

# Exhibit B - Lowdermilk Park Facility Improvements-Structural-1

A:\Arch\Draws\22108.01\_Lowdermilk Park Facility Improvements\22107\_Lowdermilk Park Facility Improvements\1.dwg

12/15/2022 10:45:53 AM

## GENERAL STRUCTURAL NOTES

GENERAL: DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE TYPICAL AND APPLY TO SIMILAR SITUATIONS ELSEWHERE, EXCEPT AS OTHERWISE INDICATED. ADAPT REQUIREMENTS OF DETAILS, SECTIONS, PLANS, AND NOTES AT LOCATIONS WHERE CONDITIONS ARE SIMILAR.

CENTER ALL FOOTINGS AND PIERS UNDER COLUMNS ABOVE UNLESS SPECIFICALLY DIMENSIONED OTHERWISE.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

CONTRACTOR SHALL LOCATE ALL BURIED UTILITIES PRIOR TO EXCAVATION FOR BUILDING FOUNDATIONS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF POTENTIAL CONFLICTS BETWEEN FOUNDATIONS AND BURIED UTILITIES.

CODE REQUIREMENTS: THE BUILDING STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2020 3RD EDITION OF THE FLORIDA BUILDING CODE. FOLLOW ALL APPLICABLE PROVISIONS FOR ALL PHASES OF CONSTRUCTION. ADDITIONS ARE IN COMPLIANCE WITH THE 2020 EDITION OF THE FLORIDA EXISTING BUILDING CODE.

TEMPORARY CONDITIONS: THE STRUCTURAL INTEGRITY OF THE COMPLETED STRUCTURE DEPENDS ON INTERACTION OF VARIOUS CONNECTED COMPONENTS. PROVIDE ADEQUATE BRACING, SHORING, AND OTHER TEMPORARY SUPPORTS AS REQUIRED TO SAFELY COMPLETE THE WORK. THE STRUCTURE SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR STABILITY UNDER FINAL CONFIGURATION ONLY.

RETAINING WALLS WHICH TIE TO UPPER SLABS SHALL NOT BE BACKFILLED UNTIL THE UPPER SLABS REACH FULL STRENGTH. UNLESS ADEQUATE BRACING IS PROVIDED AT THE TOP OF THE WALL.

EXISTING CONDITIONS: ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY SIGNIFICANT DISCREPANCIES FROM CONDITIONS SHOWN ON THE DRAWINGS.

DESIGN CRITERIA: DESIGN WAS BASED ON STRENGTH AND DEFLECTION CRITERIA OF THE 2020 FLORIDA BUILDING CODE. THE FOLLOWING LOADS WERE USED FOR DESIGN, WITH LIVE LOADS REDUCED PER THE 2020 FBC.

SUPERIMPOSED DEAD LOADS: 20 PSF  
 ROOF: 300 POUND CONCENTRATED  
 FLOORS: 20 PSF

INCLUDES AN ALLOWANCE OF 5 PSF AND A 250 LB POINT LOAD FOR WATER FILLED SPRINKLER PIPING.

ROOF LIVE: 20 PSF

RAIN LOAD: 5.0 INHR

RAINFALL INTENSITY: 5.0 INHR

SUPERIMPOSED FLOOR LIVE LOADS:  
 PUBLIC ROOMS: 100 PSF  
 STAIRS: 100 PSF

WIND SPEED (ASCE 7-16): 170 MPH (132 MPH ALLOWABLE)  
 RISK CATEGORY: II  
 EXPOSURE: C  
 INTERNAL PRESSURE COEFF: +/- 0.55 PARTIALLY ENCLOSED  
 WALL PRESSURE: +/- 60 PSF

FLOOD DESIGN: THE STRUCTURAL ELEMENTS BELOW FLOOD ELEVATION SHALL BE FLOOD DAMAGE-RESISTANT MATERIALS PER ASCE 24-14. THE STRUCTURE IS LOCATED IN A V-ZONE, ALL WALLS AT GROUND LEVEL, NOT DESIGNATED AS SHEARWALLS, ARE BREAKAWAY WALLS AND SHALL HAVE FLOOD OPENINGS. THE GROUND FLOOR IS TO BE DRY-ZONE-PROOFED. THE STRUCTURAL COMPONENTS HAVE BEEN DESIGNED TO RESIST HYDROSTATIC AND HYDRODYNAMIC LOADS AND EFFECTS OF BUOYANCY IN ACCORDANCE WITH FEMA GUIDELINES AND ASCE 24-14.

