

Foundation

- 1. Geopier System (400% Increase in Bearing Capacity)
- 2. Normal Weight Concrete Retaining Walls
- 3. Spread and Strip Footings

Greenhouse

- 1. Steel Superstructure
- 2. Modular/Repeatable Design
- 3. Trusses, Spaced at 19'-2"
- 4. Tie into Main Buildings Steel
- 5. Allow for Movement of Aquaponics
- 6. Limited Light Interference

Superstructure

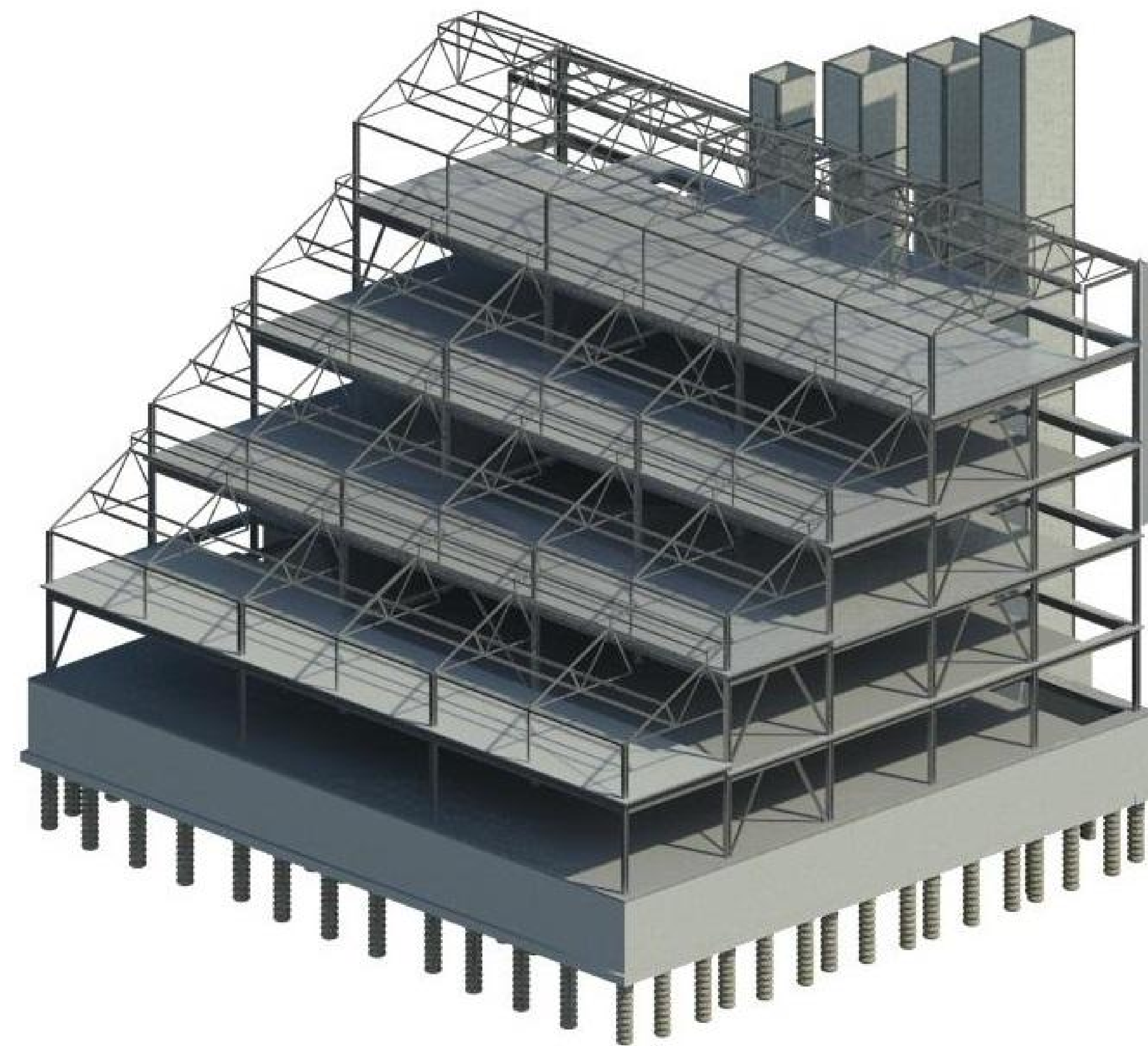
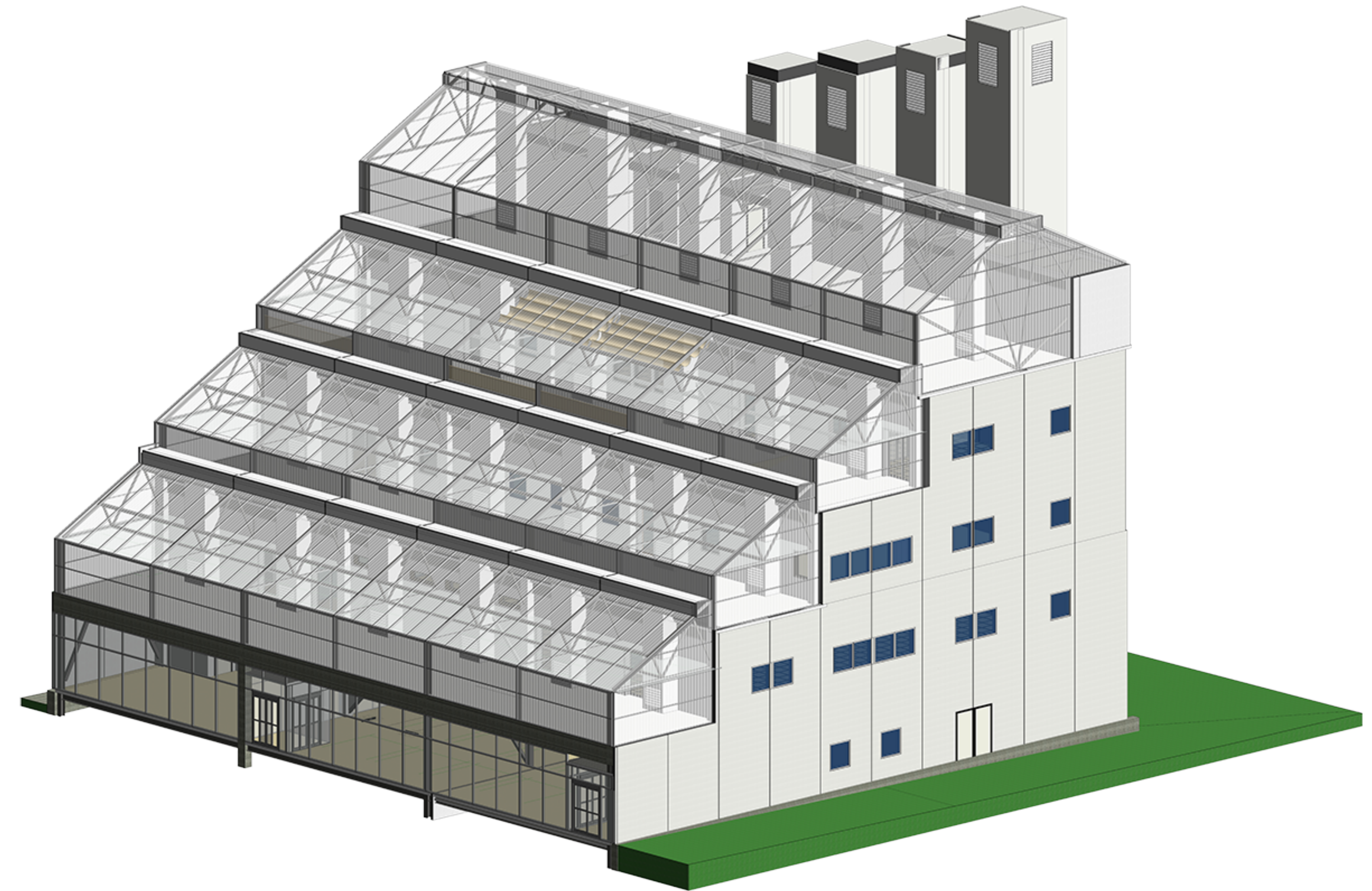
- 1. Steel Super Structure
- 2. Composite Steel and Decking
- 3. Cambered Members
- 4. Deep Beam (Differential Elevations)
- 5. Uniform Bay Sizes
- 6. Uniform Member Sizes
- 7. Uniform Connection Design
- 8. Lightweight to Reduce Seismic Loads

Lateral System

- 1. Eccentrically Braced Frames
- 2. SidePlate Moment Connections
- 3. Adaptable
- 4. Limited Architectural Interference

Tower Design

- 1. Steel Superstructure
- 2. Infill Hybrid Masonry Shear Walls



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

5500 W. Silver Spring Dr.
Milwaukee, WI 53218

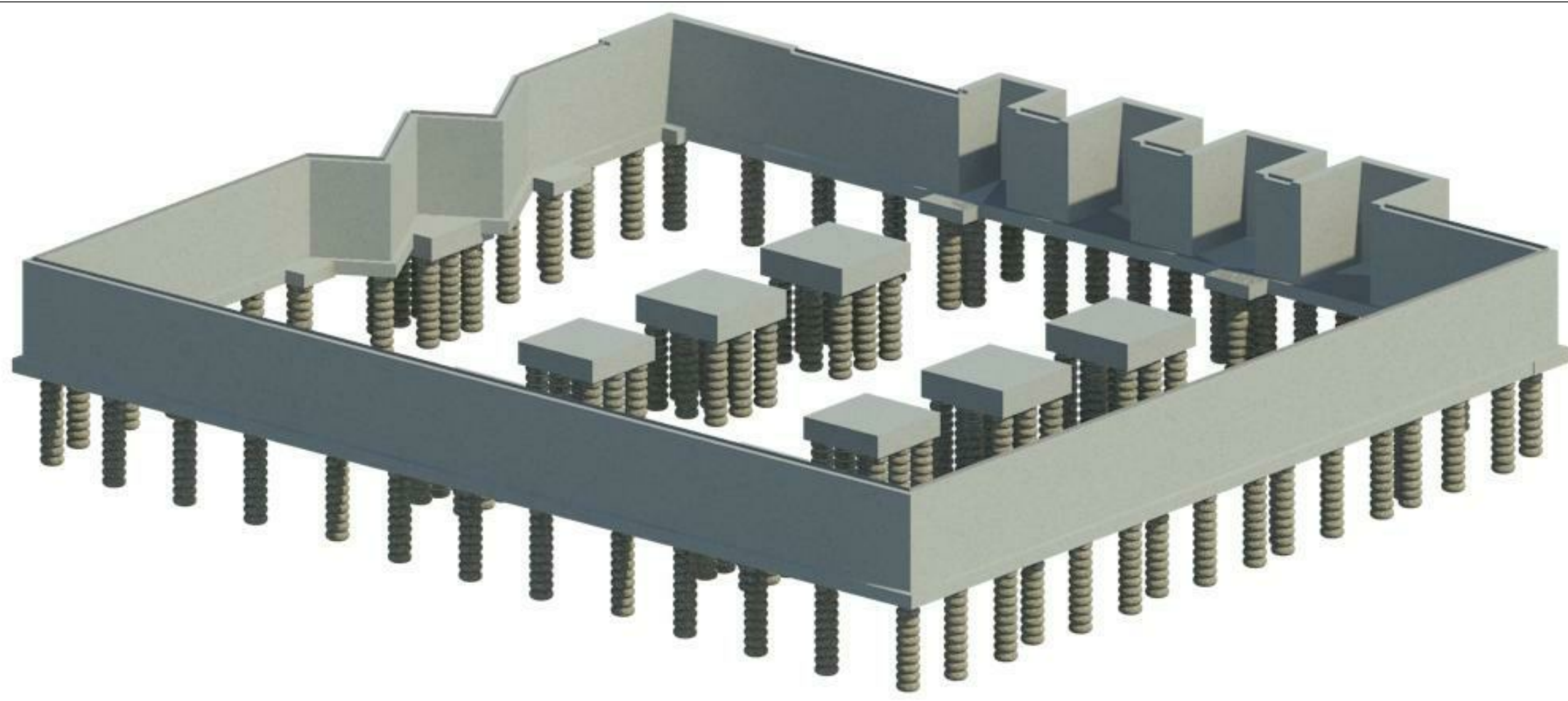
**GENERAL NOTES
& PERSPECTIVE**

Team Number	Project Number
Date	Issue Date
Drawn By	Author

S0.00

Scale 1/2" = 1'-0"

2/11/2016 3:38:14 AM

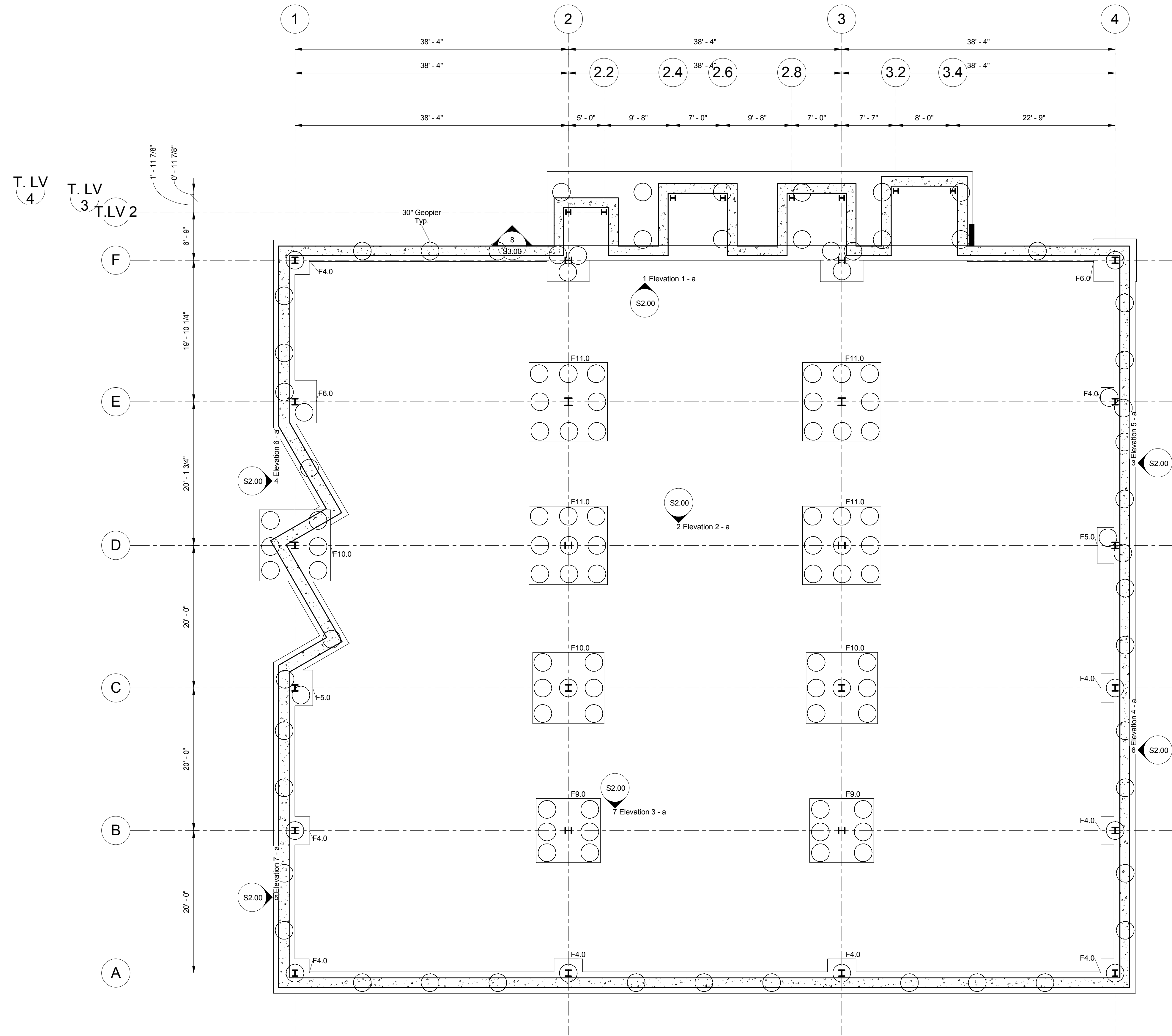


FOOTING SCHEDULE		
	SIZE	REINFORCING
F4.0	4'-0" x 4'-0"	(5) #4 EACH WAY
F5.0	5'-0" x 5'-0"	(5) #5 EACH WAY
F6.0	6'-0" x 6'-0"	(8) #5 EACH WAY
F9.0	9'-0" x 9'-0"	(9) #7 EACH WAY
F10.0	10'-0" x 10'-0"	(11) #7 EACH WAY
F11.0	11'-0" x 11'-0"	(10) #8 EACH WAY

GEOPIER ELEMENTS		
COL #	# OF ELEMENTS	
1-A	1	
1-B	1	
1-C	2	
1-D	6	
1-E	2	
1-F	1	
2-A	1	
2-B	6	
2-C	7	
2-D	9	
2-E	8	
2-F	3	
3-A	1	
3-B	6	
3-C	7	
3-D	9	
3-E	8	
3-F	3	
4-A	1	
4-B	1	
4-C	1	
4-D	2	
4-E	2	
4-F	1	

