GENERAL STRUCTURAL NOTES

1. BUILDING CODES USED FOR DESIGN:
   a. MINNESOTA BUILDING CODE, 2015 EDITION. (IBC 2012)

2. FOUNDATIONS:
   a. ALL FOOTINGS SHALL BEAR ON NATURAL UNDISTURBED SOIL OR ON COMPACTED GRANULAR FILL. ALL FOOTINGS ARE DESIGNED USING AN ALLOWABLE SOIL BEARING PRESSURE OF ---- PSF. (SEE SOIL REPORT #---------- BY ----------). THE SOILS ENGINEER SHALL CONFIRM THESE BEARING VALUES AT THE TIME OF EXCAVATION.
   b. GRANULAR FILL SHALL BE COMPACTED TO 98% STANDARD DENSITY (ASTM: D698-91).
   c. IF SOIL AT BOTTOM OF FOOTINGS AS DETAILED IS OF QUESTIONABLE BEARING VALUE, THE ARCHITECT/ENGINEER SHALL BE NOTIFIED AT ONCE.
   d. WALL FOOTING ELEVATION CHANGES SHALL BE STEPPED AT A RATIO OF 1 (VERTICAL) TO 2 (HORIZONTAL). MAXIMUM VERTICAL STEP SHALL BE 1'-4" UNLESS NOTED OTHERWISE.
   e. ALL EXTERIOR WALL FOOTINGS SHALL HAVE A MINIMUM SOIL COVER OF 3'-6" MEASURED FROM BOTTOM OF FOOTING UNLESS NOTED OTHERWISE.
   f. SEE SOILS REPORT FOR ANTICIPATED SETTLEMENT VALUES. THE OWNER SHOULD VERIFY THAT THIS SETTLEMENT CRITERIA WILL NOT BE DETRIMENTAL TO THE BUILDING OR ITS OPERATION.
   g. PROVIDE A 6" SUB-BASE OF COMPACTIBLE GRANULAR FILL AND POLY VAPOR BARRIER BENEATH ALL SLABS ON GRADE. COMPACT SAND WITH MECHANICAL EQUIPMENT TO +0" TO -3/4" OF CORRECT ELEVATIONS. THE VAPOR BARRIER SHALL BE PLACED DIRECTLY BENEATH THE SLAB. THE SLAB SHALL BE MOIST CURED TO PREVENT CURLING.
   h. SUB-BASE FOR SLABS ON GRADE SHALL BE REASONABLY WELL GRADED SAND (SW OR SP) CLEAN AND FREE OF ORGANIC MATERIAL WITH NOT MORE THAN 5%, BY WEIGHT, PASSING THE #200 SIEVE AND LESS THAN 40%, BY WEIGHT, PASSING THE #40 SIEVE. COARSE AGGREGATE SHALL NOT EXCEED 3/4".

3. DESIGN LOADS:
   a. SEISMIC CRITERIA
      SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.065 g; SD1 = 0.042 g
      SITE CLASS D
      SEISMIC USE GROUP CATEGORY II
      SEISMIC DESIGN CATEGORY B
   b. WIND LOAD CRITERIA
      METHOD USED: ASCE 7, REGULAR METHOD
      BASIC WIND (3 SECOND GUST): V3S =115 MPH
      WIND LOAD IMPORTANCE FACTOR Iw = 1.0
      WIND LOAD EXPOSURE B
      WIND TOPOGRAPHIC FACTOR Kzt = 1.0
   c. SNOW LOAD CRITERIA
      GROUND SNOW LOAD: Pg = 50 PSF
      SNOW LOAD IMPORTANCE FACTOR Is = 1.0
      SNOW LOAD EXPOSURE FACTOR Ce = 1.0
      SLOPED ROOF/FLAT ROOF FACTOR Cs = 1.0
      ROOF THERMAL FACTOR Ct = 1.0
      ROOF SNOW LOAD Ps = Pg(.7)(Is)(Ce)(Cs)(Ct) = 35 PSF
      SEE PLANS FOR SNOW DRIFT DIAGRAMS
   d. MISC. LIVE LOADS:
      PUBLIC AREAS, CORRIDORS AND STAIRS 100 PSF
      MECHANICAL 125 PSF**
      RESIDENTIAL FLOOR 40 PSF
      **OR EQUIPMENT WEIGHT IF HEAVIER

4. DESIGN STRESSES:
   a. CONCRETE:

STRENGTH AT 28 DAYS (PSI)	TYPE MIX	LOCATION
3000	STANDARD WEIGHT	INTERIOR SLABS & WALLS
4000	STD. WT. AIR-ENTRAINED	EXTERIOR SLABS & WALLS
3000	STANDARD WEIGHT	FOOTINGS
3000	STANDARD WEIGHT	INTERIOR TOPPING

   b. MASONRY PRISM STRENGTH f'm = 1,500 PSI (@ 28 DAYS)
   c. MASONRY UNITS fc = 1,900 PSI (@ 28 DAYS)
   d. MASONRY GROUT fc = 3,000 PSI (@ 28 DAYS)
   e. NON-SHRINK GROUT fc = 10,000 PSI (@ 28 DAYS)
   f. REINFORCEMENT Fy = 60,000 PSI ASTM A615 (DEFORMED BARS)
   g. STRUCTURAL STEEL
      1. WIDE FLANGE SHAPES Fy = 50,000 PSI ASTM A992
      2. ALL OTHER SHAPES Fy = 36,000 PSI ASTM A36
   h. RECTANGULAR HSS Fy = 46,000 PSI ASTM A500 GRADE B
   i. PLATES Fy = 36,000 PSI ASTM A36
   j. BOLTS Fu = 120,000 PSI ASTM A325
   k. ANCHOR RODS Fu = 58,000 PSI ASTM F1554 GRADE36
   l. WELD ELECTRODE Fu = 70,000 PSI
   m. WELDED WIRE FABRIC ASTM A185

5. CONCRETE COVERAGE FOR REINFORCEMENT:

a.	FOOTINGS	3" FROM BOTTOM
b.	FOUNDATION WALLS	EXTERIOR FACE 2" INTERIOR FACE 1"
c.	COLUMNS	1 1/2" TO TIES
d.	STRUCTURAL SLAB	1" TOP AND BOTTOM
e.	BEAMS	1 1/2" TO STIRRUPS
f.	EXPOSED EXTERIOR CONCRETE	2"
g.	SLAB ON GRADE	1" FROM TOP

6. MASONRY COVERAGE FOR REINFORCEMENT:

a.	WALLS	3 1/2"
b.	PILASTERS	3" TO TIES

7. REINFORCING STEEL:
   a. THE REINFORCING STEEL CONTRACTOR SHALL FABRICATE ALL REINFORCEMENT AND FURNISH ALL ACCESSORIES, CHAIRS, SPACER BARS, AND SUPPORTS NECESSARY TO SECURE THE REINFORCEMENT UNLESS SHOWN OTHERWISE ON THE PLANS AND/OR DETAILS.
   b. CONCRETE REINFORCEMENT SHALL BE PLACED ACCORDING TO THE CRSI "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS".
   c. COMPRESSION AND TENSION LAP SPLICES FOR CAST-IN-PLACE CONCRETE SHALL BE 38 BAR DIAMETERS MINIMUM UNLESS NOTED OTHERWISE .
   d. TENSION LAP SPLICES FOR REINFORCED MASONRY SHALL BE 48 BAR DIAMETERS MINIMUM FOR #5 BARS OR SMALLER AND 64 BAR DIAMETERS MINIMUM FOR #6 BARS OR LARGER, UNLESS NOTED OTHERWISE.
   e. HORIZONTAL REINFORCING STEEL IN FOOTINGS AND CONCRETE WALLS SHALL BE CONTINUOUS AROUND CORNERS.
   f. ALL LAPS IN WWF SHOULD BE ONE MESH PLUS TWO INCHES AT SPLICES.
   g. TOP BARS SHALL BE HOOKED AT END SPANS.
   h. REINFORCING BARS MAY NOT BE WELDED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. ONLY ASTM A706 REINFORCEMENT MAY BE WELDED.

8. CONCRETE:
   a. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301.
   b. EACH CONCRETE MIX SHALL BE DESIGNED BY A REGISTERED ENGINEER. A STAMPED COPY OF EACH MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
   c. COMPLY WITH ACI 304 FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.
   d. COMPLY WITH ACI 305 FOR HOT WEATHER CONCRETING.
   e. COMPLY WITH ACI 306 FOR COLD WEATHER CONCRETING.
   f. UNLESS SPECIFIED OTHERWISE, CONCRETE MUST REACH THE FOLLOWING PERCENTAGES OF ITS 28 DAY COMPRESSIVE STRENGTH (F'c) BEFORE FORMS MAY BE REMOVED:
      1. WALLS 40 PERCENT

9. REINFORCED MASONRY:
   a. HOLLOW LOAD BEARING MASONRY UNITS SHALL CONFORM TO ASTM C90 TYPE I, IN ADDITIONS TO THE REQUIREMENTS OF THE QUALITY CONTROL STANDARDS OF THE CONCRETE MASONRY ASSOCIATION. MINIMUM REQUIRED COMPRESSIVE STRENGTH OF BLOCK UNITS = 1,900 PSI (BASED ON NET AREA). MINIMUM FACE THICKNESS TO BE 1 1/4" FOR 8" BLOCK, 1 3/8" FOR 10" BLOCK, AND 1 1/2" FOR 12" BLOCK.
   b. MASONRY UNITS SHALL HAVE BEEN CURED FOR NOT LESS THAN 28 DAYS WHEN PLACED IN THE STRUCTURE.
   c. THE USE OF ADMIXTURES WILL NOT BE PERMITTED IN THE GROUT OR MORTAR UNLESS SUBSTANTIATING DATA IS SUBMITTED TO AND APPROVED BY THE STRUCTURAL ENGINEER OR THE ARCHITECT.
   d. GROUT FOR VERTICALLY REINFORCED MASONRY WALLS AND BOND BEAMS SHALL BE PROPORTIONED AS FOLLOWS: 1 PORTLAND CEMENT: 2 1/2 FINE AGGREGATE: 2 PEA GRAVEL: f'c=3,000 PSI AT 28 DAYS. GROUT SLUMP SHALL BE 9" TO 10".
   e. ALL MASONRY WALLS SHALL BE HORIZONTAL REINFORCING CONSISTING OF GALVANIZED STANDARD WEIGHT 9 GA. 'DUR-O-WALL' OR EQUAL (TRUSS TYPE) CONFORMING TO ASTM A951. REINFORCING SHALL BE LOCATED EVERY OTHER COURSE.
   f. DOWELS AS SHOWN SHALL MATCH SIZE AND NUMBER OF REINFORCING UNLESS NOTED OTHERWISE. HOOK INTO FOOTING AND LAP 30 DIAMETERS WITH MAIN STEEL.
   g. MORTAR SHALL BE TYPE M OR S. MASONRY CEMENT IS NOT PERMITTED. SPEC MIX MORTAR IS ACCEPTABLE.
   h. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND DETAIL OF VERTICAL CONTROL JOINTS.
   i. MAXIMUM SPACING FOR CONTROL JOINTS IN BLOCK WALLS SHALL NOT EXCEED 24'-0" O.C.
   j. ALL STEEL BEARS BEARING ON MASONRY SHALL BE WELDED TO BEARING PLATE AND HAVE 2 CORES MINIMUM FILLED WITH GROUT DIRECTLY BELOW THE BEARING POINT EXCEPT AS NOTED ON THE PLANS.
   k. BOND BEAMS 8" OR SMALLER USE (1) #5 CONTINUOUS, BOND BEAMS 10" OR LARGER USE (2) #5 CONTINUOUS, UNLESS NOTED OTHERWISE.
   l. CONTRACTOR TO PROVIDE A 1'-4" x 8" STRIP FOOTING OR THICKENED SLAB WITH (1) #5 BAR CONTINUOUS UNDER ALL MASONRY WALLS, UNLESS NOTED OTHERWISE.
   m. REINFORCEMENT SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING BY WIRE POSITIONERS OR OTHER SUITABLE DEVICES AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS. REINFORCEMENT SHALL BE PLACED PRIOR TO GROUTING. GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION DURING PLACEMENT AND RECONSOLIDATED BY MECHANICAL VIBRATION TO MINIMIZE VOIDS DUE TO WATER LOSS.
   n. COMPLIANCE WITH IMC: UNIT STRENGTH METHOD.
   o. ALL REINFORCED MASONRY WALLS BELOW GRADE SHALL UTILIZE "OPEN-CORE" BLOCK UNITS UNLESS STANDARD UNITS ARE APPROVED BY THE ENGINEER.
   p. COLD WEATHER REQUIREMENTS: DO NOT USE FROZEN MATERIALS MIXED OR COATED WITH ICE OR FROST. DO NOT BUILD ON FROZEN SUBSTRATES. REMOVE AND REPLACE UNIT MASONRY DAMAGED BY FREEZING CONDITIONS. COMPLY WITH COLD-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN ACI 530.1/ASCE 6/TMS 602. COLD-WEATHER CLEANING: USE LIQUID CLEANING METHODS ONLY WHEN AIR TEMPERATURE IS 40 °F AND ABOVE AND WILL REMAIN SO UNTIL MASONRY HAS DRIED, BUT NOT LESS THAN 7 DAYS AFTER COMPLETING CLEANING.
   q. HOT-WEATHER REQUIREMENTS: PROTECT UNIT MASONRY WORK WHEN TEMPERATURE AND HUMIDITY CONDITIONS PRODUCE EXCESSIVE EVAPORATION OF WATER FROM MORTAR AND GROUT. PROVIDE ARTIFICIAL SHADE AND WIND BREAKS AND USE COOLED MATERIALS AS REQUIRED. WHEN AMBIENT TEMPERATURE EXCEEDS 100 °F, OR 90 °F WITH A WIND VELOCITY GREATER THAN 8 MPH, DO NOT SPREAD MORTAR BEDS MORE THAN 48" AHEAD OF MASONRY. SET MASONRY UNITS WITHIN ONE MINUTE OF SPREADING MORTAR.