HELICAL PILES: HELICAL PILES SHALL BE DESIGNED TO SUPPORT A 10 TON NOMINAL COMPRESSIVE LOAD. THE OVERALL LENGTH, HELIX CONFIGURATION AND MINIMUM ORIGINAL RESISTANCE, AND APPROPRIATE BEARING STRATUM SHALL BE DETERMINED BY MANUFACTURER/INSTALLER.

ALL PILES SHALL BE INSTALLED TO PROVIDE A MINIMUM FACTOR OF SAFETY AGAINST ULTIMATE BEARING RESISTANCE OF 2. EACH PILE SHALL BE DESIGNED TO MEET A CORROSION SERVICE LIFE OF 50 YEARS IN ACCORDANCE WITH ICC-ES ACCEPTANCE CRITERIA 308.

THE PILE DESIGN SHALL TAKE INTO ACCOUNT SUCH PILE SPACING, SOIL STRATIFICATION, CORROSION AND STRAIN COMPATIBILITY ISSUES AS ARE PRESENT FOR THE PROJECT. HELICAL PILES SHALL BE INSTALLED WITHIN 3 INCHES OF THE INDICATED PLAN LOCATION. HELICAL PILE SHAFT ALIGNMENT SHALL BE WITHIN 2 DEGREES OF THE INCLINATION ANGLE SHOWN ON THE PLANS. TOP ELEVATION OF HELICAL PILES SHALL BE WITHIN 2 INCHES OF THE DESIGN VERTICAL ELEVATION.

AN INDEPENDENT GEOTECHNICAL CONSULTANT SHALL BE RETAINED TO MONITOR PILE INSTALLATION AND VERIFY LOAD CAPACITY.

SUBMITTALS: SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS INCLUDING THE FOLLOWING:

CONCRETE MIX DESIGNS.  
 CONCRETE AND MASONRY REINFORCING.

SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. DRAWINGS SUBMITTED WITHOUT REVIEW WILL BE RETURNED UNREVIEWED.

CONCRETE: REINFORCED CONCRETE CONSTRUCTION SHALL CONFORM TO THE FBC AND ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39, AND SHALL BE AS FOLLOWS:

$f_c$	USE
3000 PSI	ALL USES

CEMENT SHALL CONFORM TO ASTM C150, TYPE 1, FLY ASH CONFORMING TO ASTM C911, TYPE F OR TYPE C, MAY BE USED TO REPLACE UP TO 20% OF THE CEMENT CONTENT PROVIDED THAT THE MIX STRENGTH IS SUBSTITUTED BY TEST DATA. COARSE AGGREGATE SHALL CONFORM TO ASTM C33 WITH A MAXIMUM SIZE OF 3/4". FINE AGGREGATE SHALL BE CLEAN, DURABLE, NATURAL SAND CONFORMING TO ASTM C33.

A WATER-REDUCING ADMIXTURE, IF USED, SHALL CONFORM TO ASTM C494 AND USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SHALL BE INCORPORATED IN CONCRETE DESIGN MIXES. A HIGH-RANGE WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C896, TYPE F OR G, MAY BE USED IN CONCRETE MIXES, PROVIDED THAT THE SLUMP DOES NOT EXCEED 6".

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, FOR DEFORMED BAR. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE WITH #8 ANNEALED IRON WIRE.

ALL DETAILING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL SP-08. PROVIDE CHAIRS, SPACERS, BOLSTERS, AND ITEMS IN CONTACT WITH FORMS WITH HOT-DIP GALVANIZED LEGS OR PLASTIC LEGS. ACCURATELY POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT BY FORMWORK CONSTRUCTION OR CONCRETE PLACEMENT OPERATIONS. "WET-STICKING" OF REINFORCING IS PROHIBITED.

