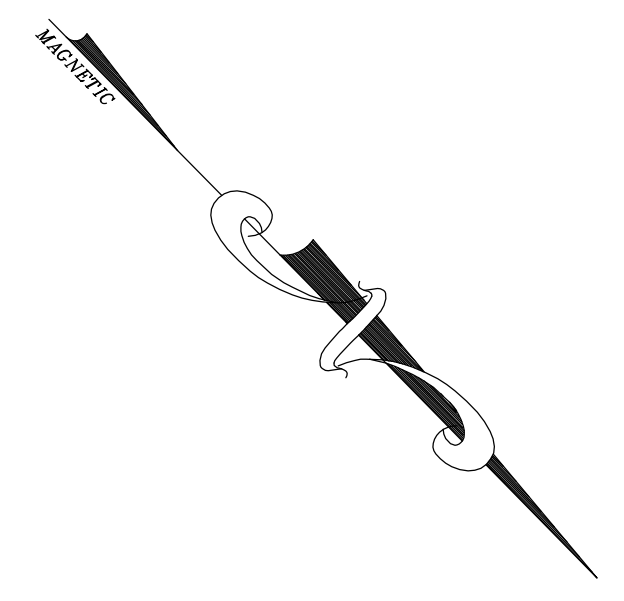
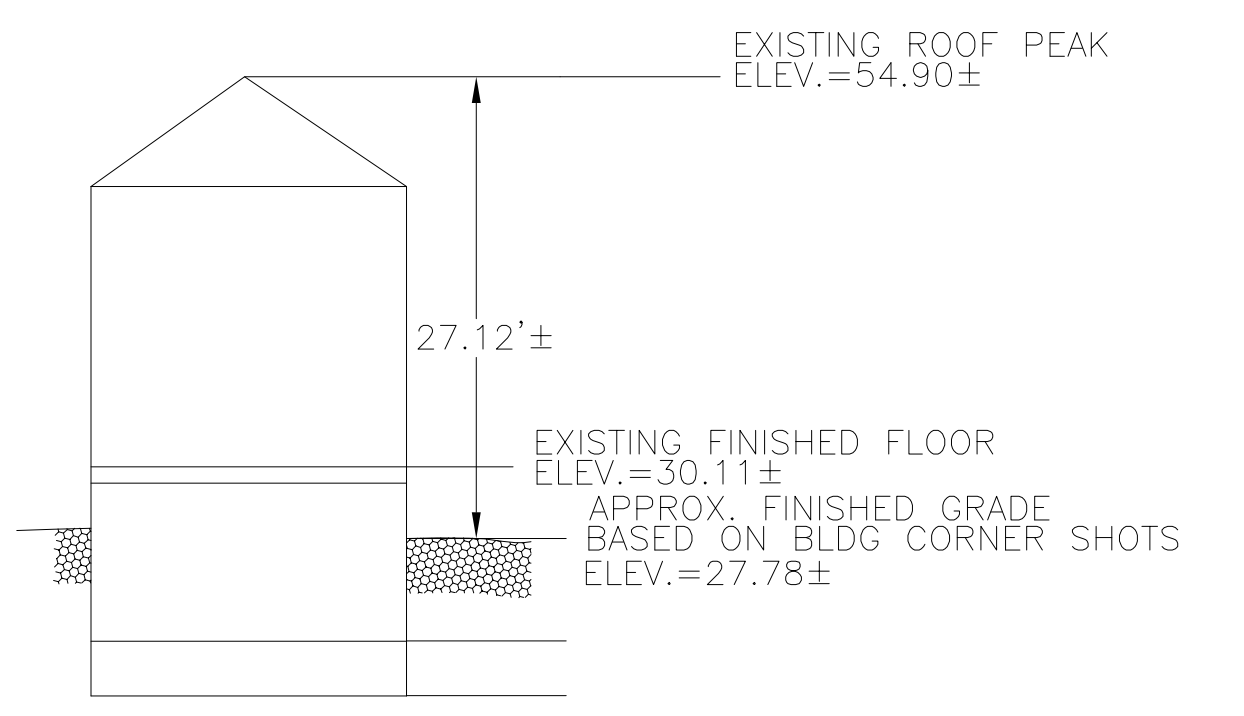