10. DIMENSION LUMBER:
   a. DIMENSION LUMBER TO BE NORTHERN SPF NO. 2 (OR BETTER).
   b. ALL MEMBER SIZES GIVEN ON PLAN ARE NOMINAL DIMENSIONS.
   c. WOOD LINTELS SHALL HAVE A FULL 3" LENGTH OF BEARING AT EACH END UNLESS NOTED OTHERWISE.
   d. ALL NAILING SHALL CONFORM TO IBC TABLE 2304.9.1 "FASTENING SCHEDULE" UNLESS NOTED OTHERWISE ON THE PLANS.
   e. SPACING OF BRIDGING FOR FLOOR AND ROOF JOISTS SHALL NOT EXCEED 8' OR 6 TIMES THE NOMINAL JOIST DEPTH (WHICHEVER IS GREATER).
   f. DOUBLE ALL JOISTS UNDER PARALLEL PARTITIONS.
   g. ALL WOOD CONTRACTORS SHALL BE BY "USP LUMBER CONNECTORS" OR "SIMPSON STRONG-TIE". ALL JOISTS AND BEAMS NOT BEARING ON A SUPPORTING MEMBER SHALL BE FRAMED WITH AN APPROPRIATE WOOD CONNECTOR.
   h. WOOD STUD BEARING WALLS SHALL HAVE AT LEAST ONE 8" COURSE OF CONCRETE BLOCK BETWEEN THE BOTTOM OF THE SILL PLATE AND THE TOP OF THE FOOTING.
   i. WOOD JOISTS SHALL BEAR ON THE FULL WIDTH OF SUPPORTING MEMBER (STUD WALLS, BEAMS, ETC.), UNLESS NOTED OTHERWISE.
   j. PROVIDE SOLID BLOCKING BELOW ALL JAMB/TRIMMER/CRIPPLE STUDS (TYPICAL AT ALL FLOORS).
   k. ALL FOUNDATION PLATES, SILLS, AND SLEEPERS ON CONCRETE SLAB, WHICH IS IN DIRECT CONTACT WITH EARTH, AND SILLS WHICH REST ON CONCRETE OR MASONRY FOUNDATION WALLS, SHALL BE TREATED WOOD.
   l. FOR ALL WOOD TREATED WITH PRESERVATIVES, CONNECTORS AND FASTENERS MUST BE COATED WITH ONE OF THE FOLLOWING:
      1. HOT DIPPED GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM A153 FOR FASTENERS.
      2. MECHANICALLY GALVANIZED PER ASTM A695, CLASS 55 OR GREATER.
      3. TRIPLE ZINC G185 HDG PER ASTM A653 OR EQUAL.

11. BRACED WALL PANELS (SHEAR WALLS) IN WOOD CONSTRUCTION:
   a. UNLESS NOTED OTHERWISE ON THE PLANS, ALL INTERIOR PARTITION WALLS WITH GYPSUM BOARD SHEATHING ARE DESIGNED TO PROVIDE LATERAL STABILITY TO THE STRUCTURE. THIS INCLUDES WALLS SHOWN ON THE ARCHITECTURAL PLANS AND NOT NECESSARILY SHOWN ON THE STRUCTURAL PLANS.

12. ENGINEERED LUMBER:
   a. LAMINATED VENEER LUMBER (LVL)
      ALL LVL MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

ALLOWABLE BENDING STRESS	Fb = 2,800 PSI
ALLOWABLE SHEAR STRESS	Fv = 285 PSI
MODULUS OF ELASTICITY	E = 1,800,000 PSI

   b. LAMINATED STRAND LUMBER (LSL)
      ALL LSL STUDS AND COLUMNS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

	(2x6 OR SMALLER)	(2x8 OR LARGER)
ALLOWABLE BENDING STRESS	Fb = 1,700 PSI	Fb = 2,250 PSI
ALLOWABLE SHEAR STRESS	Fv = 400 PSI	Fv = 400 PSI
MODULUS OF ELASTICITY	E = 1,300,000 PSI	E = 1,500,000 PSI
COMPRESSION PARALLEL TO GRAIN	Fcll = 1,400 PSI	Fcll = 1,950 PSI

   c. PARALLEL STRAND LUMBER (PSL)
      ALL PSL BEAMS AND COLUMNS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

	(BEAMS)	(COLUMNS)
ALLOWABLE BENDING STRESS	Fb = 2,900 PSI	Fb = 2,400 PSI
ALLOWABLE SHEAR STRESS	Fv = 290 PSI	N/A
MODULUS OF ELASTICITY	E = 2,000,000 PSI	E = 1,800,000 PSI
COMPRESSION PARALLEL TO GRAIN	Fcll = 2,900 PSI	Fcll = 2,500 PSI

   d. MULTI-PLY MEMBERS SHALL BE FASTENED TOGETHER ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

13. ROOF AND FLOOR TRUSSES:
   a. TRUSSES SHALL BE DESIGNED TO MEET ALL LOADING AND SPANS AS INDICATED ON THE PLANS.
   b. TRUSSES SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
   c. ALL PERMANENT BRACING FOR INDIVIDUAL TRUSS COMPRESSION ELEMENTS SHALL BE PROVIDED AS INDICATED ON THE TRUSS SHOP DRAWINGS. THE DESIGN OF THIS BRACING IS THE RESPONSIBILITY OF THE TRUSS SUPPLIER.
   d. THE CONTRACTOR SHALL INSTALL ALL NECESSARY TEMPORARY BRACING AS REQUIRED BY BCSI 1-03 (BY WTCA AND TPI) AND BE FULLY RESPONSIBLE FOR THE STABILITY OF THE TRUSSES DURING ERECTION.
   e. CONNECTOR PLATES SHALL BE MADE OF GRADE "A" GALVANIZED STEEL, MINIMUM 20 GAGE PER LATEST TPI SPECIFICATIONS.
   f. ALL CONNECTION HARDWARE SHALL BE DESIGNED AND FURNISHED BY THE TRUSS SUPPLIER UNLESS NOTED OTHERWISE ON THE PLANS.
   g. SCISSOR TRUSSES SHALL BE DESIGNED SUCH THAT HORIZONTAL LIVE LOAD DEFLECTIONS DO NOT EXCEED 3/4". WALLS ARE NOT DESIGNED TO RESIST A HORIZONTAL TRUSS REACTION.
   h. THE STRUCTURE IS DESIGNED ACCORDING TO THE TRUSS LAYOUT INDICATED ON THE PLANS. THE TRUSS SUPPLIER SHALL NOT DEVIATE FROM THIS LAYOUT WITHOUT PERMISSION FROM THE ENGINEER OF RECORD.
   i. ROOF TRUSSES SHALL BE DESIGNED FOR UNBALANCED SNOW LOADS IN ACCORDANCE WITH ASCE 7, SECTION 7.6.
   j. TRUSSES SHALL BE DESIGNED FOR A TOP CHORD DEAD LOAD OF 20 PSF AND A BOTTOM CHORD DEAD LOAD OF 10 PSF UNLESS NOTED OTHERWISE ON THE PLANS.

14. PRECAST PRESTRESSED CONCRETE:
   a. PRECAST CONCRETE PLANK, COLUMNS, AND BEAMS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND CONSTRUCTED TO SAFELY SUSTAIN THE LIVE LOADS LISTED AND ALL SUPERIMPOSED DEAD LOADS IN ACCORDANCE WITH ACI 318 CODE.
   b. ALL CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND INSTALLED BY THE PRECAST SUPPLIER.
   c. WELDING REQUIRED OF PLATES, BARS, INSERTS, ANCHORS, ETC. SHALL CONFORM TO THE AWS'S "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL, METAL INSERTS, AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION."
   d. ALL MEMBERS SHALL HAVE FIRE RESISTIVE RATING IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.
   e. CAST IN ALL OPENINGS SHOWN ON DRAWINGS. EXACT SIZE AND LOCATION AS PER APPROVED SHOP DRAWINGS. ALL HEADER ANGLES FOR THE PRECAST SHALL BE FURNISHED BY THIS PRECASTER.
   f. PROVIDE AND CAST INTO THE PRECAST COLUMNS ALL ANCHOR BOLTS FOR THE STEEL COLUMNS AS DETAILED ON THE DRAWINGS.
   g. PRECAST SUPPLIER SHALL FURNISH ALL PRECAST COLUMN CONNECTION DEVICES AND LAYOUT TO THE GENERAL CONTRACTOR FOR INSTALLATION IN THE FOOTINGS.
   h. PRECAST SUPPLIER SHALL PROVIDE SHOP DRAWING AND STRUCTURAL CALCULATIONS SIGNED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF THE PROJECT.

15. STRUCTURAL STEEL:
   a. FABRICATION AND ERECTION OF STRUCTURAL STEEL MEMBERS ARE TO BE IN ACCORDANCE WITH A.I.S.C. CODE OF STANDARD PRACTICE.
   b. ALL CONNECTIONS SHALL BE BOLTED OR WELDED. EACH CONNECTION SHALL BE ADEQUATE TO SUPPORT ONE HALF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM, UNLESS NOTED OTHERWISE ON THE PLANS. BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS.
   c. ALL WELDING SHALL BE BY QUALIFIED WELDERS AND SHALL CONFORM TO THE STANDARDS OF THE AWS, D1.1 (LATEST EDITION) STRUCTURAL WELDING CODE – STEEL.
   d. WELDING OF GALVANIZED PARTS IS NOT PERMITTED WITHOUT ENGINEER'S APPROVAL.
   e. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL CONFORM TO MATCHING FILLER METAL REQUIREMENTS OF AWS D1.1 (LATEST EDITION).
   f. FIELD CONNECTIONS ARE TO BE BOLTED. USE 3/4" DIAMETER HIGH STRENGTH BOLTS AND NUTS (A325) UNLESS NOTED OTHERWISE ON PLANS.
   g. STEEL COLUMN BASE PLATES SHALL BE SIZE SHOWN ON PLAN WITH (F1554 GRADE 36) ANCHOR RODS AND 1" NON-SHRINK GROUT FOR UNIFORM BEARING.
   h. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL SUPPLIER IS TO FURNISH 3 1/2" x 3 1/2" x 1/4" SHOP WELDED ANGLE FRAMES AT ALL ROOF OPENINGS. VERIFY SIZE AND LOCATION WITH MECHANICAL CONTRACTOR.
   i. ALL STRUCTURAL STEEL AND MISCELLANEOUS METALS SHALL BE PRIME PAINTED WITH ONE COAT OF TNEMEC #99 PRIMER OR EQUAL, TOUCH UP ALL DISTURBED AREAS AFTER ERECTION.
   j. CUTS, HOLES (OPENINGS), ETC. REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL NOT BE ALLOWED, EXCEPT BY WRITTEN PERMISSION FROM THE ENGINEER OF RECORD.
   k. GROUT UNDER BEAM BEARING PLATES AND COLUMN BASE PLATES SHALL BE "NON-SHRINK" AND SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI.
   l. MISCELLANEOUS STEEL FRAMING (STAIRS, RAILS, ETC.) SHALL BE DESIGNED BY THE FABRICATOR. THE FABRICATOR SHALL SUBMIT DOCUMENTATION THAT THE DESIGN HAS BEEN REVIEWED AND APPROVED BY A LICENSED ENGINEER.

16. BACKFILLING:
   a. NO BACKFILLING AND COMPACTING OF EARTH SHALL BE PERMITTED AGAINST FOUNDATION WALLS UNTIL SUPPORTING FLOOR SYSTEMS HAVE BEEN PLACED AND HAVE REACHED 75% OF THEIR DESIGN STRENGTH OR UNLESS ADEQUATE BRACING SUBMITTED FOR REVIEW IS PROVIDED.
   b. BOTH SIDES OF FOUNDATION WALLS SHALL BE BACKFILLED SIMULTANEOUSLY SO AS TO PREVENT OVERTURNING OR LATERAL MOVEMENT OF WALLS.
   c. ALL GRADE BEAMS SHALL BE ADEQUATELY BRACED TO PREVENT LATERAL MOVEMENT DURING BACKFILLING AND COMPACTION.

17. CONSTRUCTION AND CONTRACTION JOINTS IN CONCRETE:
   a. CONSTRUCTION JOINTS SHALL BE MADE AS DETAILED ON THE DRAWINGS.
   b. MAXIMUM SPACING FOR CONTROL JOINTS IN SLABS ON GRADE SHALL BE 15'-0".
   c. A 15'- 0" MAXIMUM SPACING OF CONTROL JOINTS MAY NOT INSURE COMPLETE CONTROL OF SHRINKAGE CRACKS. A CLOSER SPACING MAY BE USED BY REQUEST OF OWNER IF MORE COMPLETE SHRINKAGE CRACK CONTROL IS DESIRED. CONTRACTOR TO VERIFY WITH OWNER.
   d. CONSTRUCTION JOINTS IN CONCRETE FOUNDATION WALLS SHALL BE LOCATED SO NO SINGLE POUR IS LONGER THAN 40 FEET.

18. DRILLED ANCHORS:
   a. ALL EXPANSION BOLTS SHALL BE HILTI "KWIK-BOLTS", SIMPSON "WEDGE-ALL" OR RAMSET/REDHEAD "TRUBOLT", UNLESS NOTED OTHERWISE ON THE DRAWINGS.
   b. ADHESIVE ANCHORAGE FOR DRILLED REBAR DOWELS SHALL BE HILTI "HIT HY 150 ADHESIVE" OR SIMPSON "EPOXY-TIE" OR SIMPSON "ACRYLIC-TIE", UNLESS NOTED OTHERWISE ON THE DRAWINGS.

19. CONSTRUCTION PROCEDURES:
   a. THE STRUCTURE SHALL BE ADEQUATELY BRACED AND SHORED DURING ERECTION AGAINST WIND AND ERECTION LOADS. STRUCTURAL MEMBERS ARE DESIGNED FOR "INPLACE" LOADS.
   b. COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL LAWS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND REGULATIONS ADOPTED PURSUANT THERETO.
   c. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS NOTED OTHERWISE, THEY DO NOT INDICATE THE MEANS OR METHOD OF CONSTRUCTION. PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKMEN, OR OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR THE BUILDING, SHORING FOR EARTH BANKS, FORMS, SCAFFOLDING, PLANKING, SAFETY NETS, SUPPORT AND BRACING FOR CRANES, AND GIN POLES, ETC.
   d. ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY PRECAUTIONARY MEASURES SHALL BE USED AND INSPECT SAME IN THE FIELD. OBSERVATION VISITS TO THE SITE BY ENGINEER'S FIELD REPRESENTATIVE SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
   e. SUPERVISE AND DIRECT THE WORK SO AS TO MAINTAIN SOLE RESPONSIBILITY FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. AS A PART OF THIS RESPONSIBILITY, RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER TO DESIGN AND SUPERVISE ANY SCAFFOLDING FOR WORKMEN, AND ALL SHORING OF FORMS, AND ELEMENTS OF THE CONSTRUCTION.