FOUNDATION SCHEDULE
1/4" = 1'-0"

GEOPIER ELEMENTS
1/4" = 1'-0"



1 S-Basement
1/8" = 1'-0"



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

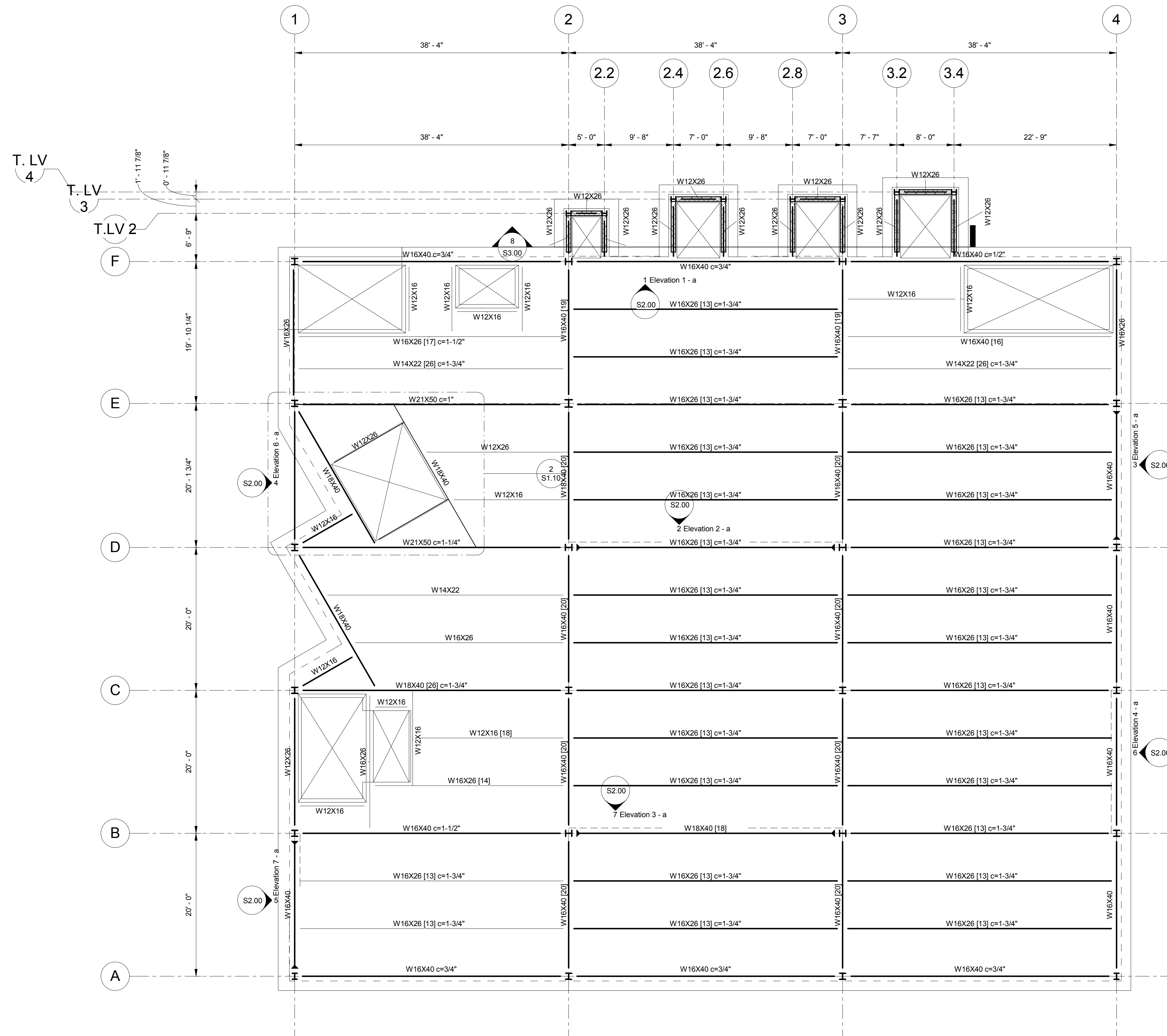
5500 W. Silver Spring Dr.
Milwaukee, WI 53218

**FOUNDATION
PLAN**

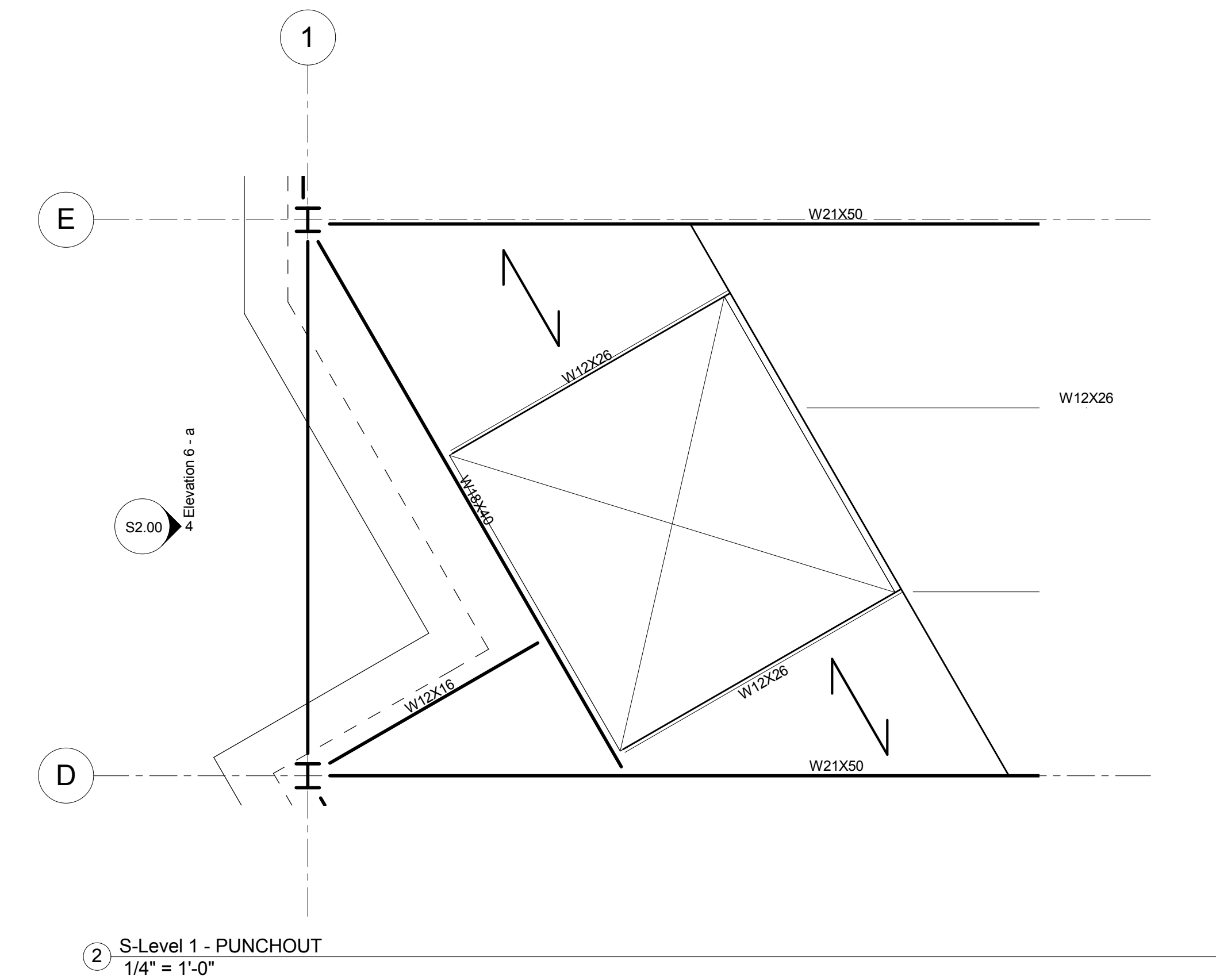
Team Number	Project Number
Date	Issue Date
Drawn By	Author

S1.00

Scale As indicated



1 S-Level 1
1/8" = 1'-0"



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

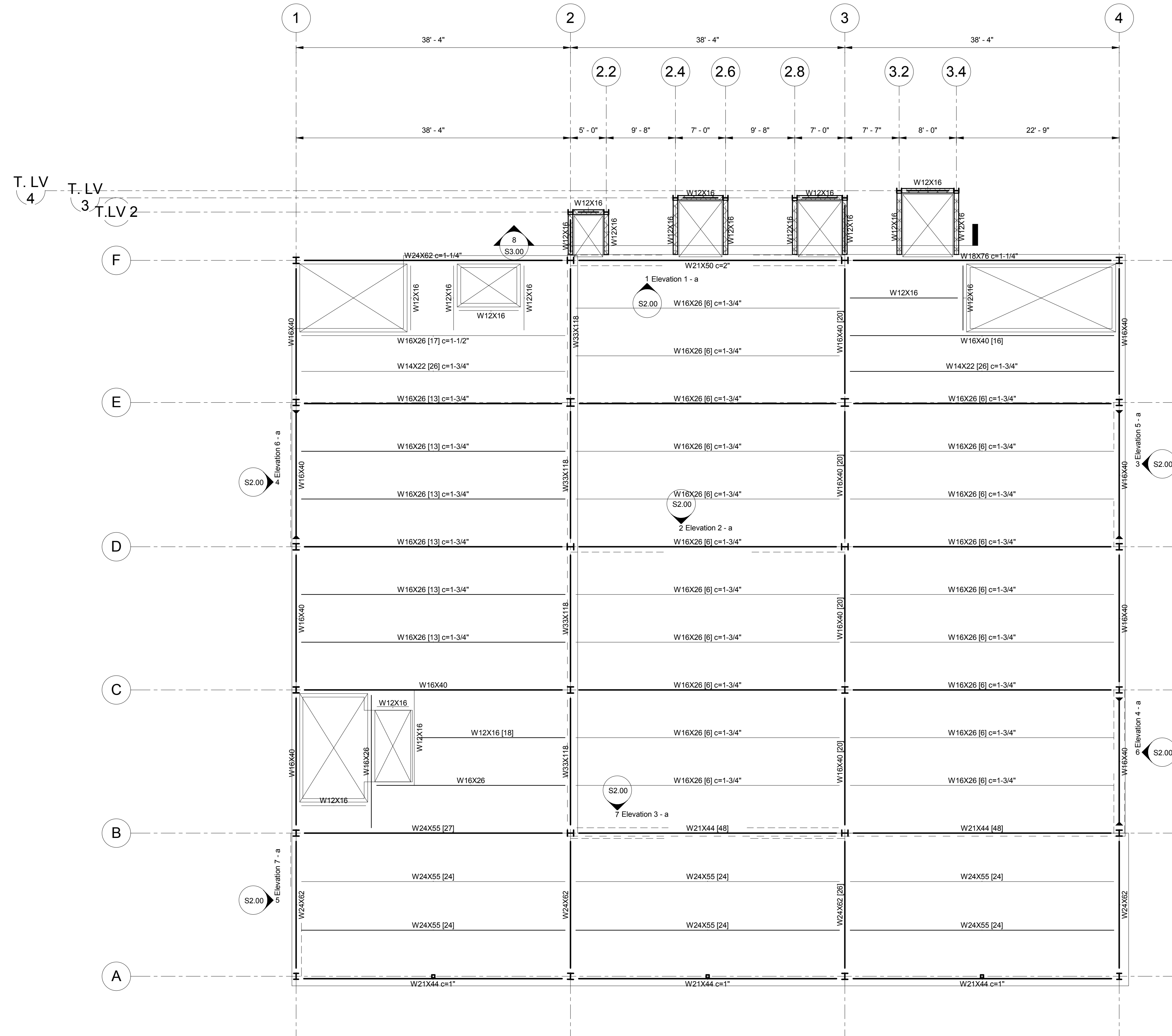
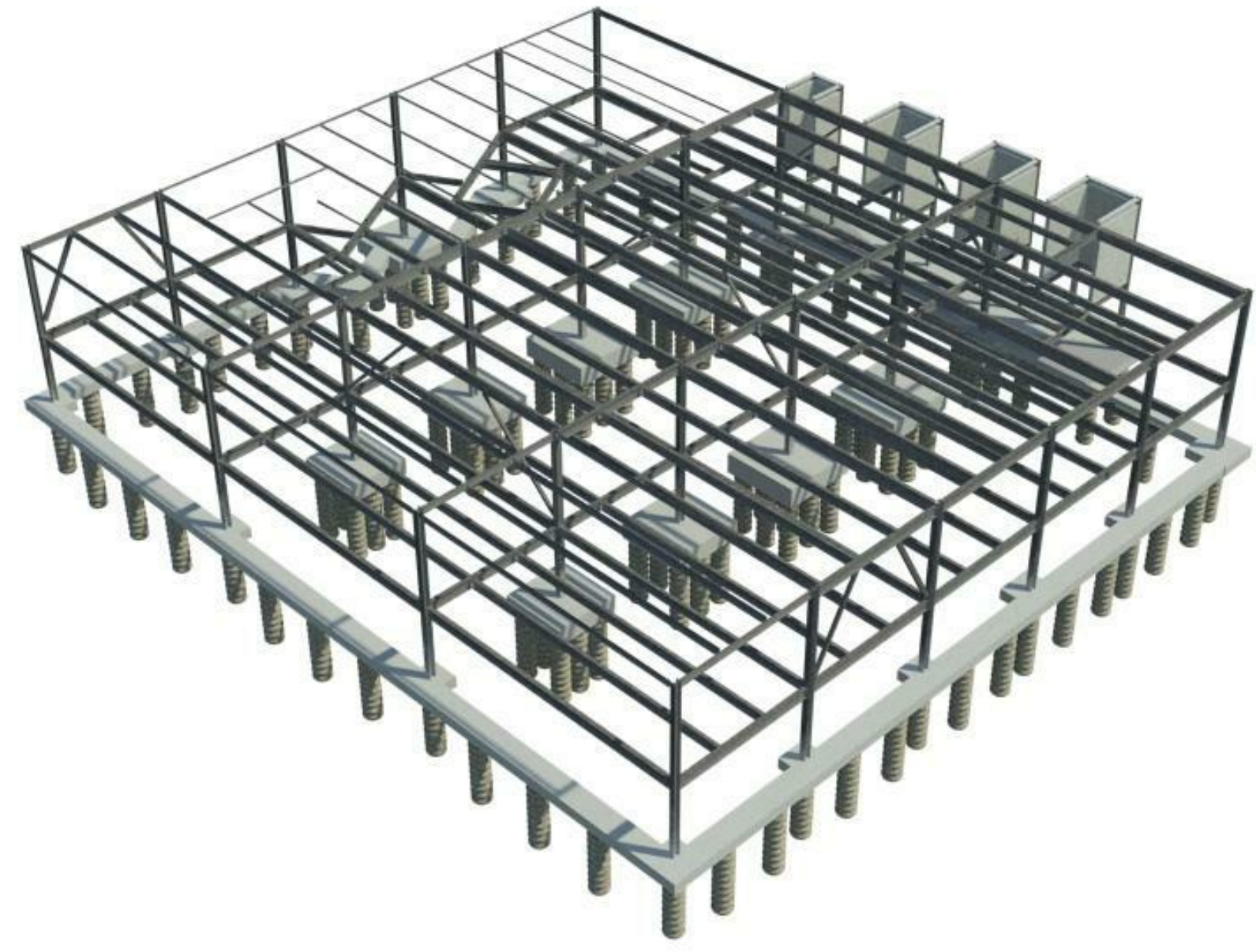
5500 W. Silver Spring Dr.
Milwaukee, WI 53218

