

SPICER MANUFACTURING COMPANY, SOUTH PLAINFIELD
WORKS, BUILDING 24
(Oil House)
333 Hamilton Avenue
South Plainfield
Middlesex County
New Jersey

HAER NJ-144-G
HAER NJ-144-G

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

SPICER MANUFACTURING COMPANY, SOUTH PLAINFIELD WORKS, BUILDING 24

(Spicer Manufacturing Company, South Plainfield Works, Oil House)

HAER No. NJ-144-G

Location: 333 Hamilton Avenue
Borough of South Plainfield
Middlesex County
New Jersey

U.S. Geological Survey Plainfield Quadrangle
UTM Coordinates 18.549712.4491934

Dates of Construction: c1917-1923

Present Owners: DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, NJ 07105

Present Use: Demolished

Significance: The South Plainfield Works, originally developed by the Spicer Manufacturing Company beginning in 1910, was a nationally-significant center for the manufacture of universal joints and propeller shafts for automobiles and aircraft. The Oil House was most likely used for storage of various oils needed to create cutting fluids used in the plant's machining operations.

Project Information: Surviving structures of the former South Plainfield Works were part of the Cornell-Dubilier Electronics Superfund Site, and were demolished in 2007-2008 as part of site remediation activities outlined in the September 2004 Record of Decision as administered by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Federal authority brought the project under the purview of federal acts and regulation protecting significant cultural resources from adverse project effects.* Prior to demolition, the Spicer Manufacturing Corporation structures were determined eligible for inclusion on the National Register of Historic Places by the New Jersey State Historic Preservation Office, because of the South Plainfield Works' significance in American transportation history. Documentation of the plant to standards of the Historic American Engineering Record was completed to mitigate the removal of the significant resources.

*

National Historic Preservation Act of 1966 (PL 89-655), the National Environmental Policy Act of 1969 (PL 91-190), the Archaeological and Historical Preservation Act (PL 93-291), Executive Order 11593, Procedures for the Protection of Historic and Cultural Properties (36 CFR Part 800).

SPICER MANUFACTURING COMPANY, SOUTH PLAINFIELD WORKS, BUILDING 24

(Spicer Manufacturing Company, South Plainfield Works, Oil House)

HAER No. NJ-144-G

(Page 2)

Project Manager and Historian

Michael S. Raber

Raber Associates

81 Dayton Road, P.O. Box 46

South Glastonbury, CT 06073

860/633-9026

Photographer and Electric Power Historian

Gerald Weinstein

40 West 77th Street, Apt. 17b

New York, NY 10024

212/431-6100

Additional Photography

Thomas R. Flagg

70 West 95th St, #23H

New York, NY 10025-6738

212/864-1006

Associate Historian

Eugene J. Boesch

581 Long Pond Road

Mahopac, NY 10541

845-628-3826

The machining operations at the South Plainfield Works required a variety of cutting and lubricating fluids to prevent excessive heating of tools and tool wear. Oils used at this plant are not documented, but probably included soluble oils, mineral oils, and lard oils derived from animal fats (e.g., Oberg and Jones 1945: 1105-60). Historical maps and bird's-eye views indicate that expansion of the plant during or immediately following World War I included construction of the 104-by-50-foot Oil House to store the increased quantities of needed oil (Figures 2-3; cf. Dunham-Clarín Company 1917 and Spicer Manufacturing Corporation 1923).

The metal-framed, end-gable structure, with a concrete foundation and floor, had a 19.9-foot-high roof peak and metal roof panels. Flanged metal panels — each typically 8 feet wide, 11.5 feet high, and 4 inches thick — formed the exterior walls and were tied to welded steel trusses made of 1-by-4-inch channels and plate webs. The channels were paired at top and bottom chords. Truss diagonal members met bottom chords and longitudinal steel cross-bracing at two points 15 feet from each long wall. At longitudinal intervals typically 16 feet apart, every other truss was tied to a 6-by-5-inch composite column resting on a 6-inch-high, 1-foot-square concrete base, and comprised of two steel channels and riveted connecting plates at approximately 2-foot vertical intervals. Trusses tied to columns had central 20-foot-long bottom chord sections not installed at the remaining trusses. Each of the web plates joining the truss diagonals and bottom chords had two holes used to attach the central bottom chord sections with loop-and-pin keys. The framing and wall systems may represent an undocumented modular design (Figure 4).

