SC STRUCTURAL STEEL CONNECTIONS

SC-1 ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", AISC-LOAD AND RESISTANCE FACTOR DESIGN.

SC-2 ALL CONNECTIONS, UNLESS INDICATED AS BEING COMPLETELY DESIGNED ON THE STRUCTURAL DRAWINGS, SHALL BE DESIGNED AND DETAILED BY A **PROFESSIONAL** ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.

SC-3 UNLESS INDICATED AS BEING COMPLETELY DESIGNED, DETAILS ON DRAWINGS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF CONNECTIONS AND ARE NOT INTENDED TO CONVEY COMPLETE CONNECTOR SIZES, PLATE SIZES, WELD SIZES, NUMBER OF BOLTS, OR ANY OTHER SPECIFIC INFORMATION THAT IS OBTAINED THROUGH DESIGNING OF AN INDIVIDUAL CONNECTION FOR A GIVEN SET OF LOADS. DETAILS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.

SC-4 SUBMIT CONNECTIONS NOT SPECIFICALLY INDICATED AS COMPLETELY DESIGNED ON THE DRAWINGS TO THE SER FOR REVIEW PRIOR TO REVIEW OF SHOP DRAWINGS. FOR BIDDING PURPOSES, WHERE NO MOMENT IS INDICATED ON DRAWINGS PROVIDE FULL MOMENT CAPACITY OF MEMBER (.9 Fy Z) AND WHERE NO VERTICAL SHEAR IS INDICATED ON DRAWINGS PROVIDE FULL SHEAR CAPACITY (.54 Fy d tw).

SC-5 ALTERNATE CONNECTIONS TO THOSE SHOWN ON DRAWINGS WILL BE CONSIDERED AS A SUBSTITUTION REQUEST. SEE PROJECT SPECIFICATIONS.

SC-6 FOR CONNECTION DESIGN AND DETAILING, SET CONNECTION WORK POINT AT INTERSECTION OF MEMBER CENTERLINES, UON.

SC-7 DESIGN ALL CONNECTIONS FOR FORCES INDICATED ON THE DRAWINGS. CONNECTION DESIGN FORCES INDICATED ON THE DRAWINGS ARE FACTORED PER LRFD DESIGN BASIS UON.

SC-8 USE NO MORE THAN TWO BOLT DIAMETERS, ALL BOLTS OF THE SAME DIAMETER SHALL BE OF THE SAME GRADE, SKIP ONE SIZE BETWEEN DIAMETERS. BOLTS FOR THIS PROJECT SHALL BE:
3/4" DIAMETER F3125 GRADE A325 OR F1852 OR 1" DIAMETER F3125 GRADE A490 OR F2280

SC-9 BEAM CONNECTION DESIGN NOTES:

SEE PLANS AND ELEVATIONS FOR BEAM REACTIONS AND MOMENTS.

DEVELOP THE LARGER OF THE BEAM SHEAR REACTION SHOWN ON PLANS OR ELEVATIONS. IF NO SHEAR REACTIONS ARE SHOWN ON PLANS OR ELEVATIONS THEN ALLOW FOR SHEAR CONNECTION WITH FULL SHEAR CAPACITY (.54 Fy d tw).

DEVELOP THE LARGER OF THE MOMENT SHOWN ON PLANS OR ELEVATIONS. IF NO MOMENT REACTIONS ARE SHOWN ON PLANS OR ELEVATIONS THEN ALLOW FOR MOMENT CONNECTION THAT DEVELOPS THE FULL BEAM SECTION MOMENT CAPACITY (.9FyZ).

DEVELOP THE LARGER OF THE AXIAL FORCE DENOTED AS P OR TF SHOWN ON PLANS OR ELEVATIONS. SEE STEEL BEAM LEGEND.

ALL BEAM REACTIONS, AXIAL FORCES AND MOMENTS SHOWN ACT CONCURRENTLY. UON, BEAM REACTIONS ACT IN GRAVITY DIRECTION WHILE AXIAL FORCES AND MOMENTS ARE TO BE CONSIDERED REVERSIBLE.

WHERE NO AXIAL FORCE IS SHOWN, ALL BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM AXIAL FORCE EQUAL TO 5% OF THE FACTORED DEAD LOAD PLUS LIVE LOAD VERTICAL BEAM SHEAR. FOR THE PURPOSES OF DESIGNING FOR THIS MINIMUM AXIAL FORCE: THE VERTICAL BEAM SHEAR AND CORRESPONDING MINIMUM AXIAL FORCE NEED NOT BE CONSIDERED TO ACT CONCURRENTLY AND BEARING BOLTS IN CONNECTIONS WITH SHORT SLOTTED HOLES PARALLEL TO THE AXIAL FORCE ARE PERMITTED. SHEAR CONNECTIONS INDICATED AS COMPLETELY DESIGNED IN THESE DRAWINGS HAVE BEEN DESIGNED TO MEET THESE MINIMUM AXIAL FORCE REQUIREMENTS.