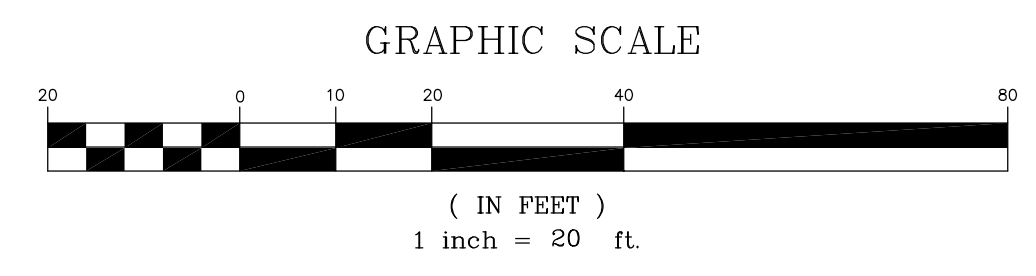
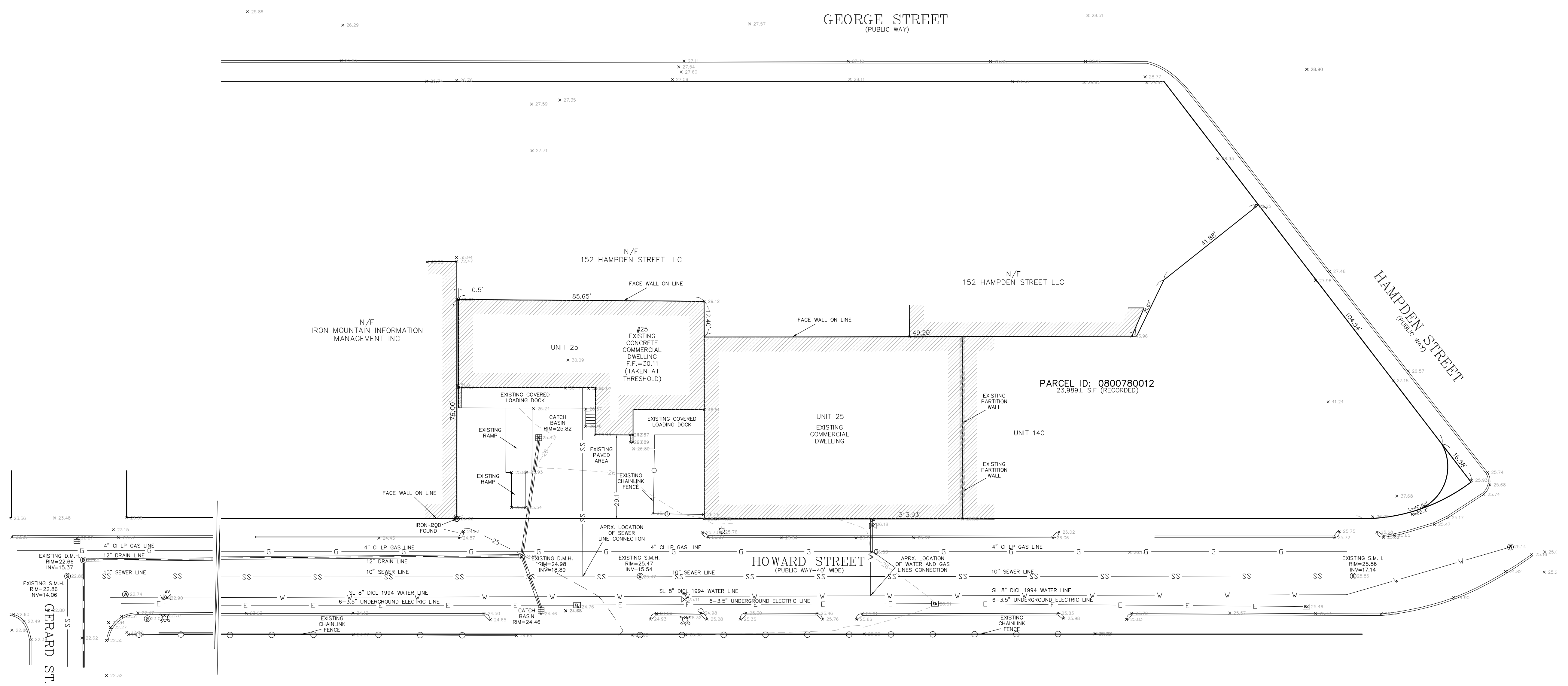
LEGEND	
□	BOUND
○	IRON PIN/PIPE
○	STONE POST
🌳	TREE
🌳	TREE STUMP
🌿	SHRUBS/FLOWERS
+	SIGN
●	BOLLARD
⊙	SEWER MANHOLE
⊙	DRAIN MANHOLE
⊙	CATCH BASIN
⊙	WATER MANHOLE
⊙	WATER VALVE
⊙	HYDRANT
⊙	GAS VALVE
⊙	ELECTRIC MANHOLE
⊙	ELECTRIC HANDHOLE
⊙	UTILITY POLE
⊙	LIGHT POLE
⊙	MANHOLE
✕	SPOT GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
▨	EXISTING BUILDING
▨	RETAINING WALL
▨	STONE WALL
○	FENCE
🌳	TREE LINE
-S-	SEWER LINE
-D-	DRAIN LINE
-V-	WATER LINE
-G-	GAS LINE
-E-	UNDERGROUND ELECTRIC LINE
-OHW-	OVERHEAD WIRES
-145-	CONTOUR LINE (MJR)
-146-	CONTOUR LINE (MNR)