Roll-up metal doors at each end of the Oil House were probably replacements or original openings, as were 4-light fixed and tilting steel-sash windows on the north, east, and west sides. The original interior was probably open to facilitate oil drum or keg handling. Wood-framed office and lavatory enclosures in the west half of the building were added more recently (cf. Figures 3-4).

SOURCES OF INFORMATION/BIBLIOGRAPHY

Except for sources noted below, no graphic or documentary material appears available on the Oil House.

Dunham-Clarín Company

- 1917 Map of Property Situated at South Plainfield, Middlesex County, New Jersey, Property of Spicer Manufacturing Corporation, July, 11, 1917. Original in the collections of The History Factory, Chantilly, Virginia. Archive Number 11-0-0-6-3942.

Oberg, Erik, and F. D. Jones

- 1945 *Machinery's Handbook for Machine Shop and Drafting-Room*. 12th edition. New York: The Industrial Press.

Spicer Manufacturing Corporation

- 1923 South Plainfield Works of the Spicer Manufacturing Corporation, South Plainfield, New Jersey. Copy in the collections of The History Factory, Chantilly, Virginia. Archive Number 05050000102021301.
- 1926 Department and Building Location Plan, Spicer Manufacturing Corporation, South Plainfield, New Jersey. Original in the collections of The History Factory, Chantilly, Virginia. Archive Number 5-4-0-0-(432).

SPICER MANUFACTURING COMPANY, SOUTH PLAINFIELD WORKS, BUILDING 24

(Spicer Manufacturing Company, South Plainfield Works, Oil House)

HAER No. NJ-144-G

(Page 4)

