GENERAL STRUCTURAL NOTES

1. BUILDING CODES USED FOR DESIGN:
   a. MINNESOTA BUILDING CODE, 2020 EDITION. (IBC 2018)

2. DESIGN CRITERIA:
   a. GENERAL:
      BUILDING / STRUCTURE RISK CATEGORY: II
   b. WIND LOAD CRITERIA:

BASIC WIND SPEED (ULTIMATE)	V = 115 MPH
WIND LOAD EXPOSURE	B
WIND TOPOGRAPHIC FACTOR	Kzt = 1.0
INTERNAL PRESSURE COEFFICIENT	GCpi = 0.18 (ENCLOSED)

   c. SNOW LOAD CRITERIA:

GROUND SNOW LOAD	Pg = 50
SNOW IMPORTANCE FACTOR	Is = 1.0
SNOW EXPOSURE FACTOR	Ce = 1.0
SLOPED ROOF/FLAT ROOF FACTOR	Cs = 1.0
ROOF THERMAL FACTOR	Ct = 1.1 (1.2 AT CANOPIES)
ROOF SNOW LOAD Ps = Pg(0.7)(Is)(Ce)(Cs)(Ct) =	Ps= 38.5 PSF (42 PSF AT CANOPIES)

      SEE PLANS FOR SNOW DRIFT DIAGRAMS
   d. MISC. LIVE LOADS:

PRIVATE ROOMS AND CORRIDORS SERVING THEM	40 PSF
PUBLIC ROOMS AND CORRIDORS SERVING THEM	100 PSF

3. DESIGN STRESSES:
   a. CONCRETE:

MEMBER TYPE/ LOCATION	STRENGTH @ 28 DAYS	EXPOSURE CLASSES	MAX W/C RATIO	MAXIMUM AGGREGATE	AIR CONTENT (SEE NOTE1)
FOOTINGS	3500 PSI	F1, S0, W0, C1	0.55	1 ½"	4.5%
INTERIOR SLAB	2500 PSI	F0, S0, W0, C0	N/A	1"	N/A
EXTERIOR SLABS AND STOOPS	5000 PSI	F3, S0, W0, C2	0.40	1"	6.0%
PIERS AND WALLS	3500 PSI	F1, S0, W0, C1	0.55	1 ½"	4.5%

   NOTE: (1) FOR f'c EXCEEDING 5000 PSI, A REDUCTION OF AIR CONTENT BY 1.0% IS PERMITTED.

   b. NON-SHRINK GROUT — f'c = 10,000 PSI (@28 DAYS)
   c. REINFORCEMENT — Fy = 60,000 PSI ASTM A615 (DEFORMED BARS)
   d. STRUCTURAL STEEL
      i. WIDE FLANGE SHAPES — Fy = 50 KSI ASTM A992
      ii. ALL OTHER SHAPES — Fy = 36 KSI ASTM A36
   e. STRUCTURAL TUBING — Fy = 46 KSI ASTM A500 GR. B
   f. PLATES — Fy = 36 KSI ASTM A36
   g. BOLTS — Fu = 120 KSI ASTM A325
   h. ANCHOR BOLTS — Fu = 36 KSI ASTM F1554 UNO
   i. WELD ELECTRODE — Fu = 70 KSI
   j. WELDED WIRE FABRIC — ASTM A185

4. CONCRETE COVERAGE FOR REINFORCEMENT:

a. FOOTINGS	3" FROM BOTTOM
b. PEDESTALS	2" TO TIES
c. EXPOSED EXT. CONCRETE	2"
d. SLAB ON GRADE	1" FROM TOP
e. BOTTOM OF PIERS	3" FROM BOTTOM
f. PIER SIDES	2"
g. FOUNDATION WALLS	2" EXTERIOR FACE, 1" INTERIOR FACE

5. 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 2000 PSF FOR EXTERIOR STRIP AND COLUMN FOOTINGS AND 2500 PSF FOR ISOLATED INTERIOR COLUMNS. (SEE SOILS REPORT #P-0200207 BY AET). THE SOILS ENGINEER SHALL CONFIRM THESE BEARING VALUES AT THE TIME OF EXCAVATION.
   b. GRANULAR FILL SHALL BE COMPAC"ED TO 98% STANDARD DENSITY (ASTM: D698).
   c. IF SOIL AT BOTTOM OF FOOTINGS AS DETAILED IS OF QUESTIONABLE BEARING VALUE, THE ARCHITECTS' OFFICE 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 OTHERWISE NOTED.
   e. ALL EXTERIOR WALL FOOTINGS ADJACENT TO HEATED STRUCTURES SHALL HAVE A MINIMUM SOIL COVER OF 5'-0" AND FOOTINGS AT UNHEATED STRUCTURES SHALL HAVE A MINIMUM SOIL COVER OF 7'-0". SOIL COVER IS MEASURED FROM BOTTOM OF FOOTING UNLESS OTHERWISE NOTED.
   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" SAND CUSHION 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. BASE FILL (SAND CUSHION) 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 A NO. 200 SIEVE AND LESS THAN 40%, BY WEIGHT, PASSING THE #40 SIEVE. COARSE AGGREGATE SHALL NOT EXCEED ¾".