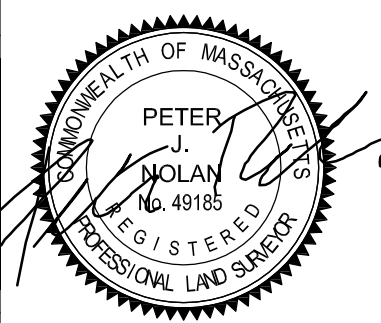
- NOTES:
1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY PETER NOLAN & ASSOCIATES LLC AS OF 12/16/2021.
  2. MASTER DEED REFERENCE: BOOK 39126, PAGE 85  
PLAN REFERENCE: PLAN BOOK 7262, PLAN 174 OF 1957  
PLAN REFERENCE: PLAN BOOK 2006, PLAN 166  
SUFFOLK COUNTY REGISTRY OF DEEDS
  3. THIS PLAN IS NOT INTENDED TO BE RECORDED.
  4. I CERTIFY THAT THE DWELLING SHOWN IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE X, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25025C0079J, IN COMMUNITY NUMBER: 250286, DATED 3/16/2016.
  5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
  6. FIRST FLOOR ELEVATIONS ARE TAKEN AT THRESHOLD.
  7. NO RESPONSIBILITY IS TAKEN FOR ZONING TABLE AS PETER NOLAN & ASSOCIATES LLC ARE NOT ZONING EXPERTS. TABLE IS TAKEN FROM TABLE PROVIDED BY LOCAL ZONING ORDINANCE. CLIENT AND/OR ARCHITECT TO VERIFY THE ACCURACY OF ZONING ANALYSIS.
  8. THE ELEVATIONS SHOWN ARE BASED ON CITY OF BOSTON DATUM.