EXCEPT WHERE "SNUG TIGHT" INSTALLATION IS SPECIFICALLY PERMITTED ON DRAWINGS OR "SLIP CRITICAL" DETAILING IS REQUIRED, ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED AS FULL PRETENSIONED BOLTS.

AT A MINIMUM ALL BOLTED MOMENT AND AXIAL CONNECTION SHALL HAVE PRETENSIONED BOLTS IN STANDARD HOLES.

BOLTED MOMENT CONNECTIONS AT CANTILEVERS AND BACKSPANS SHALL USE SLIP CRITICAL BOLTS.

DO NOT USE OVERSIZED OR SLOTTED HOLES FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE SER.

SC-10 ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1, LATEST EDITION. ALL WELD SIZES SHALL BE THE LARGER OF THE SIZE REQUIRED BY CONNECTION FORCES, THE MINIMUM SIZE PER ANSI/AWS D1.1, OR 3/16 INCH MINIMUM FILLET WELD UON. ANY WELD SIZES SHOWN ON THE DESIGN DRAWINGS ARE CONSIDERED EFFECTIVE WELD SIZES AND SHALL BE INCREASED IN ACCORDANCE WITH AWS AS REQUIRED BY GAPS OR SKEWS BETWEEN COMPONENTS.

SC-11 USE RUNOFF TABS AT ALL BEVEL AND COMPLETE JOINT PENETRATION WELDS. REMOVE RUNOFF TABS BY NEAT CUTS AFTER WELD IS COMPLETED. GRIND SMOOTH WHERE REQUIRED BY DETAIL.

SC-12 WHERE REQUIRED BY DETAIL REMOVE WELD BACK UP BARS AND GRIND SMOOTH AFTER WELD IS COMPLETED.

SC-13 DESIGN, DETAIL, FURNISH AND INSTALL STIFFENERS, CONTINUITY PLATES, DOUBLER PLATES, OR OTHER NECESSARY ADDITIONAL LOCAL STRENGTHENING MEASURES AS REQUIRED. MEMBER SIZES INDICATED ON THE DRAWINGS ARE BASED ON MEMBER BEHAVIOR AWAY FROM CONNECTIONS.

SJ OPEN WEB STEEL JOISTS AND JOIST GIRDERS

SJ-1 DESIGN, MANUFACTURE, AND ERECT JOISTS AND BRIDGING IN ACCORDANCE WITH THE "STANDARD SPECIFICATION FOR OPEN WEB JOISTS" OF THE STEEL JOIST INSTITUTE (SJI), CURRENT EDITION, AS A MINIMUM.

SJ-2 JOISTS AND JOIST GIRDERS SHALL BE DESIGNED AND PROVIDED BY CONTRACTOR PER THE SJI SPECIFICATIONS AS INDICATED ON THE DRAWINGS. SEE DRAWINGS FOR JOIST SPACING, LOAD CRITERIA, AND DEPTH LIMITATIONS.

SJ-3 BRIDGING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR PER THE SJI SPECIFICATIONS.

SJ-4 BEFORE STEEL DECK IS PLACED, ATTACH ALL BRIDGING TO THE JOISTS AND ANCHOR ALL BRIDGING TERMINATING AT WALLS OR BEAMS TO THE WALLS OR BEAMS. WELD OR BOLT ALL BRIDGING CONNECTIONS TO STEEL JOISTS AND BEAMS.

SJ-5 DESIGN AND DETAIL STEEL JOISTS AND JOIST CONNECTIONS TO CARRY THE MOST SEVERE COMBINATION OF DIAPHRAGM FORCES, KICKER FORCES, GRAVITY LOADS, SNOW LOADS, AND WIND UPLIFT FORCES SHOWN ON THE DRAWINGS. IT IS NOT ACCEPTABLE TO DESIGN JOISTS FOR SJI STANDARD LOADS IN LIEU OF THE LOADS SHOWN ON THE DRAWINGS. IN ADDITION TO THE LOADS SHOWN ON THE DRAWINGS, JOISTS SHALL BE DESIGNED FOR:

A. A MINIMUM NET UPLIFT FORCE OF 10 PSF (SERVICE LEVEL), UON
B. ADDITIONAL SERVICE POINT LOAD AT ANY PANEL POINT OF 300 LBS FOR K-SERIES JOISTS AND 700 LBS FOR LH AND DLH-SERIES JOISTS

SJ-6 DESIGN JOISTS TO LIMIT DEFLECTION UNDER TOTAL LOAD TO SPAN LENGTH DIVIDED BY 240, UON. DESIGN JOISTS TO LIMIT DEFLECTION UNDER LIVE LOAD TO SPAN LENGTH DIVIDED BY 360, UON.