**LEVEL 1 FRAMING
PLAN**

Team Number	Project Number
Date	Issue Date
Drawn By	Author

S1.10

Scale	As indicated
-------	--------------



1 S-Level 2
1/8" = 1'-0"



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

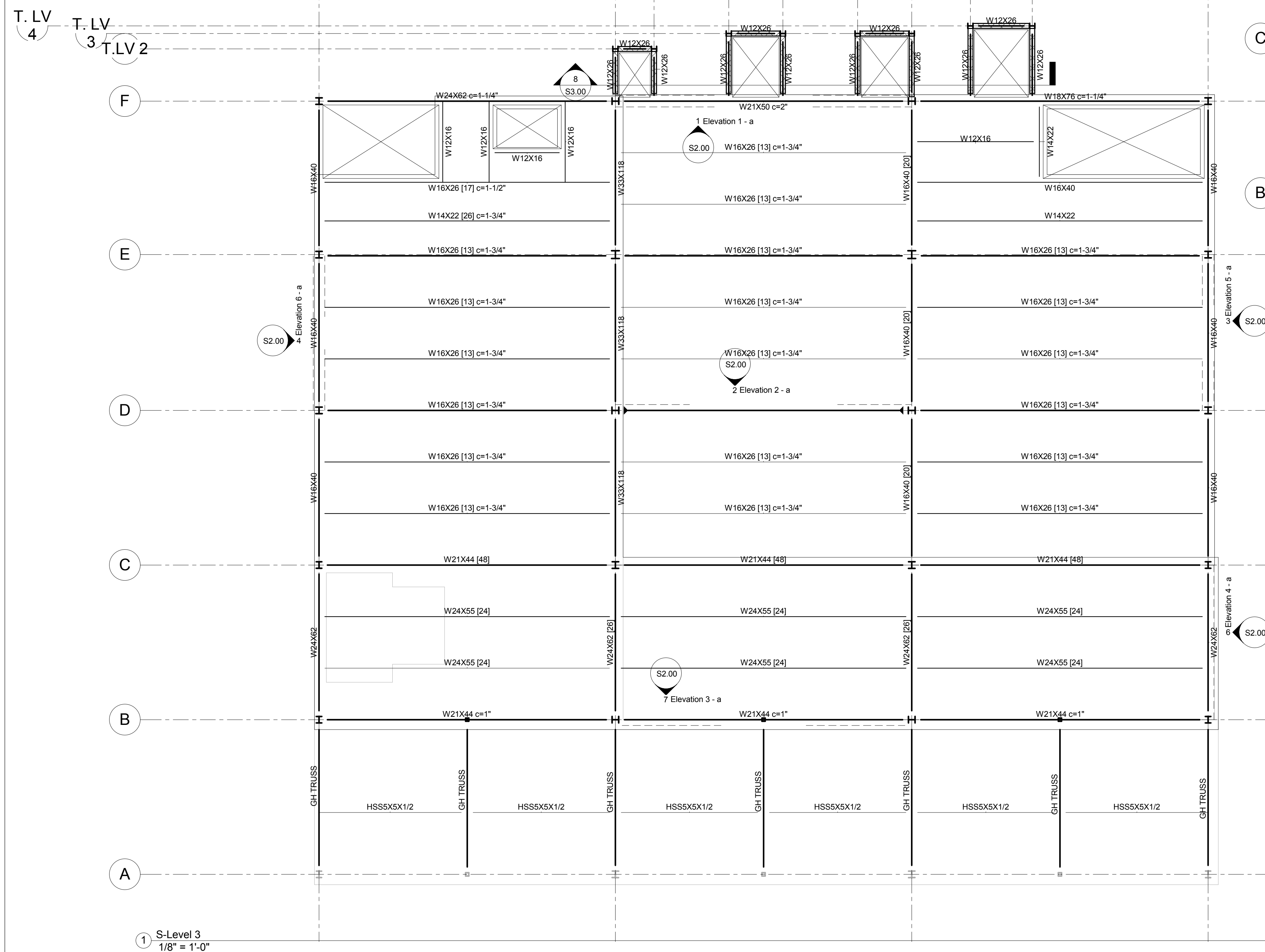
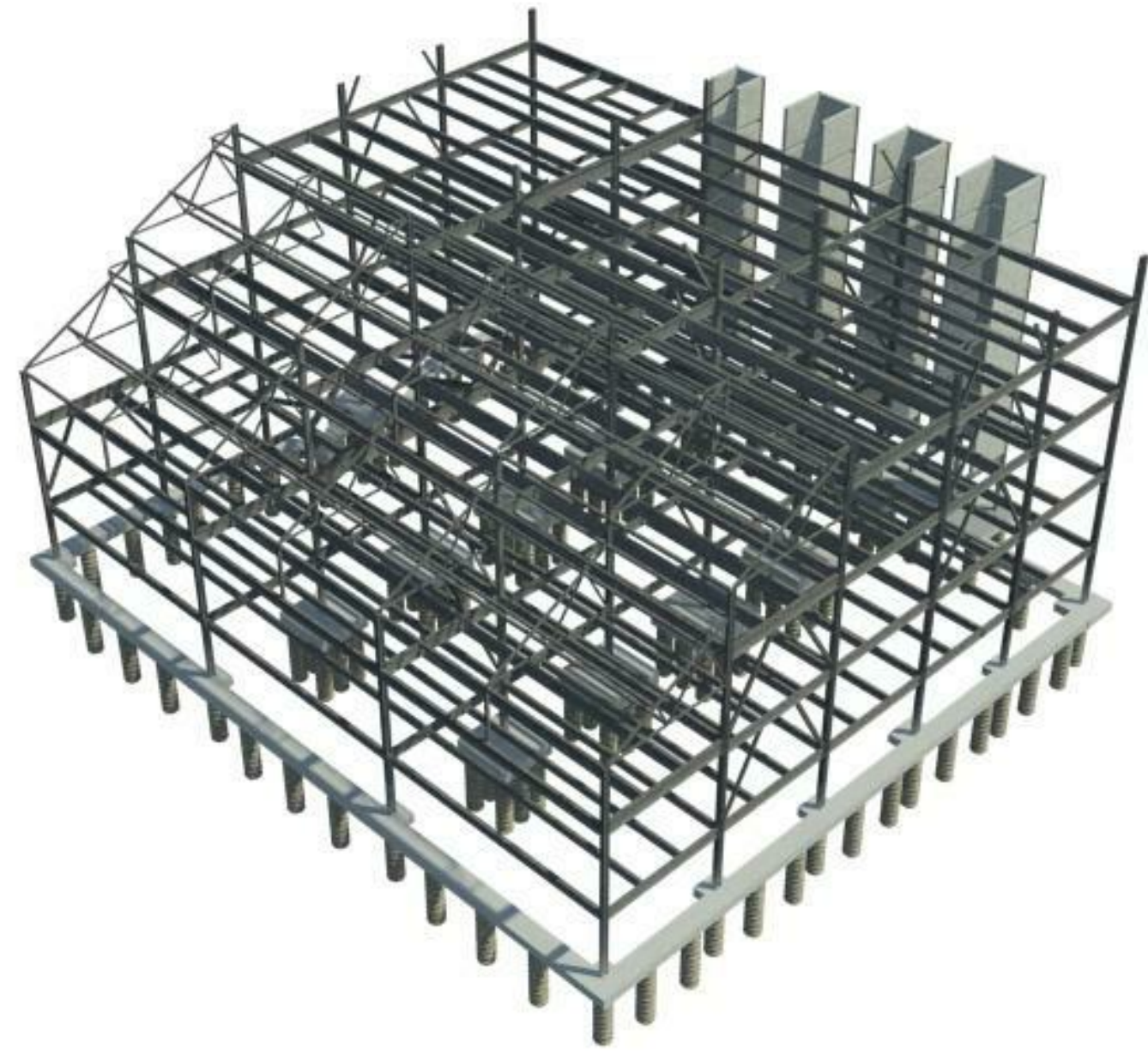
5500 W. Silver Spring Dr.
Milwaukee, WI 53218

**LEVEL 2 FRAMING
PLAN**

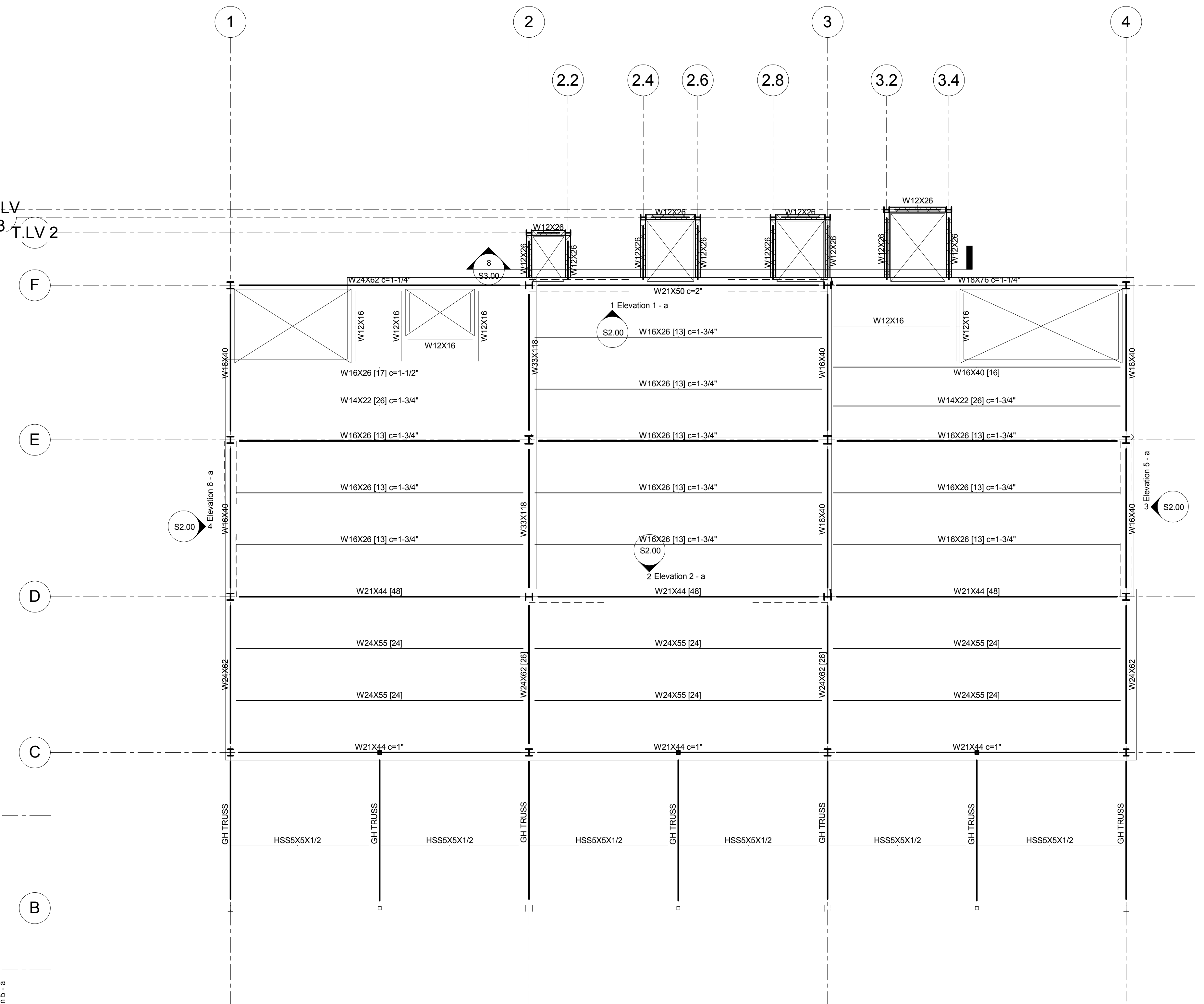
Team Number	Project Number
Date	Issue Date
Drawn By	Author

S1.20

Scale	As indicated
-------	--------------



T.LV 4
T.LV 3
T.LV 2



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

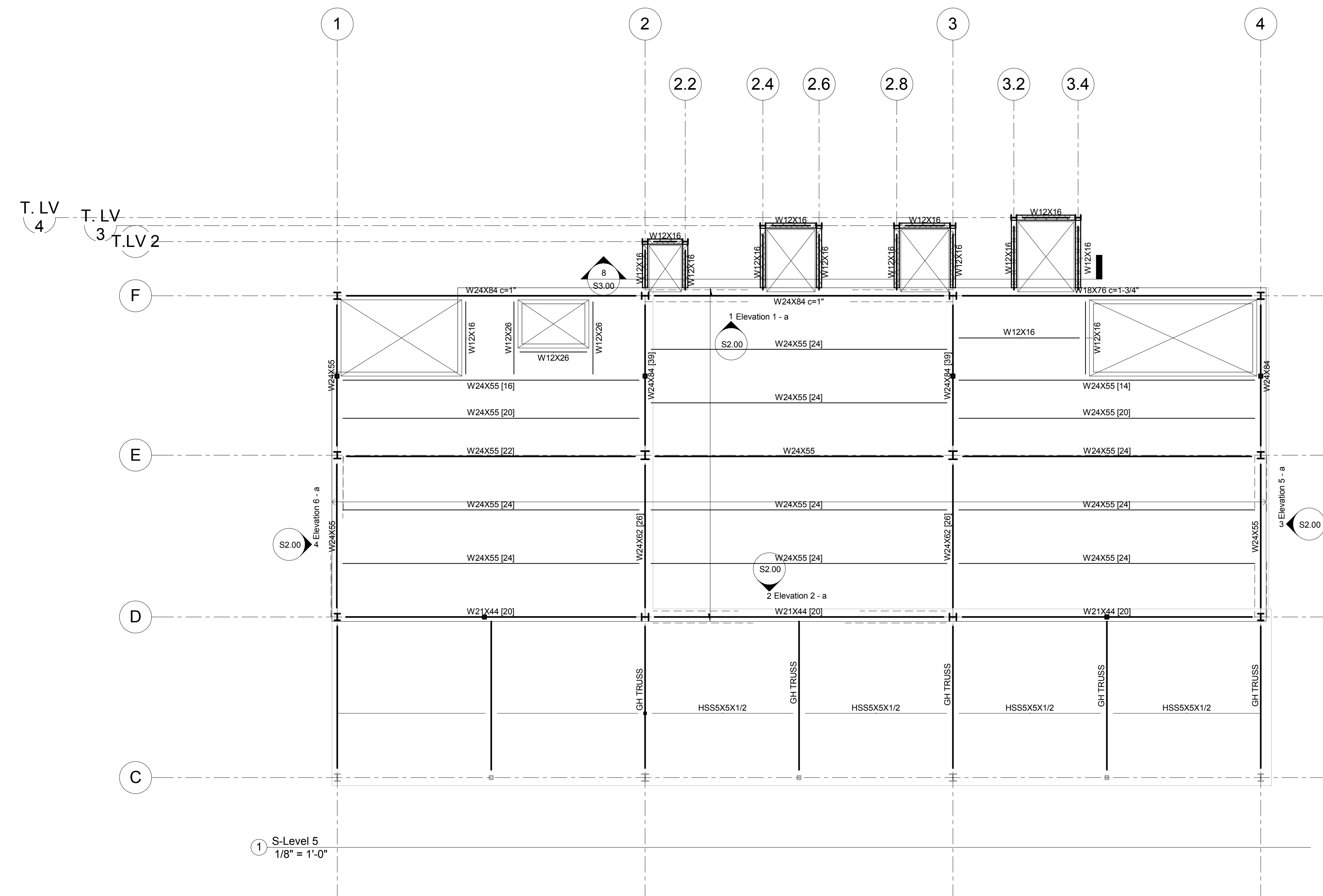
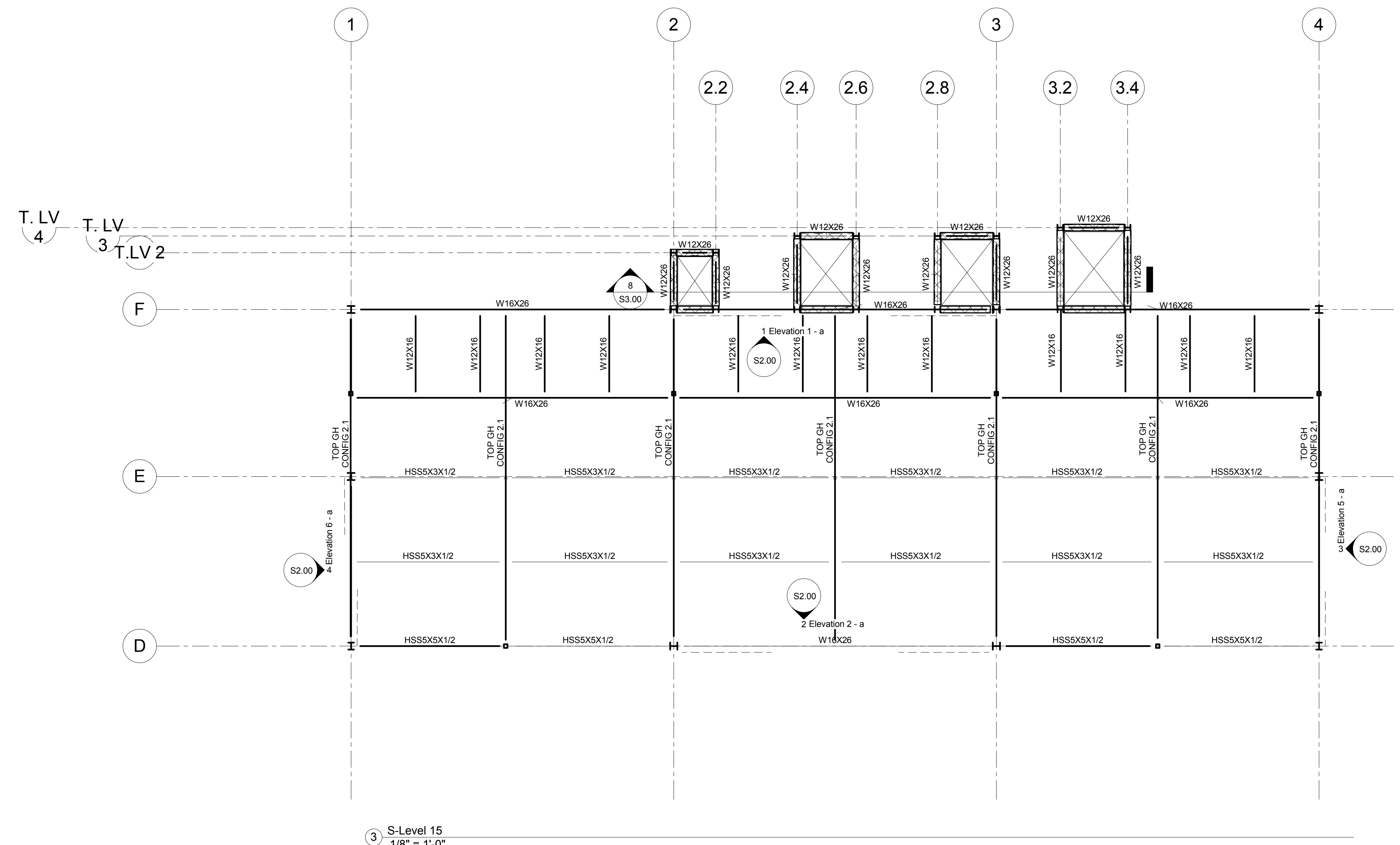
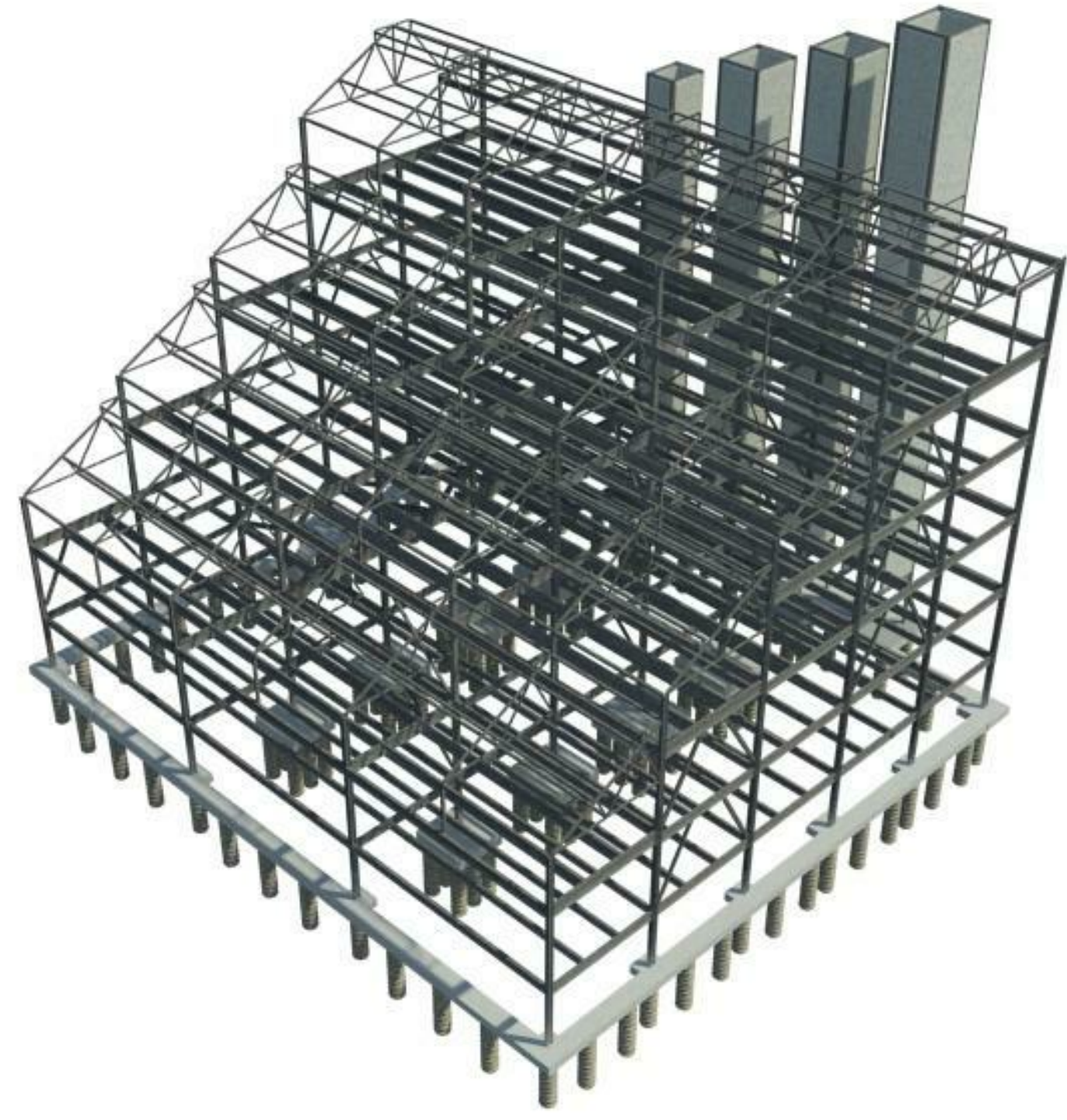
5500 W. Silver Spring Dr.
Milwaukee, WI 53218