EXISTING PROFILE  
NOT TO SCALE



SCALE	1" = 20'		
DATE	1/24/2022		
SHEET	1 OF 1		
PLAN NO.	1 OF 1		
CLIENT:	EXISTING CONDITIONS PLAN		
DRAWN BY	KK		
CHKD BY	ETS		
APPD BY	PJN		
REV	DATE	REVISION	BY
<b>25 HOWARD STREET</b> <b>WEST ROXBURY (BOSTON)</b> <b>MASSACHUSETTS</b>			
<b>PETER NOLAN &amp; ASSOCIATES LLC</b> LAND SURVEYORS/CIVIL ENGINEERING CONSULTANTS 80 JEWETT STREET, SUITE 2 NEWTON, MA 02458 PHONE: 857 891 7478/617 782 1533 FAX: 617 202 5691 EMAIL: pnolan@pnasurveyors.com			



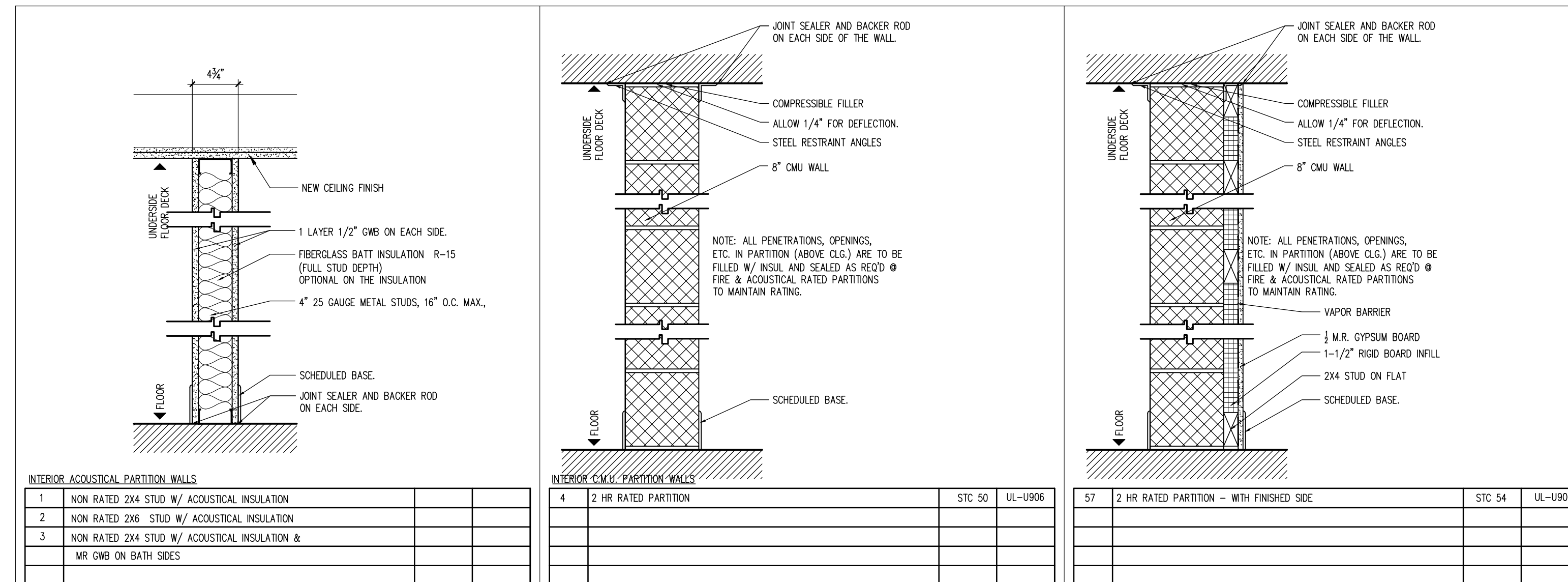
SHEET NO.  
**1**

### FINISH SCHEDULE

CODE	MATERIAL	MANUF.	SERIES/COLOR/FINISH	LOCATION
P1	PAINT	BEN. MOORE	BM 957 (OFF WHITE)	GENERAL WALLS
P2	PAINT	S. WILLIAMS	SW 7037 BALANCED BEIGE	ACCENT
P3	PAINT	BEN. MOORE	BM 183 MORNING LIGHT	ACCENT
P4	PAINT	BEN. MOORE	BM 962 (WHITE)	CEILING
P5	PAINT	BEN. MOORE	BM 985	CEILING
P6	PAINT	BEN. MOORE	BM 1631 DARK GRAY	DOOR FRAMES