20. MISCELLANEOUS:
   a. PLACEMENT OF ANCHOR BOLT, PIPE SLEEVES, PADS, AND OPENINGS FOR EQUIPMENT SHALL BE COORDINATED BETWEEN THE GENERAL CONTRACTOR AND THE OTHER SUBCONTRACTORS.
   b. ALL CORE DRILLING SHALL BE DONE UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR. NO REINFORCING SHALL BE CUT. VERIFY LOCATION OF REINFORCING BEFORE CORE DRILLING. THERE SHALL NOT BE ANY CORE DRILLING THROUGH BEAMS OR COLUMNS. MAXIMUM CORE HOLE THROUGH SLABS SHALL BE PIPE DIAMETER PLUS 1".

21. COORDINATION WITH ARCHITECTURAL DRAWINGS:
   a. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. WHERE DISCREPANCIES OCCUR IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT PRIOR TO CONSTRUCTION.

22. SHOP DRAWINGS:
   a. SHOP DRAWINGS, UNLESS NOTED OTHERWISE, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
   b. SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER, AND INCLUDE COMPLETE DETAILS SCHEDULES, PROCEDURES, AND DIAGRAMS FOR FABRICATION AND ASSEMBLY OF STRUCTURAL MEMBERS.
   c. FABRICATORS SHALL DRAW THEIR OWN ERECTION PLANS. COPYING STRUCTURAL PLANS AND USING THEM AS ERECTION DRAWINGS IS NOT ACCEPTABLE.
   d. PRIOR TO SUBMITTAL, THE CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS AND MAKE ANY CORRECTIONS REQUIRED. THE CONTRACTOR SHALL STAMP AND SIGN THE DRAWINGS AS EVIDENCE THAT HE HAS REVIEWED THEM.
   e. SHOP DRAWINGS SHALL BE FURNISHED FOR ALL STRUCTURAL COMPONENTS.
   f. TURN AROUND TIME FOR SHOP DRAWINGS SHALL BE TWO WEEKS FROM DATE RECEIVED IN THE ENGINEER'S OFFICE.

23. SPECIAL INSPECTIONS:

SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH IBC SECTION 1704, AS OUTLINED BELOW. THE SPECIAL INSPECTOR SHALL BE EMPLOYED BY THE OWNER, SHALL BE THOROUGHLY KNOWLEDGEABLE OF IBC SPECIAL INSPECTION REQUIREMENTS AND SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL (IBC 1704.1). THE CONTRACTOR SHALL CONTACT THE SPECIAL INSPECTOR DURING APPROPRIATE PHASES OF CONSTRUCTION SO THAT INSPECTIONS CAN BE MADE IN A TIMELY MANNER. THE SPECIAL INSPECTOR SHALL SUBMIT WRITTEN INSPECTION REPORTS TO THE ENGINEER OF RECORD'S OFFICE, WITHIN 3 WORKING DAYS OF EACH INSPECTION. ANY PROBLEMS SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR. THE FOLLOWING ITEMS WILL REQUIRE SPECIAL INSPECTION:

   a. STEEL
      - SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WORK DONE IN AN APPROVED FABRICATING SHOP. THE STEEL FABRICATOR MUST BE REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM THE WORK WITHOUT SPECIAL INSPECTIONS (IBC 1704.2.2).
      - STEEL ERECTION: PERIODIC INSPECTIONS SHALL BE MADE TO VERIFY COMPLIANCE WITH THE DESIGN DRAWINGS.
      - MATERIALS: THE STEEL MANUFACTURER'S CERTIFIED MILL TEST REPORTS SHALL BE SUBMITTED TO THE SPECIAL INSPECTOR OR TO THE ENGINEER OF RECORD.
   b. CONCRETE
      - REINFORCEMENT: REINFORCING STEEL SHALL BE INSPECTED ON A PERIODIC BASIS. WELDING OF REINFORCEMENT SHALL BE CONTINUOUSLY INSPECTED. ONLY ASTM A706 REINFORCEMENT MAY BE WELDED.
      - ANCHOR BOLTS: ANCHOR BOLTS PLACEMENT SHALL BE CONTINUOUSLY INSPECTED.
      - SAMPLING AND TESTING: CONTINUOUS INSPECTIONS SHALL BE PROVIDED DURING SLUMP TESTS, AIR CONTENT TESTS, AND WHEN DETERMINING THE TEMPERATURE OF FRESH CONCRETE AT THE TIME OF MAKING SPECIMENS FOR STRENGTH TESTS.
      - CONCRETE PLACEMENT: CONTINUOUS INSPECTION REQUIRED.
      - COLD AND HOT WEATHER CONCRETING. PERIODIC INSPECTION OF COMPLIANCE IS REQUIRED.
   c. MASONRY
      - BEGINNING OF CONSTRUCTION: PERIODIC INSPECTION SHALL BE MADE OF MORTAR PROPORTIONS, CONSTRUCTION OF MORTAR JOINTS, AND REINFORCEMENT LOCATION AND CONNECTORS.
      - ONGOING CONSTRUCTION: PERIODIC INSPECTION SHALL BE PROVIDED TO VERIFY SIZE AND LOCATION OF STRUCTURAL ELEMENTS, SIZE AND LOCATION OF ANCHORS, SIZE AND TYPE OF REINFORCEMENT, AND COMPLIANCE WITH HOT OR COLD WEATHER REQUIREMENTS.
      - GROUTING: PERIODIC INSPECTION SHALL BE PROVIDED TO VERIFY THAT THE GROUT SPACE IS PROPERLY POSITIONED AND SITE PREPARED GROUT IS PROPERLY PROPORTIONED. CON

FASTENING SCHEDULE (IBC TABLE 2304.9.1)

CONNECTION DESCRIPTION	FASTENING[a, m]	LOCATION
1. 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
2. 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
3. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	2 - 8d COMMON (2 1/2" x 0.131")	FACE NAIL
4. WIDER THAN 1" x 6" SUBFLOOR EACH JOIST	3 - 8d COMMON (2 1/2" x 0.131")	FACE NAIL
5. 2" SUBFLOOR TO JOIST OR GIRDER	2 - 16d COMMON (3 1/2" x 0.162")	BLIND AND FACE NAIL
6. SOLE PLATE TO JOIST OR BLOCKING SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	16d (3 1/2" x 0.135") AT 16" O.C. 3" x 0.131" NAIL AT 8" O.C. 3" 14 GAGE STAPLE AT 12" O.C. 3 - 16d (3 1/2" x 0.135") AT 16" O.C. 4 - 3" x 0.131" NAILS AT 16" O.C. 4 - 3" 14 GAGE STAPLES AT 16" O.C.	TYPICAL FACE NAIL BRACED WALL PANELS
7. 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
8. STUD TO SOLE PLATE	4 - 8d COMMON (2 1/2" x 0.131") 4 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES 2 - 16d COMMON (3 1/2" x 0.162") 3 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES	TOE NAIL END NAIL
9. DOUBLE STUDS	16d (3 1/2" x 0.135") AT 24" O.C. 3" x 0.131" NAIL AT 8" O.C. 3" 14 GAGE STAPLE AT 8" O.C.	FACE NAIL
10. DOUBLE TOP PLATES DOUBLE TOP PLATES	16d (3 1/2" x 0.135") AT 16" O.C. 3" x 0.131" NAIL AT 12" O.C. 3" 14 GAGE STAPLE AT 12" O.C. 8 - 16d COMMON (3 1/2" x 0.162") 12 - 3" x 0.131" NAILS 12 - 3" 14 GAGE STAPLES	TYPICAL FACE NAIL LAP SPLICE
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3 - 8d COMMON (2 1/2" x 0.131") 3 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES	TOENAIL
12. RIM JOIST TO TOP PLATE	8d (2 1/2" x 0.113") AT 6" O.C. 3" x 0.131" NAIL AT 6" O.C. 3" 14 GAGE STAPLE AT 6" O.C.	TOENAIL
13. 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
14. CONTINUOUS HEADER, TWO PIECES	16d COMMON (3 1/2" x 0.162")	16" O.C. ALONG EDGE
15. 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
16. CONTINUOUS HEADER TO STUD	4 - 8d COMMON (2 1/2" x 0.131")	TOENAIL
17. CEILING JOISTS, LAPS OVER PARTITIONS (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	3 - 16d COMMON MINIMUM, TABLE 2308.10.4.1 4 - 3" x 0.131" NAILS 4 - 3" 14 GAGE STAPLES	FACE NAIL
18. CEILING JOISTS TO PARALLEL RAFTERS (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	3 - 16d COMMON MINIMUM, TABLE 2308.10.4.1 4 - 3" x 0.131" NAILS 4 - 3" 14 GAGE STAPLES	FACE NAIL
19. RAFTER TO PLATE (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	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 WALL	3 - 8d COMMON (2 1/2" x 0.131")	FACE NAIL
22. WIDER THAN 1" x 8" SHEATHING TO EACH BEARING WALL	3 - 8d COMMON (2 1/2" x 0.131")	FACE NAIL
23. BUILT-UP CORNER STUDS	16d COMMON (3 1/2" x 0.162") 3" x 0.131" NAIL 3" 14 GAGE STAPLE	24" O.C. 16" O.C. 16" O.C.
24. BUILT-UP GIRDER AND BEAMS	20d COMMON (4" x 0.192") AT 32" O.C. 3" x 0.131" NAIL AT 24" O.C. 3" 14 GAGE STAPLE AT 24" O.C. 2 - 20d COMMON (4" x 0.192") 3 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES	FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDE FACE 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 RAFTER TO HIP	3 - 10d COMMON (3" x 0.148") 4 - 3" x 0.131" NAILS 4 - 3" 14 GAGE STAPLES 2 - 16d COMMON (3 1/2" x 0.162") 3 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES	TOENAIL FACE NAIL
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 2 - 16d COMMON (3 1/2" x 0.162") 3 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES	TOENAIL FACE NAIL
29. JOIST 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
31. WOOD STRUCTURAL PANELS AND PARTICLEBOARD[b] SUBFLOOR, ROOF, AND WALL SHEATHING (TO FRAMING) SINGLE FLOOR (COMBINATION SUBFLOOR-UNDERLAYMENT TO FRAMING)	1/2" AND LESS 19/32" TO 3/4" 7/8" TO 1" 1 1/8" TO 1 1/4" 3/4" AND LESS 7/8" TO 1" 1 1/8" TO 1 1/4"	6d[c, l] 2 3/8" x 0.113" NAIL[n] 1 3/4" 16 GAGE STAPLE[o] 8d[c] OR 6d[e] 2 3/8" x 0.113" NAIL[p] 2" 16 GAGE STAPLE[p] 8d[c] 10d[d] OR 8d[e] 6d[e] 8d[c] 10d[d] OR 8d[e]	
32. PANEL SIDING (TO FRAMING)	1/2" OR LESS 5/8"	6d[f] 8d[f]	
33. FIBERBOARD SHEATHING[g]	1/2" 25/32"	NO. 11 GAGE ROOFING NAIL[h] 6d COMMON NAIL (2" x 0.113") NO. 16 GAGE STAPLE[i] NO. 11 GAGE ROOFING NAIL[h] 8d COMMON NAIL (2 1/2" x 0.131") NO. 16 GAGE STAPLE[i]	
34. INTERIOR PANELING	1/4" 3/8"	4d[j] 6d[k]	

a. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE OTHERWISE STATED.
b. NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AT SUPPORTS WHERE SPANS ARE 48 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.
c. COMMON OR DEFORMED SHANK (6d - 2" x 0.113"; 8d - 2 1/2" x 0.131"; 10d - 3" x 0.148").
d. COMMON (6d - 2" x 0.113"; 8d - 2 1/2" x 0.131"; 10d - 3" x 0.148").
e. DEFORMED SHANK (6d - 2" x 0.113"; 8d - 2 1/2" x 0.131"; 10d - 3" x 0.148").
f. 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") NAIL.
g. 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.
h. 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.
i. 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 OTHERWISE MARKED).
j. CASING OR FINISH NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS.
k. PANEL SUPPORTS AT 24 INCHES. CASING OR FINISH NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS.
l. FOR ROOF SHEATHING APPLICATIONS, 8d NAILS ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.
m. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16 INCH.
n. FOR ROOF SHEATHING APPLICATIONS, FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.
o. FASTENERS SPACED 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.
p. FASTENERS SPACED 4 INCHES ON CENTER AT EDGES, 8 INCHES AT INTERMEDIATE SUPPORTS.

FOOTING SCHEDULE

TYPE MARK	TYPE	TYPE COMMENTS
CF2.0	2'-0" x 1'-0" CONT FTG	(2) #5 CONT.
CF3.0	3'-0" x 1'-0" CONT FTG	(3) #5 CONT. AND #5 AT 12" O.C.
F6.0	6'-0" x 6'-0" x 1'-2"	(7) #5 EACH WAY, BOTT.
F8.0	8'-0" x 8'-0" x 1'-7"	(6) #7 EACH WAY, BOTT.
F9.0	9'-0" x 9'-0" x 1'-9"	(10) #6 EACH WAY, BOTT.