**LEVEL 3 AND 4
FRAMING PLAN**

Team Number	Project Number
Date	Issue Date
Drawn By	Author

S1.30

Scale	As indicated
-------	--------------





Synthesis
Engineering for Architecture

Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

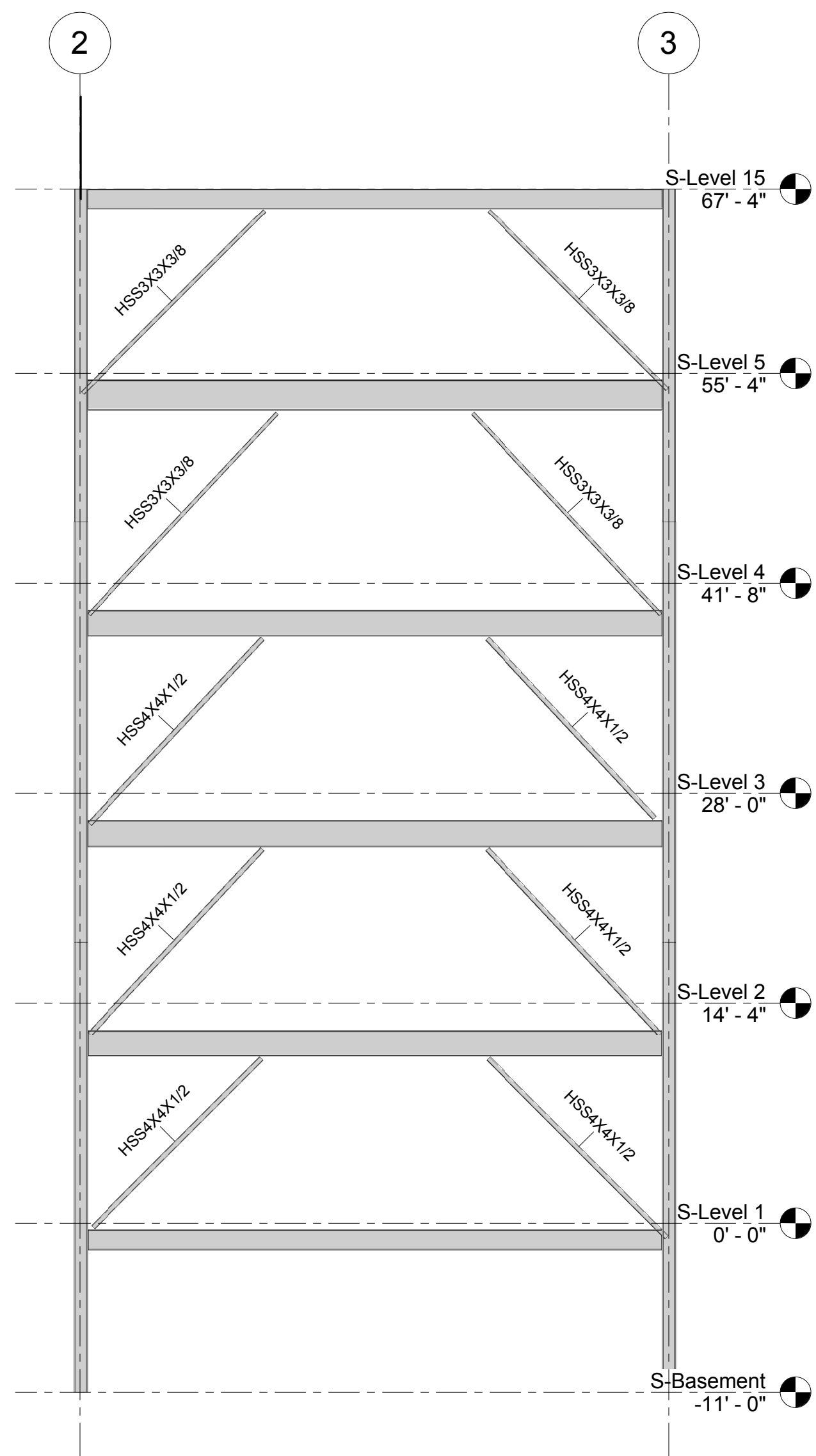
5500 W. Silver Spring Dr.
Milwaukee, WI 53218

**LEVEL 5 & ROOF
FRAMING PLAN**

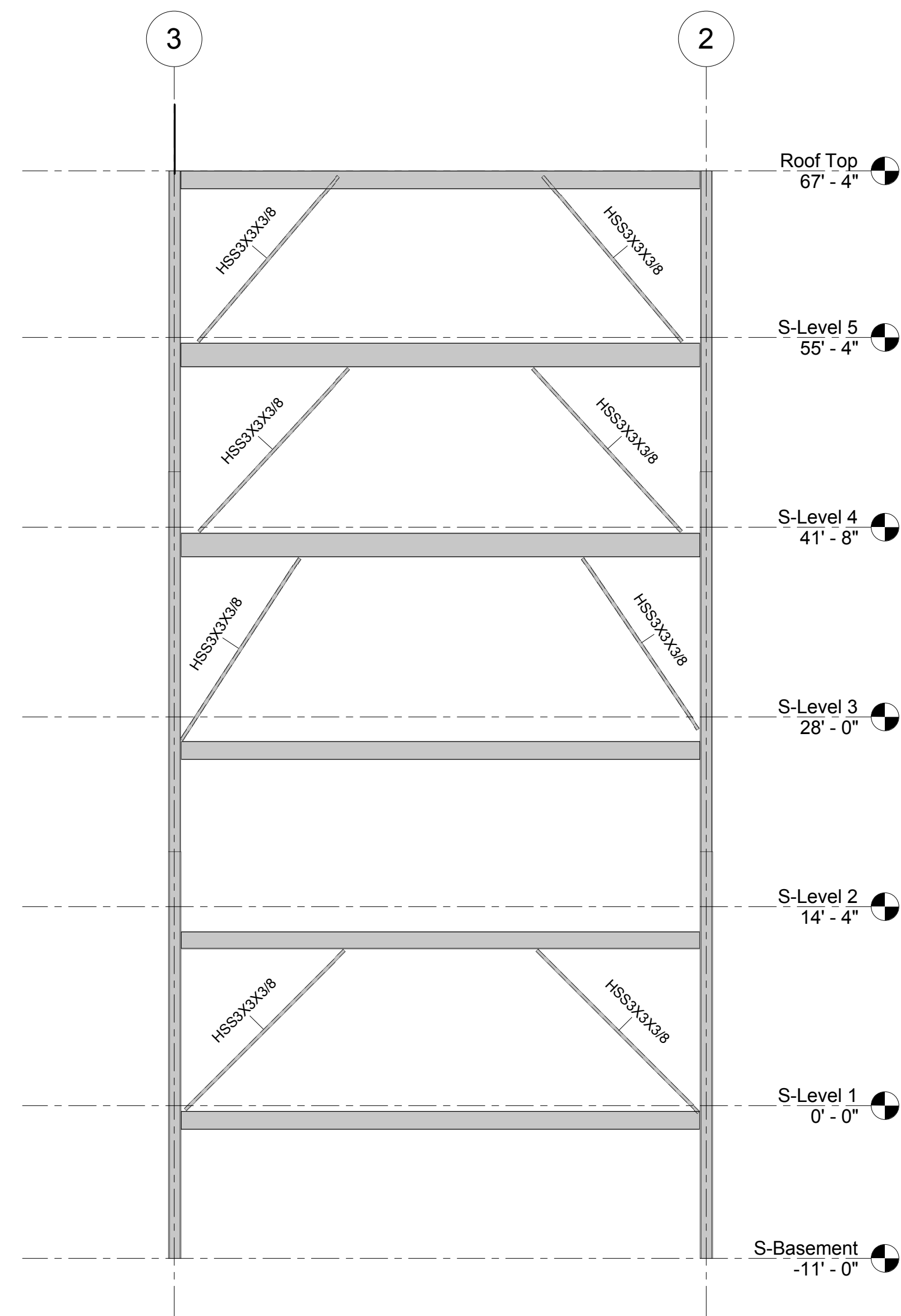
Team Number	Project Number
Date	Issue Date
Drawn By	Author

S1.50

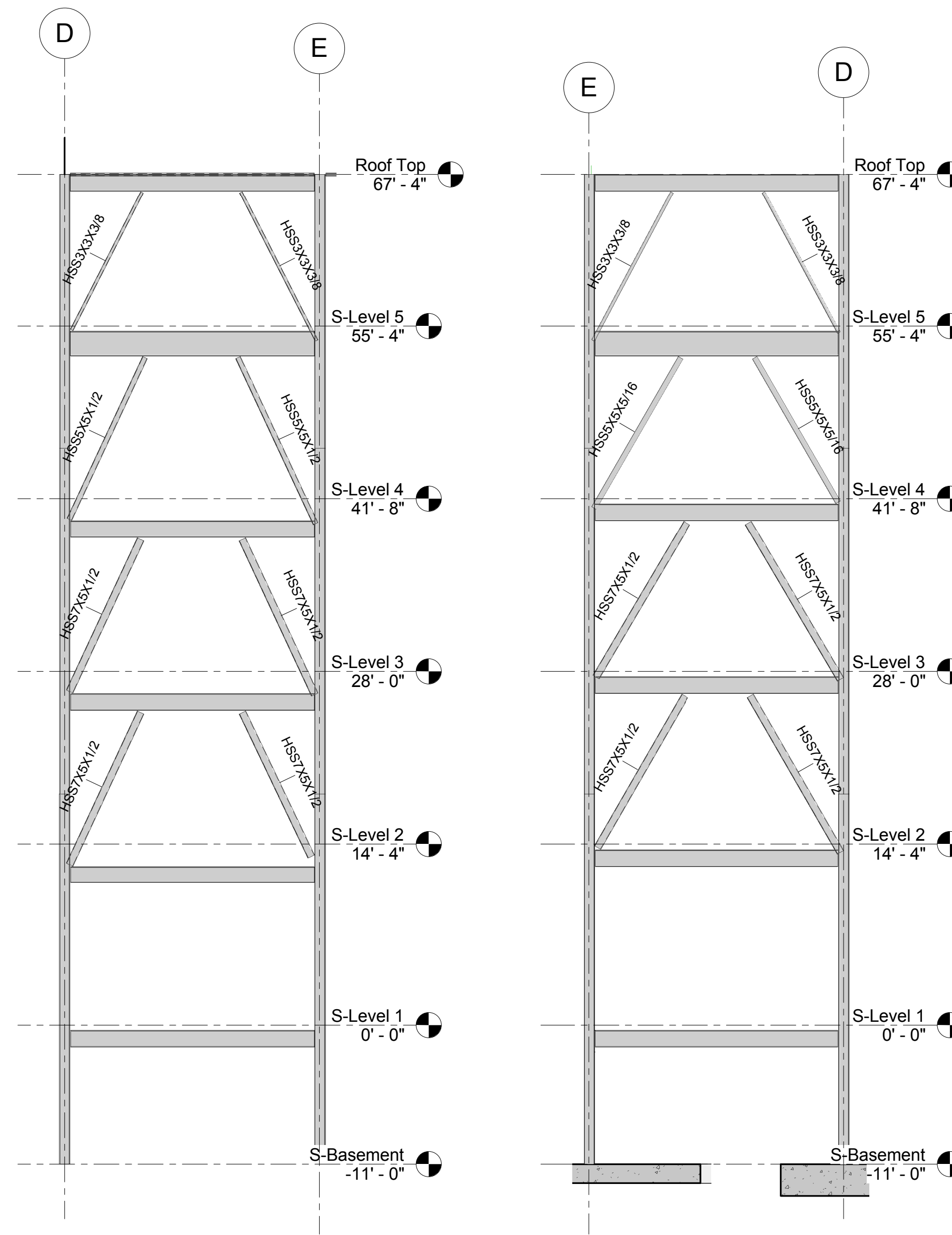
Scale: As indicated



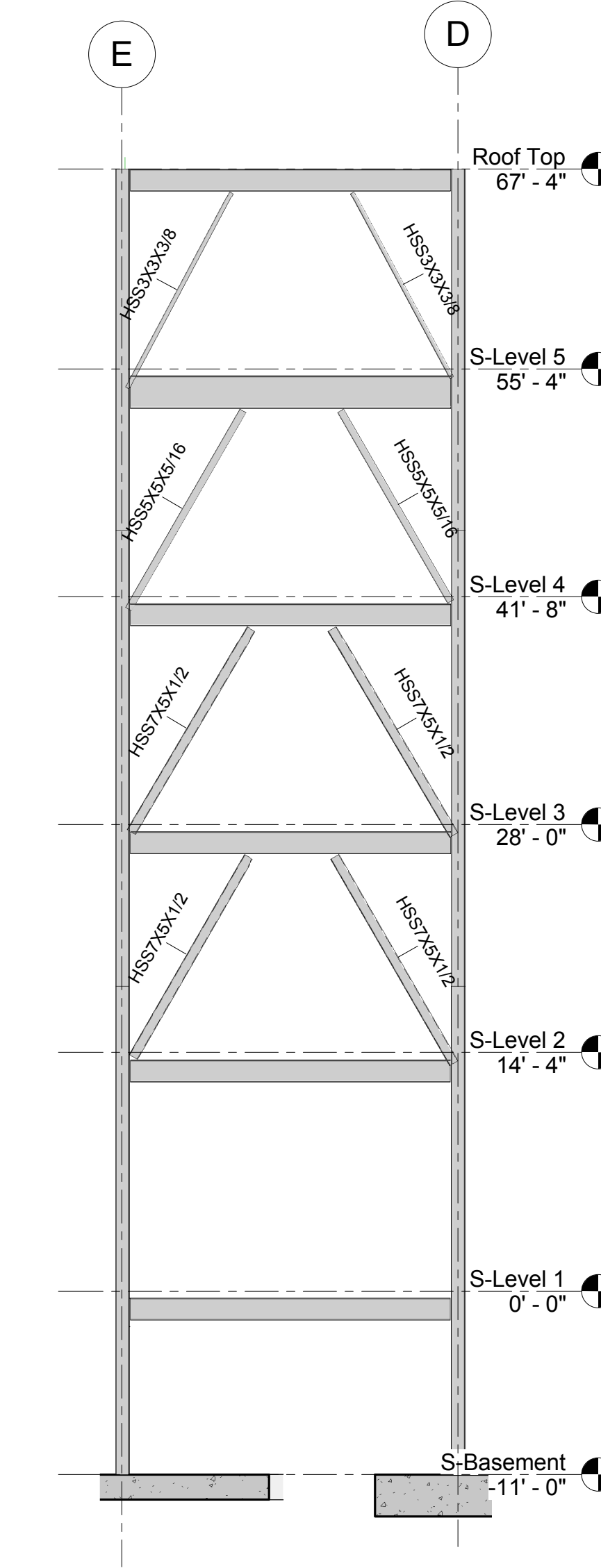
1 Elevation 1 - a
1/8" = 1'-0"



