2" FACES OF WALLS OTHER THAN THOSE NOTED ABOVE: 3/4"
  - FOUNDATION PIERS: 2" TO TIES
  - ALL FACES OF BEAMS AND COLUMNS: 1-1/2" TO TIES
  - TOP AND BOTTOM OF ELEVATED SLABS: 3/4"

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- TOPPING SLAB: 3/4" SLAB-ON-DECK: 3/4" FROM DECK, 3/4" FROM TOP SURFACE
- ALL LAPS SHALL BE FULL TENSION LAPS (CLASS B SPLICE) UNLESS SPECIFICALLY NOTED OTHERWISE. DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT, UNLESS OTHERWISE NOTED.
- HEADED STUD ANCHORS, DEFORMED BAR ANCHORS (DBA'S), AND OTHER EMBEDDED ITEMS AS SPECIFIED FOR STRUCTURAL STEEL. ALL WELDS FOR STUDS AND DBA'S SHALL BE AUTOMATICALLY WELDED WITH MANUFACTURER'S EQUIPMENT AND RECOMMENDATIONS FOR FLUX FILLED HEADS.
- CHAIRS AND SPACERS SHALL BE PLACED TO ADEQUATELY SUPPORT REINFORCING DURING PLACEMENT. FOREIGN MATERIALS SUCH AS WOOD, CLAY BRICK OR OTHER UNSUITABLE SUPPORTS SHALL NOT BE USED TO SUPPORT REINFORCING. SET WIRE TIES SO ENDS ARE DIRECTED INTO CONCRETE WHERE CONCRETE WILL BE EXPOSED. DO NOT USE CONCRETE SUPPORTS OR PUDDLING FOR SLABS UNLESS SUBMITTED AND ACCEPTABLY REVIEWED.

## **E. CONCRETE FORMWORK**

- CONCRETE FORMS SHALL BE CLEAN AND FREE FROM DEBRIS. IF FORMS ARE COATED WITH A VEGETABLE BASED (SOY) RELEASE AGENT, WHICH SHALL NOT STAIN CONCRETE OR ABSORB MOISTURE OR IMPAIR NATURAL BONDING OF CONCRETE.
- COORDINATE WITH REINFORCING SUBMITTAL FOR OPENING AND ADDITIONAL REQUIREMENTS. SUBMIT, BEFORE FRAMING OPENINGS IN STRUCTURAL ELEMENTS WHICH ARE NOT INDICATED ON DRAWINGS.
- PROVIDE BRACING TO ENSURE STABILITY OF FORMWORK. FOR PLACEMENT OPERATIONS. DO NOT REMOVE FORMS OR BRACING UNTIL CONCRETE HAS GAINED SUFFICIENT STRENGTH TO CARRY ITS OWN WEIGHT AND IMPOSED LOADS.
  - ALL WALL SIDES AND SLAB EDGES EXPOSED TO VIEW AND PIT WALLS ON BOTH SIDES TO HAVE CLASS A CLASS OF SURFACE.

## F. POST-INSTALLED ANCHORS INTO CONCRETE AND MASONRY

- WHERE A MANUFACTURER'S ANCHORS IS SPECIFICALLY CALLED OUT ON THE DRAWINGS, IT SHALL BE CONSIDERED THE DESIGN BASIS FOR THE REQUIRED ANCHOR. ALTERNATES MEETING OR EXCEEDING ANCHOR SYSTEM DEMANDS, INCLUDING, BUT NOT LIMITED TO CAPACITY LOADING, EDGE DISTANCE, SUBSTRATE THICKNESS FOR CONNECTION ELEMENTS AND BASE MATERIAL SHALL BE SUBMITTED FOR PROPOSED USE PENDING ACCEPTABLE REVIEW. SUBMIT ICC-ES CODE REPORTS.
- ADHESIVE ANCHORS, WHERE NOT SPECIFICALLY DETAILED, SHALL BE: FOR CONCRETE AND CONCRETE MASONRY: HILTI HIT-HY150 MAX OR HIT HY-200
- FOR EXISTING BRICK MASONRY: HILTI HIT-HY 70 INSTALL IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. USE ¾ INCH DIAMETER AT MINIMUM EMBEDMENT UNLESS OTHERWISE INDICATED BY DETAIL. SEE NOTE 1.
- EXPANSION ANCHORS, WHERE NOT SPECIFICALLY DETAILED, SHALL BE:

UNLESS OTHERWISE INDICATED BY DETAIL. SEE NOTE 1.

- FOR CONCRETE: HILTI KWIK BOLT TZ FOR MASONRY: HILTI KWIK BOLT 3.
- INSTALL IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. USE ¾ INCH DIAMETER AT MINIMUM EMBEDMENT
- SCREW TYPE ANCHORS: WHERE NOT SPECIFICALLY DETAILED, SHALL, FOR CONCRETE AND MASONRY: SIMPSON TITEN-HD INSTALL IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. USE 3/4 INCH DIAMETER AT MINIMUM EMBEDMENT UNLESS OTHERWISE INDICATED BY DETAIL. SEE NOTE 1.