REQUIRED CONCRETE COVER FOR REINFORCING STEEL (UNLESS NOTED OTHERWISE)

FOOTINGS	3" BOTTOM AND SIDES, 2" TOP
SLABS	3/4"

LAP SPlice: CONTINUOUS VERTICAL OR HORIZONTAL BARS IN CONCRETE MEMBERS IN ACCORDANCE WITH ACI 318-14, FOR CLASS "B" TENSION LAP SPICES. DO NOT SPICE CONTINUOUS TOP BARS IN BEAMS AT ENDS OF CLEAR SPANS. DO NOT SPICE CONTINUOUS BOTTOM BARS IN BEAMS IN CLEAR SPANS BETWEEN SUPPORTS. SHOW ALL SPICES ON SHOP DRAWINGS. SPICE LOCATIONS AND METHODS SUBJECT TO APPROVAL OF STRUCTURAL ENGINEER.

SLABS ON GRADE: PREPARE SUBGRADE AS PER THE RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. CHAIR WIRE FABRIC DURING CONCRETE PLACEMENT TO ENSURE PROPER POSITION IN SLAB. USE JAPANESE BARRIER UNDER ALL ENCLOSED INTERIOR SPACES. PER ARCHITECTURAL DRAWINGS.

PLACE CRACK CONTROL JOINTS AS SHOWN ON PLAN OR AT 12 FEET MAXIMUM FOR 4" SLAB, OR 15 FEET MAXIMUM FOR 6" SLAB. JOINT SPACING SHALL NOT EXCEED A 1.5 TO 1 WIDTH TO LENGTH RATIO. CONTRACTOR SHALL SUBMIT A CONTROL JOINT LAYOUT FOR ENGINEER'S AND ARCHITECT'S REVIEW PRIOR TO CONCRETE PLACEMENT.

FOR 6" THICK SLABS ON GRADE, PROVIDE #6 W2 8KW2 8 WELDED WIRE FABRIC PLACED 2" BELOW TOP OF SLAB OR 3 POUNDS PER CUBIC YARD OF MACRO SYNTHETIC FIBERS (FORKA FERRO OR EQUAL), UNLESS NOTED OTHERWISE.

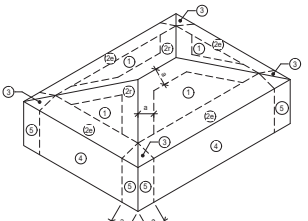
SAW LUMBER: SAWN LUMBER SHALL BE SOUTHERN PINE #2 WITH THE ALLOWABLE FIBER STRESSES PER THE AWC NATIONAL DESIGN SPECIFICATION. ALL LUMBER EXPOSED TO WEATHER SHALL BE PROTECTED OR PRESSURE TREATED. ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PROTECTED OR PRESSURE TREATED.

ALL FRAMING NAILS SHALL BE COMMON NAILS AND SHALL BE OF THE SIZE AND NUMBER INDICATED ON THE DRAWINGS. NAILING NOT SHOWN SHALL BE AS INDICATED IN TABLE 2304.10.1 OF THE FBC. BOLTS AND LAG SCREWS SHALL CONFORM TO ANSIA/ASME STANDARD B18.1. ALL BOLTS AND LAG SCREWS SHALL BE INSTALLED WITH STANDARD CUT WASHERS.

WOOD FRAMING CONNECTORS: FRAMING ACCESSORIES AND STRUCTURAL FASTENERS SHALL BE MANUFACTURED BY SIMPSON COMPANY (OR APPROVED EQUAL) AND OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. HANGERS NOT SHOWN SHALL BE SIMPSON HJ OF SIZE RECOMMENDED FOR MEMBER. ALL CONNECTORS SHALL BE GALVANIZED, UNLESS SHOWN OTHERWISE, INSTALL MAXIMUM SIZE AND NUMBER OF FASTENERS SHOWN IN LATEST SIMPSON CATALOG.