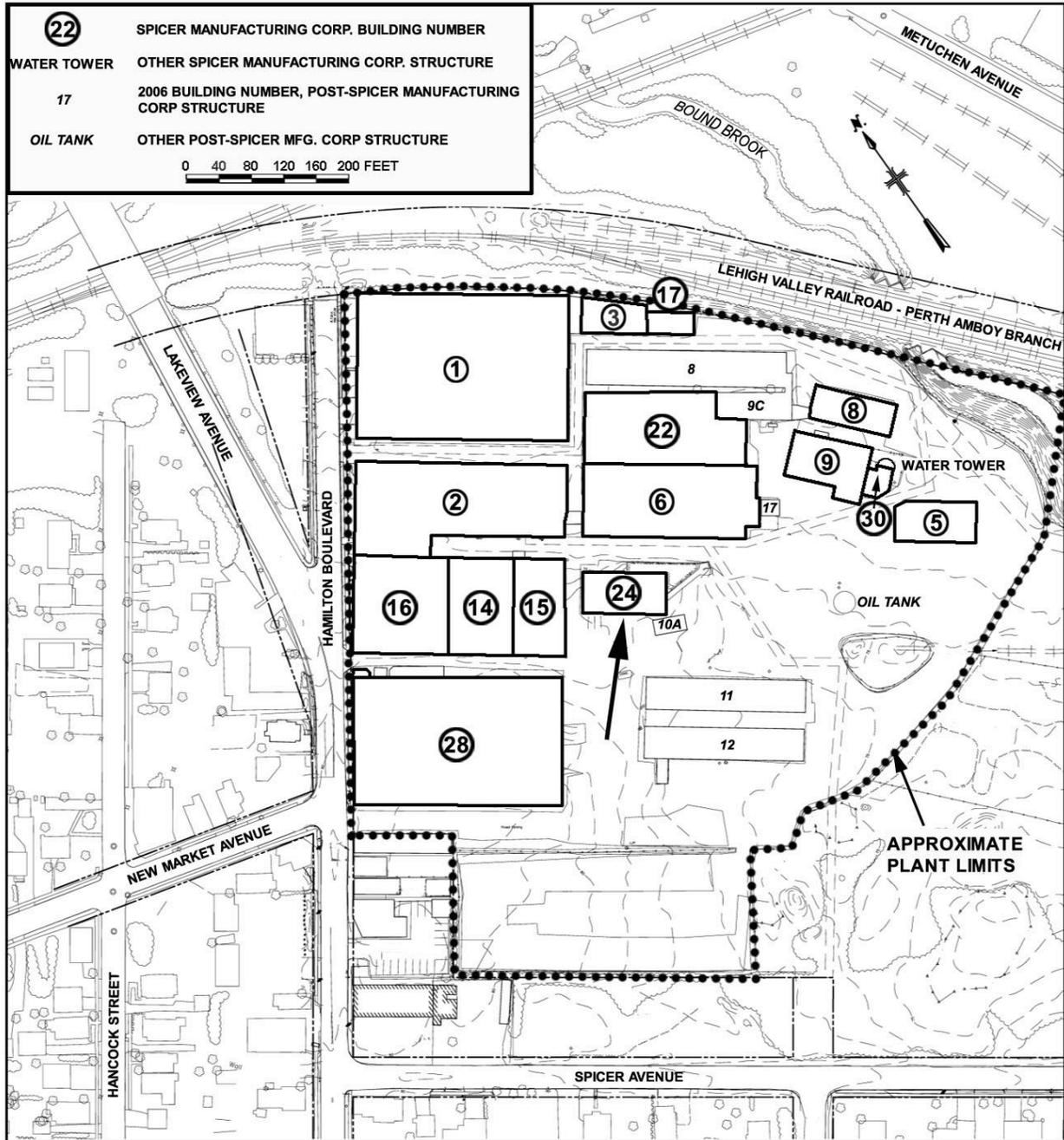


Figure 1. BUILDING 24 LOCATION AT FORMER SPICER MANUFACTURING CORP. PLANT

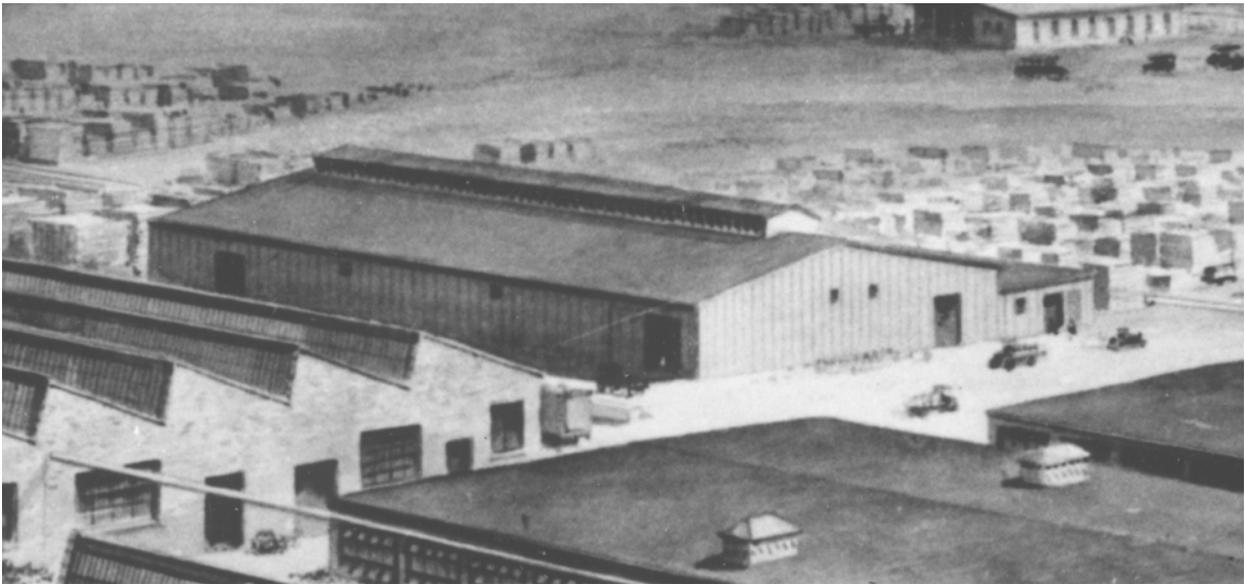


Figure 2. BUILDING 24 AND 1923 SOUTH PLAINFIELD WORKS

Source: Spicer Manufacturing Corporation 1923

SPICER MANUFACTURING COMPANY, SOUTH PLAINFIELD WORKS, BUILDING 24

(Spicer Manufacturing Company, South Plainfield Works, Oil House)

HAER No. NJ-144-G

(Page 6)