PILASTER SCHEDULE

TYPE MARK	TYPE	TYPE COMMENTS

COLUMN SCHEDULE

TYPE MARK	TYPE	TYPE COMMENTS
C1	16x16 PC COL	
C2	HSS4X4X1/4	
C3	HSS5X5X1/4	

LINTEL SCHEDULE

TYPE MARK	DESCRIPTION	1ST-2ND	2ND-3RD	3RD-4TH	4TH-ROOF
L1	(2) 2x10	(3) 2x6 BRG (2) 2x6 KING	(2) 2x6 BRG (2) 2x6 KING	(2) 2x6 BRG (2) 2x6 KING	(2) 2x6 BRG (2) 2x6 KING
L2	(3) 2x10	(3) 2x6 BRG (2) 2x6 KING	(3) 2x6 BRG (2) 2x6 KING	(2) 2x6 BRG (2) 2x6 KING	(2) 2x6 BRG (2) 2x6 KING
L3	(2) 2x10	(2) 2x6 BRG (2) 2x6 KING			
L4	(3) 2x12				(2) 2x6 BRG (2) 2x6 KING
L5	(2) 1-3/4x9-1/2 LVL	(5) 2x6 BRG (2) 2x6 KING	(4) 2x6 BRG (2) 2x6 KING	(3) 2x6 BRG (2) 2x6 KING	
L6	(2) 1-3/4x9-1/2 LVL	(2) 2x6 BRG (1) 2x6 KING			
L7	(3) 1-3/4x11-7/8 LVL	(4) 2x6 BRG (2) 2x6 KING			
L8	(2) 2x12				(2) 2x6 BRG (1) 2x6 KING
L9	(3) 2x10	(4) 2x6 BRG (1) 2x6 KING	(3) 2x6 BRG (1) 2x6 KING	(3) 2x6 BRG (1) 2x6 KING	
L12	(2) 2x10	(2) 2x6 BRG (1) 2x6 KING			

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT	MATL	MATERIAL
ADDL	ADDITIONAL	MAU	MAKE-UP AIR UNIT
ADJ	ADJACENT	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
AHU	AIR HANDLING UNIT	MEZZ	MEZZANINE
ALT	ALTERNATE	MFR	MANUFACTURER
ALUM	ALUMINUM	MID	MIDDLE
APPROX	APPROXIMATE/APPROXIMATELY	MIN	MINIMUM
ARCH	ARCHITECT/ARCHITECTURAL	MISC	MISCELLANEOUS
		MO	MASONRY OPENING
BP	BASE PLATE/BEARING PLATE	MTL	METAL
BO	BOTTOM OF		
BLDG	BUILDING	NA	NOT APPLICABLE
BLK	BLOCK	NO	NUMER
BLKG	BLOCKING	NS	NEAR SIDE
BM	BEAM	NTS	NOT TO SCALE
BOTT	BOTTOM		
BRG	BEARING	OC	ON CENTER
BTWN	BETWEEN	OD	OUTSIDE DIAMETER
		OF	OUTSIDE FACE
CANT	CANTILEVER	OH	OVERHANG
CIP	CAST-IN-PLACE CONCRETE	OPNG	OPENING
CJ	CONTROL JOINT/CONSTRUCTION JOINT	OPP	OPPOSITE
CJP	COMPLETE JOINT PENETRATION WELD	OSB	ORIENTED STRAND BOARD
CL	CENTER LINE		
CLR	CLEAR	PAF	POWDER ACTUATED FASTENER
CMU	CONCRETE MASONRY UNIT	PC	PRECAST
COL	COLUMN	PCF	POUNDS PER CUBIC FOOT
CONC	CONCRETE	PIL	PILASTER
CONN	CONNECT/CONNNECTION	PJP	PARTIAL JOINT PENETRATION WELD
CONT	CONTINUE/CONTINUOUS	PL	PLATE
COORD	COORDINATE	PLF	POUNDS PER LINEAR FOOT
		PLYWD	PLYWOOD
DBL	DOUBLE	PREFAB	PREFABRICATED
DEMO	DEMOLITION	PROJ	PROJECTION
DTL	DETAIL	PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIAG	DIAGONAL	PSL	PARALLEL STRAND LUMBER
DIM	DIMENSION(S)	PT	POST TENSIONED
DL	DEADLOAD		
DN	DOWN	QTY	QUANTITY
DP	DEEP		
DWG	DRAWING	R	RADIUS
DWL	DOWEL	RD	ROOF DRAIN
		REF	REFERENCE
EA	EACH	REINF	REINFORCED/REINFORCEMENT
EF	EACH FACE	REQD	REQUIRED
EL	ELEVATION	REV	REVISED/REVISION
ELEV	ELEVATOR	RO	ROUGH OPENING
EMBED	EMBEDDED/EMBEDMENT	RTU	ROOF TOP UNIT
ENGR	ENGINEER		
EOR	ENGINEER OF RECORD	SCHED	SCHEDULE
EQ	EQUAL	SECT	SECITON
EQUIP	EQUIPMENT	SF	SQUARE FOOT
EW	EACH WAY	SHT	SHEET
EXIST	EXISTING	SIM	SIMILAR
EXP	EXPANSION	SL	SNOW LOAD
EXT	EXTERIOR	SOG	SLAB ON GRADE
		SP	SPACE
FAB	FABRICATOR/FABRICATION	SPEC	SPECIFICATION(S)
FD	FLOOR DRAIN	SQ	SQUARE
FDN	FOUNDATION	SS	STAINLESS STEEL
FFE	FINISHED FLOOR ELEVATION	STD	STANDARD
FLR	FLOOR	STIFF	STIFFENER
FS	FAR SIDE	STL	STEEL
FT	FEET/FOOT	STRUCT	STRUCTURAL
FTG	FOOTING	SYM	SYMMETRICAL
GA	GAUGE	TO	TOP OF
GALV	GALVANIZED	T&B	TOP AND BOTTOM
GC	GENERAL CONTRACTOR	T&G	TONGUE AND GROOVE
GLULAM	GLUE LAMINATED WOOD	TEMP	TEMPORARY
GB	GRADE BEAM	THK	THICK/THICKNESS
GT	GIRDER TRUSS	TL	TOTAL LOAD
GYP	GYPSUM	TRANS	TRANSVERSE
		TYP	TYPICAL
HORIZ	HORIZONTAL		
HT	HEIGHT	UNO	UNLESS NOTED OTHERWISE
ID	INSIDE DIAMETER	VERT	VERTICAL
IF	INSIDE FACE		
INFO	INFORMATION	W/	WITH
INSUL	INSULATION	W/O	WITHOUT
INT	INTERIOR	WL	WIND LOAD
		WP	WORKING POINT
JST	JOIST	WT	WEIGHT
JT	JOINT	WWF	WELDED WIRE FABRIC
K	KILO-POUND/1000 POUNDS	X BRACE	CROSS BRACE
KLF	KIPS PER LINEAR FOOT		
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH		
LB	POUND(S)		
LG	LONG		
LL	LIVE LOAD		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LONG	LONGITUDINAL		
LT	LIGHT		
LVL	LAMINATED VENEER LUMBER		

ALL STEEL IN CONTACT WITH TREATED WOOD (CONNECTORS, JOIST HANGERS, NAILS, SCREWS, ANCHOR BOLTS ETC.) SHALL BE STAINLESS STEEL OR GALVANIZED TO THE REQUIREMENTS LISTED IN THE WOOD SECTION OF THE STRUCTURAL NOTES.

NOTE TO TRUSS SUPPLIER

THE TRUSS SUPPLIER SHALL BE RESPONSIBLE FOR DESIGNING ALL PERMANENT BRACING AS REQUIRED FOR THE STABILITY OF THE INDIVIDUAL TRUSS COMPRESSION MEMBERS. THE BRACING DESIGN MUST BE INCLUDED IN THE SHOP DRAWINGS AND CERTIFIED BY A REGISTERED ENGINEER. THE TRUSS SHOP DRAWINGS SHALL INCLUDE SIZE AND LOCATION OF BRACES AS WELL AS THE ATTACHMENT OF THE BRACES TO THE TRUSS MEMBERS. THIS BRACING IS NOT REQUIRED TO RESIST WIND LOADS AND IS INDEPENDENT OF THE OVERALL LATERAL FORCE RESISTING SYSTEM.

ALL TRUSS TO TRUSS CONNECTIONS AND TRUSS TO TOP PLATE CONNECTIONS SHALL BE DESIGNED AND SUPPLIED BY THE TRUSS SUPPLIER. THIS DESIGN SHALL BE CERTIFIED BY A REGISTERED ENGINEER. ALL TRUSSES SHALL BE DESIGNED SUCH THAT THE BEARING STRESS ON THE TOP PLATE DOES NOT EXCEED 425 PSI.

A REVISION SCHEDULE

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision & that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Signature: _____

Printed name: Kesh Ramdular

License no.: 16256

Date: 06/02/16

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Project no: 1602
Drawn by: Author
Checked by: Checker
Date: 06/02/16
Revisions:

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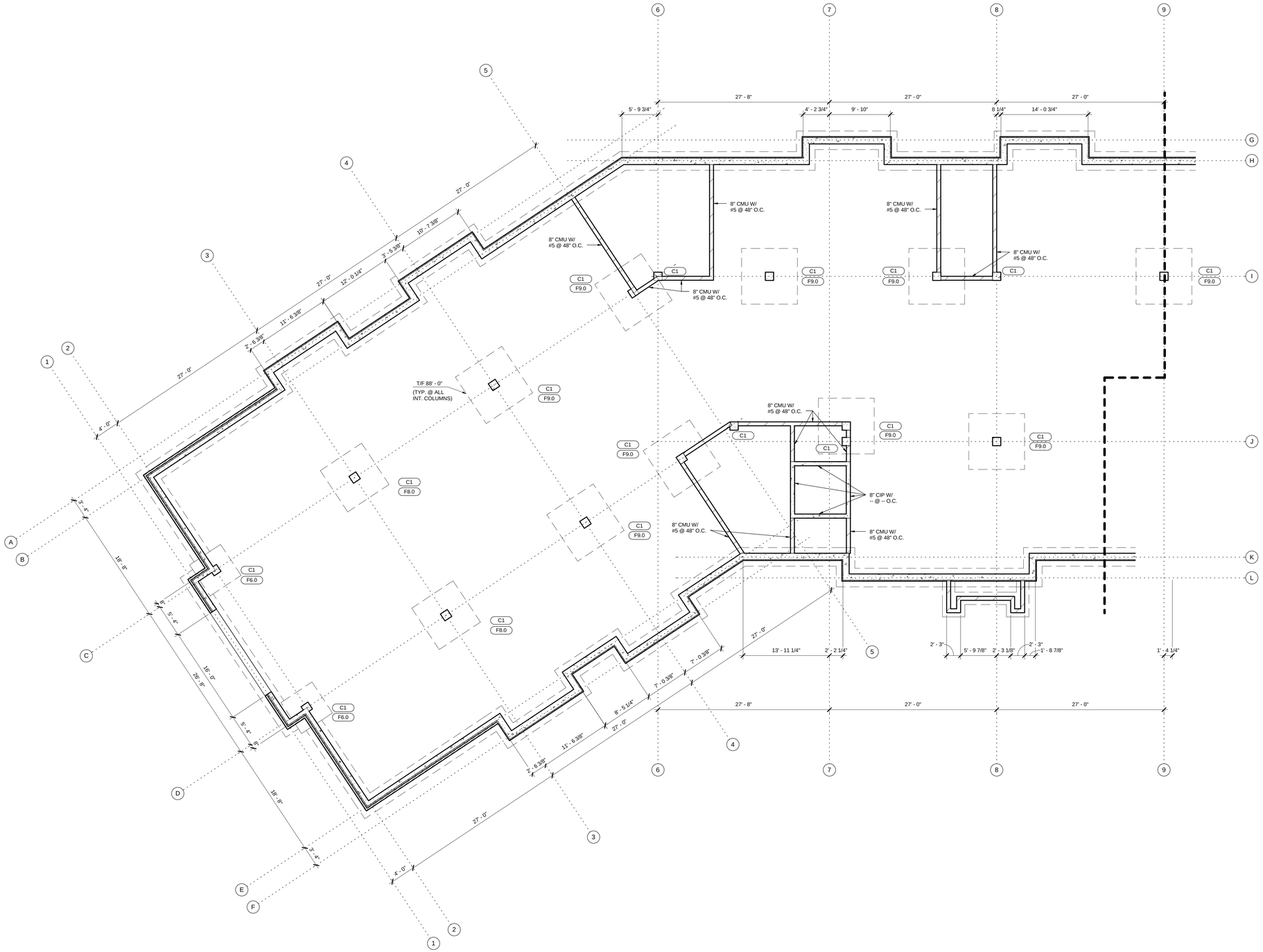
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

Structural Abbreviations

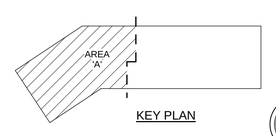
S001



1 S100 — 00 Foundation - Area 'A'

SCALE: 1/8" = 1'-0"

NORTH



KEY PLAN

PLAN NORTH

GENERAL NOTES:

1. T/FTG = 88' - 0", UNLESS NOTED OTHERWISE.
2. EXTERIOR WALL FOOTINGS SHALL BE CF-.-, UNLESS NOTED OTHERWISE.
3. STOOP WALL FOOTINGS SHALL BE CF-.-, UNLESS NOTED OTHERWISE.
4. SEE DETAILS -/S500 AND -/S500 FOR CONSTRUCTION AND CONTROL JOINTS FOR SLAB ON GRADE.
5. SLAB ON GRADE: 4" CONCRETE SLAB WITH FIBER MESH REINFORCEMENT. PROVIDE 6" COMPACTED GRANULAR FILL. T/SLAB = 89' - 0", UNLESS NOTED OTHERWISE.
6. SEE DETAIL -/S500 FOR STEP FOOTING DETAIL.
7. SEE ARCHITECTURAL DRAWINGS FOR ALL SLAB SLOPES AND FLOOR DRAINS.
8. SEE SHEET S000 FOR GENERAL STRUCTURAL NOTES.
9. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
10. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision & that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Signature: _____

Printed name: Kesh Ramdular

License no.: 16256

Date: 06/02/16

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Project no: 1602
Drawn by: Author
Checked by: Checker
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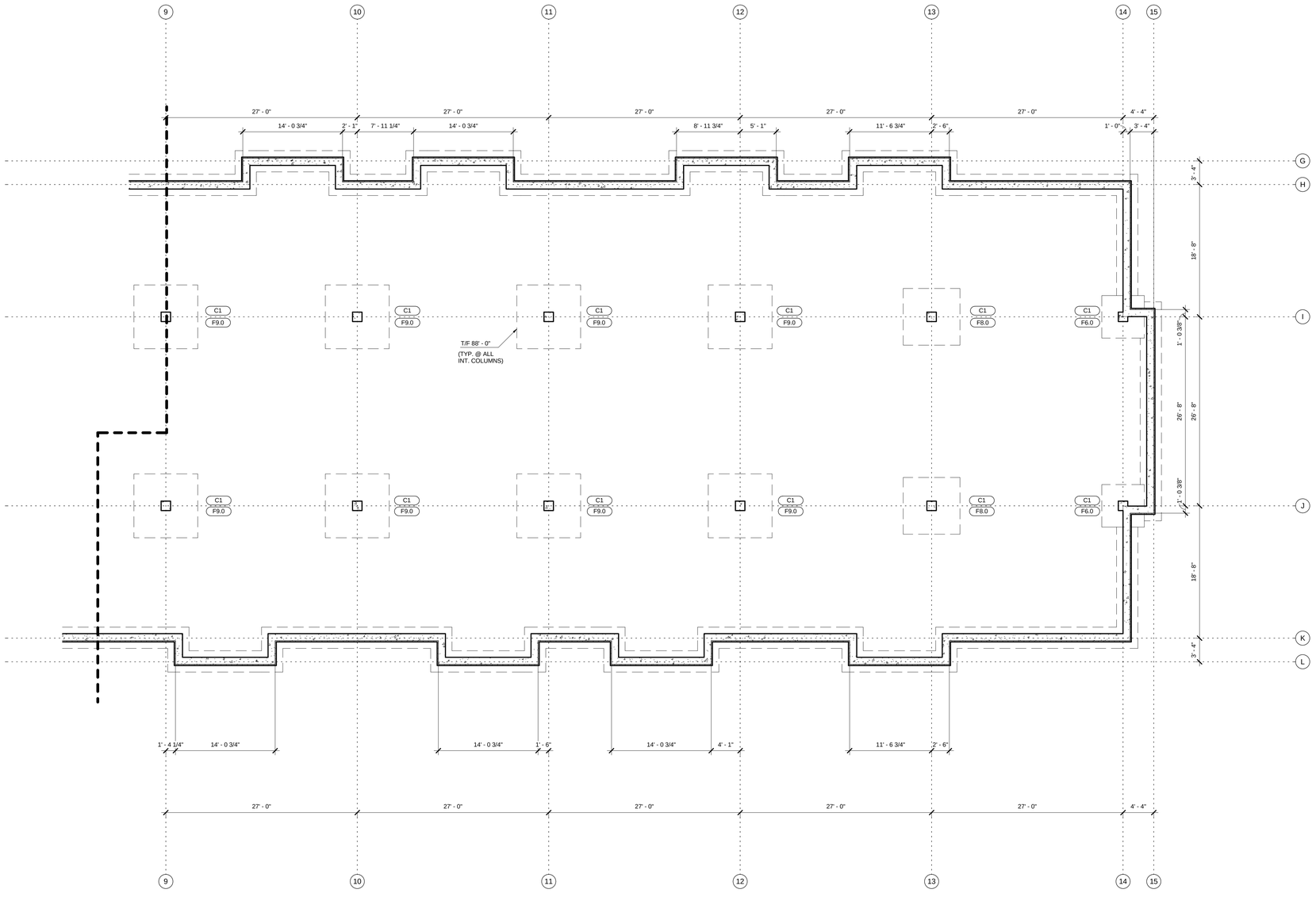
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