HEADERS AND LEDGERS: HEADERS AND LEDGERS LOADED FROM TOP SHALL BE CONNECTED TOGETHER WITH 2 ROWS SIMPSON SNW SCREWS AT 16" OC THROUGH ALL PLYS WITH 1 3/8" MINIMUM EMBEDMENT. HEADERS AND LEDGERS LOADED BY FACE-MOUNTED BUCKETS SHALL BE CONNECTED TOGETHER AS FOLLOWS: 2X6 AND 2X8 CONNECTED TOGETHER WITH 2 ROWS SIMPSON SNW SCREWS AT 12" OC, 2X10 AND 2X12 CONNECTED TOGETHER WITH 3 ROWS SIMPSON SNW SCREWS AT 12" OC.

SDW SCREWS SHALL BE INSTALLED WITH 1/2" EDGE DISTANCE, 6" END DISTANCE, AND 4" MINIMUM CENTER TO CENTER.



ZONE	ALLOWABLE COMPONENT & CLADDING WIND PRESSURES (PSF)				
	10 SF	25 SF	100 SF		
ROOF	INTERIOR	1	40 / -50	31 / -54	27 / -50
	EDGE	2a	40 / -75	31 / -83	27 / -68
	RIDGE	2b	40 / -54	31 / -70	27 / -67
WALL	CORNER	3	40 / -75	31 / -83	27 / -68
	INTERIOR	4	50 / -50	48 / -49	44 / -47
	CORNER	5	50 / -52	48 / -55	44 / -51

## COMPONENT & CLADDING DIAGRAM

SCALE: NOT TO SCALE

Shawn Anderson  
 Structural Engineer  
 License No. 12573  
 State of Florida  
 Professional Seal

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

**BSSW**  
 ARCHITECTS INC.  
 License #14-003803  
 1500 Jackson Street, Suite 303  
 Fort Myers, Florida 33901  
 Phone: 239-279-3838 Fax: 239-275-5356  
 949 Central Ave.  
 Naples, Florida 34102  
 Phone: 239-643-1033 Fax: 239-275-5356

Project:  
**Lowdermilk Park Facilities Improvements**  
**1301 Gulf Shore Blvd. North**  
**Naples, Fla. 34102**

Owner:  
**City of Naples, Fla.**

Consultant:  
**SELECT STRUCTURAL**  
 12573 New Brittany Blvd.  
 Fort Myers, Florida 33907  
 Phone: (239) 210-5090  
 Project No.: 22071  
 Certification Auth.: 28357



Project Phase:  
**Issued for Permit**

Project #:	2108.01	
Project lead:	12-09-22	
No.	Date	Revision
1		

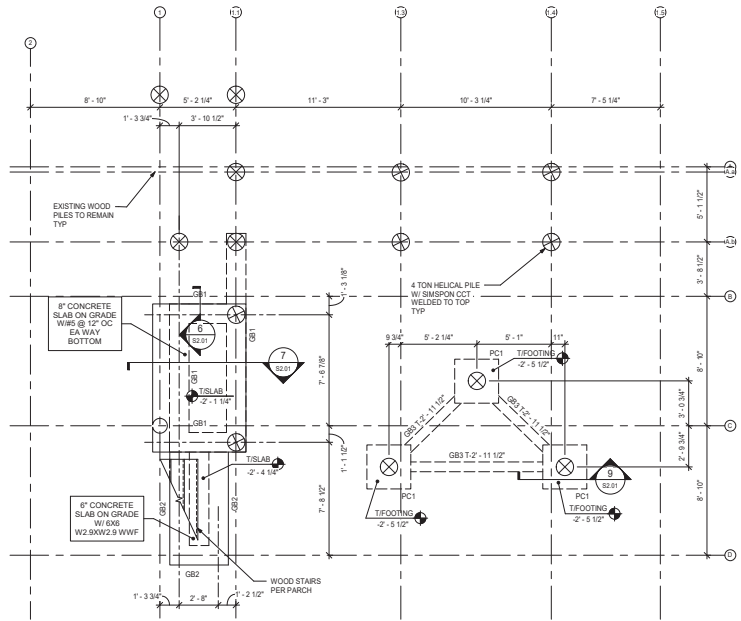
Sheet No. **SO.01**

Copyright © 2022, BSSW Architects, Inc. reserves copyright and other rights restricting their documents to the original use or purpose for which they were prepared. Reproduction, changes or assignments are prohibited.  
 Sheet Title:  
**GENERAL NOTES SHEET**