SJ-7 CAMBER JOISTS PER SJI STANDARDS, UON.

SJ-8 PROVIDE DOUBLE ANGLE TOP AND BOTTOM CHORDS.

SJ-9 HANGING AND POINT BEARING LOADS AT JOISTS SHALL ONLY BE PERMITTED AS INDICATED ON THE DRAWINGS. DESIGN JOIST FOR HANGING AND POINT BEARING LOADS AT ANY ADJACENT PANEL POINT. COORDINATE HANGING AND POINT BEARING LOADS WITH ARCHITECTURAL AND MEP DRAWINGS.

SJ-10 EXTEND BOTTOM CHORDS OF JOISTS AND JOIST GIRDERS AT COLUMNS, SEE JOIST DETAILS FOR ADDITIONAL INFORMATION. COORDINATE BOTTOM CHORD EXTENSIONS WITH ARCHITECTURAL DRAWINGS.

SJ-11 AT EDGE CONDITIONS EXTEND JOIST TOP CHORDS BEYOND SUPPORTING BEAMS TO PERIMETER ANGLE OR BENT PLATE, UNO.

SJ-12 JOIST SERIES, SEAT, AND SUPPORT INFORMATION SHOWN ON THE DRAWINGS IS A MINIMUM. JOIST DESIGN ENGINEER TO REVIEW ALL SJI REQUIREMENTS AND NOTIFY ENGINEER OF RECORD IF SELECTED SYSTEM DIFFERS FROM CONTRACT DOCUMENTS PRIOR TO FABRICATION OF JOISTS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN SELECTED JOIST SYSTEM AND OTHER TRADES.

SD STEEL DECK GENERAL REQUIREMENTS

SD-1 THE DESIGN, MANUFACTURE AND ERECTION OF STEEL DECK AND ITS ANCHORAGE SHALL, AT A MINIMUM, BE IN ACCORDANCE WITH "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS" OF THE STEEL DECK INSTITUTE (SDI), CURRENT EDITION AND "SPECIFICATIONS FOR DESIGN OF LIGHT GAGE COLD FORMED STEEL STRUCTURAL MEMBERS" AS PUBLISHED BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), CURRENT EDITION.

SD-2 CONFIGURE ALL STEEL DECK USING THREE SPAN CONTINUOUS LAYOUTS WHEREVER POSSIBLE.

SD-3 CONFIGURE ALL STEEL DECK AS SHOWN ON THE DRAWINGS.

RD STEEL ROOF DECK

RD-1 STEEL ROOF DECK SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES:

STEEL FOR DECK ASTM A653, MINIMUM YIELD STRENGTH OF 33 KSI
HOT-DIP GALVANIZING ASTM A653 G60

ROOF DECK SHALL BE HOT-DIP GALVANIZED, UON

RD-2 DESIGN AND DETAIL ROOF DECK AND ITS ANCHORAGE TO SUPPORTING MEMBERS TO SUPPORT SCHEDULED DESIGN LOADS, INDICATED DIAPHRAGM SHEAR, AND INDICATED ROOF UPLIFT. ASSUME ROOF DIAPHRAGM LOADS AND ROOF UPLIFT LOADS TO BE APPLIED SIMULTANEOUSLY.

RD-2 STEEL ROOF DECK AND ITS ANCHORAGE TO STRUCTURAL FRAMING SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING MINIMUM LOADING REQUIREMENTS (SERVICE LEVEL):

A.	GRAVITY LOAD	30 PSF
B.	DIAPHRAGM SHEAR DESIGN FORCE	400 PLF
C.	NET UPLIFT FORCE	REF. TO LOADING DIAG. ON S-003

ASSUME ROOF DIAPHRAGM LOADS AND ROOF UPLIFT LOADS TO BE APPLIED SIMULTANEOUSLY.

RD-3 ROOF DECK AND ITS ANCHORAGE TO SUPPORTING MEMBERS SHALL MEET THE FOLLOWING MINIMUM FASTENING REQUIREMENTS
A. AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS: BY PUDDLE WELDS NOT LESS THAN 5/8 INCH DIAMETER SPACED NOT MORE THAN 12 INCHES ON CENTER MAX.
B. SIDE LAPS OF ADJACENT UNITS: SHALL BE FASTENED BY SIDE SEAM WELDING OR SIDELAP SCREWS SPACED PER MANUFACTURERS ENGINEERED CALCULATIONS WITH A MAXIMUM SPACING OF 24 INCHES ON CENTER. ARC SEAM WELDS SHALL BE A MINIMUM OF 1-1/2 INCH BY 1/2 INCH.