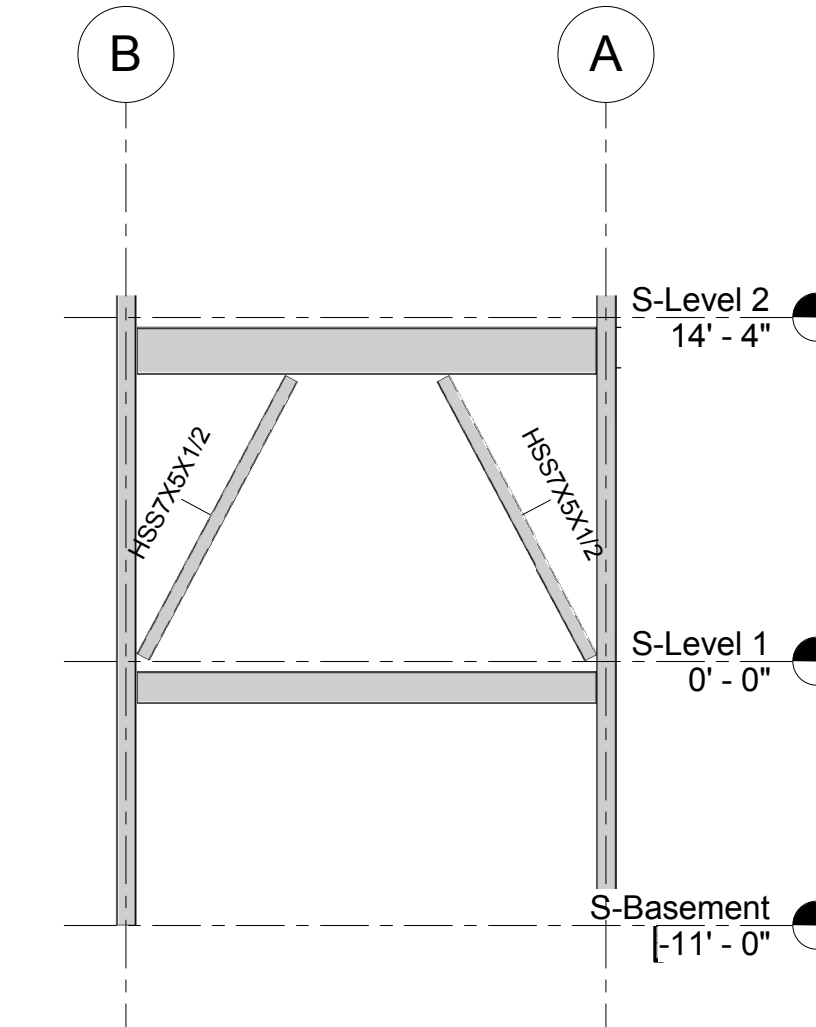
2 Elevation 2 - a
1/8" = 1'-0"



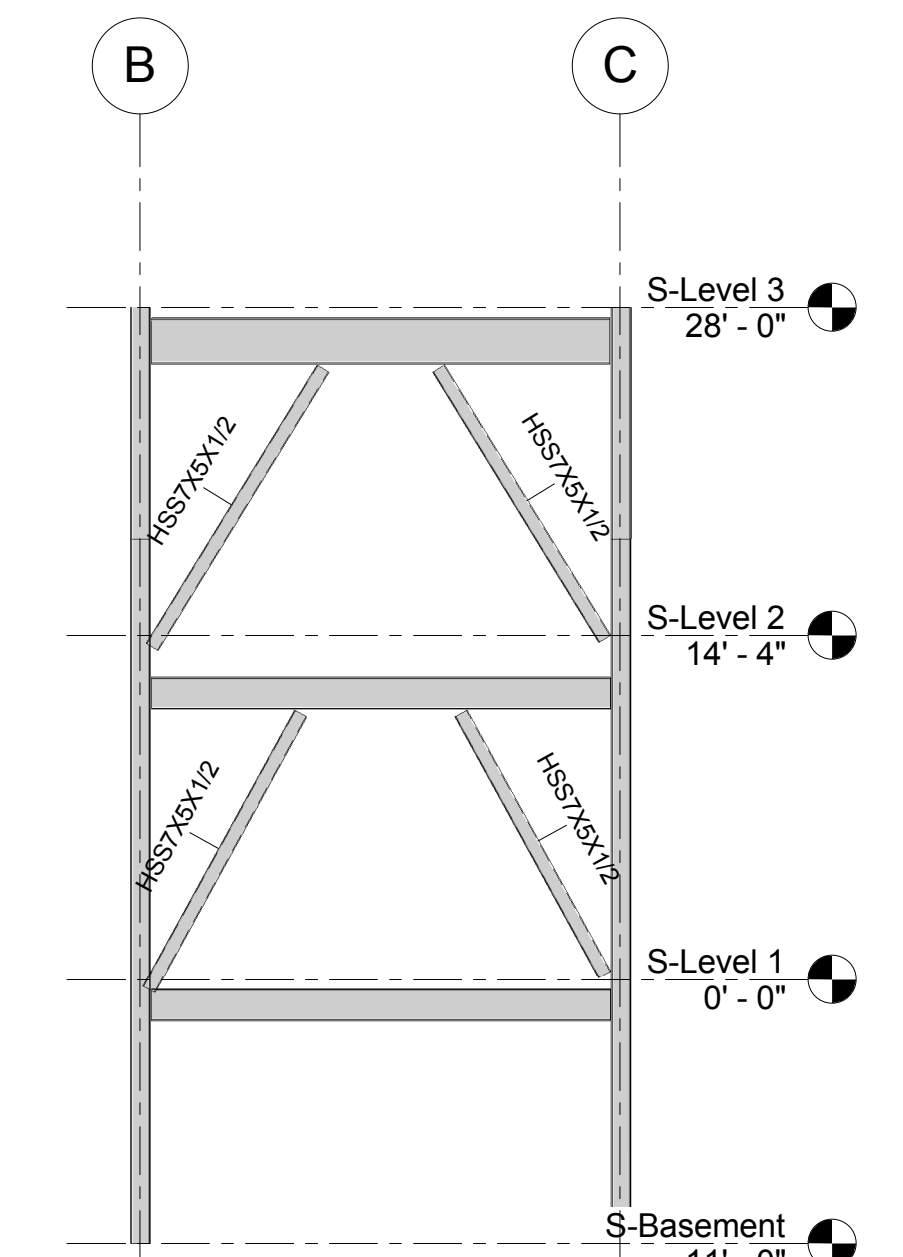
3 Elevation 5 - a
1/8" = 1'-0"



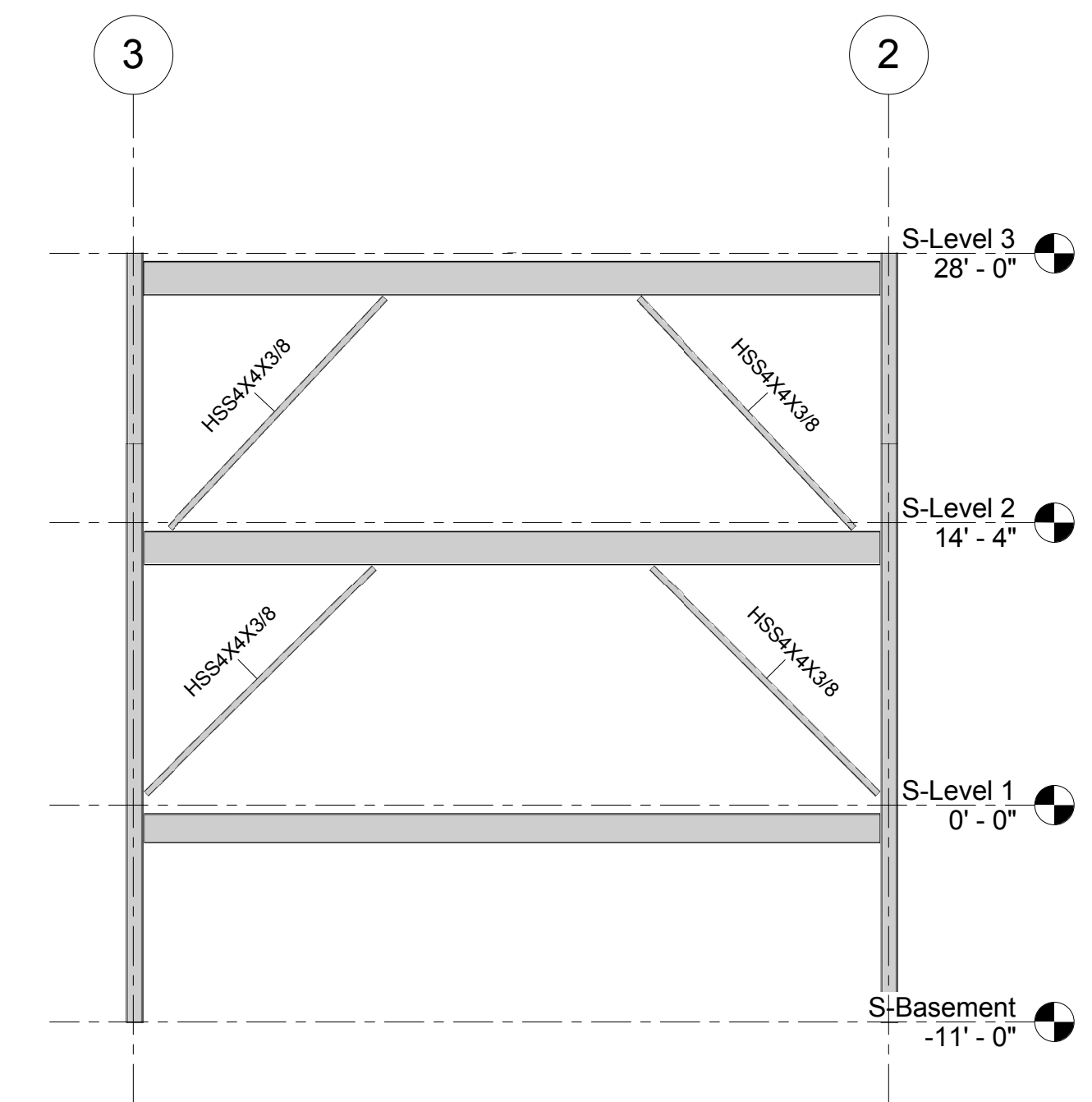
4 Elevation 6 - a
1/8" = 1'-0"



5 Elevation 7 - a
1/8" = 1'-0"



6 Elevation 4 - a
1/8" = 1'-0"



7 Elevation 3 - a
1/8" = 1'-0"

Column Locations	A-1	A-1(19'-2"), A-2(19'-2"), A-3(19'-2")	A-2, A-3	A-4	B-1, B-4	B-1(19'-2"), B-2(19'-2"), B-3(19'-2")	B-2, B-3	C-1	C-1(19'-2"), C-2(19'-2"), C-3(19'-2")	C-2, C-3	C-2(19'-2")	C-4	D-1	D-2, D-3	D-4	E-1	E(9'-10 1/4")-1, E(9'-10 1/4")-2, E(9'-10 1/4")-3, E(9'-10 1/4")-4	E-2	E-3	E-4, F-1	F-2, F-3	F-4
Roof Top 67'-4"																						
S-Level 5 55'-4"																						
S-Level 4 41'-8"																						
S-Level 3 28'-0"																						
S-Level 2 14'-4"																						
S-Level 1 0'-0"																						
S-Basement -11'-0"																						

Column Schedule
1/8" = 1'-0"



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

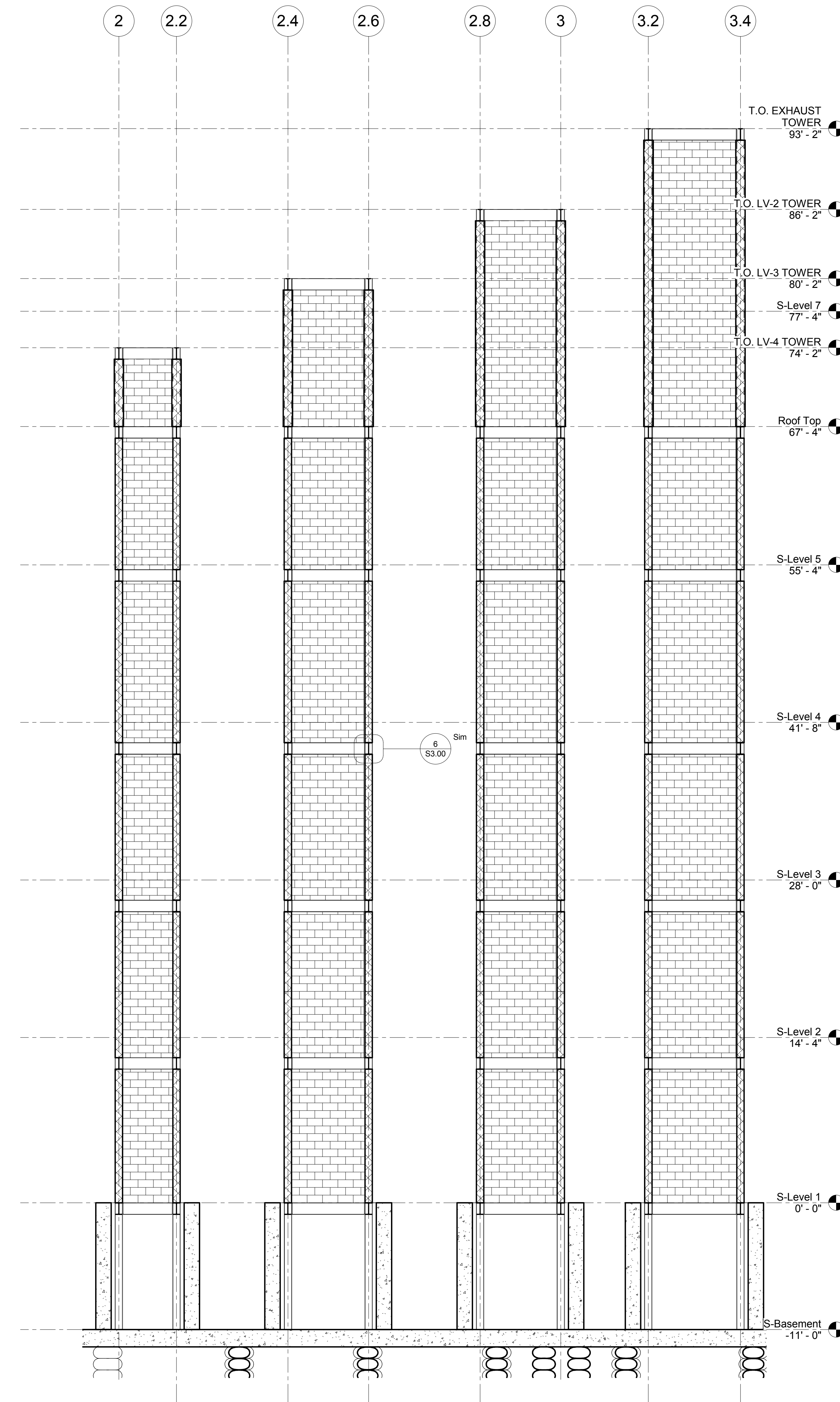
5500 W. Silver Spring Dr.
Milwaukee, WI 53218