### G. CONCRETE MASONRY

- MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY SHALL BE F'm = 1500 PSI, DETERMINED BY THE UNIT STRENGTH
- CONCRETE MASONRY UNITS SHALL BE LOAD-BEARING NORMAL WEIGHT AGGREGATE CONCRETE MASONRY UNITS CONFORMING TO THE REQUIREMENTS OF ASTM C-90, GRADE N, TYPE 1 WITH MINIMUM AVERAGE NET-AREA COMPRESSIVE STRENGTH OF 1900 PSI. USE TWO-CELL HOLLOW BLOCK, NOMINAL FACE SIZE 8"X16" WITH NOMINAL THICKNESS AS SHOWN IN THE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING REQUIREMENTS.
- MORTAR SHALL CONFORM TO ASTM C270 TYPE S WITH MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.
- GROUT SHALL CONFORM TO ASTM C476 WITH MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. GROUT BOND BEAMS AND ALL CELLS WITH VERTICAL REINFORCEMENT. USE GROUT HAVING A FLY ASH, OR OTHER NON-PORTLAND CEMENT SUPPLEMENTARY
- DEFORMED REINFORCING BARS SHALL BE ASTM A615 GRADE 60.

CEMETITIOUS MATERIAL AT A REPLACEMENT RATE OF 80% MINIMUM.

- JOINT REINFORCEMENT SHALL BE NO.9 GALVANIZED TRUSS TYPE WIRE REINFORCING TO ASTM A-82 BY DUR-O-WAL UNLESS NOTED OTHERWISE. PLACE AT 16" ON CENTER VERTICALLY, UNLESS NOTED OTHERWISE.
- ALL CONCRETE MASONRY UNITS SHALL BE PLACED IN RUNNING BOND. WHERE NEW MASONRY IS TO CONNECT TO EXISTING MASONRY, COURSING OF NEW MASONRY SHALL MATCH COURSING OF EXISTING MASONRY
- CONCRETE BLOCK BENEATH BEAM BEARING POINTS SHALL BE FILLED SOLID WITH GROUT FOR A MINIMUM OF TWO FULL COURSES BENEATH THE BEAM AND FOR A WIDTH OF 24".
- CONCRETE BLOCK PLACED BENEATH GRADE SHALL BE GROUTED SOLID.
- 10. TOP COURSES SHALL BE FULL COURSE AS REINFORCED AND GROUTED BOND BEAMS.
- PROVIDE THE FOLLOWING REINFORCEMENT IN ADDITION TO THE SCHEDULED REINFORCEMENT: ONE #5 VERTICAL CONTINUOUS FROM SUPPORT TO SUPPORT AT EACH CORNER, AT EACH SIDE OF OPENINGS, AND AT
- B. ONE #5 HORIZONTAL BAR AT TOP AND BOTTOM OF WALL OPENINGS; EXTEND 24" PAST END OF OPENING
- 12. LAP LENGTHS SHALL BE AS FOLLOWS FOR DEFORMED REINFORCEMENT: #3 - 18"; #4 - 24"; #5 - 30"; #6 - 36"; #7 - 42"; #8 - 48"

- 1. SUBMIT IES REPORTS ON ALL FASTENERS USED, INCLUDING POST-APPLIED CONCRETE ANCHORS
- BLOCKING

### I. WOOD FRAMING NOTES:

- UNLESS OTHERWISE SPECIFIED, EACH PIECE OF LUMBER SHALL BEAR THE GRADE MARK, STAMP, OR OTHER IDENTIFYING MARKS INDICATING GRADES OF MATERIAL, AND RULES OR STANDARDS UNDER WHICH PRODUCED. SUCH IDENTIFYING MARKS ON A MATERIAL SHALL BE IN ACCORDANCE WITH THE RULE OR STANDARD UNDER WHICH MATERIAL IS PRODUCED, INCLUDING REQUIREMENTS FOR QUALIFICATIONS AND AUTHORITY OF THE INSPECTION ORGANIZATION. USAGE OF AUTHORIZED IDENTIFICATION, AND INFORMATION INCLUDED IN THE IDENTIFICATION. THE INSPECTION AGENCY FOR LUMBER SHALL BE APPROVED BY THE BOARD OF REVIEW, AMERICAN LUMBER STANDARDS COMMITTEE, TO GRADE SPECIES USED.
- PROTECT LUMBER AND OTHER PRODUCTS FROM DAMPNESS BOTH DURING AND AFTER DELIVERY AT THE SITE. PILE PLYWOOD AND LUMBER IN STACKS IN SUCH A MANNER AS TO PROVIDE ADEQUATE AIR CIRCULATION AND TO PREVENT WARPING. LOCATE STACKS IN WELL DRAINED AREAS, SUPPORTED AT LEAST SIX INCHES ABOVE GRADE AND COVER WITH WELL VENTILATED SHEDS HAVING A FIRMLY CONSTRUCTED OVERHANGING ROOF AS WELL AS SUFFICIENT END WALL TO PROTECT LUMBER FROM DRIVING
- STORE SEASONED MATERIALS IN DRY PORTIONS OF BUILDING.
- PROTECT SHEET MATERIALS FROM CORNERS BREAKING AND DAMAGING SURFACES WHILE UNLOADING.
- NOMINAL SIZES ARE INDICATED EXCEPT AS SHOWN BY DETAIL DIMENSIONS. PROVIDE ACTUAL SIZES AS REQUIRED BY PRODUCT STANDARD 20, DEPARTMENT OF COMMERCE.
- MAXIMUM MOISTURE CONTENT SHALL NOT EXCEED 19%.