FLOOR TILES AND WALL TILES REFER TO SHEET A2.2

### WALL TYPES



### HARDWARE LEGEND

1 - HINGE	STANLEY: A - FIVE KNUCKLE HEAVY WEIGHT BALL BEARING HINGE PROVIDE QUANTITY TO CORRESPOND WITH DOOR HEIGHT AND WIDTH, 3 MINIMUM.	SATIN S.S.
2 - LATCHSET	SCHLAGE "D" SERIES CHROME PLATE, "SPARTA" HC 625 LEVER A - OFFICE FUNCTION B - CLASSROOM FUNCTION C - PASSAGE FUNCTION D - STOREROOM FUNCTION E - CORRIDOR FUNCTION F - PRIVACY FUNCTION G - DEADBOLT	SATIN CHROME
3 - PANIC/EXIT	VON DUPPRIN A - SERIES 55 CROSSBAR EXIT DEVICE	SATIN S.S.
4 - PUSH/PULL	BALDWIN ENGRAVED SQUARE EDGE A - 8" X 16" PUSH PLATE, 4" X 16" PLATE W/ 2554 PULL B - ELMES T3015-01-034 S.S. BRUSHED FINISH WITH POLISH PULL-SIDE ONLY C - ELMES T3004-01-024-P2025, S.S. W/ HAIRLINE AND POLISH CUSTOM LENGTH (7'-10" DOOR) PULL 4"X16" PUSH PLATE	SATIN S.S.
5 - DOORSTOP	IVES A - CHROME CONCEALED WALL MOUNT B - CHROME FLOOR MOUNT	SATIN