Foundation Plan - Area A

S100



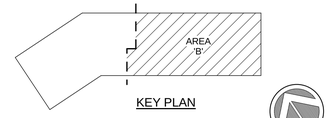
1 S101 00 Foundation - Area 'B'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. T/FTG = 88' - 0", UNLESS NOTED OTHERWISE.
2. EXTERIOR WALL FOOTINGS SHALL BE CF-.-, UNLESS NOTED OTHERWISE.
3. STOOP WALL FOOTINGS SHALL BE CF-.-, UNLESS NOTED OTHERWISE.
4. SEE DETAILS -/S500 AND -/S500 FOR CONSTRUCTION AND CONTROL JOINTS FOR SLAB ON GRADE.
5. SLAB ON GRADE: 4" CONCRETE SLAB WITH FIBER MESH REINFORCEMENT. PROVIDE 6" COMPACTED GRANULAR FILL. T/SLAB = 89' - 0", UNLESS NOTED OTHERWISE.
6. SEE DETAIL -/S500 FOR STEP FOOTING DETAIL.
7. SEE ARCHITECTURAL DRAWINGS FOR ALL SLAB SLOPES AND FLOOR DRAINS.
8. SEE SHEET S000 FOR GENERAL STRUCTURAL NOTES.
9. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
10. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



KEY PLAN

PLAN NORTH

REVISION SCHEDULE

Larson
Engineering, Inc.
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White Bear Lake, MN 55110-5126
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www.larsonengr.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision & that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Signature: _____

Printed name: Kesh Ramdular

License no.: 16256

Date: 06/02/16

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Project no: 1602
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Revisions:

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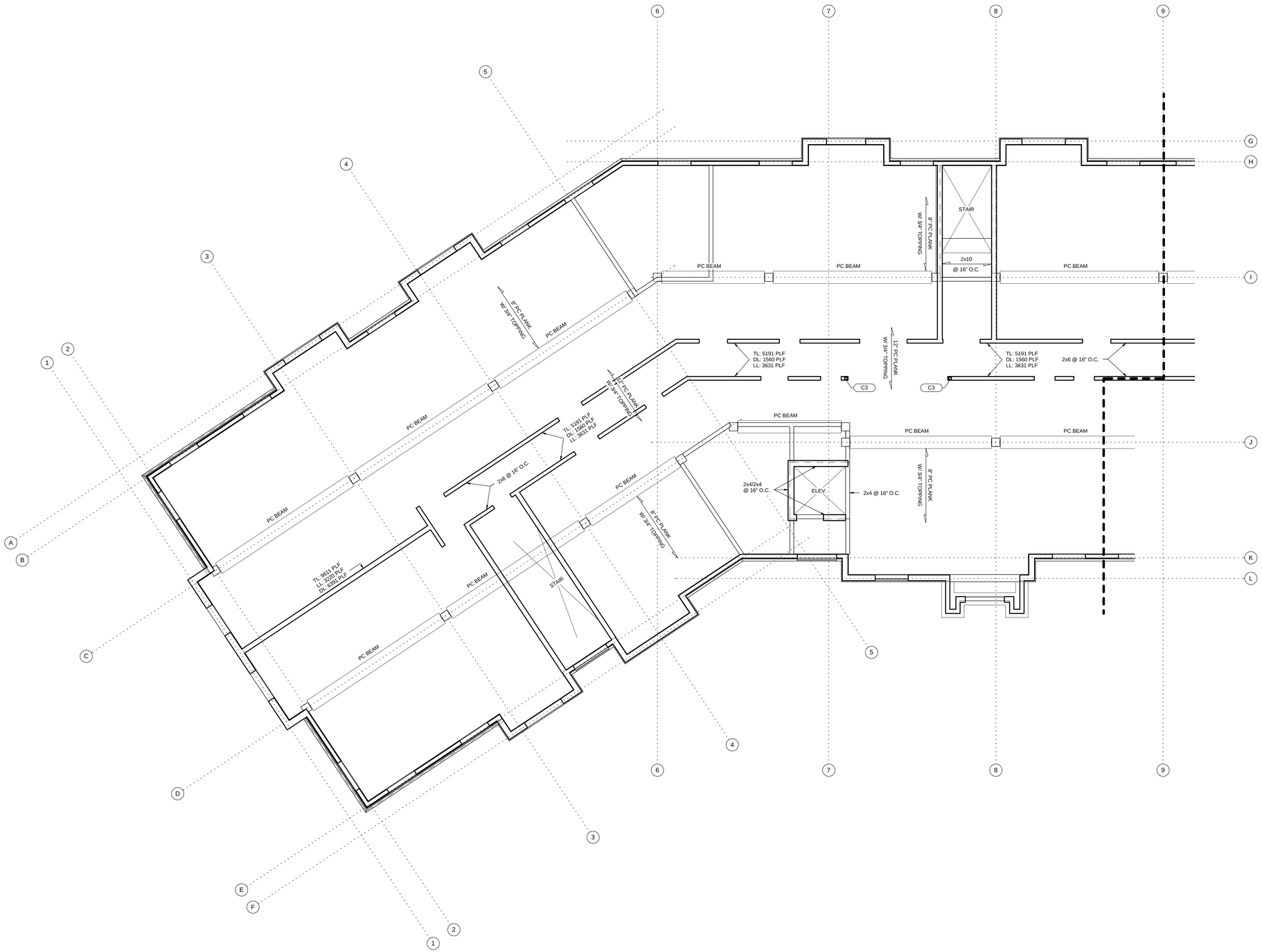
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

Foundation Plan - Area B

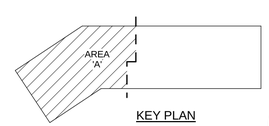
S101



01 Floor Plan - Area 'A'

1 / S102 SCALE: 1/8" = 1'-0"

NORTH



KEY PLAN

PLAN NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
   3RD FLOOR TOP OF SHEATHING = 121' - 3 3/4"
   4TH FLOOR TOP OF SHEATHING = 131' - 5 5/8"
2. FLOOR SHEATHING TO BE 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND NAILED. SEE SPECIFICATIONS.
3. ALL FLOOR AREA TO HAVE 3/4" GYPCRETE, UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL.
4. PROVIDE BRIDGING FOR FLOOR TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATION.
5. DIMENSIONAL LUMBER FLOOR JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
6. SEE ARCH FOR ALL OPENING SIZES AND LOCATIONS.
7. ALL INTERIOR STEEL BEAMS TO HAVE 2x WOOD TOP PLATES WITH 1/2" DIA THROUGH BOLTS AT 48" O.C. STAGGERED.
8. COORDINATE ALL TRUSSES WITH PLUMBING LOCATIONS.
9. ALL TRUSSES AND/OR ENGINEERED FLOORS TO BE DESIGNED FOR:
   a. L/VE LOAD DEFLECTION OF L/--- FOR RESIDENT UNITS.
   b. L/VE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
10. ADJUST TRUSS SPACING AS NECESSARY FOR LOAD AND DEFLECTION REQUIREMENTS (MAX 24" O.C.)
11. SEE DETAIL -/S502 FOR CONTINUOUS BLOCKING REQUIREMENTS IN TRUSS SPACE.
12. PROVIDE CONT 2x12 RIBBON AT INTERIOR CORRIDOR.
13. PROVIDE CONT 2x6 RIBBON AT EXTERIOR WALLS.
14. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
15. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
16. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

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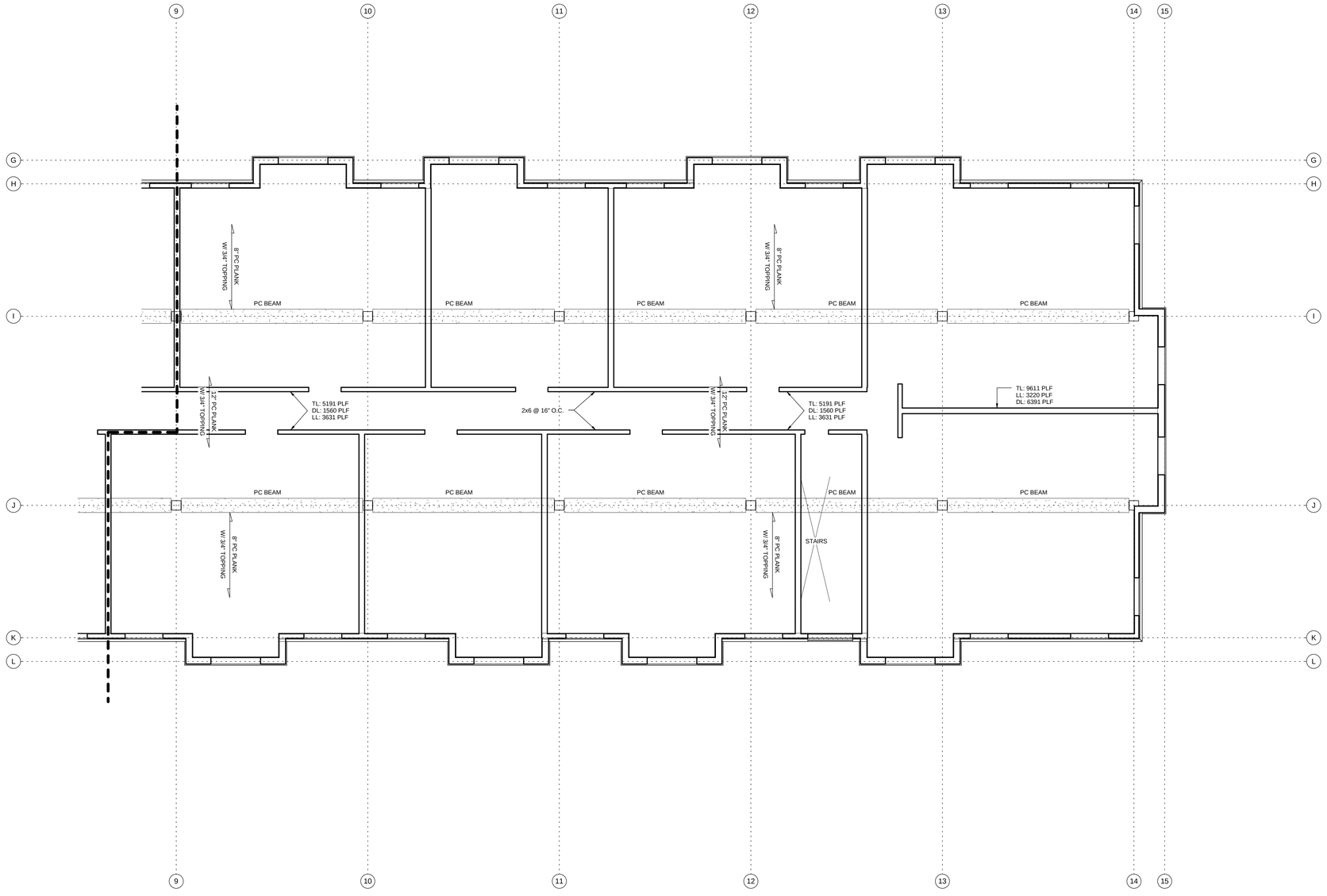
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

First Floor Framing Plan - Area A

S102



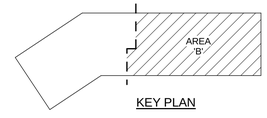
1 / S103 01 Floor Plan - Area 'B'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
   3RD FLOOR TOP OF SHEATHING = 121' - 3 3/4"
   4TH FLOOR TOP OF SHEATHING = 131' - 5 5/8"
2. FLOOR SHEATHING TO BE 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND NAILED. SEE SPECIFICATIONS.
3. ALL FLOOR AREA TO HAVE 3/4" GYPCRETE, UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL.
4. PROVIDE BRIDGING FOR FLOOR TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATION.
5. DIMENSIONAL LUMBER FLOOR JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
6. SEE ARCH FOR ALL OPENING SIZES AND LOCATIONS.
7. ALL INTERIOR STEEL BEAMS TO HAVE 2x WOOD TOP PLATES WITH 1/2" DIA THROUGH BOLTS AT 48" O.C. STAGGERED.
8. COORDINATE ALL TRUSSES WITH PLUMBING LOCATIONS.
9. ALL TRUSSES AND/OR ENGINEERED FLOORS TO BE DESIGNED FOR:
   a. L/VE LOAD DEFLECTION OF L/--- FOR RESIDENT UNITS.
   b. LIVE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
10. ADJUST TRUSS SPACING AS NECESSARY FOR LOAD AND DEFLECTION REQUIREMENTS (MAX 24" O.C.)
11. SEE DETAIL -/S502 FOR CONTINUOUS BLOCKING REQUIREMENTS IN TRUSS SPACE.
12. PROVIDE CONT 2x12 RIBBON AT INTERIOR CORRIDOR.
13. PROVIDE CONT 2x6 RIBBON AT EXTERIOR WALLS.
14. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
15. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
16. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