LAMINATED VENEER LUMBER (LVL):

- LIGHT GAGE METAL CONNECTIONS SHALL BE SIMPSON, SUBMIT MANUFACTURERS SPECIFICATION SHEETS.
- ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE PRESSURE TREATED, P.P.T.
- 2x6 AND 2x4 BEARING WALLS, INTERIOR AND EXTERIOR LOCATIONS: SPRUCE-PINE-FIR No.1/No.2 AS GRADED BY NLGA
- STRUCTURAL ROOF AND FLOOR FRAMING: SPRUCE-PINE-FIR NO.1/NO.2 AS GRADED BY NLGA
- PRESERVATIVE PRESSURE TREATED LUMBER: SOUTHERN PINE NO. 2, AS GRADED BY SPIB
  - PROVIDE LVL HEADERS AND BEAMS AS INDICATED. LVL FRAMING SHALL BE LAMINATED DOUGLAS FIR OR SOUTHERN PINE (GP LAM BY GEORGIA PACIFIC OR MICROLAM
  - BY TRUS-JOIST OR EQUAL) MEETING THE FOLLOWING MINIMUM ALLOWABLE STRESS CRITERIA: FB (BENDING STRESS) = 2600 PSI
- FV (HORIZ. SHEAR STRESS) = 285 PSI E (MODULUS OF ELASTICITY) = 1,900,000 PSI FC (COMPRESSIONS PERPENDICULAR TO GRAIN) = 750 PSI

MISCELLANEOUS LUMBER: PROVIDE WOOD FOR SUPPORT OR ATTACHMENT OF THE WORK INCLUDING NON-BEARING PARTITIONS, CANT STRIPS, BUCKS, NAILERS, BLOCKING, FURRING, GROUNDS, STRIPPING AND SIMILAR MEMBERS. PROVIDE LUMBER OF SIZES AND SHAPES INDICATED. GRADE: SPRUCE-PINE-FIR STUD GRADE AS GRADED BY NLGA.

- PLYWOOD ROOF SHEATHING: APA RATED SHEATHING, SPAN RATING AS REQUIRED TO SUIT SUPPORT SPACING INDICATED; EXPOSURE DURABILITY 1; SANDED.
- 2. FLOOR SHEATHING: 3/4" ADVANTEK
- FASTENERS AND ANCHORS: FURNISH ITEMS OF ROUGH HARDWARE, METAL CONNECTORS, BOLTS, ETC., REQUIRED TO COMPLETE THE WORK. BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED ELECTRO
- SILL GASKET ON TOP OF FOUNDATION WALL: 1/4 INCH THICK, PLATE WIDTH WIDE, CLOSED CELL POLYETHYLENE URETHANE FOAM FROM CONTINUOUS ROLLS.
- SUBFLOOR GLUE: APA AFG-01, WATERPROOF OF WATER SOLVENT BASE, AIR CURE TYPE, CARTRIDGE
- BUILDING PAPER: NO. 15 ASPHALT FELT. PLAIN UNTREATED CELLULOSE BUILDING PAPER.
- WOOD PRESERVATIVE (PRESSURE TREATMENT): AWPA TREATMENT ACQ USING WATER BORNE PRESERVATIVE WITH 0.40 PERCENT RETAINAGE.
- 8. SET STRUCTURAL MEMBERS LEVEL AND PLUMB, IN CORRECT POSITION.
- MAKE PROVISIONS FOR ERECTION LOADS, AND FOR SUFFICIENT TEMPORARY BRACING TO MAINTAIN STRUCTURE SAFE, PLUMB, AND IN TRUE ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRACING.
- 10. PLACE HORIZONTAL MEMBERS, CROWN SIDE UP.
- 11. CONSTRUCT LOAD BEARING FRAMING FULL LENGTH WITHOUT SPLICES.
- DOUBLE MEMBERS AT OPENINGS OVER 24 INCHES WIDE. SPACE SHORT STUDS OVER AND UNDER OPENING TO STUD SPACING.
- 13. CONSTRUCT DOUBLE JOIST HEADERS AT FLOOR AND CEILING OPENINGS AND UNDER WALL STUD PARTITIONS THAT ARE PARALLEL TO FLOOR JOISTS. FRAME RIGIDLY INTO JOISTS.
- BRIDGE JOISTS FRAMING IN EXCESS OF 8 FEET SPAN AT MID-SPAN AND WHERE SHOWN ON DRAWINGS. FIT SOLID BLOCKING OR BRIDGING AT ENDS OF MEMBERS.
- SECURE ROOF SHEATHING WITH LONGER EDGE PERPENDICULAR TO FRAMING MEMBERS AND WITH ENDS
- STAGGERED AND SHEET ENDS OVER BEARING. 16. USE SHEATHING CLIPS BETWEEN SHEETS BETWEEN ROOF FRAMING MEMBERS
- WHERE TONGUE AND GROOVE PLYWOOD IS USED, FULLY ENGAGE TONGUE AND GROOVE EDGES.
- SECURE WALL SHEATHING WITH LONG DIMENSION PERPENDICULAR TO WALL STUDS, WITH ENDS OVER FIRM
- 19. PLACE BUILDING PAPER HORIZONTALLY OVER WALL SHEATHING; WEATHER LAP EDGES AND ENDS. SECURE SUB-FLOOR SHEATHING WITH LONGER EDGE PERPENDICULAR TO FLOOR FRAMING AND WITH END

JOINTS STAGGERED AND SHEET ENDS OVER BEARING. ATTACH WITH SUB-FLOOR GLUE AND 8D NAILS AT 6"

- ON CENTER AT PERIMETER AND 12" ON CENTER ON INTERIOR OF PANEL
- TOLERANCES: FRAMING MEMBERS: 1/4 INCH FROM TRUE POSITION, MAXIMUM. SURFACE FLATNESS OF FLOOR: 1/4 INCH IN 10 FEET MAXIMUM, AND 1/2 INCH IN 30 FEET MAXIMUM.