**FRAME DETAILS
AND COLUMN
SCHEDULE**

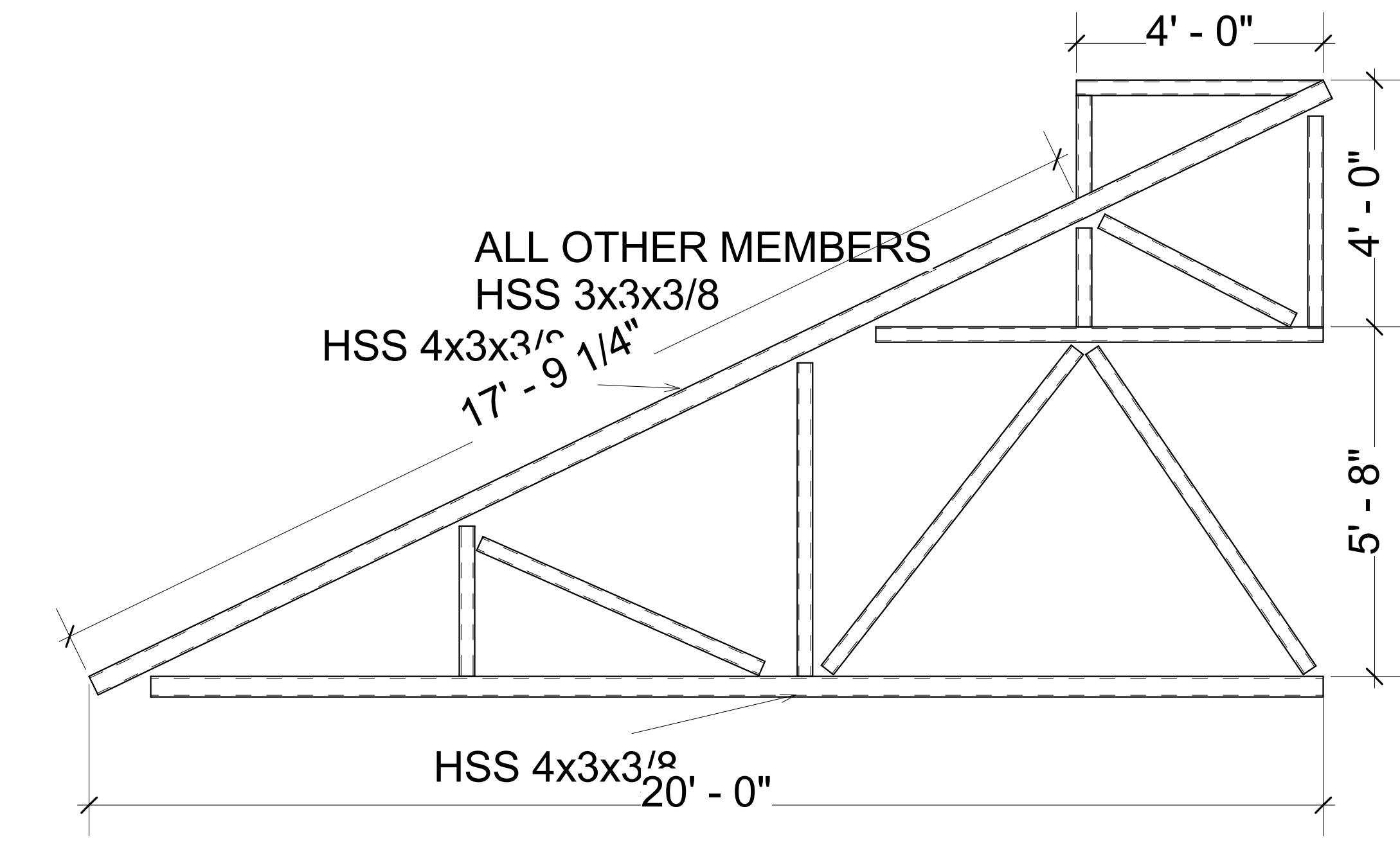
Team Number _____ Project Number _____
Date _____ Issue Date _____
Drawn By _____ Author _____

S2.00

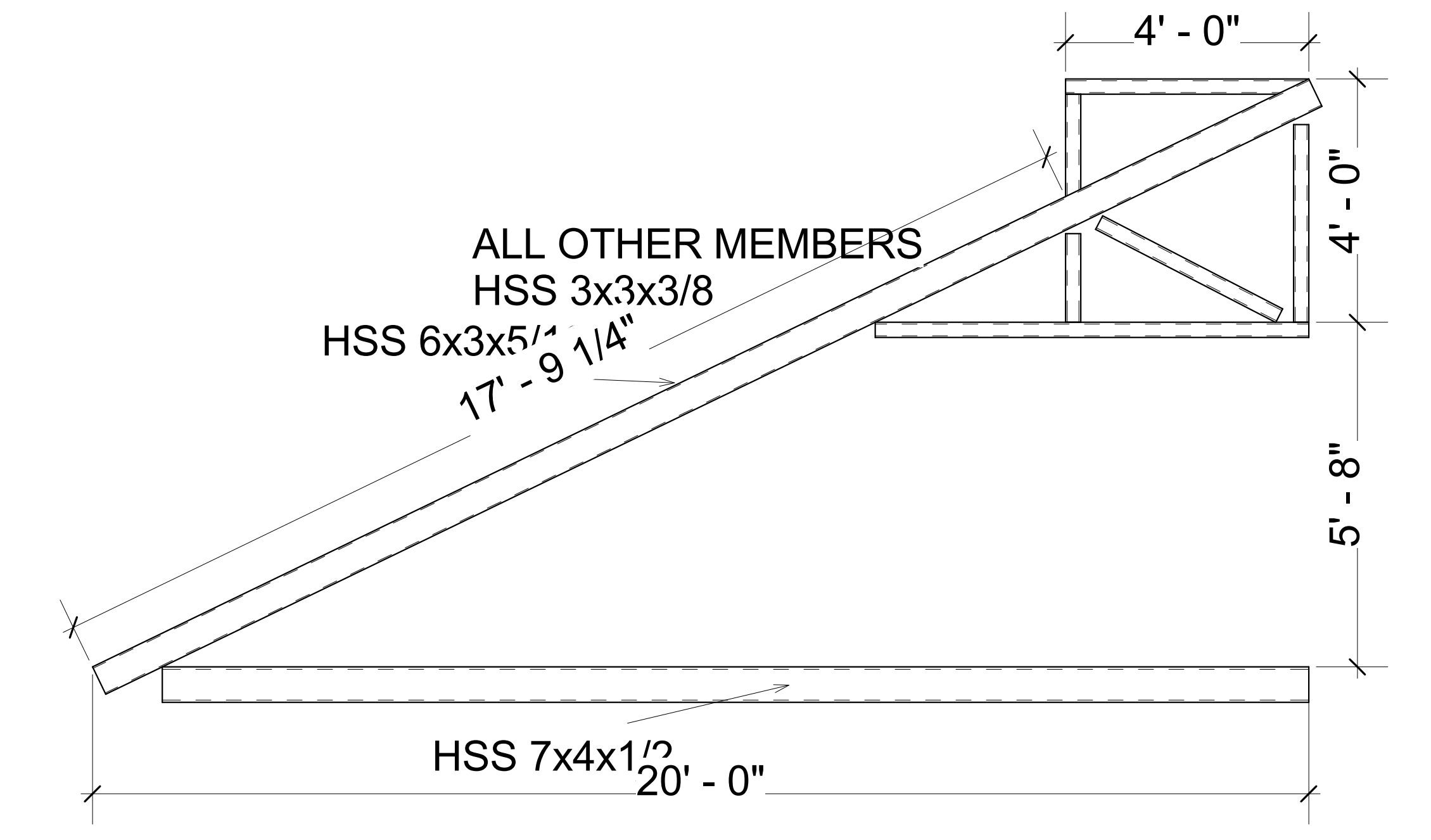
Scale 1/8" = 1'-0"



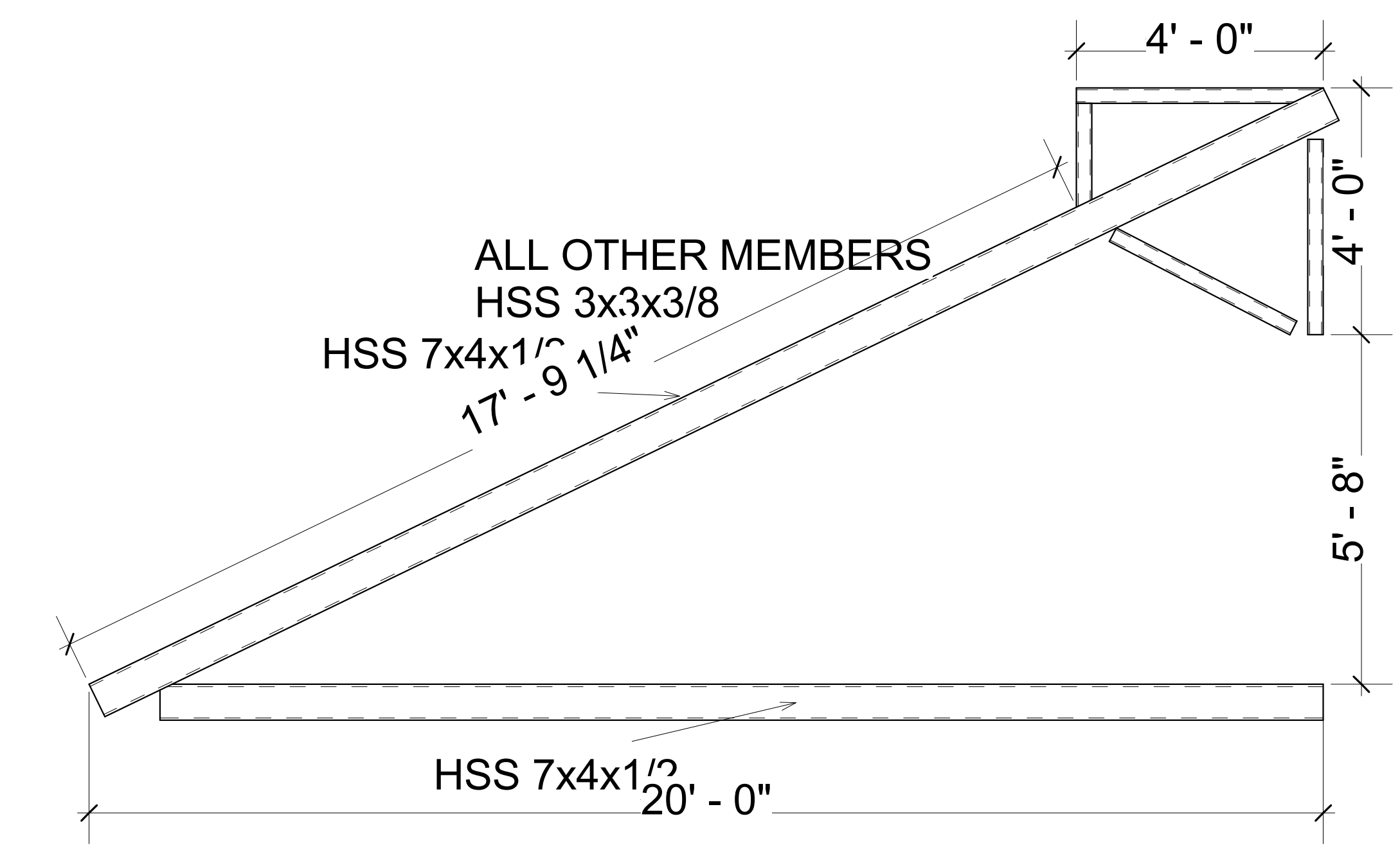
8 Tower Section
3/16" = 1'-0"



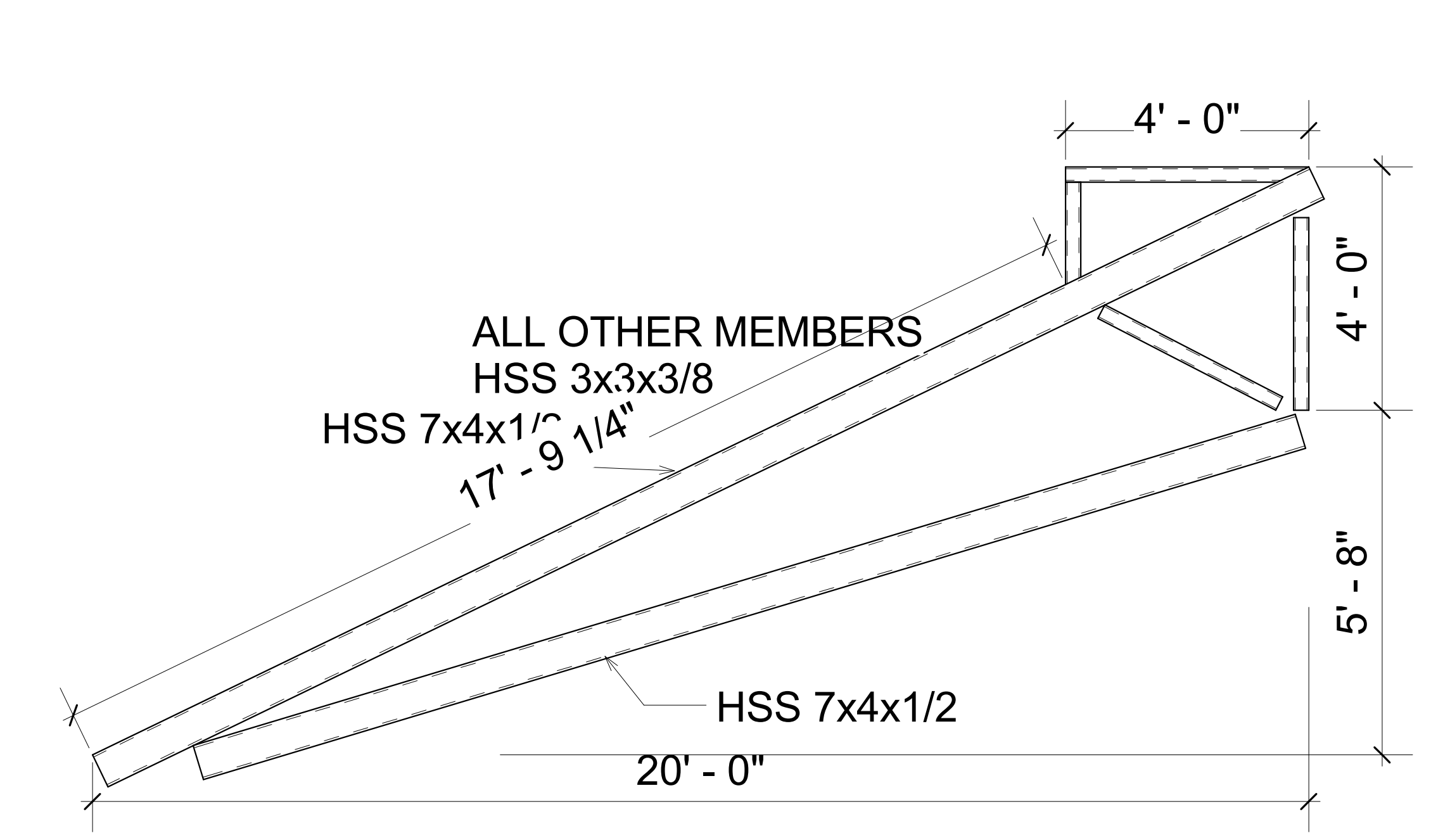
1 Green House Truss config 1
1/2" = 1'-0"



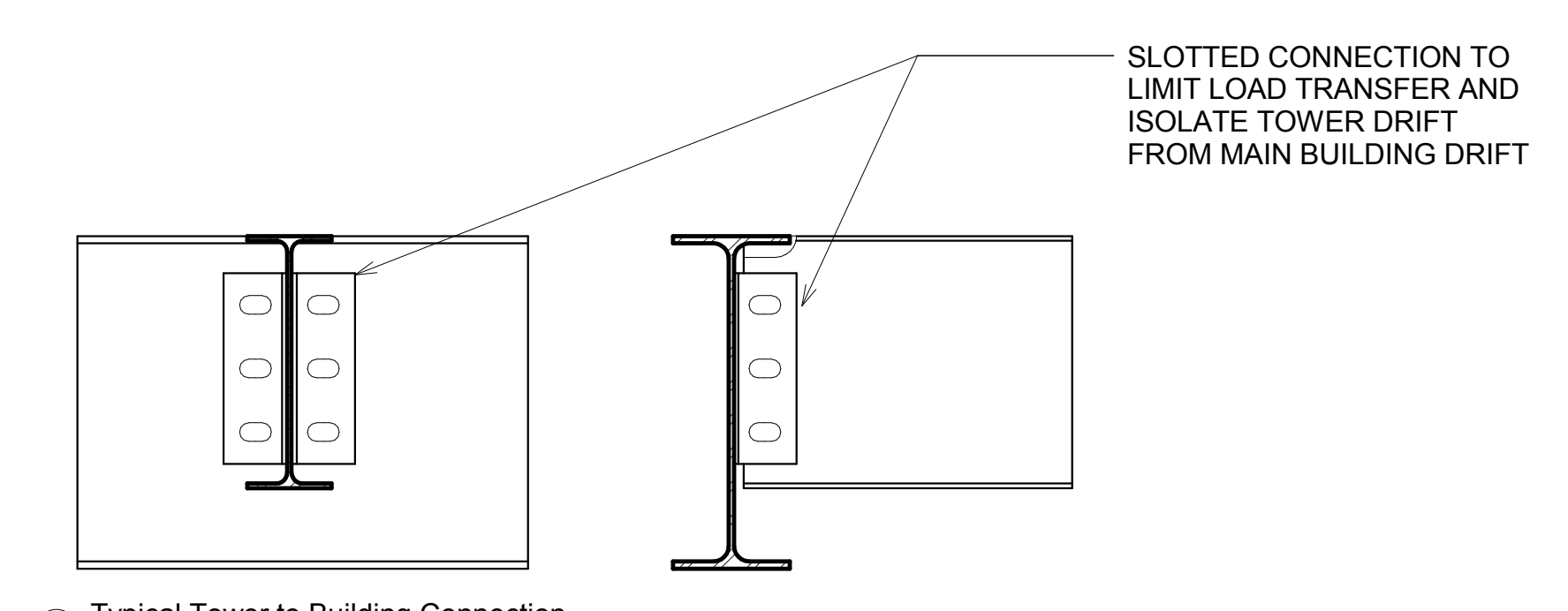
2 Green House Truss config 2
1/2" = 1'-0"