6. 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 DIAMETER MINIMUM UNLESS OTHERWISE NOTED.
   d. HORIZONTAL REINFORCING STEEL IN FOOTINGS AND CONCRETE WALLS SHALL BE CONTINUOUS AROUND CORNERS.
   e. ALL LAPS IN WWF SHOULD BE ONE MESH PLUS TWO INCHES AT SPLICES.
   f. TOP BARS SHALL BE HOOKED AT END SPANS.
   g. REINFORCING BARS MAY NOT BE WELDED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. ONLY ASTM A706 REINFORCEMENT MAY BE WELDED.

7. CONCRETE:
   a. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301.
   b. COMPLY WITH ACI 304 FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.
   c. COMPLY WITH ACI 305 FOR HOT WEATHER CONCRETING.
   d. COMPLY WITH ACI 306 FOR COLD WEATHER CONCRETING.
   e. UNLESS SPECIFIED OTHERWISE, CONCRETE MUST REACH THE FOLLOWING PERCENTAGES OF ITS 28 DAY COMPRESSIVE STRENGTH (f'c) BEFORE FORMS MAY BE REMOVED:
      i. WALLS, COLUMNS AND BEAM SIDES 40 PERCENT

8. DIMENSION LUMBER
   a. DIMENSION LUMBER TO BE NORTHERN SPF NO. 2 (OR BETTER) FOR JOISTS & BEAMS AND NORTHERN SPF STUD GRADE (OR BETTER) FOR STUDS AND PLATES, UNLESS NOTED OTHERWISE.
   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 OTHERWISE NOTED.
   d. ALL NAILING SHALL CONFORM TO IBC TABLE 2304.9.1 "FASTENING SCHEDULE" UNLESS OTHERWISE NOTED ON 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 CONNECTORS 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 JOISTS SHALL BEAR ON THE FULL WIDTH OF SUPPORTING MEMBERS (STUD WALLS, BEAMS, ETC.), UNLESS NOTED OTHERWISE.
   i. PROVIDE SOLID BLOCKING BELOW ALL JAMB/TRIMMER/CRIPPLE STUDS (TYPICAL AT ALL FLOORS).
   j. 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.
   k. FOR ALL WOOD TREATED WITH PRESERVATIVES OTHER THAN CCA, CONNECTORS AND FASTENERS MUST BE COATED WITH ONE OF THE FOLLOWING:
      i. BATCHIPOST HOT DIPPED GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM 153 FOR FASTENERS.
      ii. MECHANICALLY GALVANIZED PER ASTM 695, CLASS 55 OR GREATER.
      iii. TRIP„E ZINC G185 HDG PER ASTM A653 OR EQUAL.

9. LAMINATED VENEER LUMBER (LVL):
   a. ALL LVL HEADERS AND BEAMS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
      i. ALLOWABLE BENDING STRESS, Fb = 2600 PSI
      ii. ALLOWABLE SHEAR STRESS, Fv = 285 PSI
      iii. MODULUS OF ELASTICITY, E = 1,900,000 PSI
   b. LVL MEMBERS SHALL EE ONE OF THE FOLLOWING:
      i. "MICROLLAM" BY TRUS JOIST (WEYERHAUSER)
      ii. "LP SOLID START" BY LOUISIANA PACIFIC
      iii. "GP LAM" BY GEORGIA PACIFIC

