WOOD NOTES

1) LAMINATED MEMBER SIZES:
1A) LVL, PSL, LSL AND OTHER FABRICATED MEMBERS (TJI) SIZES SHOWN ARE NET. OTHER MEMBER SIZES ARE NOMINAL.

2) FRAMING LUMBER:
2A) DRY (19% MAXIMUM MOISTURE CONTENT AT THE TIME OF INSTALLATION), HEM-FIR WITH MINIMUM DESIGN VALUES BASED ON THE 2012 NDS. SEE 'FRAMING LUMBER TABLE' FOR MINIMUM GRADES.

2B) BEAMS AND STRINGERS USED WITH CANTILEVERS OR CONTINUOUS SPANS SHALL BE GRADED TO PROVIDE THE SPECIFIED ALLOWABLE STRESSES OVER THE ENTIRE MEMBER LENGTH.

2C) ALL NEW NOMINAL LUMBER SHALL BE CONSIDERED HEM-FIR UNLESS NOTED OTHERWISE.

3) FABRICATED LUMBER:
3A) FABRICATED LUMBER DESIGNATIONS ARE THOSE MANUFACTURED BY WEYERHAEUSER COMPANY.

3B) FABRICATED LUMBER IS DESIGNATED ON THE DRAWINGS AS ONE OF THE FOLLOWING: TJI JOISTS, MICROLLAM (LVL), PARALLAM (PSL), TIMBERSTRAND (LSL) OR RIMBOARD.

3C) THE MANUFACTURER SHALL PROVIDE WEB STIFFENERS ON I-JOISTS, END BLOCKING, BRIDGING, AND ERECTION BRACING AS REQUIRED. SEE "DESIGN CRITERIA" FOR DESIGN DEAD AND LIVE LOADS.

3D) FABRICATED LUMBER SHALL BE DRY.

3E) SEE 'FABRICATED LUMBER TABLE' FOR MINIMUM PROPERTIES (AT NORMAL LOAD DURATIONS).

3F) FABRICATED RIMBOARD SHALL BE LAMINATED STRAND LUMBER.

3G) SEE 'RIMBOARD TABLE' FOR MINIMUM PROPERTIES.

4) SHEATHING:
4A) WOOD STRUCTURAL PANELS (WSP)
- SHEATHING SHALL BE 3/4" THICK 240C STURD-I-FLOOR
- WOOD STRUCTURAL PANELS SHALL BE APA RATED SHEATHING CONFORMING TO U.S. DEPARTMENT OF COMMERCE STANDARD PS 2-10.
- ALL WOOD PANELS SHALL BE EXPOSURE 1.

5) BLOCKING AND BRIDGING:
5A) PROVIDE 1" X 4" SIMPSON NC/NCA CROSS-BRIDGING AT 8' O.C. MAXIMUM SPACING FOR ALL SOLID SAWN WOOD JOISTS AND RAFTERS. PROVIDE FULL HEIGHT SOLID BLOCKING (MINIMUM WIDTH TO MATCH WIDTH OF FRAMING) BETWEEN ALL FRAMING MEMBERS (SOLID SAWN JOISTS AND RAFTERS, FABRICATED JOISTS AND RAFTERS AND TRUSSES) AT SUPPORTS.

6) NAILING:
6A) UNLESS NOTED OTHERWISE ON THE DRAWINGS, PROVIDE COMMON NAILS WITH SIZES SHOWN IN THE TYPICAL WOOD MEMBER FASTENING SCHEDULE ON **2.36**. MINIMUM NAILING SHALL BE IN ACCORDANCE WITH THE TYPICAL WOOD CONNECTION SCHEDULE AND IBC 2015 TABLE 2304.10.1.

6B) WHERE COMMON NAILS ARE SPECIFIED, BOX NAILS OF EQUAL LENGTH MAY BE SUBSTITUTED PROVIDED ONE BOX NAIL IS ADDED FOR EVERY THREE COMMON NAILS SPECIFIED.

7) METAL CONNECTORS:
7A) FRAMING CONNECTORS SHALL CONFORM TO IBC 2015 SECTIONS 2304.10 AND 2304.11. FRAMING CONNECTOR DESIGNATIONS ARE THOSE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, SAN LEANDRO, CALIFORNIA. OTHER MANUFACTURER'S PRODUCTS MAY BE USED IF APPROVED BY THE ENGINEER. FURNISH NAILS AND/OR BOLTS OF DIAMETER, LENGTH, AND NUMBER SPECIFIED BY THE MANUFACTURER FOR EACH CONNECTOR.