Sheet No. **SO.01**

# Exhibit B - Lowdermilk Park Facility Improvements-Structural-SS

Autodesk Docs/2208.01.Lowdermilk Park Facility Improvements/2257\_Lowdermilk Park Facility Improvements/4



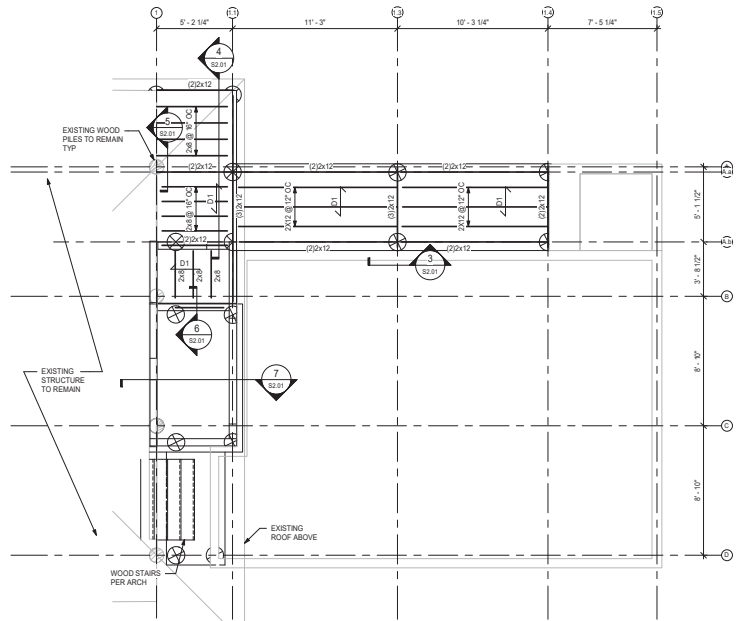
**FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"

**FOUNDATION PLAN NOTES:**

- DO NOT SCALE DRAWINGS. VERIFY COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE COMMENCING CONSTRUCTION. NOTIFY THE STRUCTURAL ENGINEER AND ARCHITECT OF RECORD OF ANY DISCREPANCIES BEFORE PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES.
- VERIFY COORDINATE THE LOCATION OF ALL UNDERGROUND PIPING WITH THE FOUNDATION.
- VERIFY COORDINATE EDGE OF SLAB DETAILS AT EXTERIOR DOORS, SILL HEIGHTS AND DETAILS OF WALL OPENINGS WITH ARCHITECTURAL DRAWINGS.
- GBX INDICATES GRADE BEAM TYPE, REFER TO GRADE BEAM SCHEDULE ON THIS SHEET.
- ⊗ INDICATES 10 TON CAPACITY HELICAL PILES. PILES NOT SUPPORTING A GRADE BEAM TO RECEIVE SIMPSON CCOQ WELDED TO TOP FOR FRAMING CONNECTION.

GRADE BEAM SCHEDULE						
MARK	WIDTH	DEPTH	REINFORCING			COMMENTS
			TOP	MID	BOT   STIRRUPS	
GB1	1'-4"	2'-9"	(3) #5	(3) #5	#3 @ 12" OC	
GB2	1'-4"	2'-0"	(3) #5	(3) #5	#3 @ 10" OC	
GB3	8"	1'-4"	(3) #5	(3) #5	#3 @ 8" OC	