KEY PLAN

PLAN NORTH

A REVISION SCHEDULE

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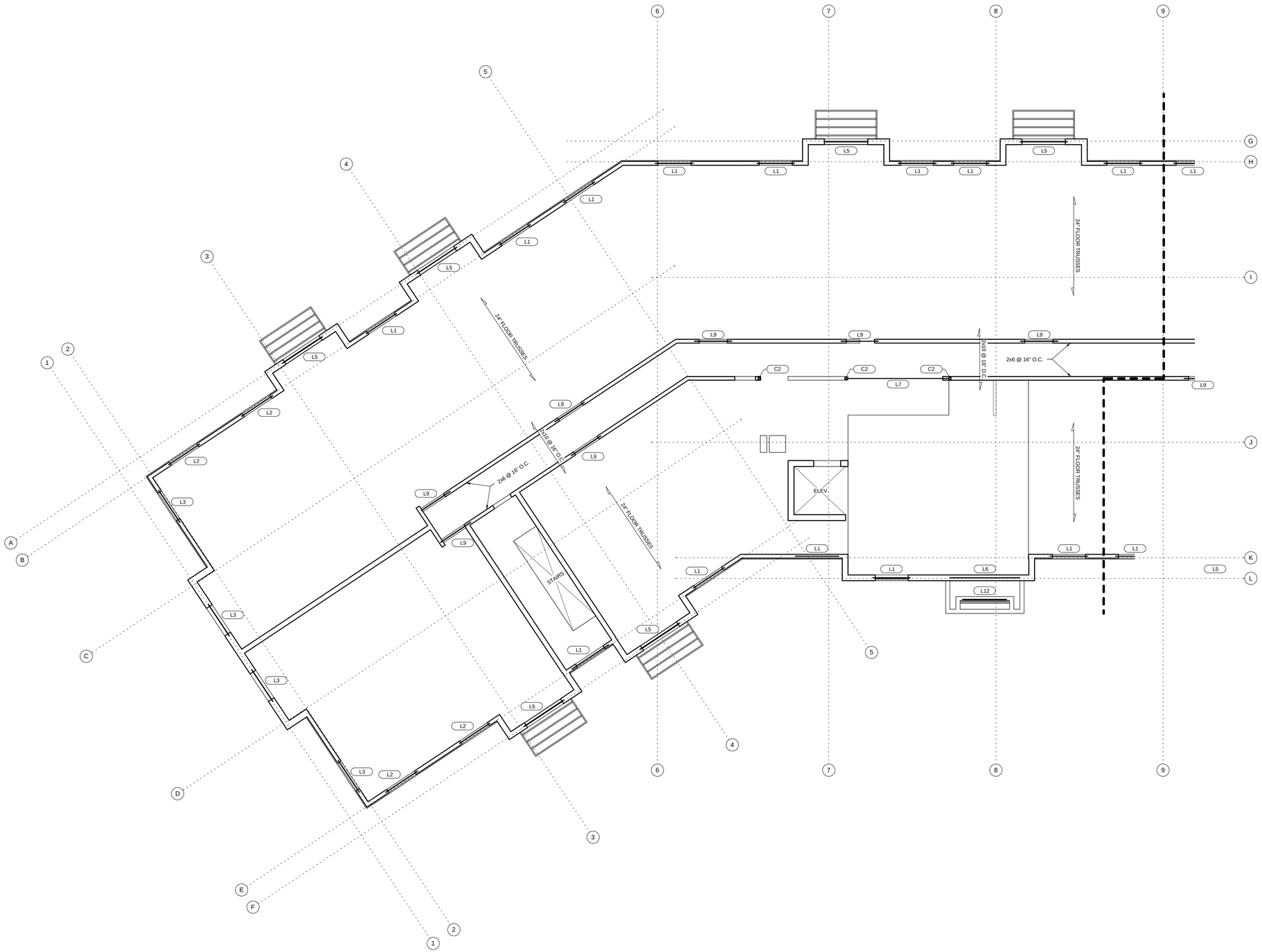
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

First Floor Framing Plan - Area B

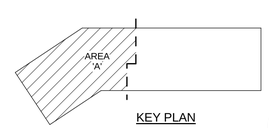
S103



02 Floor Plan - Area 'A'

1 / S104 SCALE: 1/8" = 1'-0"

NORTH



KEY PLAN

PLAN NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
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   4TH FLOOR TOP OF SHEATHING = 131' - 5 5/8"
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3. ALL FLOOR AREA TO HAVE 3/4" GYPCRETE, UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL.
4. PROVIDE BRIDGING FOR FLOOR TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATION.
5. DIMENSIONAL LUMBER FLOOR JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
6. SEE ARCH FOR ALL OPENING SIZES AND LOCATIONS.
7. ALL INTERIOR STEEL BEAMS TO HAVE 2x WOOD TOP PLATES WITH 1/2" DIA THROUGH BOLTS AT 48" O.C. STAGGERED.
8. COORDINATE ALL TRUSSES WITH PLUMBING LOCATIONS.
9. ALL TRUSSES AND/OR ENGINEERED FLOORS TO BE DESIGNED FOR:
   a. L/VE LOAD DEFLECTION OF L/--- FOR RESIDENT UNITS.
   b. LIVE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
10. ADJUST TRUSS SPACING AS NECESSARY FOR LOAD AND DEFLECTION REQUIREMENTS (MAX 24" O.C.)
11. SEE DETAIL -/S502 FOR CONTINUOUS BLOCKING REQUIREMENTS IN TRUSS SPACE.
12. PROVIDE CONT 2x12 RIBBON AT INTERIOR CORRIDOR.
13. PROVIDE CONT 2x6 RIBBON AT EXTERIOR WALLS.
14. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
15. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
16. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

REVISION SCHEDULE

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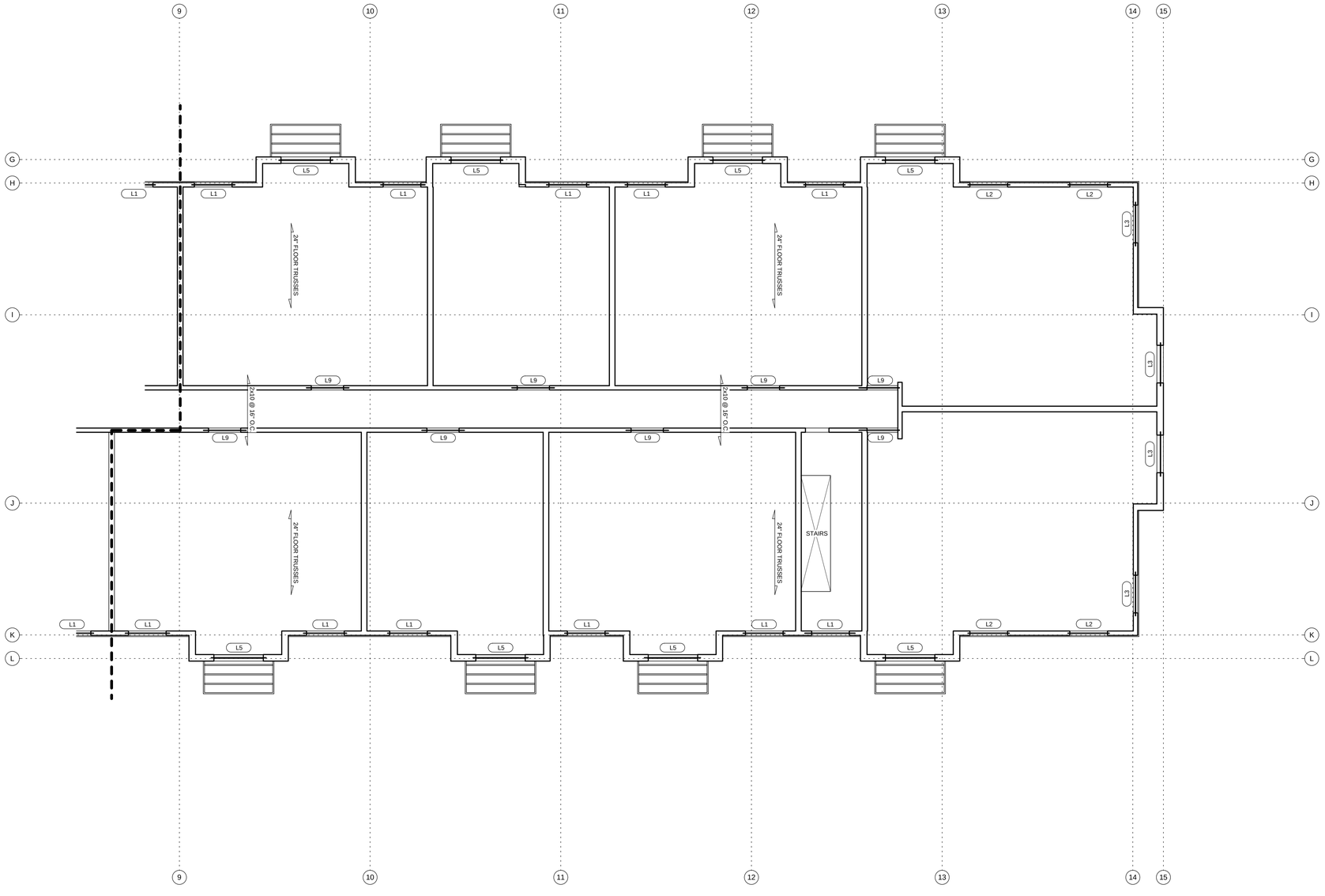
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

Second Floor Framing Plan - Area A

S104



1 S105 02 Floor Plan - Area 'B'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
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   b. LIVE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
10. ADJUST TRUSS SPACING AS NECESSARY FOR LOAD AND DEFLECTION REQUIREMENTS (MAX 24" O.C.)
11. SEE DETAIL -/S502 FOR CONTINUOUS BLOCKING REQUIREMENTS IN TRUSS SPACE.
12. PROVIDE CONT 2x12 RIBBON AT INTERIOR CORRIDOR.
13. PROVIDE CONT 2x6 RIBBON AT EXTERIOR WALLS.
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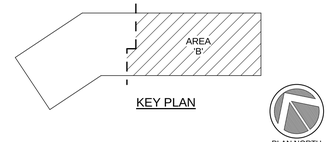
16. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



KEY PLAN

PLAN NORTH

A REVISION SCHEDULE

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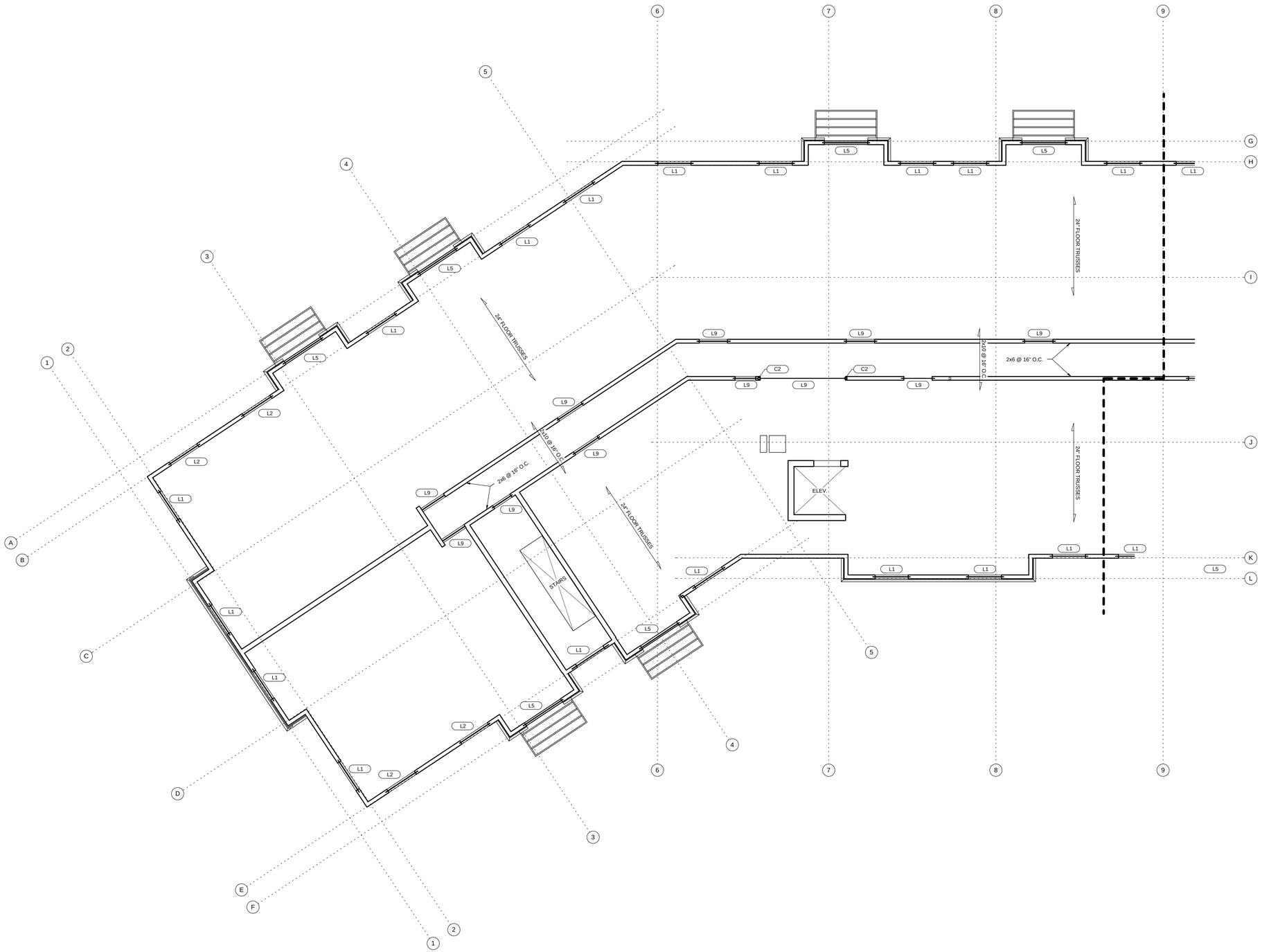
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

Second Floor Framing Plan - Area B

S105



1 S106 03 Floor Plan - Area 'A'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
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   b. L/VE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
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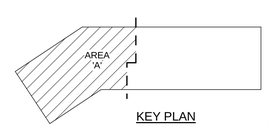

KEY PLAN

PLAN NORTH

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New Apartment Complex:

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Red Wing, MN

Third Floor Framing Plan - Area A

S106

1 S107 03 Floor Plan - Area 'B'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
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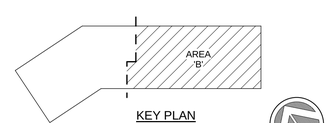

KEY PLAN

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New Apartment Complex:

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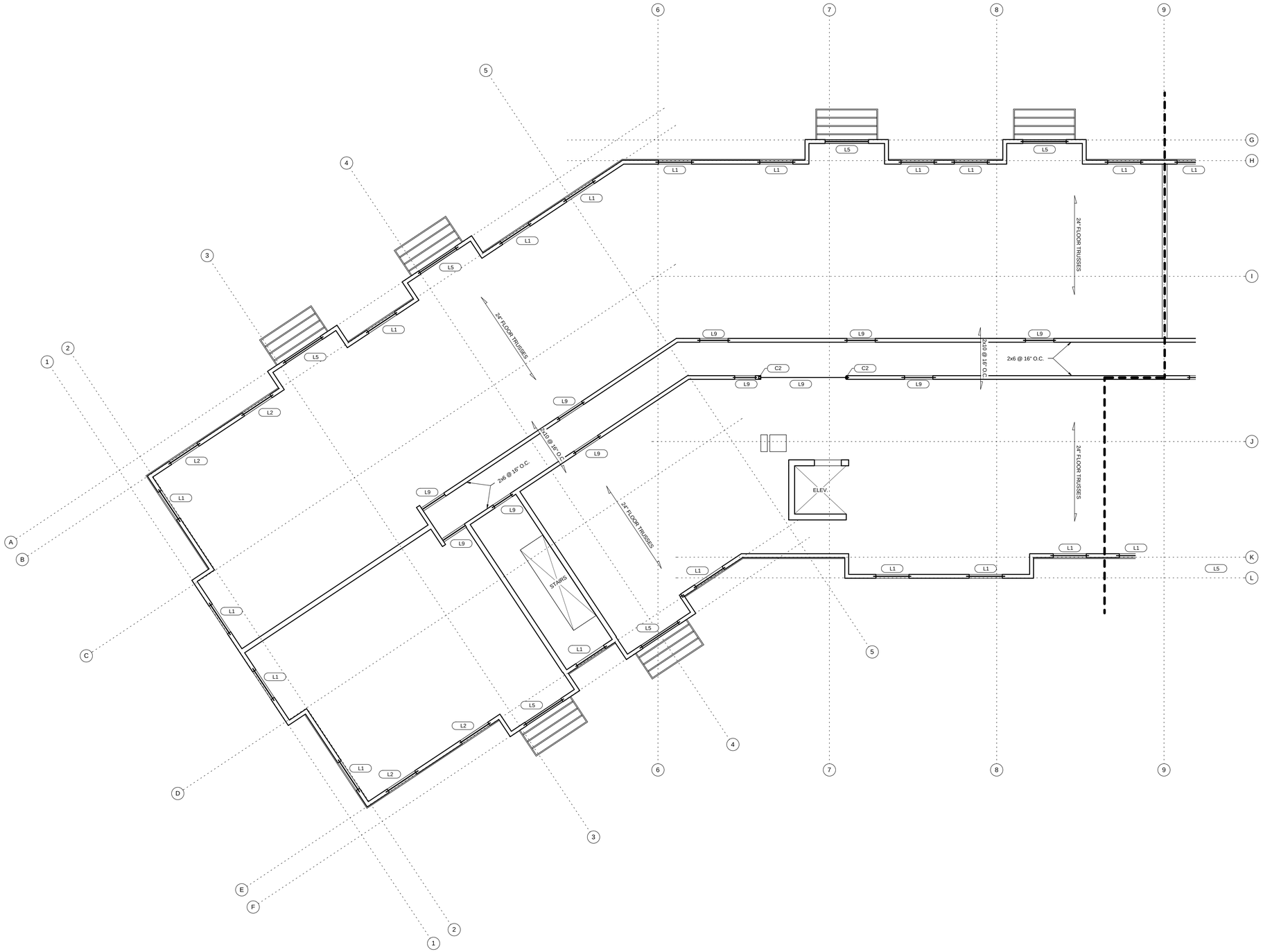
Red Wing, MN

Third Floor Framing Plan - Area B

S107



1 S108 04 Floor Plan - Area 'A'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

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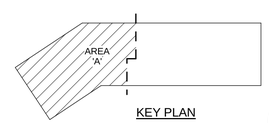
   3RD FLOOR TOP OF SHEATHING = 121' - 3 3/4"
   4TH FLOOR TOP OF SHEATHING = 131' - 5 5/8"
2. FLOOR SHEATHING TO BE 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND NAILED. SEE SPECIFICATIONS.
3. ALL FLOOR AREA TO HAVE 3/4" GYPCRETE, UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL.
4. PROVIDE BRIDGING FOR FLOOR TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATION.
5. DIMENSIONAL LUMBER FLOOR JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
6. SEE ARCH FOR ALL OPENING SIZES AND LOCATIONS.
7. ALL INTERIOR STEEL BEAMS TO HAVE 2x WOOD TOP PLATES WITH 1/2" DIA THROUGH BOLTS AT 48" O.C. STAGGERED.
8. COORDINATE ALL TRUSSES WITH PLUMBING LOCATIONS.
9. ALL TRUSSES AND/OR ENGINEERED FLOORS TO BE DESIGNED FOR:
   a. L/VE LOAD DEFLECTION OF L/--- FOR RESIDENT UNITS.
   b. L/VE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
10. ADJUST TRUSS SPACING AS NECESSARY FOR LOAD AND DEFLECTION REQUIREMENTS (MAX 24" O.C.)
11. SEE DETAIL -/S502 FOR CONTINUOUS BLOCKING REQUIREMENTS IN TRUSS SPACE.
12. PROVIDE CONT 2x12 RIBBON AT INTERIOR CORRIDOR.
13. PROVIDE CONT 2x6 RIBBON AT EXTERIOR WALLS.
14. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
15. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
16. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



KEY PLAN

PLAN NORTH

REVISION SCHEDULE

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3524 Labore Road
White Bear Lake, MN 55110-5126
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www.larsonengr.com

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Signature: _____

Printed name: Kesh Ramdular

License no.: 16256

Date: 06/02/16

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Project no: 1602
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Checked by: Checker
Date: 06/02/16
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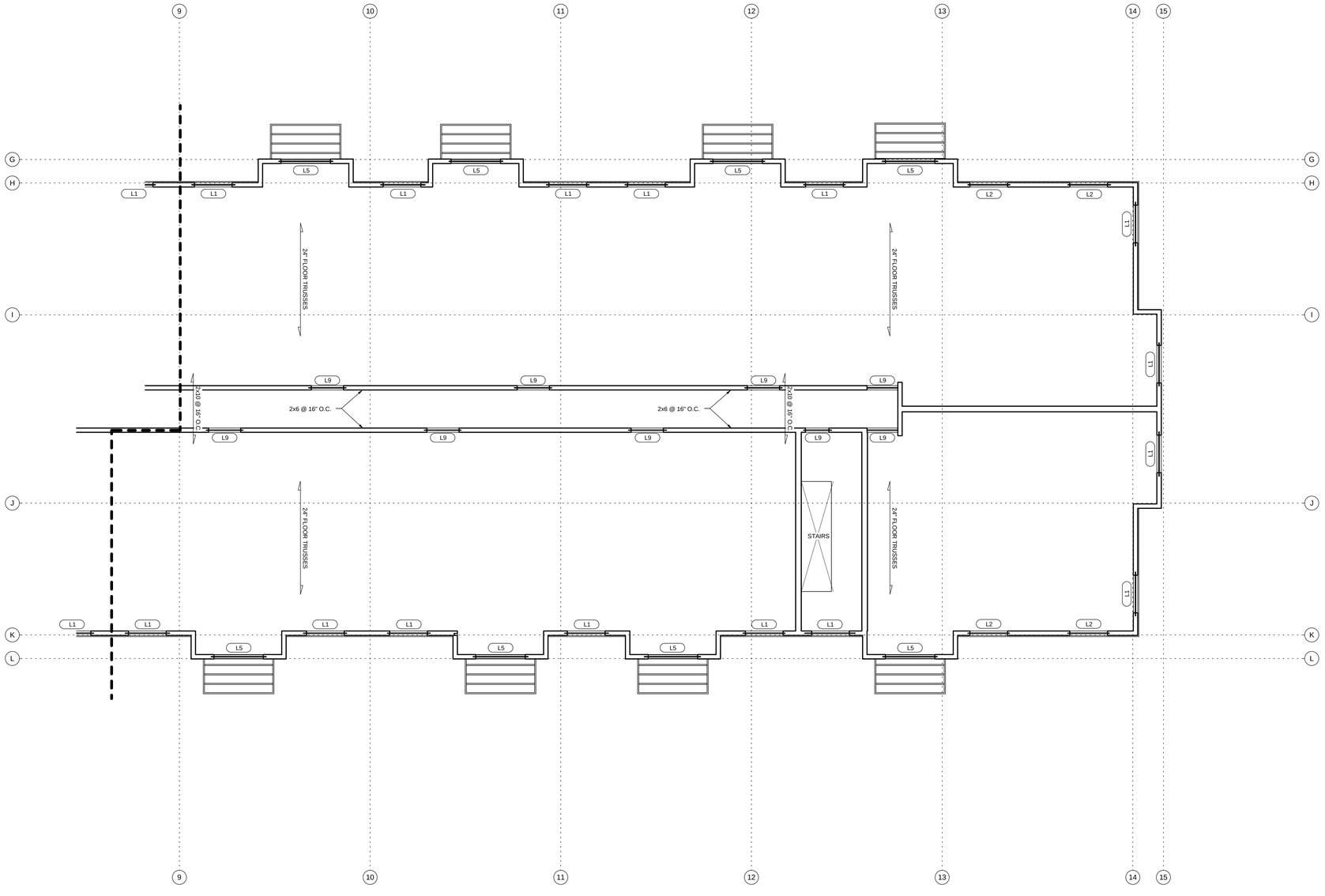
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

Fourth Floor Framing Plan - Area A

S108



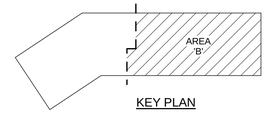
1 S109 04 Floor Plan - Area 'B'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. 1ST FLOOR TOP OF PLANK = 100' - 0"
   2ND FLOOR TOP OF SHEATHING = 111' - 1 7/8"
   3RD FLOOR TOP OF SHEATHING = 121' - 3 3/4"
   4TH FLOOR TOP OF SHEATHING = 131' - 5 5/8"
2. FLOOR SHEATHING TO BE 3/4" TONGUE AND GROOVE PLYWOOD GLUED AND NAILED. SEE SPECIFICATIONS.
3. ALL FLOOR AREA TO HAVE 3/4" GYPCRETE, UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL.
4. PROVIDE BRIDGING FOR FLOOR TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATION.
5. DIMENSIONAL LUMBER FLOOR JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
6. SEE ARCH FOR ALL OPENING SIZES AND LOCATIONS.
7. ALL INTERIOR STEEL BEAMS TO HAVE 2x WOOD TOP PLATES WITH 1/2" DIA THROUGH BOLTS AT 48" O.C. STAGGERED.
8. COORDINATE ALL TRUSSES WITH PLUMBING LOCATIONS.
9. ALL TRUSSES AND/OR ENGINEERED FLOORS TO BE DESIGNED FOR:
   a. L/Ve LOAD DEFLECTION OF L/--- FOR RESIDENT UNITS.
   b. LIVE LOAD DEFLECTION OF L/--- FOR 100 PSF LOAD AREAS.
10. ADJUST TRUSS SPACING AS NECESSARY FOR LOAD AND DEFLECTION REQUIREMENTS (MAX 24" O.C.)
11. SEE DETAIL -/S502 FOR CONTINUOUS BLOCKING REQUIREMENTS IN TRUSS SPACE.
12. PROVIDE CONT 2x12 RIBBON AT INTERIOR CORRIDOR.
13. PROVIDE CONT 2x6 RIBBON AT EXTERIOR WALLS.
14. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
15. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
16. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



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New Apartment Complex:

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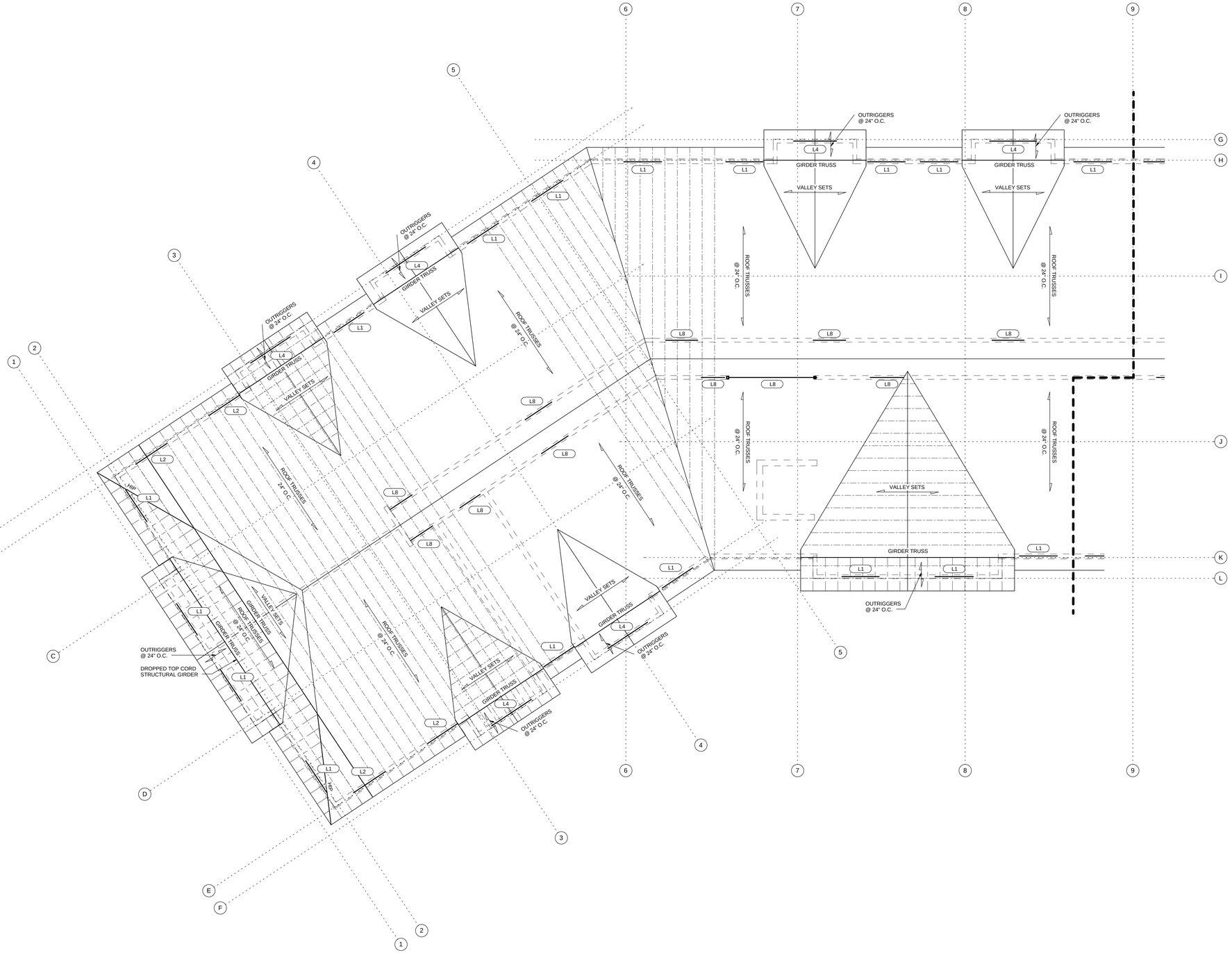
Red Wing, MN