7B) ALL CONNECTOR HOLES SHALL BE FILLED WITH PROPER NAILS/BOLTS INCLUDING OPTIONAL NAIL LOCATIONS FOR UPLIFT. ALL BOLT HOLES SHALL BE DRILLED INTO FRAMING MEMBERS. MAXIMUM HOLE DIAMETER IS 1/16" LARGER THAN THE BOLT DIAMETER.

8) OPENINGS:
8A) OPENING, POCKETS, ETC., SHALL NOT BE PLACED IN BEAMS, JOISTS, RAFTERS, STUDS, POSTS, COLUMNS, TIMBER AND OTHER STRUCTURAL MEMBERS UNLESS DETAILED ON THE STRUCTURAL DRAWINGS.

FRAMING LUMBER SCHEDULE

TYPE OF USE	GRADE	Fb (PSI)	Fv (PSI)	E (PSI)	REMARKS
LOAD BEARING STUDS (AND COLUMNS ASSEMBLED FROM STUDS)	NO. 2	850	150	1,300,000	UNLESS NOTED OTHERWISE IN THE WOOD AND COLUMN SCHEDULE
NON-LOAD BEARING STUDS	STUD	675	150	1,200,000	-
FLOOR-JOIST	NO. 2	850	150	1,300,000	-
ROOF JOIST & RAFTERS	NO. 2	850	150	1,300,000	-
DECKING	SELECT DX				-
ALL OTHER	NO. 1	975	150	1,500,000	-

FABRICATED LUMBER TABLE

PRODUCT	SIZE	TYPE	Fb (PSI)	Fv (PSI)	Ft (PSI)	E (KSI)	REMARKS
PARALLEL STRAND BEAM	--	PSL	2900	290	2025	2200	-
LAMINATED STRAND BEAM	--	LSL	2325	310	1070	1550	--
LAMINATED VENEER BEAM	--	LVL	2600	285	1555	2000	--

FABRICATED RIMBOARD TABLE

t(IN)	H(LB/FT) d ≤ 24"	W (LB/FT) d ≤ 16" / 16"< d ≤ 24"	Z (LB) d ≤ 24"	P (LB) d ≤ 24"
1	180	3300/1650	300	3500
1 1/8	180	4400/3000	350	3500

STEEL NOTES

1) WELDING REQUIREMENTS:
1A) WELDERS: HAVE IN POSSESSION CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS. QUALIFICATION TESTS.

1B) MINIMUM WELDS: AISC SPECIFICATION, NOT LESS THAN 3/16" FILLET, CONTINUOUS UNLESS OTHERWISE NOTED.

1C) WELD SIZES AND LENGTHS CALLED FOR ON THE DRAWINGS ARE THE NET EFFECTIVE REQUIRED. INCREASE WELD SIZE IF GAPS EXIST AT THE FAYING SURFACE.

1D) WELD SIZES SHALL BE AS SHOWN UNLESS A GREATER SIZE IS REQUIRED BY ANSI/AISC 360-05 TABLES J2.3 AND J2.4.

1E) ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION UNLESS NOTED.

1F) FIELD WELDING SYMBOLS INDICATE SUGGESTED CONSTRUCTION PROCEDURES.

2) STRUCTURAL STEEL INSTALLATION:
2A) ALL HIGH STRENGTH BOLTS USED IN COLUMN SPLICES, CONNECTIONS OF BEAMS AND GIRDERS TO COLUMNS, AND WHERE NOTED ON THE DRAWINGS AS TYPE "SC" OR OTHER TYPE FOLLOWED BY "PT", SHALL BE TENSIONED TO THE VALUES OF TABLE J3.1 OF ANSI/AISC 360-10 AISC 360-05. OTHER HIGH-STRENGTH BOLTS MAY BE INSTALLED SNUG TIGHT AS DEFINED BY AISC.