FOUNDATION WITH 1/2" DIAMETER ANCHOR BOLTS AT 4'-0" ON CENTER, UNLESS NOTED OTHERWISE.

- ALL POSTS AND COLUMNS FROM HEADERS AND BEAMS SHALL BEAR CONTINUOUSLY TO CONCRETE FOUNDATIONS INCLUDING BLOCKING IN FLOOR AND ROOF SPACES. BLOCKING SHALL BE OF THE SIZE AND SHAPE TO CARRY THE REQUIRED LOADING.
- ALL BOTTOM BEARING PLATES, FOR STUD WALLS OR BEAM BEARING, SHALL BE ANCHORED TO THE
- ALL BEARING WALLS SHALL BE BLOCKED AT 4'-0" ON CENTER, VERTICALLY, UNLESS NOTED OTHERWISE
- ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE PRESSURE TREATED, P.P.T ALL FASTENERS FOR PRESSURE TREATED WOOD TO BE G90 HOT-DIPPED GALVANIZED.
- 27. ALL HANGERS FOR PRESSURE TREATED WOOD TO BE G90 HOT-DIPPED GALVANIZED. 28. PROVIDE 1/4" NOMINAL GAP BETWEEN WOOD FRAMING AND HORIZONTAL FACES OF CONCRETE WALLS.

	<u> </u>
ned By:	1AM
ked By:	MS
n By:	IAM
:	1/8" = 1'-0
	Issue Dat

EV Project #21119

Date:

	NING SCHEDULE ABLE 2304.9.1, IBC 2012)		
CONNECTION	FASTENING a, m	LOCATION	
JOIST TO SILL OR GIRDER	(3) 8d COMMON (2-1/2" x 0.131") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	TOENAIL	
. BRIDGING TO JOIST	(2) 8d COMMON (2-1/2" x 0.131") (2) 3" x 0.131" NAILS (2) 3" 14 GAGE STAPLES	TOENAIL EACH END	
. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	(2) 8d COMMON (2-1/2" x 0.131")	FACE NAIL	
. WIDER THAN 1" x 6" SUBFLOOR TO EACH	(3) 8d COMMON (2-1/2" x 0.131")	FACE NAIL	
2" SUBFLOOR TO JOIST OR GIRDER	(2) 16d COMMON (3-1/2" x 0.162")	BLIND AND FACE NAIL	
SOLE PLATE TO JOIST OR BLOCKING	16d (3-1/2" x 0.135") AT 16"oc 3" x 0.131" NAILS AT 8"oc 3" 14 GAGE STAPLES AT 12"oc	TYPICAL FACE NAIL	
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	(3) 16d (3-1/2" x 0.135") AT 16"oc (4) 3" x 0.131" NAILS AT 16"oc (4) 3" 14 GAGE STAPLES AT 16"oc	BRACE WALL PANELS	
TOP PLATE TO STUD	(2) 16d COMMON (3-1/2" x 0.162") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	END NAIL	
	(4) 8d COMMON (2-1/2" x 0.131") (4) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	TOENAIL	
3. STUD TO SOLE PLATE	(2) 16d COMMON (3-1/2" x 0.162") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	END NAIL	
). DOUBLE STUDS	16d (3-1/2" x 0.135") AT 24"oc 3" x 0.131" NAIL AT 8"oc 3" 14 GAGE STAPLE AT 8"oc	FACE NAIL	
0. DOUBLE TOP PLATES	16d (3-1/2" x 0.135") AT 16"oc 3" x 0.131" NAIL AT 12"oc 3" 14 GAGE STAPLE AT 12"oc	TYPICAL FACE NAIL	
DOUBLE TOP PLATES	(8) 16d COMMON (3-1/2" x 0.162") (12) 3" x 0.131" NAILS (12) 3" 14 GAGE STAPLES	LAP SPLICE	
1. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3) 8d COMMON (2-1/2" x 0.131") AT 24"oc (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	TOENAIL	
2. RIM JOIST TO TOP PLATE	8d (2-1/2" x 0.131") AT 6"oc 3" x 0.131" NAIL 6"oc 3" 14 GAGE STAPLE AT 6"oc	TOENAIL	
3. TOP PLATES, LAPS AND INTERSECTIONS	(2) 16d COMMON (3-1/2" x 0.162") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	FACE NAIL	
4. CONTINUOUS HEADER, TWO PIECES	16d COMMON (3-1/2" x 0.162")	16"oc ALONG EDGE	
5. CEILING JOISTS TO PLATE	(3) 8d COMMON (2-1/2" x 0.131") (5) 3" x 0.131" NAILS (5) 3" 14 GAGE STAPLES	TOENAIL	
6. CONTINUOUS HEADER TO STUD	(4) 8d COMMON (2-1/2" x 0.131")	TOENAIL	
7. CEILING JOISTS, LAPS OVER PATITIONS ( SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1 )	(3) 16d COMMON (3-1/2" x 0.162") MINIMUM, TABLE 2308.10.4.1 (4) 3" x 0.131" NAILS (4) 3" 14 GAGE STAPLES	FACE NAIL	
8. CEILING JOISTS TO PARALLEL RAFTERS ( SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1 )	(3) 16d COMMON (3-1/2" x 0.162") MINIMUM, TABLE 2308.10.4.1 (4) 3" x 0.131" NAILS (4) 3" 14 GAGE STAPLES	FACE NAIL	
9. RAFTER TO PLATE ( SEE SECTION 2308.10.1, TABLE 2308.10.1 )	(3) 8d COMMON (2-1/2" x 0.131") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	TOENAIL	
20. 1" DIAGONAL BRACE TO EACH STUD AND PLATE	(2) 8d COMMON (2-1/2" x 0.131") (2) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	FACE NAIL	
21. 1" x 8" SHEATHING TO EACH BEARING	(3) 8d COMMON (2-1/2" x 0.131")	FACE NAIL	
2. WIDER THAN 1" x 8" SHEATHING TO EACH BEARING	(3) 8d COMMON (2-1/2" x 0.131")	FACE NAIL	
3. BUILT-UP CORNER STUDS	16d COMMON (3-1/2" x 0.162") 3" x 0.131" NAILS 3" 14 GAGE STAPLES	24"oc 16"oc 16"oc	