### DOOR & HARDWARE SCHEDULE

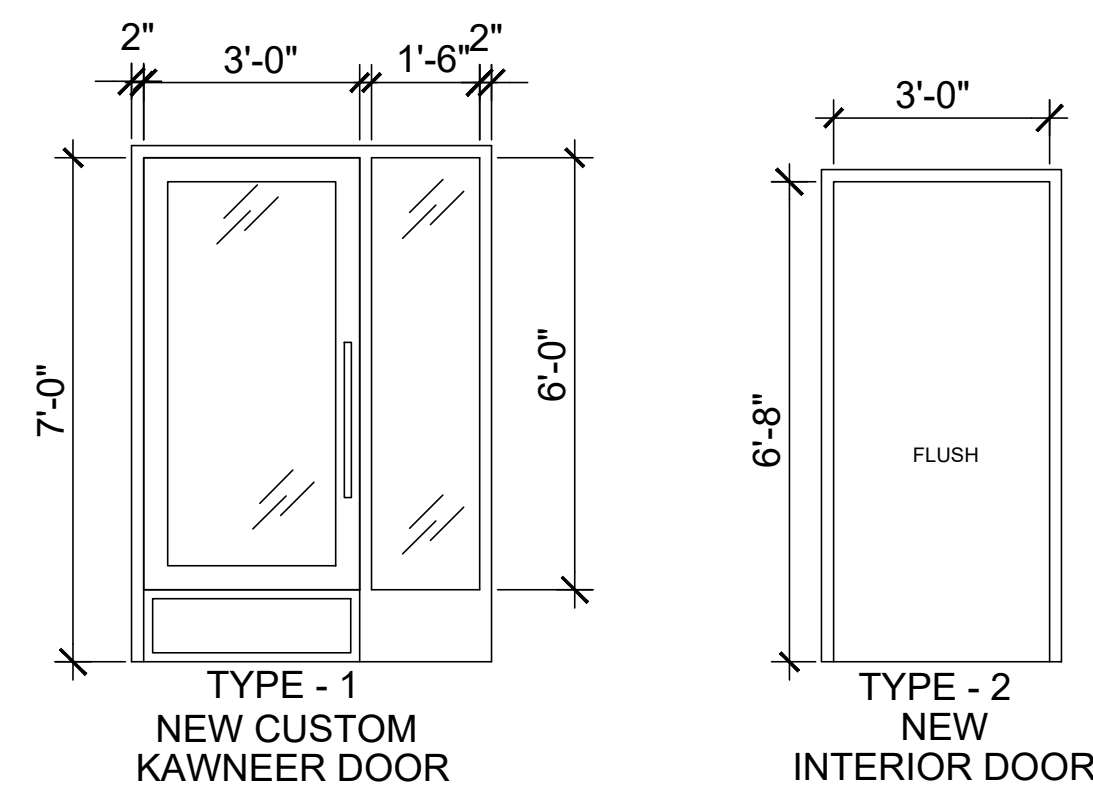
REF	DOOR LOCATION	TYPE	LBL	SIZE	MATL.	FIN.	FRAME		HARDWARE					REMARKS		
							JAMB	HEAD	MATL.	FIN.	1	2	3		4	5
01	MAIN ENTRY	1		3'-4"X7'-10"	ALUM/GLS	BRONZE	KAWNEER TRIFAB VG 451T					A	C			
02	VESTIBULE	1		3'-4"X7'-10"	ALUM/GLS	BRONZE	KAWNEER TRIFAB VG 451T					A	C			
03	RESTROOM	2		3'-0"X6'-8"	WOOD	PAINTED	2" 2" H.M.	PTD.	A	F		AB	A			
04	RESTROOM	2		3'-0"X6'-8"	WOOD	PAINTED	2" 2" H.M.	PTD.	A			AB	A			
05	INTERIOR DOOR	2		3'-0"X6'-8"	WOOD	PAINTED	2" 2" H.M.	PTD.	A			AB	A			
EX	VARIES															

### MISCELLANEOUS ITEMS, BY OWNER

ITEM	MODEL/MANUFACTURE	FINISH/REMARKS
FISH TANK		
FURNITURE		
WINDOW GRAPHICS		
KITCHEN EQUIPMENT		
INTERIOR LOGOS		
EXTERIOR SIGNAGE		

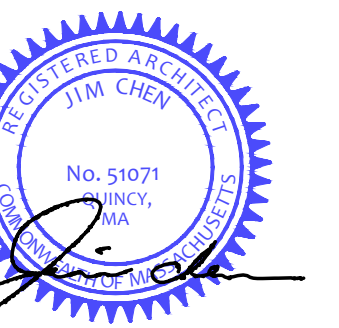
NOTE: ALL OWNER SUPPLIED ITEMS TO BE INSTALLED BY GC UNLESS NOTED OTHERWISE.

### DOOR & WINDOW TYPES SCALE: 1/8" = 1'-0"



CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE

PROJECT

**SHANGHAI CORP.**

SHANGHAI CORP  
FACTORY ADDITION

25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PROPOSED  
WALL TYPES  
& SCHEDULES

DRAWN: J.C.