DEPARTMENT			BUILDING		
No.	Name	Area	No.	Name	Area
1	Office	11840	1	Administration	48800
2	Eng. & Drafting	37760	2	Machine Shop	29823
3	Stores	4120	3	Receiving & Misc.	7340
4	Forge	10280	4	Heat Treat & Sand Blast	5300
5	Forges & Bolls	8100	5	Blat Millwright	8870
6	Flanges	14100	6	Stamping	19968
7	Forges	8640	7	Forge	8640
8	Shafts	5800	8	Die Shop	4120
9	Heat Treat	9600	9	Power House	6000
10	Inspection	6810	10	Shear Shed and Mill House	1425
11	Finished & Stored	6810	11	Shipping	9025
12	Receiving, & Shipping	35072	12	Shipping	9025
13	Assembly, Welding, & Shipping	35072	13	Shipping	9025
14	Assembly, Welding, & Shipping	35072	14	Shipping	9025
15	Assembly, Welding, & Shipping	35072	15	Shipping	9025
16	Assembly, Welding, & Shipping	35072	16	Shipping	9025
17	Tool Room	880	17	Office	16920
18	Machine Repair	8510	18	Tram Shed	1700
19	Power House	8850	19	Pump House	220
20	Power House	8850	20	Blocksmith Shop	1000
21	Power House	19270	21	Machine Shop & Heat Treat	18800
22	Stamping	1800	22	Oil House	5300
23	Services	1600	23	Oil House	5300
24	Services	1600	24	Oil House	5300
25	Plumbing	1020	25	Forge	1820
26	Electrical	1925	26	Well Pump House	170
27	Guards	22	27	Storage & Garage	41600
28	Guards	22	28	Well Pump & Water Softener	182
29	Guards	22	29	Well Pump & Water Softener	182
30	Guards	22	30	Blat	560
31	Millwrights	8150	31	Blat	560
32	Factory Stores	5228	32	Blat	560
33	Blacksmith	1000	33	Blat	560
34	Tool Crb	1360	34	Blat	560
35	Exp. Metal	1600	35	Blat	560
36	Exp. Metal	1600	36	Blat	560
37	Spring	1600	37	Blat	560
38	Service Stores	2400	38	Blat	560
39	Service Stores	2400	39	Blat	560
40	Chitun	13490	40	Blat	560
41	Filing and Burring	300	41	Blat	560
42	Broach	3540	42	Blat	560
43	Special Parts	3200	43	Blat	560
44	Shear & Trim	2425	44	Blat	560
45	Chemical	670	45	Blat	560
46	Hospital	550	46	Blat	560
47	Restaurant	2400	47	Blat	560
48	Journal	3600	48	Blat	560
49	Lavatories-General	1800	49	Blat	560
50	Garage	9600	50	Blat	560
51	Elect. Truck Charging	1200	51	Blat	560
52	Elect. Truck Charging	1200	52	Blat	560
53	Elect. Truck Charging	1200	53	Blat	560
54	Elect. Truck Charging	1200	54	Blat	560
55	Elect. Truck Charging	1200	55	Blat	560
56	Elect. Truck Charging	1200	56	Blat	560
57	Elect. Truck Charging	1200	57	Blat	560
58	Elect. Truck Charging	1200	58	Blat	560
59	Elect. Truck Charging	1200	59	Blat	560
60	Elect. Truck Charging	1200	60	Blat	560
61	Elect. Truck Charging	1200	61	Blat	560
62	Elect. Truck Charging	1200	62	Blat	560
63	Elect. Truck Charging	1200	63	Blat	560
64	Elect. Truck Charging	1200	64	Blat	560
65	Elect. Truck Charging	1200	65	Blat	560
66	Elect. Truck Charging	1200	66	Blat	560
67	Elect. Truck Charging	1200	67	Blat	560
68	Elect. Truck Charging	1200	68	Blat	560
69	Elect. Truck Charging	1200	69	Blat	560
70	Elect. Truck Charging	1200	70	Blat	560
71	Elect. Truck Charging	1200	71	Blat	560
72	Elect. Truck Charging	1200	72	Blat	560
73	Elect. Truck Charging	1200	73	Blat	560
74	Elect. Truck Charging	1200	74	Blat	560
75	Elect. Truck Charging	1200	75	Blat	560
76	Elect. Truck Charging	1200	76	Blat	560
77	Elect. Truck Charging	1200	77	Blat	560
78	Elect. Truck Charging	1200	78	Blat	560
79	Elect. Truck Charging	1200	79	Blat	560
80	Elect. Truck Charging	1200	80	Blat	560
81	Elect. Truck Charging	1200	81	Blat	560
82	Elect. Truck Charging	1200	82	Blat	560
83	Elect. Truck Charging	1200	83	Blat	560
84	Elect. Truck Charging	1200	84	Blat	560
85	Elect. Truck Charging	1200	85	Blat	560
86	Elect. Truck Charging	1200	86	Blat	560
87	Elect. Truck Charging	1200	87	Blat	560
88	Elect. Truck Charging	1200	88	Blat	560
89	Elect. Truck Charging	1200	89	Blat	560
90	Elect. Truck Charging	1200	90	Blat	560
91	Elect. Truck Charging	1200	91	Blat	560
92	Elect. Truck Charging	1200	92	Blat	560
93	Elect. Truck Charging	1200	93	Blat	560
94	Elect. Truck Charging	1200	94	Blat	560
95	Elect. Truck Charging	1200	95	Blat	560
96	Elect. Truck Charging	1200	96	Blat	560
97	Elect. Truck Charging	1200	97	Blat	560
98	Elect. Truck Charging	1200	98	Blat	560
99	Elect. Truck Charging	1200	99	Blat	560
100	Elect. Truck Charging	1200	100	Blat	560
	Total	250002		Total	250002