PILE CAP SCHEDULE					
MARK	WIDTH	LENGTH	THICKNESS	REINFORCEMENT	COMMENTS
PC1	3'-0"	3'-0"	2'-0"	(4) #5 EW BOT	



**DECK FRAMING PLAN**  
SCALE: 3/4" = 1'-0"

**FLOOR FRAMING PLAN NOTES:**

- REFER TO ARCHITECTURAL DRAWINGS FOR SLOPES, STEPS, AND DRAIN LOCATIONS IN FLOOR SLABS.
- INDICATES STRUCTURAL WOOD BEAM.
- D1 INDICATES SPAN DIRECTION OF 2x6 DECKING. ATTACH TO SUPPORTS W/ (2) #4 EA SUPPORT.
- INDICATES 2x6 @ 16" OC WOOD STUD BEARING WALLS.

12/15/2022 10:45:53 AM

**BSSW**  
ARCHITECTS INC.  
License #AIC003603

1500 Jackson Street, Suite 203  
Fort Myers, Florida 33901  
Phone: 239-279-3838 Fax: 239-275-5356

949 Central Ave.  
Naples, Florida 34102  
Phone: 239-648-3103 Fax: 239-275-5356

Project:  
**Lowdermilk Park Facilities Improvements**  
**1301 Gulf Shore Blvd. North**  
**Naples, Fla. 34102**

Owner:  
**City of Naples, Fla.**

Consultant:  
**SELECT STRUCTURAL**  
12573 New Brittany Blvd  
Fort Myers, Florida 33907  
Phone: (239) 210-5090  
Project No.: 220571  
Certification Auth. 28357

Project Phase:  
**Issued for Permit**

Project #	2108.01
Project Issued:	12-09-22
Sheet Issued:	12-09-22

No.	Date	Revision
1		

Copyright © 2022, BSSW Architects, Inc. reserves copyright and other rights restricting these documents to the original site or purpose for which they were prepared. Reproduction, changes or assignments are prohibited.

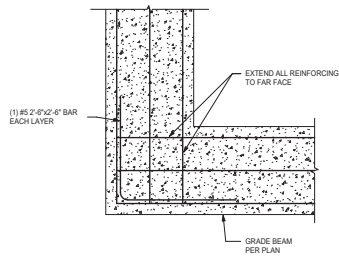
Sheet Title:  
**STRUCTURAL PLANS**

Sheet No.  
**S1.01**

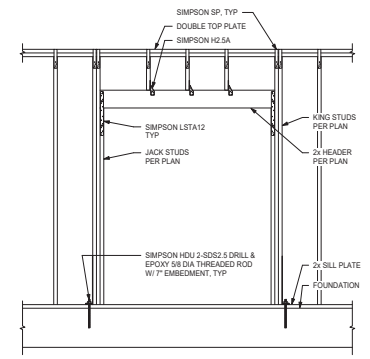
# Exhibit B - Lowermilk Park Facility Improvements-Structural-SS

Autobuild Docx/12/08/01\_Lowermilk Park Facility Improvements/2377\_Lowermilk Park Facility Improvements/14

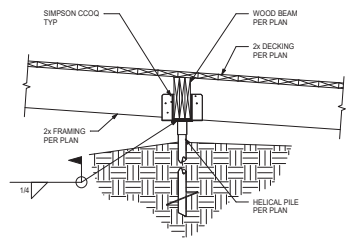
12/15/2022 10:45:53 AM



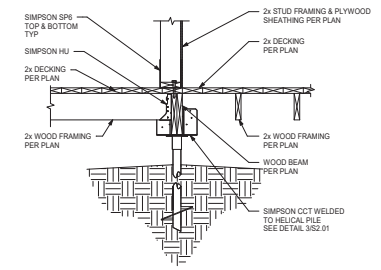
**1 TYPICAL GRADE BEAM CORNER**  
SCALE: NOT TO SCALE



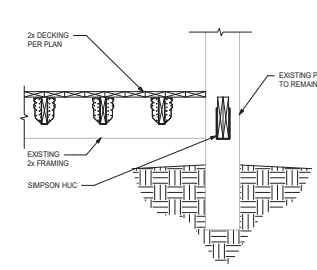
**2 TYPICAL DOOR OPENING FRAMING**  
SCALE: 1/2" = 1'-0"