Fourth Floor Framing Plan - Area B

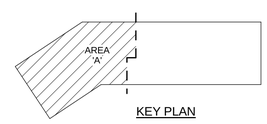
S109



1 S110 05 Roof Plan - Area 'A'

SCALE: 1/8" = 1'-0"

NORTH



KEY PLAN

PLAN NORTH

GENERAL NOTES:

1. TRUSS BEARING = 139' - 6 3/4", UNLESS NOTED OTHERWISE.
2. PROVIDE BRIDGING FOR ROOF TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
3. DIMENSIONAL LUMBER ROOF JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
4. TIE NON-BEARING WALLS TO BOTTOM CHORD OF ROOF TRUSS AT 3' - 0" O.C.
5. ALL BEARING STUDS AT GIRDERS AND OPENINGS CONTINUOUS DOWN TO THE FOUNDATION.
6. ROOF SHEATHING CONTINUOUS UNDER ALL VALLEY SETS.
7. ROOF SHEATHING TO BE 1/2" APA RATED SHEATHING. SEE DETAIL -/S502 FOR NAILING PATTERN.
8. END JOINT OF SHEATHING SHALL BE STAGGERED AND NAILING PATTERN SHALL BE ACCORDING TO THE IBC. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
9. PLYWOOD CLIPS SHALL BE USED WHEN SUPPORTING MEMBERS ARE SPACED GREATER THAN 16" O.C.
10. SEE ARCHITECTURAL DRAWINGS FOR ATTIC ACCESS OPENING AND WALL SEPARATION LOCATIONS.
11. SEE ARCHITECTURAL DRAWINGS FOR ROOF SLOPES.
12. VERIFY ALL OVERHANG AND EAVE CONDITIONS WITH ARCHITECTURAL DRAWINGS.
13. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
14. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

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New Apartment Complex:

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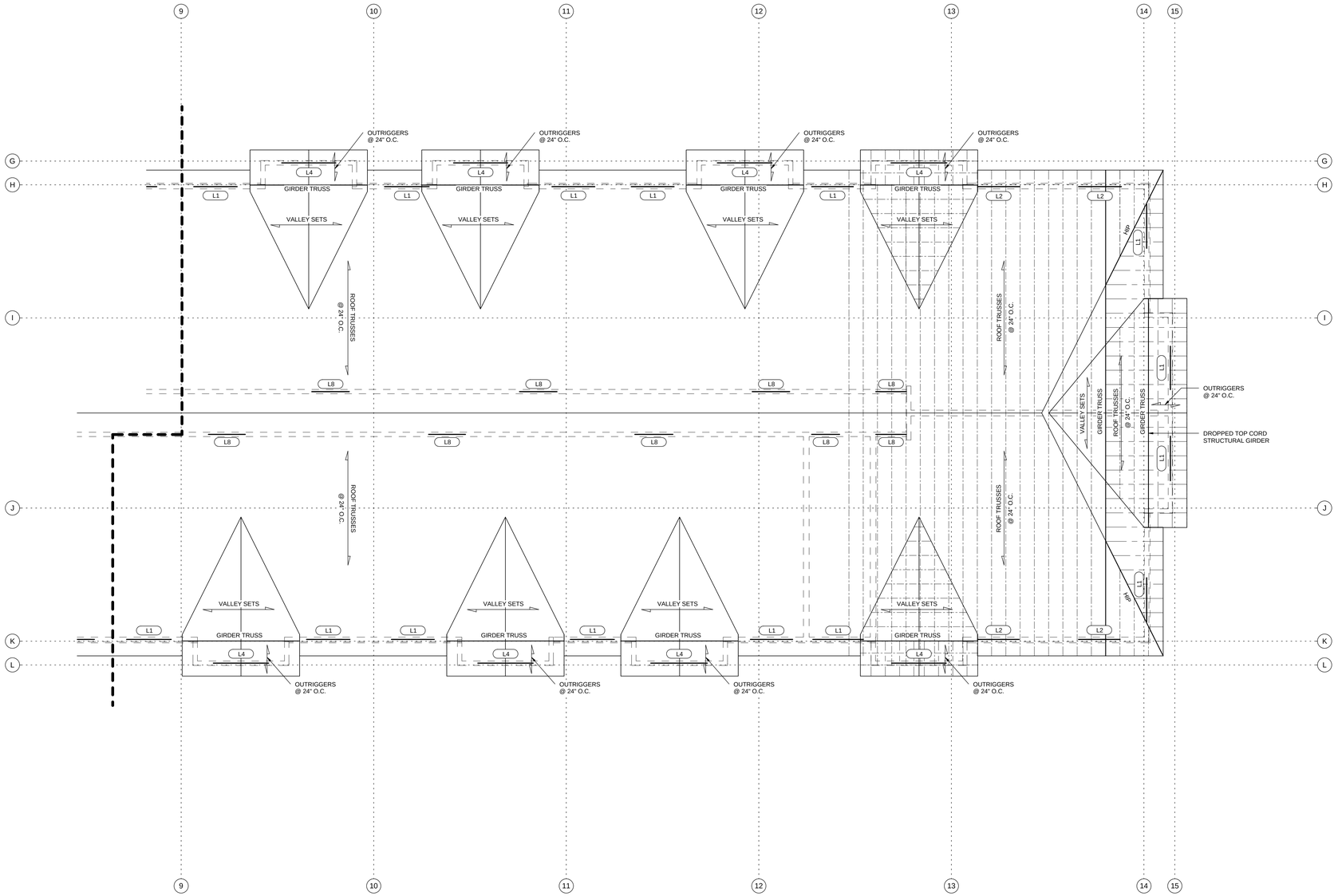
Red Wing, MN

Roof Framing Plan - Area A

S110



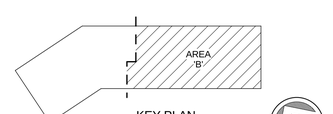
1 / S111 05 Roof Plan - Area 'B'

SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES:

1. TRUSS BEARING = 139' - 6 3/4", UNLESS NOTED OTHERWISE.
2. PROVIDE BRIDGING FOR ROOF TRUSSES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
3. DIMENSIONAL LUMBER ROOF JOISTS TO HAVE BRIDGING AT INTERVALS NOT TO EXCEED 8' - 0".
4. TIE NON-BEARING WALLS TO BOTTOM CHORD OF ROOF TRUSS AT 3' - 0" O.C.
5. ALL BEARING STUDS AT GIRDERS AND OPENINGS CONTINUOUS DOWN TO THE FOUNDATION.
6. ROOF SHEATHING CONTINUOUS UNDER ALL VALLEY SETS.
7. ROOF SHEATHING TO BE 1/2" APA RATED SHEATHING. SEE DETAIL -/S502 FOR NAILING PATTERN.
8. END JOINT OF SHEATHING SHALL BE STAGGERED AND NAILING PATTERN SHALL BE ACCORDING TO THE IBC. SEE SHEET S001 FOR IBC NAILING SCHEDULE.
9. PLYWOOD CLIPS SHALL BE USED WHEN SUPPORTING MEMBERS ARE SPACED GREATER THAN 16" O.C.
10. SEE ARCHITECTURAL DRAWINGS FOR ATTIC ACCESS OPENING AND WALL SEPARATION LOCATIONS.
11. SEE ARCHITECTURAL DRAWINGS FOR ROOF SLOPES.
12. VERIFY ALL OVERHANG AND EAVE CONDITIONS WITH ARCHITECTURAL DRAWINGS.
13. SEE SHEET S001 FOR SCHEDULES AND ABBREVIATIONS.
14. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



KEY PLAN

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New Apartment Complex:

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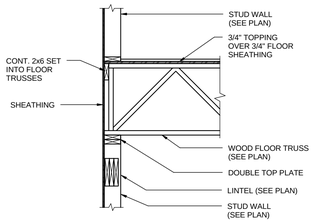
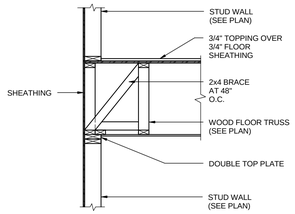
Red Wing, MN

Roof Framing Plan - Area B

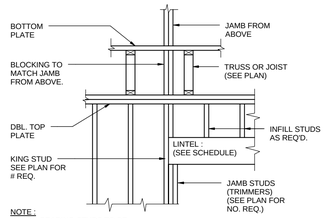
S111



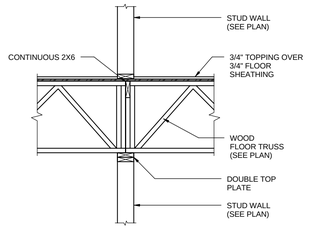
1 S500 SECTION
SCALE: 1/2" = 1'-0"



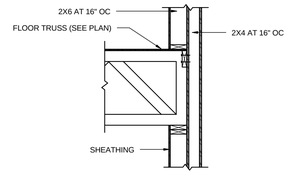
2 S500 SECTION
SCALE: 1/2" = 1'-0"



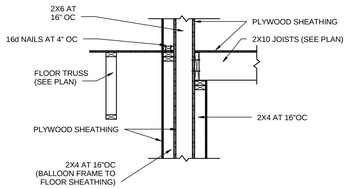
3 S500 SECTION
SCALE: 1/2" = 1'-0"



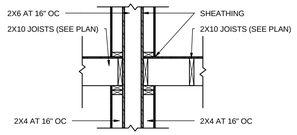
4 S500 SECTION
SCALE: 1/2" = 1'-0"



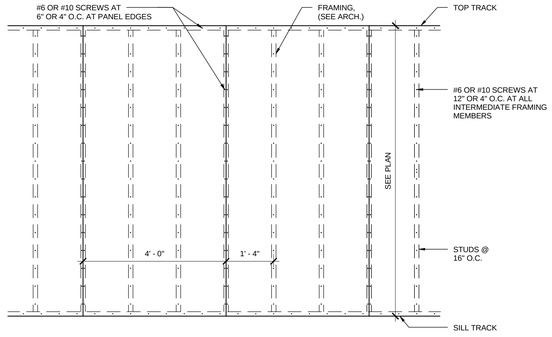
5 S500 SECTION
SCALE: 1/2" = 1'-0"



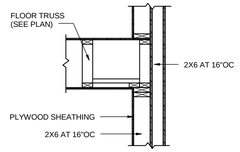
6 S500 SECTION
SCALE: 1/2" = 1'-0"



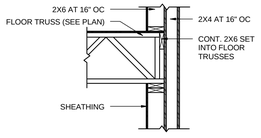
7 S500 SECTION
SCALE: 1/2" = 1'-0"



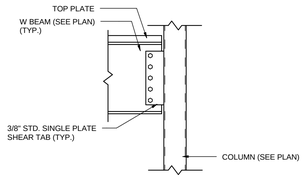
8 S500 SECTION
SCALE: 1/2" = 1'-0"



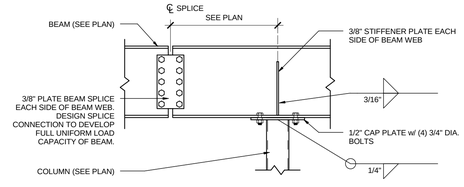
9 S500 SECTION
SCALE: 1/2" = 1'-0"



10 S500 SECTION
SCALE: 1/2" = 1'-0"



11 S500 SECTION
SCALE: 3/4" = 1'-0"



12 S500 SECTION
SCALE: 3/4" = 1'-0"

REVISION SCHEDULE

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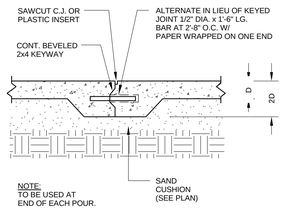
New Apartment Complex:

Rivers Ridge Luxury Apartments

Red Wing, MN

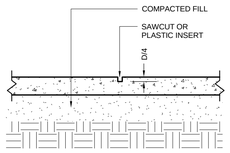
Details

S500



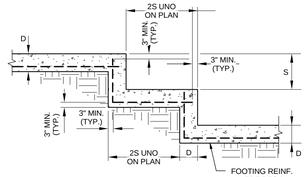
NOTE:
TO BE USED AT
END OF EACH POUR.

1 SECTION
S501 SCALE: 3/4" = 1'-0"



1. SAW CUT CONTROL JOINTS TO BE CUT 4 TO 12 HRS. AFTER CONCRETE HARDENS
2. VERIFY JOINT LOCATIONS w/ OWNER. SPACE AT 15'-0" MAXIMUM.

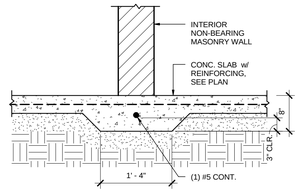
2 SECTION
S501 SCALE: 3/4" = 1'-0"



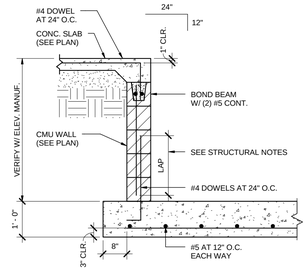
S = 8" OR 16" MASONRY WALLS OR 2'-0" MAX FOR POURED WALLS OR PRECAST

NOTE:
SLOPED OR STEPPED FOOTINGS SHALL BE CAST AS ONE UNIT

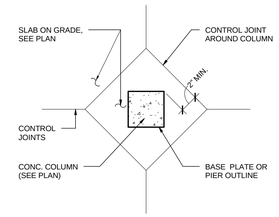
3 SECTION
S501 SCALE: 1/2" = 1'-0"



4 SECTION
S501 SCALE: 3/4" = 1'-0"



5 SECTION
S501 SCALE: 1/2" = 1'-0"



6 SECTION
S501 SCALE: 3/4" = 1'-0"

NOTE:
TYP. AT ALL NON-BEARING WALLS.

7 SECTION
S501 SCALE: 1" = 1'-0"

8 SECTION
S501 SCALE: 1/2" = 1'-0"

9 SECTION
S501 SCALE: 3/4" = 1'-0"

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