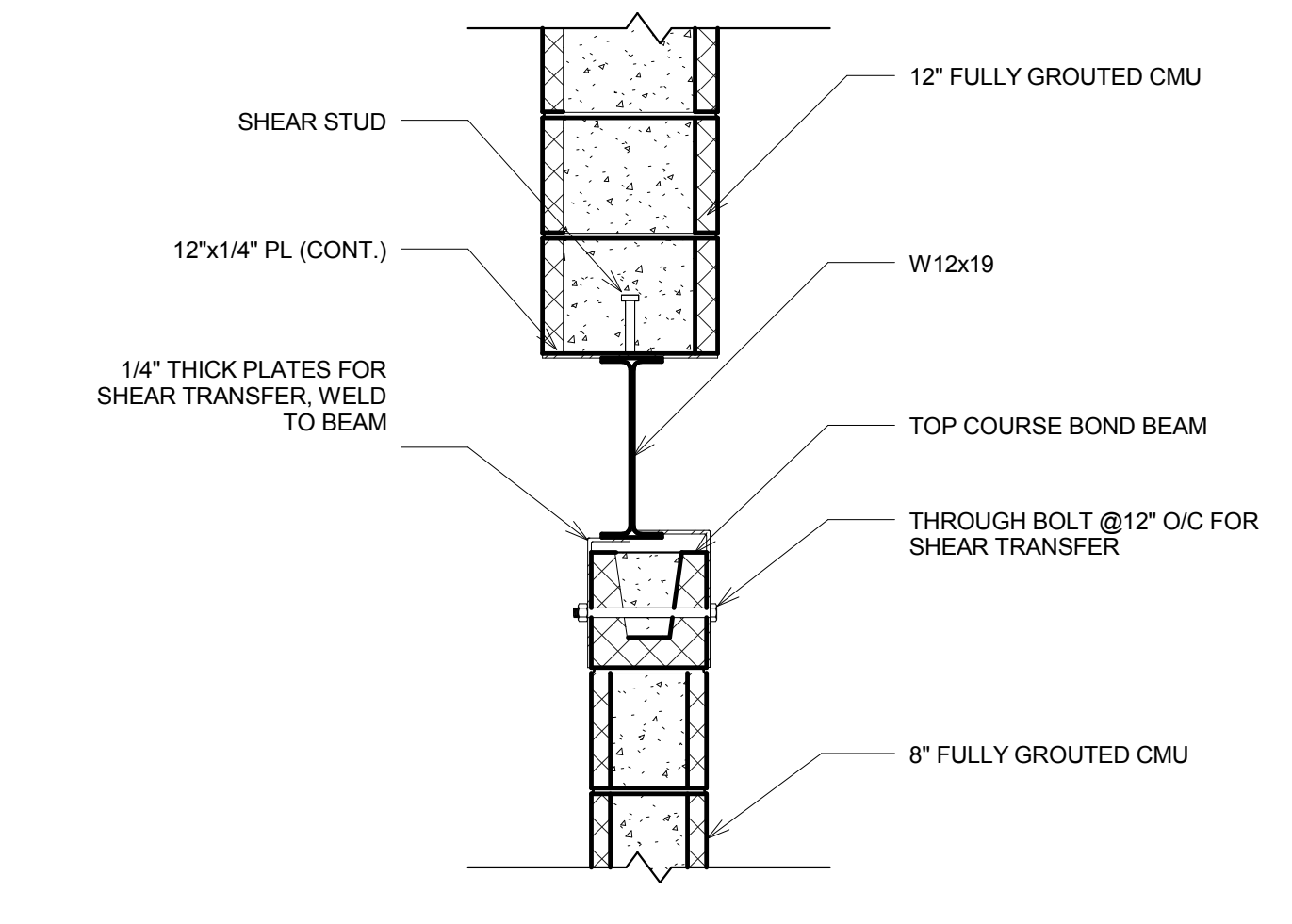
3 Green House Truss config 3
1/2" = 1'-0"



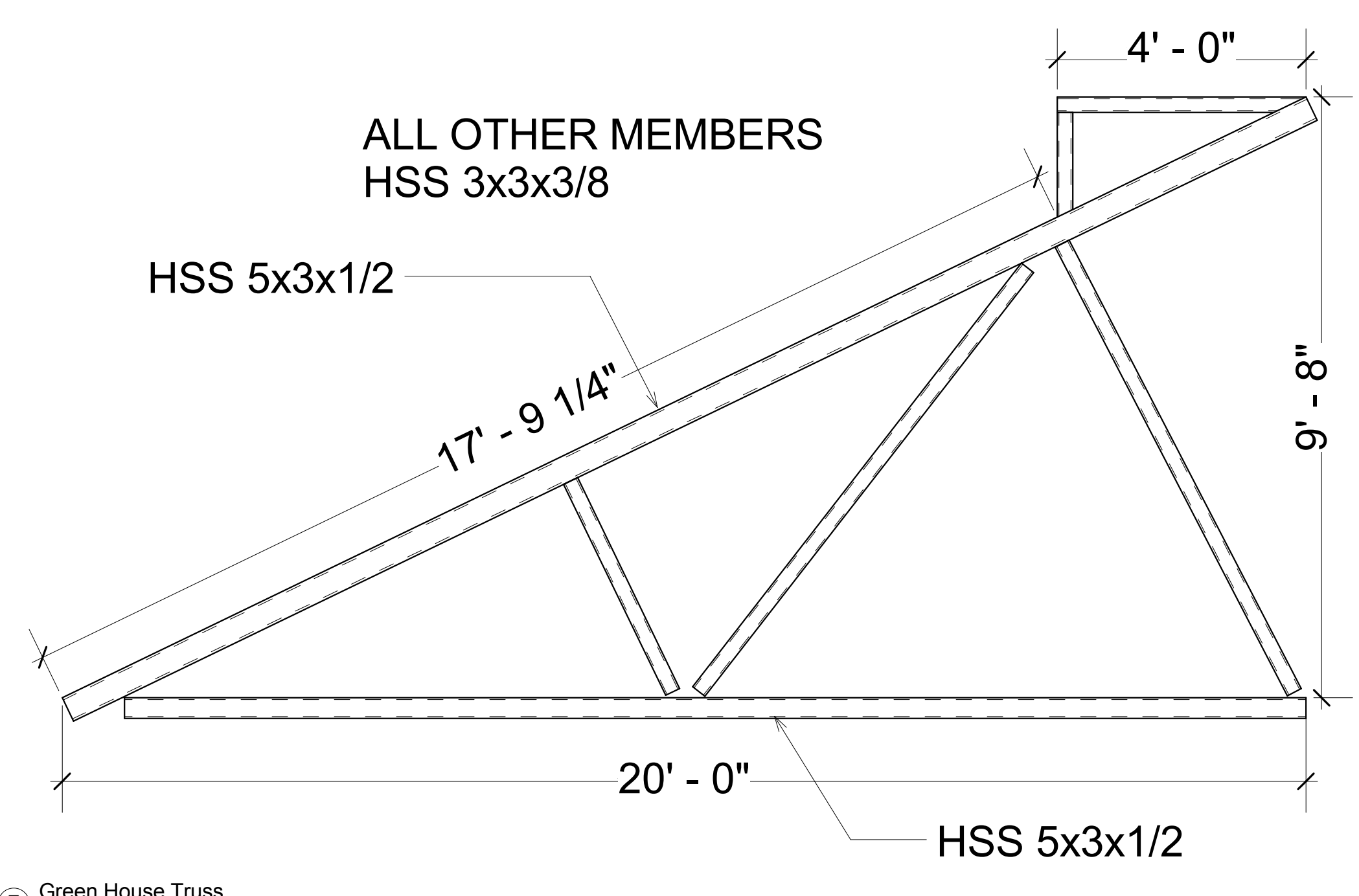
4 Green House Truss config 4
1/2" = 1'-0"



6 Typical Tower to Building Connection
1/2" = 1'-0"



5 Chimney
1" = 1'-0"



7 Green House Truss
1/2" = 1'-0"

Synthesis
Engineering for Architecture

Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

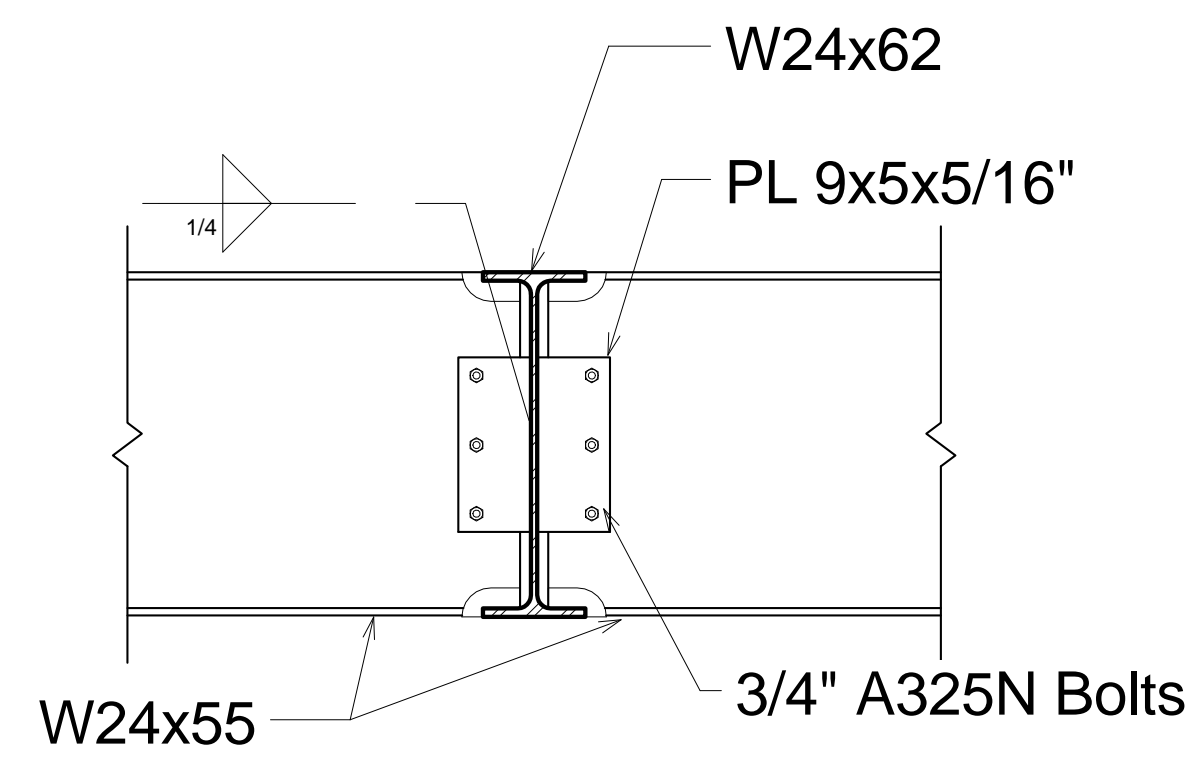
5500 W. Silver Spring Dr.
Milwaukee, WI 53218

**TOWER AND
TRUSS DETAILS**

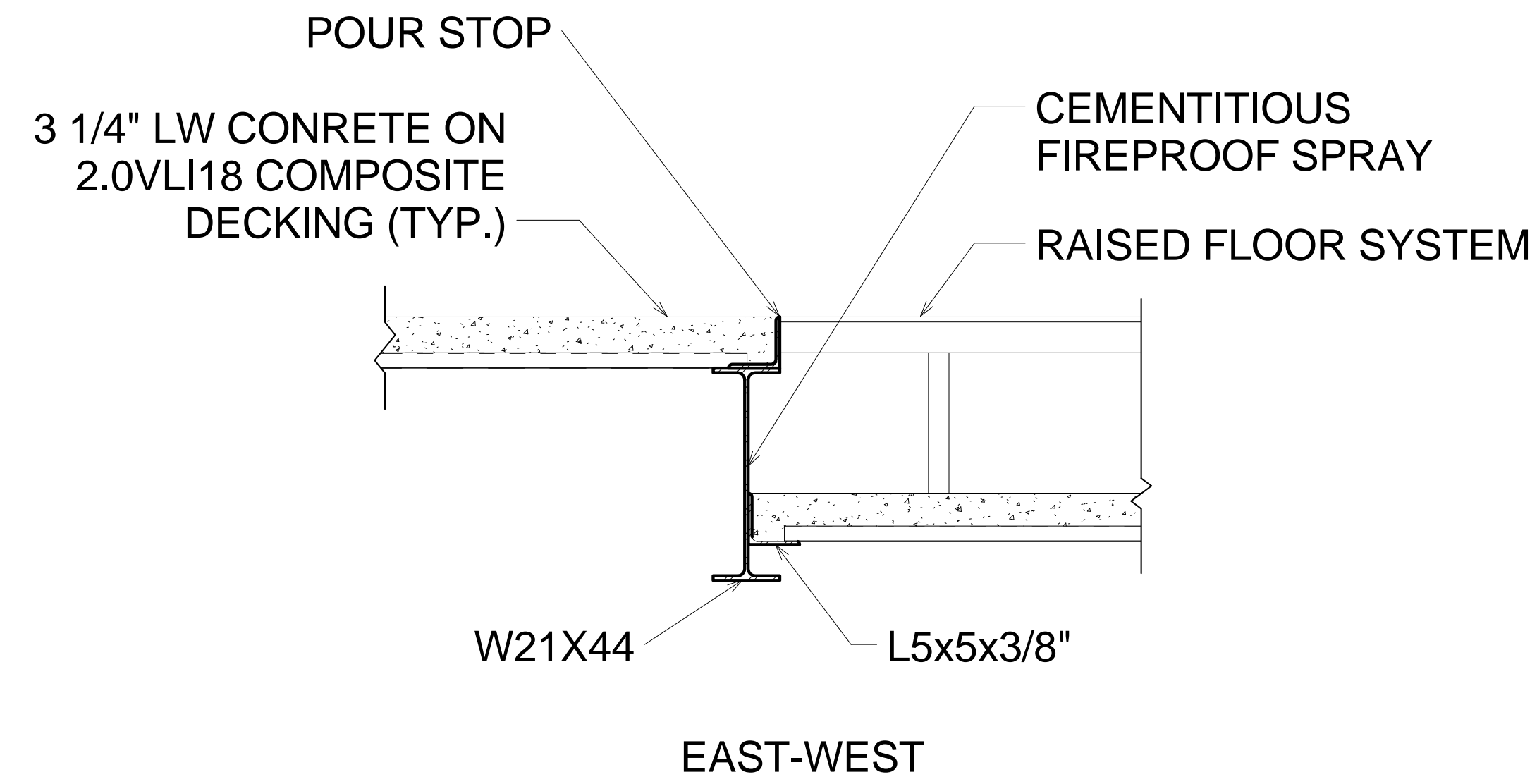
Team Number	Project Number
Date	Issue Date
Drawn By	Author