10. LAMINATED STRAND LUMBER (LSL):
   a. ALL LSL STUDS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
      i. ALLOWABLE BENDING STRESS, Fb = 1700 PSI
      ii. ALLOWABLE COMPRESSION STRESS, PARALLEL TO GRAIN , Fcll = 1400 PSI
      iii. MODULUS OF ELASTICITY, E = 1,300,000 PSI
   b. All TREATED LSL SILL PLATES SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
      i. ALLOWABLE COMPRESSION PERP. TO GRAIN, Fc perp (PLANK ORIENTATION) = 670 PSI)
      ii. MODULUS OF ELASTICITY, E = 1,300,000 PSI
   c. LSL MEMBERS SHALL EE FROM ONE OF THE FOLLOWING MANUFACTURERS:
      i. TRUS JOIST (WEYERHAUSER)
      ii. LOUISIANA PACIFIC
      iii. GEORGIA PACIFIC

11. GLU-LAM MEMBERS:
   a. ALL STRUCTURAL GLUED LAMINATED TIMBER SHALL BE FURNISHED AS DETAILED ON THE PLANS AND SPECIFIED HEREIN.
   b. MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH AMERICAN MATERIAL STANDARD ANSI/AITC A190.1-LATEST EDITION, STRUCTURAL GLUED LAMINATED TIMBER AND AITC 117-84 DESIGN AND MANUFACTURING FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES.
   c. LAMINATING COMBINATIONS SHALL PROVIDE ALLOWABLE STRESS:
      i. Fb = 2,400 PSI (EXTREME FIBER BENDING)
      ii. Fc = 600 PSI (PERPENDICULAR TO GRAIN)
      iii. Fc = 1,700 PSI (PARALLEL TO GRAIN)
      iv. E = 1,800,000 PSI (MODULUS OF ELASTICITY)
      v. Fv = 165 PSI

12. SIMPSON STRONG-WALL WOOD SHEAR WALL PORTAL SYSTEM:
   a. SIMPSON STRONG-WALL WOOD SHEAR WALL PORTAL SYSTEMS SHALL BE INSTALLED PER ALL MANUFACTURER INSTRUCTIONS AND DETAILS.

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 IN THE STATE OF THE PROJECT.
   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 GAUGE 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 ¾". 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 10 PSF AND A BOTTOM CHORD DEAD LOAD OF 10 PSF UNLESS OTHERWISE ON THE PLANS.

14. STRUCTURAL STEEL:
   a. FABRICATION & 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 AMERICAN WELDING SOCIETY, D1.1-STRUCTURAL WELDING CODE – STEEL. WELDING OF GALVANIZED PARTS IS NOT PERMITTED.
   d. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL CONFORM TO MATCHING FILLER METAL REQUIREMENTS OF AWS D1.1.
   e. FIELD CONNECTIONS ARE TO BE BOLTED. USE ¾" DIAM. HIGH STRENGTH BOLTS AND NUTS (A325) UNLESS SHOWN OTHERWISE ON PLANS.
   f. STEEL COLUMN BASE PLATES SHALL BE SIZE SHOWN ON PLAN WITH (F1554 GRADE 36) ANCHOR BOLTS AND 1" NON-SHRINK GROUT FOR UNIFORM BEARING, UNLESS NOTED OTHERWISE ON THE PLANS.
   g. ALL INTERIOR 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.
   h. 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.
   i. ALL EXTERIOR STRUCTURAL STEEL, MISCELLANEOUS METALS, BAR GRATING AND HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN CONFORMANCE WITH ASTM A153 AND ASTM A123.
   j. WELDING OF GALVANIZED MATERIALS IS NOT ALLOWED. REMOVE GALVANIZING BEFORE FIELD WELDING. WELDS SHALL BE SPRAYED WITH ZINC RICH PAINT.
   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.

15. BACKFILLING:
   a. BOTH SIDES OF FOUNDATION WALLS SHALL BE BACKFILLED SIMULTANEOUSLY SO AS TO PREVENT OVERTURNING OR LATERAL MOVEMENT OF WALLS.

16. CONSTRUCTION AND CONTROL 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 ENSURE 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.

17. 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 200 ADHESIVE" OR SIMPSON "EPOXY-TIE" OR SIMPSON "ACRYLIC-TIE", UNLESS NOTED OTHERWISE ON THE DRAWINGS

18. CONSTRUCTION PROCEDURE:
   a. THE STRUCTURE SHALL BE ADEQUATELY BRACED AND SHORED DURING ERECTION AGAINST WIND AND ERECTION LOADS. STRUCTURAL MEMBERS ARE DESIGNED FOR "IN PLACE" 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 OTHERWISE NOTED, 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.

19. 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".

20. 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.

21. SHOP DRAWINGS:
   a. SHOP DRAWINGS, UNLESS OTHERWISE NOTED, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
   b. SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT, AND INCLUDE COMPLETE DETAILS, SCHEDULES, PROCEDURES AND DIAGRAMS FOR FABRICATION AND ASSEMBLY OF STRUCTURAL MEMBERS.
   c. FABRICATORS SHALL DRAW THEIR OWN ERECTION PLANS. COPYING THE 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.