STEEL MATERIAL TABLE

STEEL ELEMENT	ASTM/TYPE	Fy (KSI)	Fu (KSI)	COMMENTS
ANCHOR RODS	F1554 GR 55	55	75	WELDABLE, HEAVY HEX HEADED
ANCHOR RODS IN MASONRY	F1554 GR 36, F1554 GR 55, OR A307 GRADE A/C	36	58	WELDABLE, STD HEX HEAD
BOLTS	F3125 - TYPE A325 OR F1852	--	120	BOLTS ARE 3/4"Ø UNO, USE TENSION-CONTROLLED WHERE POSSIBLE
COLD-FORMED STUDS/PLATE, 33 AND 43 MIL	A1003	33	--	--
COLD-FORMED STUDS/PLATE, 54 MIL AND HEAVIER	A1003	50	--	--
COLD-FORMED TRACK, ALL THICKNESSES	A1003	33	--	--
DAS	A1064	70	80	--
HAS	A108	51	65	STUDS ARE 3/4"Ø UNO
OTHER SHAPES	A36	36	58	--
PIPE	A53 GR B	35	60	--
PLATES	A36	36	58	--
RECT HSS	A500 GR C	50	62	--
ROUND HSS	A500 GR C	46	62	--
STEEL GRATING				PER NAAMM MBG 531, "METAL BAR GRATING MANUAL"
WELDING ELECTRODES, THICKNESS OF THINNER PART > 0.1 INCHES (12 GA)	E70			PER AWS
WELDING ELECTRODES, THICKNESS OF THINNER PART ≤ 0.1 INCHES (12 GA)	E60 OR E70	--	--	PER AWS
WF, WT	A992	50	65	--

METAL GAUGE CONVERSION

GAUGE	MINIMUM THICKNESS (MILS*)
22	27
20	33
18	43
16	54
14	68
12	97

NOTE:
* 1 MIL = 1/1000"

CONCRETE NOTES

CONCRETE MIX TABLE

CONC MIX TYPE	INTENDED USE	28 DAY STRENGTH f'c (KSI)	CONC WEIGHT	MAX W/C RATIO, INCLUDING FLY ASH	MAX AGGREGATE SIZE (IN), NOTE a	TOTAL AIR CONTENT (%), NOTE b	OTHER REQTS, NOTE c
1	FOOTINGS	4	NWC	-	1	-	-
2	FOUNDATION WALLS, SITE WALLS	5	NWC	0.40	3/4	6	SCC AT INT FND WALLS
3	INT SLABS	3.5	NWC	0.50	3/4	NP	FRC, MC
4	ALL CONC OTHERWISE NOT SPECIFIED	4	NWC	0.50	3/4	6	-

CONCRETE MIX TABLE NOTES:
PROPORTIONS OF MATERIALS IN CONCRETE MIX SHALL BE ESTABLISHED TO:

- PROVIDE THE MINIMUM COMPRESSIVE STRENGTH AS INDICATED IN THE MIX TABLE. DO NOT EXCEED THE MAXIMUM WATER-CEMENT RATIO NOTED.

- PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO FORMS AND AROUND REINFORCEMENT UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. CONTRACTOR SHALL SELECT APPROPRIATE SLUMP. USE ADMIXTURES AS REQUIRED TO OBTAIN DESIRED RESULTS.

USE TYPE I / II MODIFIED PORTLAND CEMENT (FOR SULFATE RESISTANCE) UNLESS NOTED OTHERWISE. FOR CONCRETE MIXES USED ON FLOORS MINIMUM CEMENTITIOUS CONTENT SHALL BE 540 POUNDS PER CUBIC YARD.

FOR CONCRETE PLACED BY PUMPING PROVIDE CONCRETE MIX FLOWABILITY TO FACILITATE PUMPING. ENTRAINED AIR MAY BE USED TO FACILITATE PUMPING SUBJECT TO THE PROVISIONS OF NOTE b BELOW.

ALKALI-AGGREGATE REACTIVITY OF AGGREGATES - SUBMIT REPORTS INDICATING THAT FINE AND COARSE AGGREGATES ARE NOT "POTENTIALLY REACTIVE" BASED ON THE ASTM C295 OR ASTM C1260 (OR ASTM C1293) TESTING LIMITS SET FORTH IN SECTION 5.1 OF "GUIDE SPECIFICATION FOR CONCRETE SUBJECT TO ALKALI-SILICA REACTIONS" (2007 PORTLAND CEMENT ASSOCIATION). ALTERNATIVELY, SUBMIT ASTM C1567 TEST REPORTS INDICATING THAT THE COMBINATION OF MIX INGREDIENTS REDUCES THE EXPANSION DUE TO ALKALI-SILICA REACTIONS" (2007 PORTLAND CEMENT ASSOCIATION). ALL TESTS FOR SUBMITTED REPORTS SHALL HAVE BEEN PERFORMED WITHIN ONE YEAR OF THE SUBMITTAL DATE.