	NING SCHEDULE ABLE 2304.9.1, IBC 2012 )	
CONNECTION	FASTENING	LOCATION
OA PULLET UP OUDDED AND DEAMO	20d COMMON (4" x 0.192") AT 32"oc 3" x 0.131" NAILS 3" 14 GAGE STAPLES	FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
24. BUILT-UP GIRDER AND BEAMS	(2) 20d COMMON (4" x 0.192") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	FACE NAIL NAIL AT ENDS AND AT EACH SPLICE
25. 2" PLANKS	16d COMMON (3-1/2" x 0.162")	AT EACH BEARING
26. COLLAR TIE TO RAFTER	(3) 10d COMMON (3" x 0.148") (4) 3" x 0.131" NAILS (4) 3" 14 GAGE STAPLES	FACE NAIL
27 JACK BAETER TO HIR	(3) 10d COMMON (3" x 0.148") (4) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	TOENAILS
27. JACK RAFTER TO HIP	(2) 16d COMMON (3-1/2" x 0.162") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	FACE NAIL
	(2) 16d COMMON (3-1/2" x 0.162") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	TOENAILS
28. ROOF RAFTER TO 2-by RIDGE BEAM	(2) 16d COMMON (3-1/2" x 0.162") (3) 3" x 0.131" NAILS (3) 3" 14 GAGE STAPLES	FACE NAIL
29. JOSIT TO BAND JOIST	(3) 16d COMMON (3-1/2" x 0.162") (4) 3" x 0.131" NAILS (4) 3" 14 GAGE STAPLES	FACE NAIL
30. LEDGER STRIP	(3) 16d COMMON (3-1/2" x 0.162") (4) 3" x 0.131" NAILS (4) 3" 14 GAGE STAPLES	FACE NAIL AT EACH JOIS
31. WOOD STRUCTURAL PANELS AND PARTICLEBOARD SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)	1/2" AND LESS 6d c, 1 2-3/8" x 0.113 NAIL n 1-3/4" 16 GAGE 0 19/32" TO 3/4" 8d OP 6d e 2-3/8" x 0.113 NAIL P 2" 16 GAGE p 8d c 7/8" TO 1" d 10d OP 8d	
SINGLE FLOOR (COMBINATION SUBFLOOR- UNDERLAYMENT TO FRAMING)	1-1/8" TO 1-1/4"  3/4" AND LESS 6d	
32. PANEL SIDING (TO FRAMING)	1/2" OR LESS 6d <sup>f</sup> 5/8" 8d <sup>f</sup>	
33. FIBERBOARD SHEATHING	1/2"  No. 11 GAGE ROOFING NAIL  6d COMMON NAIL (2" x 0.113")  No. 16 GAGE STAPLE  1  No. 11 GAGE ROOFING NAIL  No. 11 GAGE ROOFING NAIL  8d COMMON NAIL (2-1/2" x 0.113")  No. 16 GAGE STAPLE	
34. INTERIOR PANELING	1/4" 4d <sup>j</sup> 3/8" 6d <sup>k</sup>	