22. SPECIAL INSPECTIONS:

SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH IBC CHAPTER 17. 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). 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
      i. SPECIAL INSPECTIONS MAY NOT BE 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. SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360 (IBC 1705.2.1).
      ii. HIGH STRENGTH BOLTING: CONTINUOUS INSPECTIONS ARE REQUIRED FOR SLIP-CRITICAL CONNECTIONS. PERIODIC INSPECTIONS ARE REQUIRED FOR BEARING-TYPE CONNECTIONS.
      iii. FIELD WELDING: CONTINUOUS INSPECTIONS ARE REQUIRED FOR COMPLETE AND PARTIAL PENETRATION GROOVE WELDS, MULTI-PASS FILLET WELDS AND SINGLE-PASS FILLET WELDS GREATER THAN 5/16". PERIODIC INSPECTIONS ARE REQUIRED FOR FLOOR AND ROOF DECK WELDS AND SINGLE-PASS FILLET WELDS SMALLER THAN OR EQUAL TO 5/16". CORRECT WELD FILLER MATERIAL SHALL BE VERIFIED IN ALL CASES.
      iv. STEEL ERECTION: PERIODIC INSPECTIONS SHALL BE MADE TO VERIFY COMPLIANCE WITH THE DESIGN DRAWINGS.
      v. MATERIALS: THE STEEL MANUFACTURERS CERTIFIED MILL TEST REPORTS SHALL BE SUBMITTED TO THE SPECIAL INSPECTOR OR TO THE ENGINEER OF RECORD.
   b. CONCRETE:
      i. REINFORCEMENT: REINFORCING STEEL SHALL BE INSPECTED ON A PERIODIC BASIS. WELDING OF REINFORCEMENT SHALL BE CONTINUOUSLY INSPECTED. ONLY ASTM A706 REINFORCEMENT MAY BE WELDED.
      ii. ANCHOR BOLTS: ANCHOR BOLTS PLACEMENT SHALL BE CONTINUOUSLY INSPECTED FOR THE FOLLOWING ANCHOR BOLTS: ALL SHEAR WALL ANCHORS AND HOLDDOWNS
      iii. 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.
      iv. CONCRETE PLACEMENT: CONTINUOUS INSPECTION REQUIRED.
      v. COLD AND HOT WEATHER CONCRETING: PERIODIC INSPECTION OF COMPLIANCE IS REQUIRED, IF APPLICABLE.
      vi. POST-INSTALLED ANCHORS: CONTINUOUS SPECIAL INSPECTIONS SHALL BE PROVIDED DURING INSTALLATION OF ALL EXPANSION ANCHORS AND SLEEVE ANCHORS TO ENSURE PROPER INSTALLATION PROCEDURES, EMBEDMENT DEPTHS, ETC.
   c. SOILS:
      i. THE SPECIAL INSPECTOR SHALL DETERMINE COMPLIANCE WITH THE SOILS REPORT FOR SITE PREPARATION, FILL PLACEMENT AND DENSITY TESTS.
   d. SIMPSON STRONG-WALL WOOD SHEAR WALL GARAGE PORTAL SYSTEM:
      i. THE SPECIAL INSPECTOR SHALL DETERMINE COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS & DETAILS.

23. TESTING REQUIREMENTS:
   a. CONCRETE:
      i. SAMPLE FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS. A MINIMUM OF FIVE STRENGTH TESTS SHOULD BE MADE FOR A GIVEN PROJECT.

NO.	REVISION/ISSUE	DATE
2	MECHANICAL REVISIONS	10/07/25
1	REVISIONS	07/23/25
	PERMIT SET	03/06/25

JOB TITLE:
PARK & 3rd LOFTS

ALEXANDRIA, MN

Registration Information :
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer, under the laws of the State of Minnesota.
Signature:
Name: JOSHUA HERZOG
Date: 07/23/25 Reg. No.: 42392

HERZOG ENGINEERING
1334 81ST AVE NE
SPRING LAKE PARK, MN 55432
(612) 844- 1234
WWW.HERZOGENGINEERING.COM

SHEET CONTENTS:
GENERAL STRUCTURAL NOTES

PROJECT #:	251010
DRWN. BY:	CL
CHKD. BY:	JH
SCALE:	AS NOTED

SHEET #:
S000