a. FOR THE MAXIMUM COARSE AGGREGATE SIZE INDICATED, USE THE FOLLOWING AGGREGATE SIZE NUMBERS PER ASTM C33:

3/4": #67 AGGREGATE
1": #57 AGGREGATE

b. WHERE AIR CONTENT IS INDICATED IN THE MIX TABLE, PROVIDE AIR ENTRAINING ADMIXTURE. TOTAL AIR CONTENT LIMITS INCLUDE BOTH ENTRAINED AND ENTRAPPED AIR +/- 1 1/2%. 'NP' IN COLUMN INDICATES ADDITION OF ENTRAINED AIR IS NOT PERMITTED EXCEPT WHERE CONTRACTOR CAN DEMONSTRATE THAT SLABS WITH ENTRAINED AIR WILL HAVE A FINISH ACCEPTABLE TO THE ARCHITECT WITHOUT BLISTERS. AIR CONTENT NOTED IS BASED ON 3/4" AGGREGATE. IF 3/8" AGGREGATE IS USED, INCREASE AIR CONTENT BY 1 1/2%.

c. ABBREVIATIONS FOR OTHER REQUIREMENTS AS FOLLOWS:

FRC = FIBER REINFORCED CONCRETE. AT EXPOSED SLABS (1.5 LB/YD OR AS REQUIRED FOR DESIRED ARCHITECTURAL FINISH); FIBERS TO BE CONDUCIVE TO FINISH ACCEPTABLE TO ARCHITECT

SCC = SELF CONSOLIDATING CONCRETE, SLUMP FLOW = 26" ± 4"

MC = MOIST CURE AT EXPOSED SLABS

REINFORCING MATERIAL TABLE

REINF ELEMENT	ASTM	Fy (KSI)	Fu (KSI)	COMMENTS
TYP REINFORCING	A615	60	90	-
WELDED & FIELD BENT REINF	A706	60	80	-
WELDED WIRE REINFORCING, DEFORMED	A1064	70	80	-
EPOXY COATING OF REINFORCING	A775 OR A934	-	-	-

1) GENERAL:
1A) ALL WORK SHALL CONFORM WITH ACI 301-10, UNLESS NOTED OTHERWISE IN DRAWINGS OR PROJECT SPECIFICATIONS.

1B) DETAIL BARS IN ACCORDANCE WITH THE DRAWINGS, PROJECT SPECIFICATIONS, AND ACI PUBLICATION SP-66 (2004): "ACI DETAILING MANUAL"

2) REINFORCING MATERIALS:
2A) SEE 'REINFORCING MATERIALS TABLE'

3) REINFORCING FABRICATION:
3A) SPLICES:
- NO SPLICING OF REINFORCEMENT PERMITTED EXCEPT AS NOTED ON DRAWINGS. MAKE BARS CONTINUOUS AROUND CORNERS WHERE DETAIL NOT PROVIDED. WHERE PERMITTED, SPLICES MAY BE MADE BY CONTACT LAPS OR MECHANICAL CONNECTORS.
- SEE 'LAP SPLICE SCHEDULE' FOR LAP LENGTHS.
- SPLICE CONTINUOUS TOP AND BOTTOM BARS IN WALLS, BEAMS, AND GRADE BEAMS 'LTS' UNLESS NOTED OTHERWISE.
- SPLICE TOP BARS AT MIDSPAN AND BOTTOM BARS OVER SUPPORT UNLESS NOTED OTHERWISE.

3B) MISCELLANEOUS REINFORCING REQUIREMENTS:
- PROVIDE ADDITIONAL BARS OR STIRRUPS REQUIRED TO SECURE REINFORCING IN PLACE DURING CONCRETE PLACEMENT.
- MAKE ALL REINFORCING BAR BENDS IN THE FABRICATOR'S SHOP UNLESS NOTED.
- NO WELDING OF REINFORCING PERMITTED UNLESS NOTED ON DRAWINGS. WHERE PERMITTED, PERFORM WELDING IN ACCORDANCE WITH AWS D1.4-2011.
- PROVIDE ADDED REINFORCING TO TRIM ALL OPENINGS, NOTCHES, AND REENTRANT CORNERS AS NOTED IN TYPICAL DETAILS.