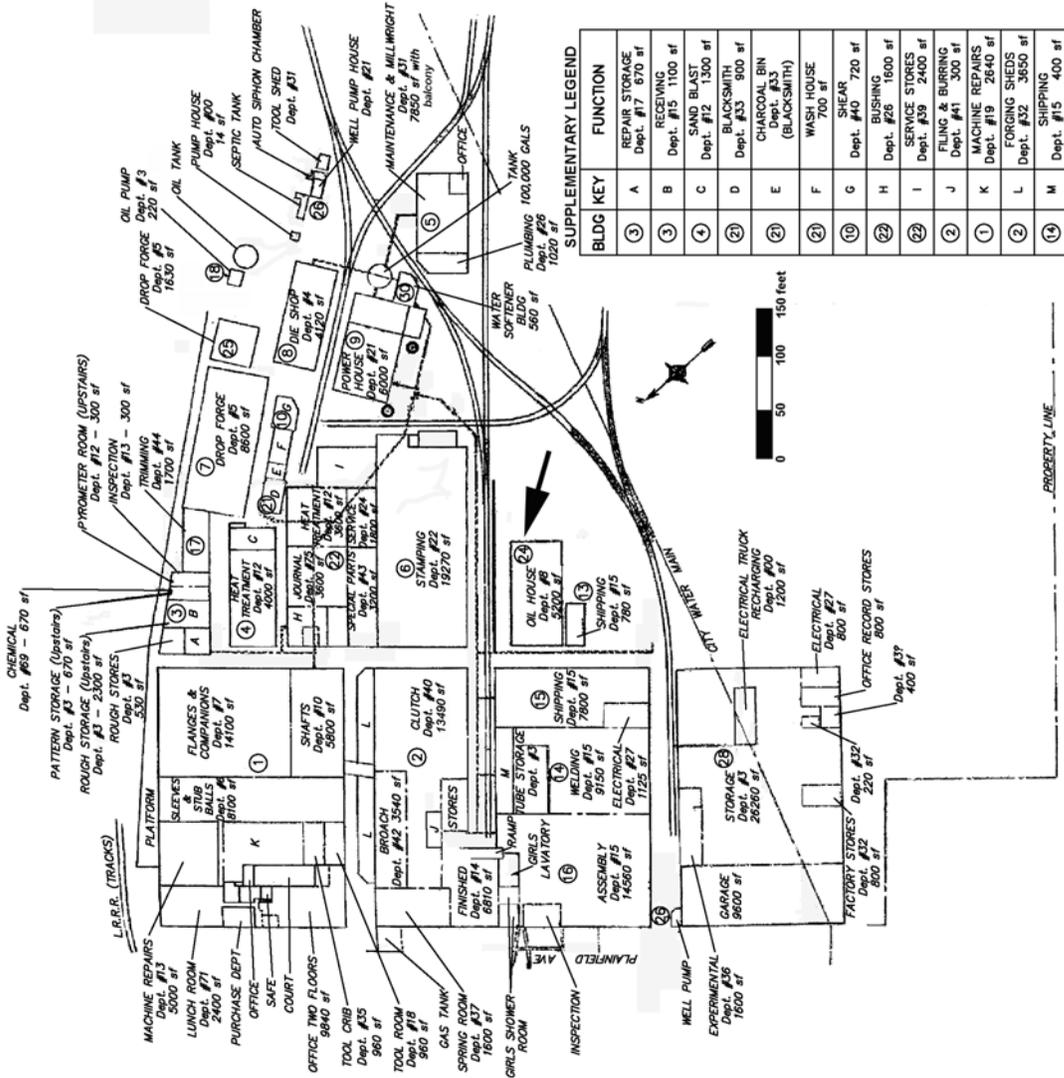


Figure 3. BUILDING 24 AND 1926 SOUTH PLAINFIELD WORKS
Source: Spicer Manufacturing Corporation 1926, with re-lettering