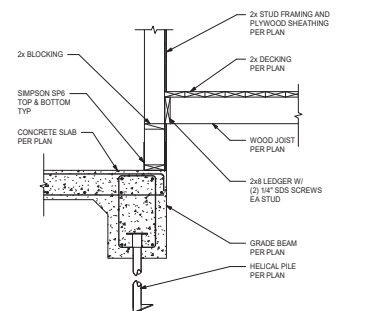
**3 RAMP FRAMING AT HELICAL PILE**  
SCALE: 3/4" = 1'-0"



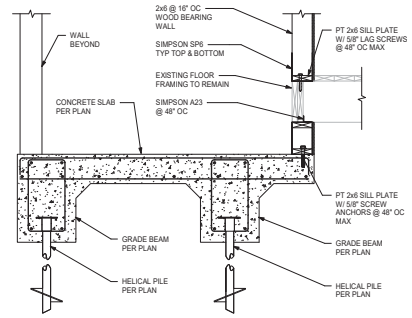
**4 DECK FRAMING TO HELICAL PILE**  
SCALE: 3/4" = 1'-0"



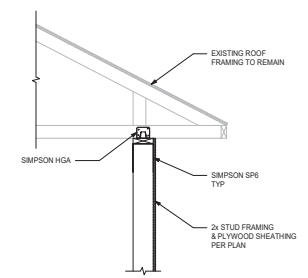
**5 DECK FRAMING TO EXISTING**  
SCALE: 3/4" = 1'-0"



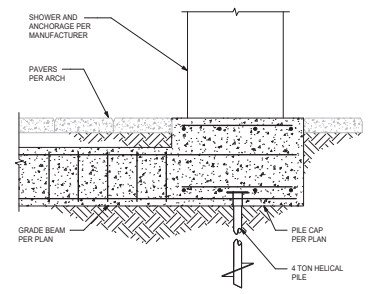
**6 DECK FRAMING TO GRADE BEAM**  
SCALE: 3/4" = 1'-0"



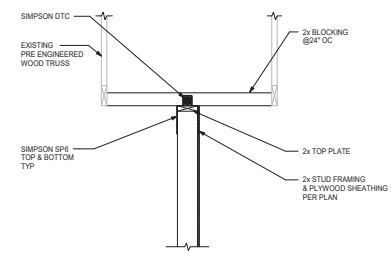
**7 CONCRETE SLAB AT GRADE BEAM**  
SCALE: 3/4" = 1'-0"



**8 EXISTING ROOF FRAMING CONNECTION**  
SCALE: 3/4" = 1'-0"



**9 PILE CAP TO GRADE BEAM**  
SCALE: 3/4" = 1'-0"



**10 TRUSSES PARALELL TO WALL**  
SCALE: 3/4" = 1'-0"

**BSSW**  
ARCHITECTS INC.  
License #A1-030303  
1500 Jackson Street, Suite 303  
Fort Myers, Florida 33901  
Phone: 239-279-3838 Fax: 239-275-5356  
949 Central Ave.  
Naples, Florida 34102  
Phone: 239-643-3033 Fax: 239-275-5356

Project:  
**Lowermilk Park Facilities Improvements**  
**1301 Gulf Shore Blvd. North**  
**Naples, Fla. 34102**

Owner:  
**City of Naples, Fla.**

Consultant:  
**SELECT STRUCTURAL**  
12573 New Brittany Blvd  
Fort Myers, Florida 33907  
Phone: (239) 210-5090  
Project No.: 220571  
Certification Auth. 28357

Scale:

No.	Date	Revision
1		

Project Phase:

Issued for Permit
-------------------

Project #: 2108.01  
Project Issued: 12-09-22  
Sheet Issued: 12-09-22



Copyright © 2022, BSSW Architects, Inc. reserves copyright and other rights restricting these documents to the original site or purpose for which they were prepared. Reproduction, changes or assignments are prohibited.  
Sheet Title:  
**DETAILS**

Sheet No.  
**S2.01**