3C) INCLUDE IN THE BID THE COST FOR THE MATERIAL, FABRICATION AND PLACING OF 1/2 T OF REINFORCING BARS. THE REINFORCING WILL BE ADDED TO THE SHOP DRAWINGS AND IN FIELD OBSERVATION REPORTS BY THE ENGINEER AS "ADDED PER GENERAL NOTES." AN UP-TO-DATE TOTAL OF LINEAR FEET ADDED WILL BE MAINTAINED AND SUBSTANTIATED BY SHOP DRAWINGS AND FIELD OBSERVATION REPORTS.

4) STRUCTURAL CONCRETE MIX REQUIREMENTS:
4A) SEE 'CONCRETE MIX TABLE'

5) SLAB-ON-GRADE:
5A) VERIFY ALKALINITY OF CONCRETE SURFACE, SLAB VAPOR TRANSMISSION, AND SLAB FLATNESS/LEVELNESS ARE COMPATIBLE WITH FLOORING SYSTEM AND ADHESIVES PRIOR TO INSTALLING FLOORING.

5B) TAKE PRECAUTIONS TO MINIMIZE SLAB CURLING. GRIND SLAB OR USE LEVELING COMPOUND IF FLOOR FLATNESS AND LEVELNESS VALUES ARE NOT ACCEPTABLE TO THE ARCHITECT.

6) NON-SHRINK GROUT:
6A) CONFORM TO ASTM C1107

6B) ACHIEVE 6000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

7) PLACING REINFORCEMENT:
7A) REINFORCEMENT PROTECTION:
- SEE 'CONCRETE COVER TABLE'
- SEE ACI 117-10 FOR REINFORCEMENT PLACING TOLERANCES

7B) PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AND WELDED WIRE REINFORCEMENT AT POSITIONS SHOWN ON PLANS. ALL REINFORCING, DOWELS, BOLTS, AND EMBEDDED PLATES SHALL BE SET AND TIED IN PLACE BEFORE THE CONCRETE IS POURED. "STABBING" INTO PREVIOUSLY PLACED CONCRETE IS NOT PERMITTED.

8) CONSTRUCTION/CONTROL JOINTS:
8A) SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS. CONSTRUCTION JOINT LOCATIONS AND CASTING SEQUENCE SHALL BE ARRANGED TO MINIMIZE THE EFFECTS OF ELASTIC AND LONG-TERM SHORTENING/SHRINKAGE.

8B) CONSTRUCTION JOINTS IN SLABS-ON-DECK AND SLABS-ON-GRADE SHALL BE LOCATED TO ACCOMMODATE THE MAXIMUM LENGTH AND AREA THE CONTRACTOR CAN REASONABLY POUR, FINISH, AND JOINT IN THE SAME DAY.

8C) CONCRETE CONSTRUCTION JOINT SURFACE SHALL BE CLEANED AND ALL LAITANCE AND LOOSE MATERIAL REMOVED PRIOR TO SECOND CONCRETE PLACEMENT.

8D) INTENTIONALLY ROUGHENED CONSTRUCTION JOINTS: WHERE CONSTRUCTION JOINTS ARE LABELED AS "ROUGHENED" ON THE DRAWINGS, THE ENTIRE JOINT SURFACE SHALL BE MECHANICALLY ROUGHENED TO A 1/4" AMPLITUDE AND THOROUGHLY CLEANED. EXPOSE THE COARSE AGGREGATE IN THE HARDENED CONCRETE AND REMOVE ALL LAITANCE AND LOOSE MATERIAL.

9) MEP AND OTHER OPENINGS AND EMBEDMENTS:
9A) PROVIDE SLEEVES AT OPENINGS (SUCH AS THOSE REQUIRED FOR PLUMBING AND ELECTRICAL PENETRATIONS) BEFORE PLACING CONCRETE. DO NOT CUT REINFORCING WHICH MAY CONFLICT. CORING OF NEW CONCRETE IS NOT PERMITTED.

9B) REFER TO TYPICAL DETAILS FOR SPACING LIMITS ON SLEEVES AND FOR REQUIREMENTS FOR EMBEDDED CONDUIT AND PIPE.

Professional Engineer (Structural)
AMANDA N. MILLER
12591
Date 11/20/17
WYOMING

OLD STONEY REMODEL
PHASE ONE
108 NORTH 4TH STREET
SUNDANCE, WYOMING 82729

Stateline No 7
ARCHITECTS

MARTIN/MARTIN
WYOMING
4020 LARAMIE STREET, CHEYENNE, WYOMING 82001
307.637.8422 MMWYO.COM

PROJECT
16-025

DATE
11/20/17

DRAWN
NAO

DISK

SHEET
NOTES

SHEET
2.02