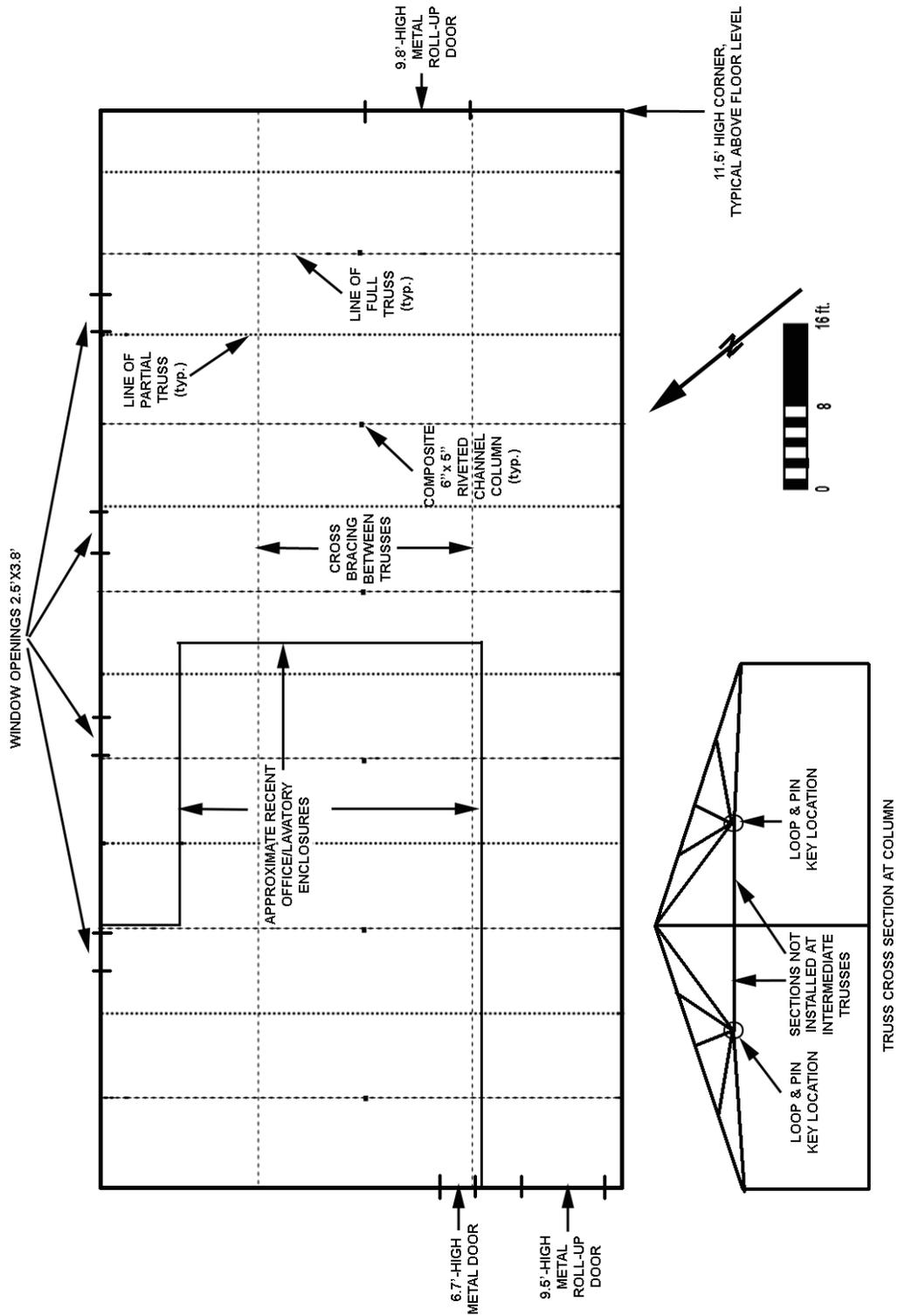


Figure 4. SKETCH PLAN AND TRUSS CROSS SECTION