S3.00

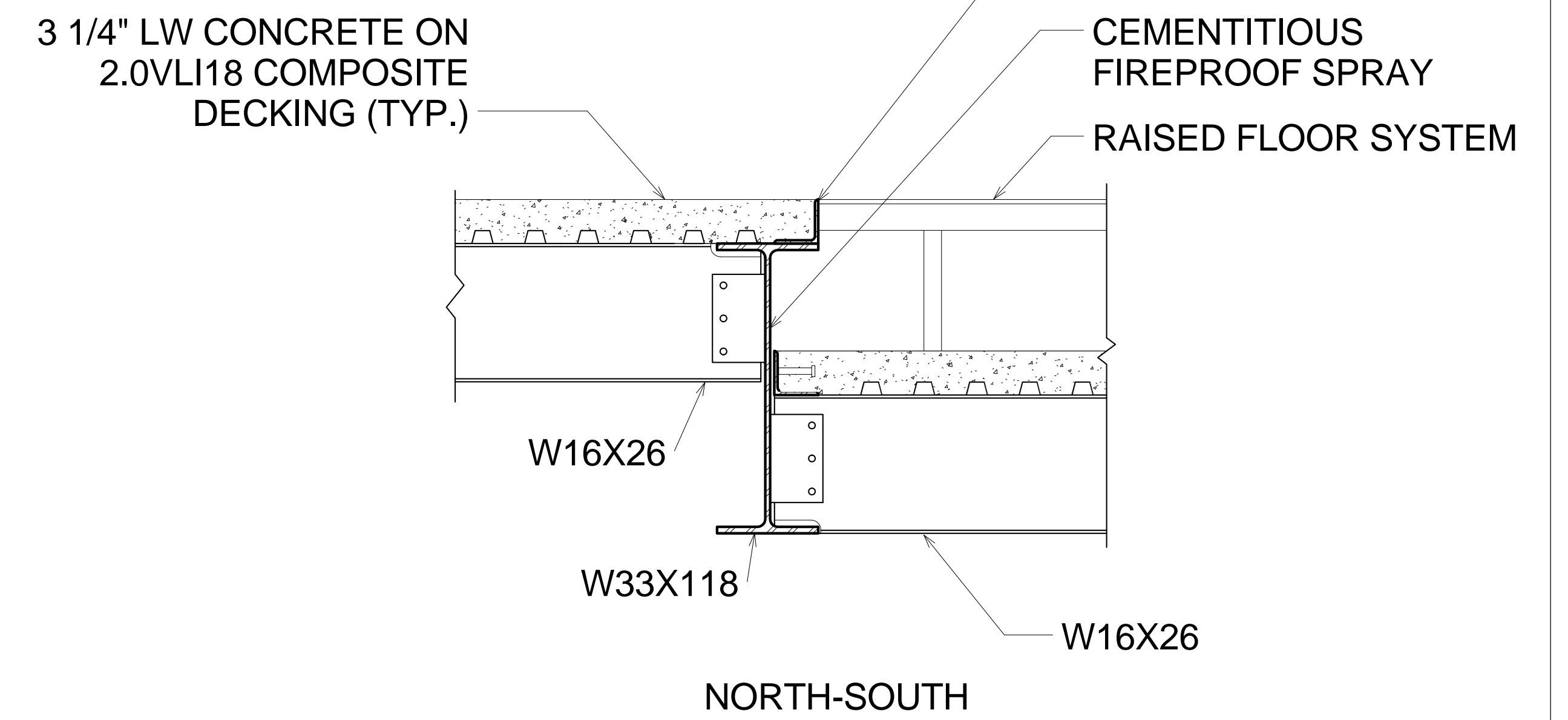
Scale: As indicated



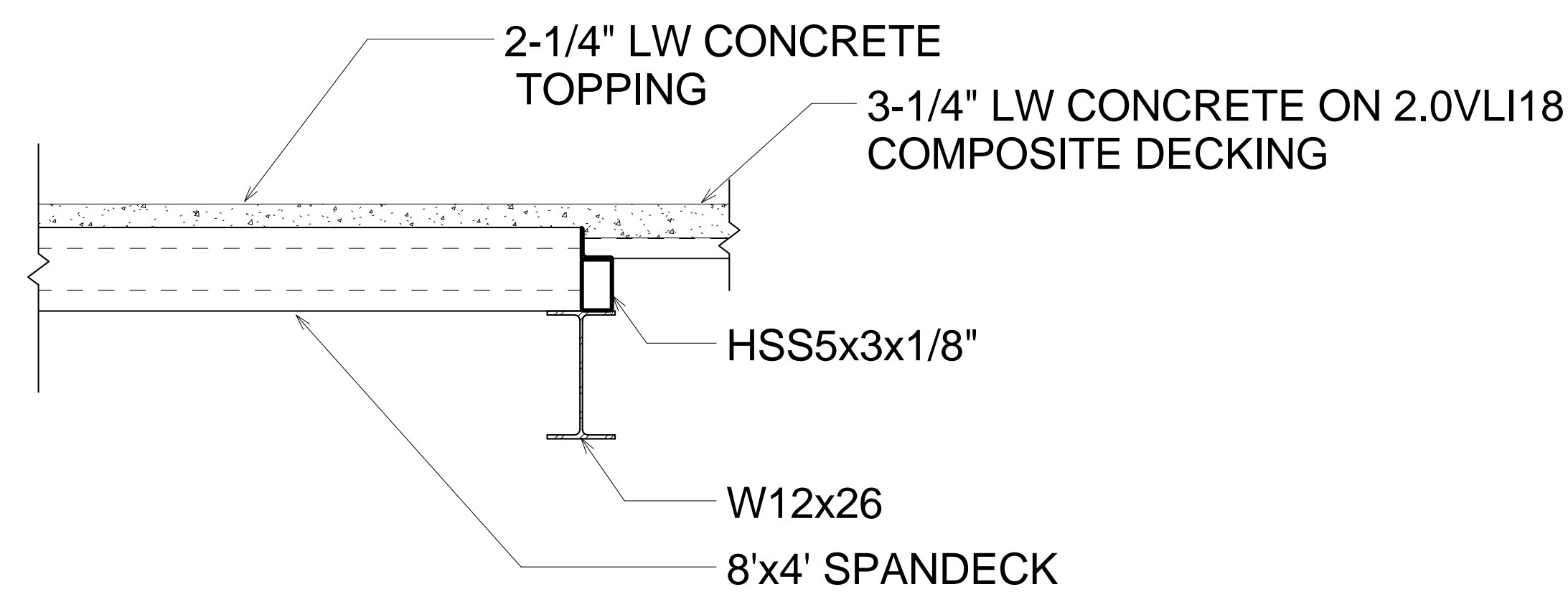
⑥ Typical Beam to Girder Connection at GH
1" = 1'-0"



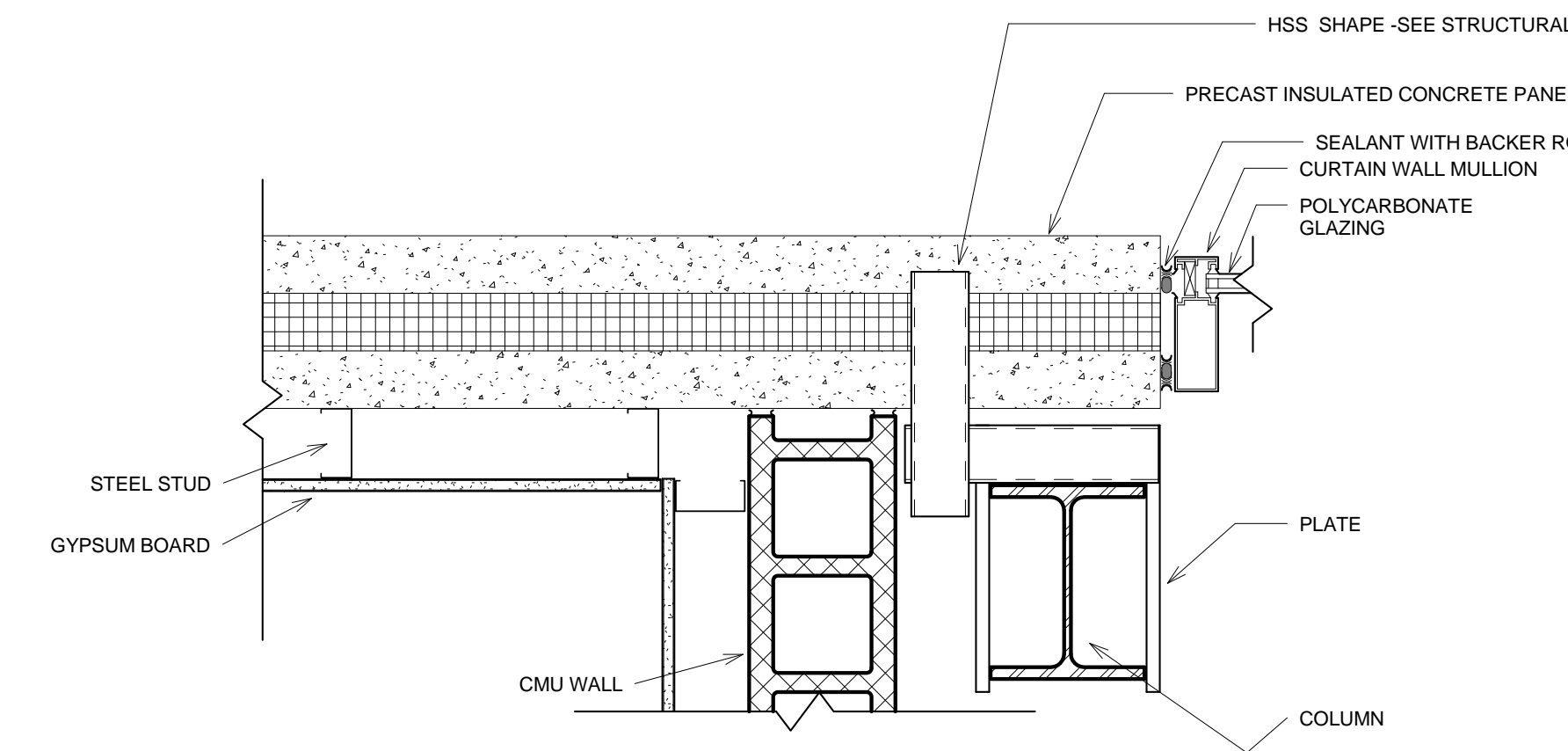
② UFAD Termination E-W
1" = 1'-0"



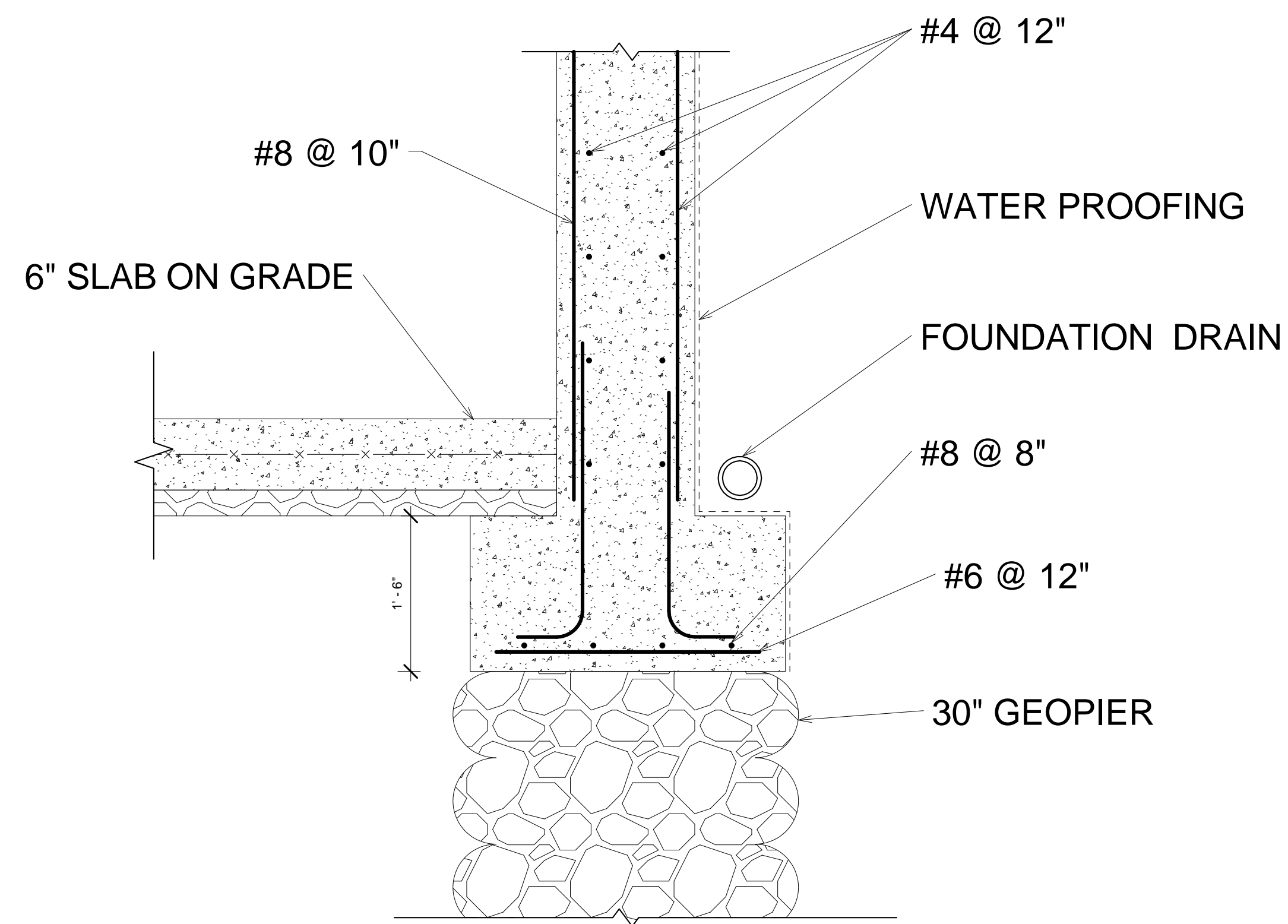
③ UFAD Termination N-S
1" = 1'-0"



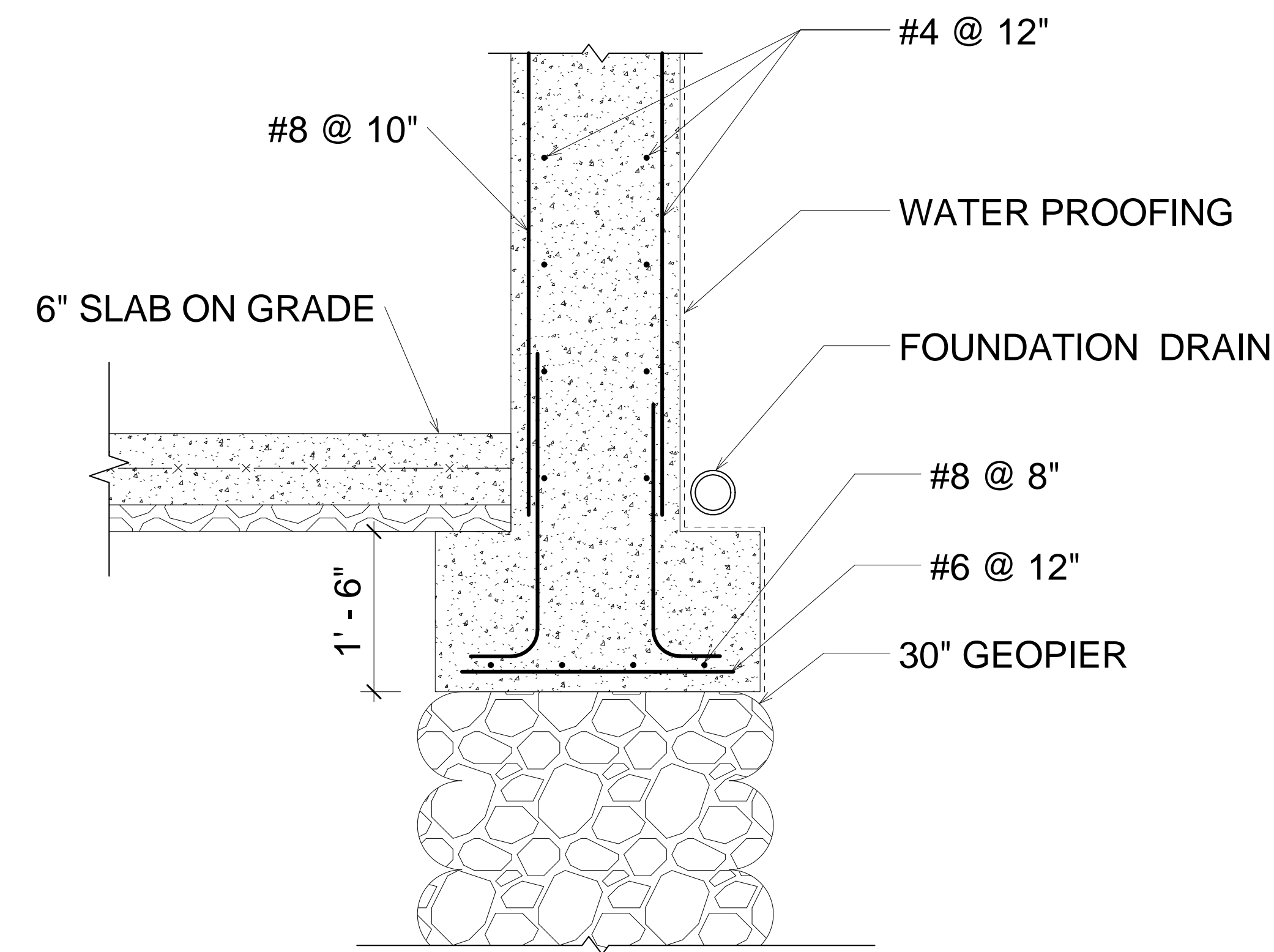
① Equipment Access Panel
1" = 1'-0"



⑦ Precast and Glazing Connection
1 1/2" = 1'-0"



④ 16' Retain
1" = 1'-0"



⑤ 19' Retain
1" = 1'-0"



Synthesis: Engineering for Architecture

**GROWING POWER
VERTICAL FARM**

5500 W. Silver Spring Dr.
Milwaukee, WI 53218

DETAILS

Team Number	Project Number
Date	Issue Date
Drawn By	Author

S5.00

Scale	As indicated
-------	--------------

2/11/2016 4:33:59 AM