# FOR SI: 1" = 25.4 mm

- a. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE OTHERWISE STATED. NAILS SPACED AT 6" ON CENTER AT PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6" AT SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCURAL PANEL AND PARTICLEBOARD DIAPHARAGMS AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.
- COMMON OR DEFORMED SHANK (6d 2" x 0.113"; 8d 2-1/2" x 0.131"; 10d 3" x 0.148"). COMMON (6d - 2" x 0.113"; 8d - 2-1/2" x 0.131"; 10d - 3" x 0.148").
- DEFORMED SHANK (6d 2" x 0.113"; 8d 2-1/2" x 0.131"; 10d 3" x 0.148").
- CORROSION-RESISTANT SIDING (6d 1-7/8" x 0.106"; 8d 2-3/8" x 0.128") OR CASING (6d 2" x 0.099"; 8d 2-1/2" x 0.113").
- FASTENERS SPACED 3 INCHES ON CENTER AT EXTERIOR EDGES AND 6 INCHES ON CENTER AT INTERMEDIATE SUPPORTS, WHEN USED AS STRUCTURAL SHEATHING. SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NONSTRUCTURAL APPLICATIONS.
- CORROSION-RESISTANT ROOFING NAILS WITH 7/16-INCH-DIAMETER HEAD AND 1-1/2-INCH LENGTH FOR 1/2-INCH SHEATHING AND 1-3/4-INCH LENGTH FOR 25/32-INCH SHEATHING. CORROSION-RESISTANT STAPLES WITH NOMINAL 7/16-INCH CROWN OR 1-INCH CROWN AND 1-1/4-INCH LENGTH FOR 1/2-INCH SHEATHING AND 1-1/2-INCH LENGTH FOR 25/32-INCH SHEATHING. PANEL SUPPORTS AT 16 INCHES (20 INCHES IF STRENGTH AXIS IN THE LONG
- DIRECTION OF THE PANEL, UNLESS NOTED OTHERWISE). CASING (1-1/2" x 0.080") OR FINISH (1-1/2" x 0.072") NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS. PANEL SUPPORTS AT 24 INCHES. CASING OR FINISH NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE
- FOR ROOF SHEATHING APPLICATIONS, 8d NAILS (2-1/2" x 0.113") ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16 INCH.
- FOR ROOF SHEATHING APPLICATIONS, FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8" AT INTERMEDIATE SUPPORTS. FASTENERS SPACED AT 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS FOR SUBFLOOR AND WALL SHEATHING
- AND 3 INCHES ON CENTER AT EDGES, 6 INCHES AT INTERMEDIATE SUPPORTS FOR ROOF SHEATHING. FASTENERS SPACED AT 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.

SHEAR WALL SCHEDULE					
WALL MARK	SHEATHING	NAILING		HOLDOWN	BOTTOM PLATE
WALL WARK		AT PANEL EDGES	AT INTERMEDIATE SUPPORTS	HOLDOWN	ATTACHMENT
SW-1	1/2" THICK ON ONE SIDE	8d NAILS AT 6"oc	8d NAILS AT 12"oc	HD-A	SEE DETAIL 9/S-4

16"oc

- PROVIDE BLOCKING AT ALL PANEL EDGES.
- ALL STUDS SHALL BE SPF No. 1 / No. 2 OR BETTER. ALL WALL PLATES SHALL BE No. 1 / No. 2 OR BETTER.
- ALL SHEATHING SHALL BE APA RATED. ALL SHEAR WALLS TO EXTEND FROM FLOOR DIAPHRAGMS TO FLOOR OR ROOF DIAPHRAGMS.

3" 14 GAGE STAPLES

HOLD DOWN SCHEDULE						
HOLD DOWN SCHEDOLL						
MARK	HOLD DOWN	MINIMUM VERTICAL WOOD MEMBER	CONCRETE ANCHOR	DETAIL		
HD-A	DTT2Z-SDS2.5	(2) 2x6	1/2" dia. EPOXY ANCHOR 4 1/2" EMBEDMENT	1/S-4		

HOLD DOWNS BY SIMPSON STRONG-TIE. EPOXY ANCHORS TO BE HILTI HAS RODS DRILLED AND SET WITH HILTI HY 200 ADHESIVE SYSTEM. MAINTAIN 3" CONCRETE EDGE DISTANCE.

# BASIS OF DESIGN

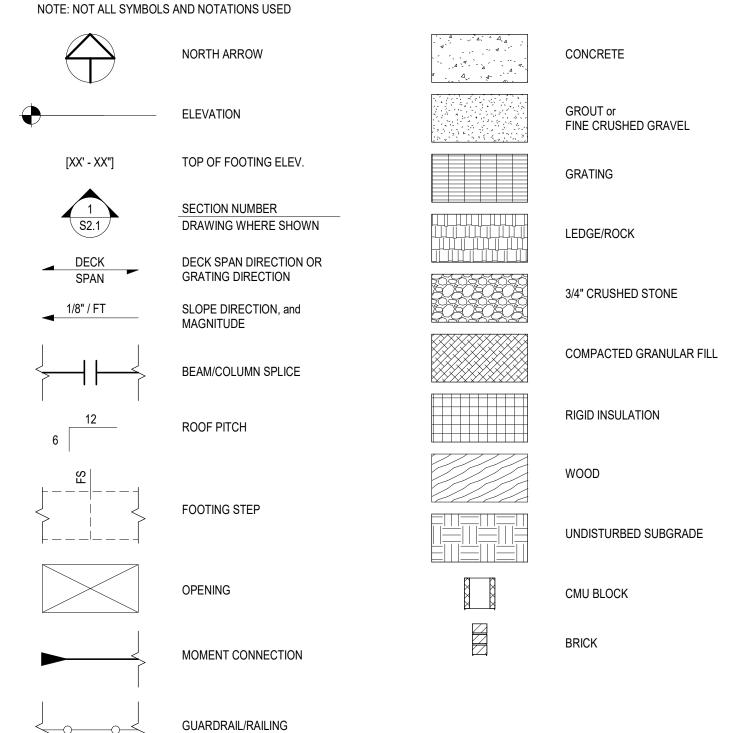
1.	Building Code:	IBC 2015 & ASCE 7-10			
2.	Dead Loads:				
	a. Roof Dead Load:	20 psf			
3.	Live Loads:				
	a. Roof Live Load:	Snow Load Governs			
	b. Floor Live Load (live load reduction not u	sed): 50 psf			
4.	Roof Snow Load:				
	a. Ground Snow Load, Pg:	80 psf			
	b. Flat Roof Snow Load, P <sub>f</sub> :	69 psf			
	c. Snow Exposure Factor, C <sub>e</sub> .	1.0			
	d. Snow Load Importance Factor, I:	1.0			
	e. Thermal Factor, C <sub>t</sub> :	1.1			
1.	Wind Design Data:				
	a. Basic Wind Speed (3-second gust), V:	115 mph			
	b. Wind Exposure:	C			
	c. Internal Pressure Coefficients:	+/- 0.18			
	d. Components and Cladding Wind Pressu				
2.	Earthquake Design Data:				
	a. Seismic Importance Factor, I:	1.0			
	b. Risk Category:				
	c. Mapped Spectral Response Acceleration	n, S <sub>S</sub> : 0.244			
	d. Mapped Spectral Response Acceleration				
	e. Site Class:	D			
	f. Spectral Response Coefficient, S <sub>DS</sub> :	0.260			
	g. Spectral Response Coefficient, S <sub>D1</sub> :	0.133			
	h. Seismic Design Category:	C			
	i. Basic Seismic-Force-Resisting System:	Light-Framed walls sheathed with wood structural panels rated for shear resistacne			
	j. Analysis Procedure Used:	Equivalent Lateral Force Procedure			
3.	Allowable Soil Bearing Pressure:	2000 psf (Assumed to be verified by other at time of construction)			