RD-4 NO LOADS SHALL BE HUNG DIRECTLY FROM STEEL ROOF DECK WITHOUT PRIOR WRITTEN APPROVAL OF THE DECK SUPPLIER AND REVIEW BY THE SER.

RD-5 DECKING CONTRACTOR SHALL COORDINATE DECK OPENING SIZES AND LOCATIONS FROM ARCHITECTURAL AND MEP CONTRACT DOCUMENTS, PROVIDE HEADER MEMBERS OR REINFORCEMENT AS REQUIRED BY TYPICAL DETAILS EVEN IF NOT SHOWN ON THE PLANS, AND SUBMIT PROPOSED OPENINGS THROUGH SLAB/DECK FOR REVIEW BY THE DESIGN PROFESSIONALS.

SI SPECIAL INSPECTIONS

SI-1 THE FOLLOWING STRUCTURAL ITEMS REQUIRE SPECIAL TESTING AND/OR INSPECTIONS:

CAST-IN-PLACE CONCRETE
CONCRETE REINFORCEMENT
CONCRETE FORMWORK
STRUCTURAL STEEL DETAILS
STEEL DECK

PA POST-INSTALLED ANCHORS

PA-1 ADHESIVE ANCHOR SYSTEMS USED FOR DESIGN:

SEISMIC DESIGN CATEGORY A - F

ADHESIVE: HILTI HIT-HY 200

THREADED ROD: HILTI HAS OR
THREADED ROD: HILTI HIT-Z

OVERHEAD AND/OR CONSTANT TENSION ADHESIVE ANCHOR INSTALLATIONS NOT SHOWN ON THE DRAWINGS SHALL NOT BE PERMITTED UNLESS EACH CONDITION IS REVIEWED AND APPROVED IN WRITING BY THE SER.

PA-2 PROOF TESTING OF ADHESIVE ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. UNLESS NOTED OTHERWISE, ADHESIVE ANCHOR PROOF TENSION LOADS SHALL BE PER THE ADHESIVE ANCHOR PROOF SCHEDULES.

PA-3 FIELD DRILLED EXPANSION ANCHOR SYSTEMS USED FOR DESIGN:

HILTI KWIK BOLT TZ2

PA-4 PROOF TESTING OF EXPANSION ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. UNLESS NOTED OTHERWISE, EXPANSION ANCHOR PROOF TORQUE LOADS SHALL BE PER THE EXPANSION ANCHOR PROOF SCHEDULES.

PA-5 FIELD DRILLED THREADED SCREW ANCHOR SYSTEMS USED FOR DESIGN:

HILTI KH-EZ

PA-6 ALTERNATIVE SYSTEM EQUIVALENT TO OR EXCEEDING THE PROPERTIES OF THE SYSTEMS ABOVE WILL BE CONSIDERED AS A SUBSTITUTION REQUEST. SEE PROJECT SPECIFICATIONS.

PA-7 ANCHORS ARE TO BE MINIMUM **[3/4]"** DIAMETER WITH A MINIMUM EMBEDMENT OF **[6]",** UON.

PA-8 INSTALL ANCHORS TO MEET THE REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS AND THE CURRENT MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS (MPII).

PA-9 LOCATE, BY NON-DESTRUCTIVE MEANS, AND AVOID ALL EXISTING REINFORCEMENT PRIOR TO INSTALLATION OF ANCHORS. IF EXISTING REINFORCING LAYOUT PROHIBITS THE INSTALLATION OF ANCHORS AS INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN PROFESSIONALS.

PA-10 INSTALL ANCHORS IN SOLID MASONRY OR IN HOLLOW MASONRY THAT HAS BEEN GROUTED SOLID AT LEAST ONE COURSE ABOVE TO ONE COURSE BELOW THE ANCHOR, UON.

PA-11 SEE PROJECT SPECIFICATIONS FOR POST-INSTALLED ANCHOR INSPECTION REQUIREMENTS.

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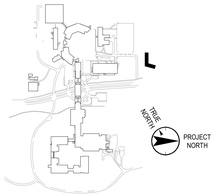
Key Plan



No.	Date	Description
	05.20.2022	ISSUED FOR PERMIT
	06.20.2022	100% CONSTRUCTION DOCUMENTS
	07.01.2022	100% CONSTRUCTION DOCUMENT- 1

Plot Date: 12/02/21

Professional Seal and Signature

Vendor Name: GENSLER
Vendor Project No.: 006.3608.000
Discipline: Drawn By: Author

GENERAL NOTES II

Scale: Floor:

S-002

FILE: BIM 360://006.3608.000 - Regeneron, Day Care Facility Tarrytown/N21270.00-Regeneron_R20.rvt PLOTTED ON 12/02/21