# **ABBREVIATIONS**

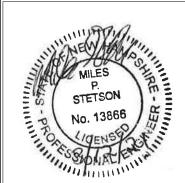
				_
AB	ANCHOR BOLT	MC	MOMENT CONNECTION	_
AFF	ABOVE FINISH FLOOR	N.S.	NEAR SIDE	
AL	ALUMINUM	ос	ON CENTER	
B.O.F.	BOTTOM OF FOOTING	P#	PIER DESIGNATION	
DWG	DRAWING	PL	PLATE	
E.F.	EACH FACE	SS	STAINLESS STEEL	
ELEV.	ELEVATION	STD	STANDARD	
EP	EMBED PLATE	T.O.C.	TOP OF CONCRETE	
EQ	EQUAL	T.O.S.	TOP OF STEEL	
E.S.	EACH SIDE	T.O.SHELF	TOP OF SHELF	
E.W.	EACH WAY	T.O.W.	TOP OF WALL	
EX.	EXISTING	TYP.	TYPICAL	
F#	FOOTING DESIGNATION	U.N.O.	UNLESS NOTED OTHERWISE	
FND	FOUNDATION	V.I.F.	VERIFY IN FIELD	
F.S.	FAR SIDE			

## DRAWING LEGEND

**HEAVY TIMBER** 



**BEAM PENETRATION** 



ENGINEERING VENTURES PC

CON

NOT

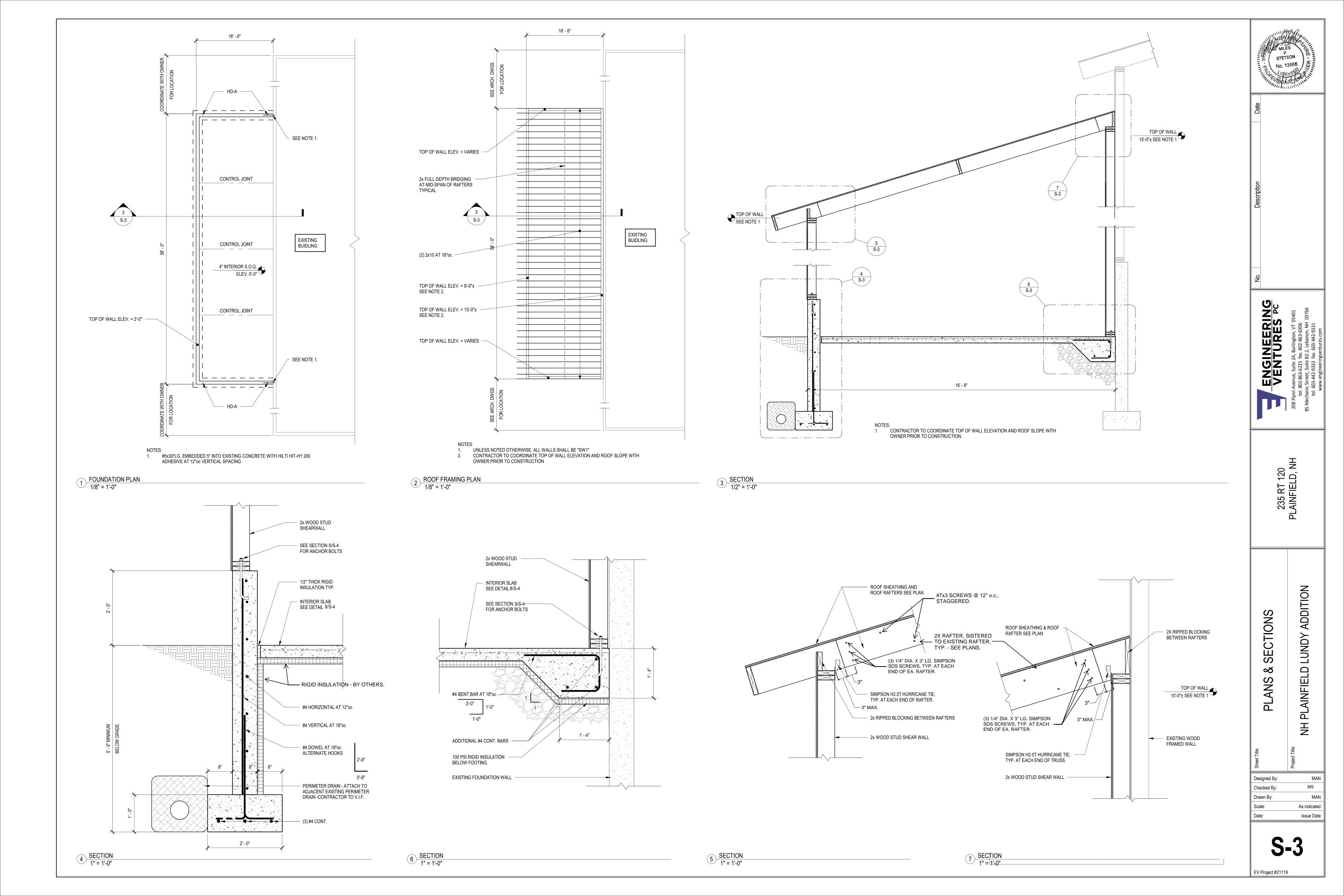
ENERAL

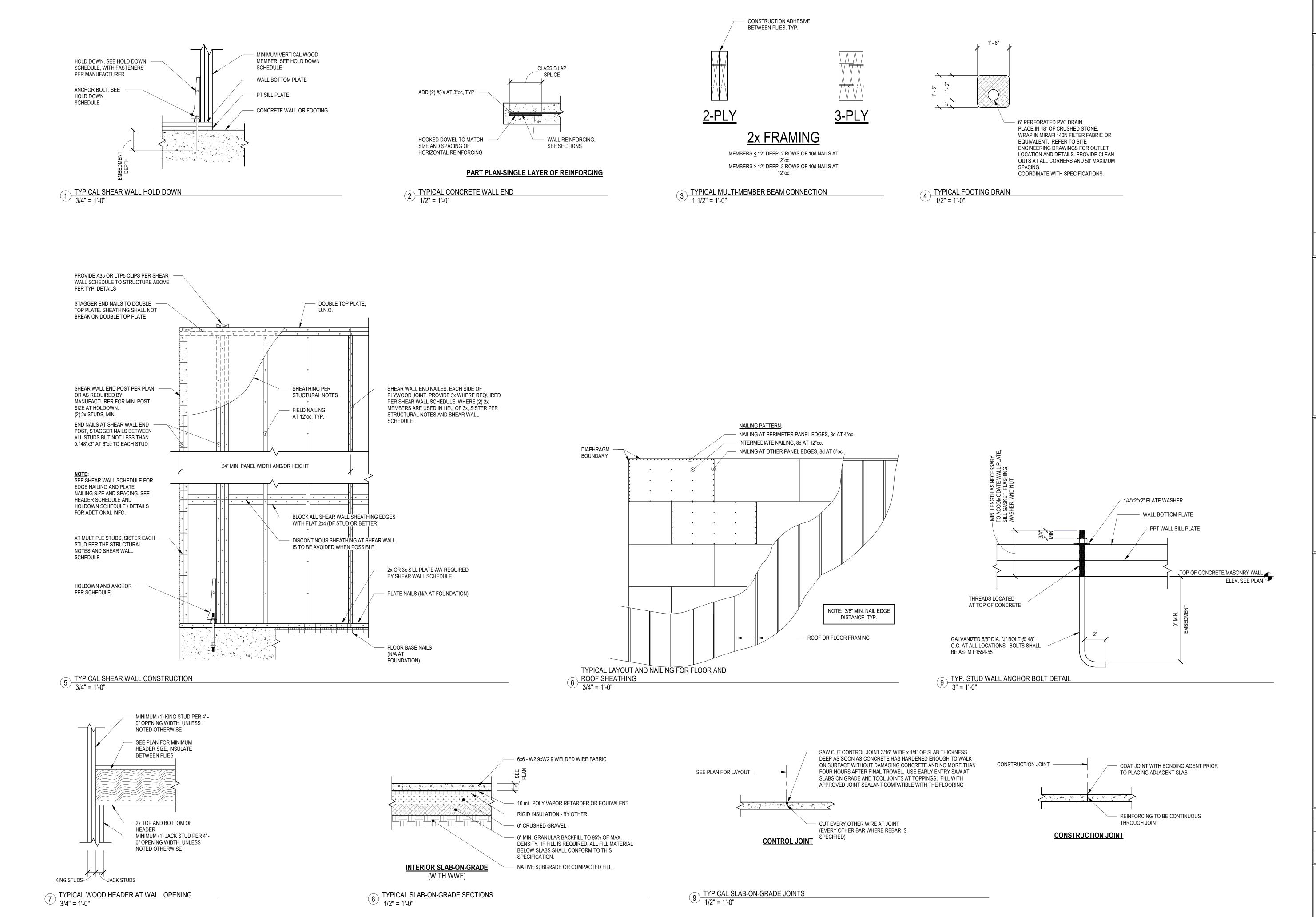
**ADDITION** LUNDY PLAINFIELD

Designed By: MS Checked By: Drawn By: As indicated

Issue Date

EV Project #21119





ENGINEERING VENTURES PC

235 RT 120 PLAINFIELD, N

**ADDITION** 

LUNDY

**PLAINFIELD** 

Checked By: Drawn By: As indicated Issue Date