DRAWING NO:

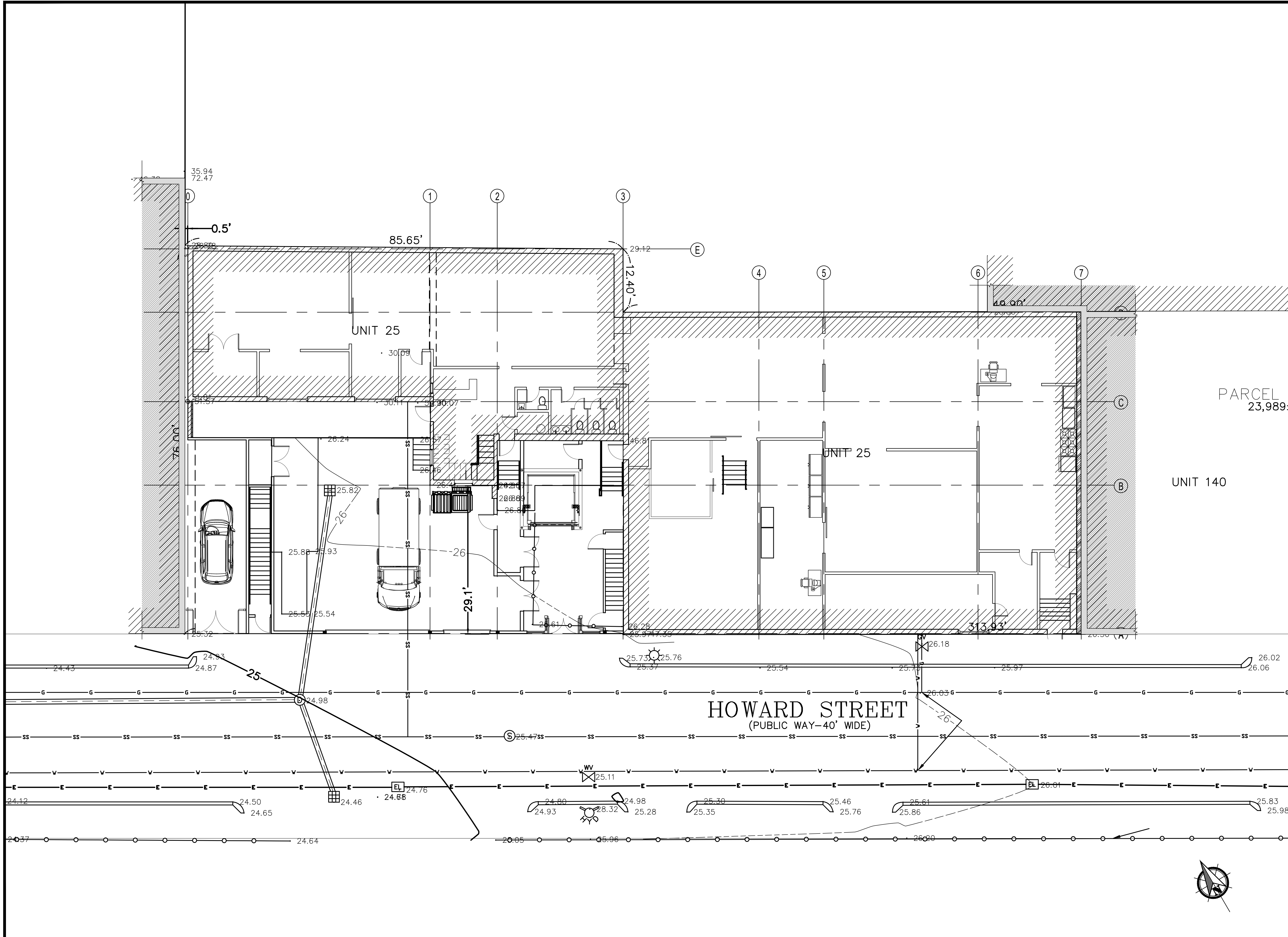
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DATE: 07-14-2023

CHECKED:

SHEET OF

**A0.1**



CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE

PROJECT

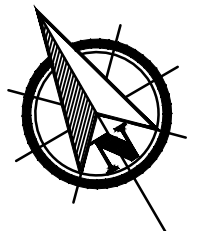
**SHANGHAI CORP**  
 SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

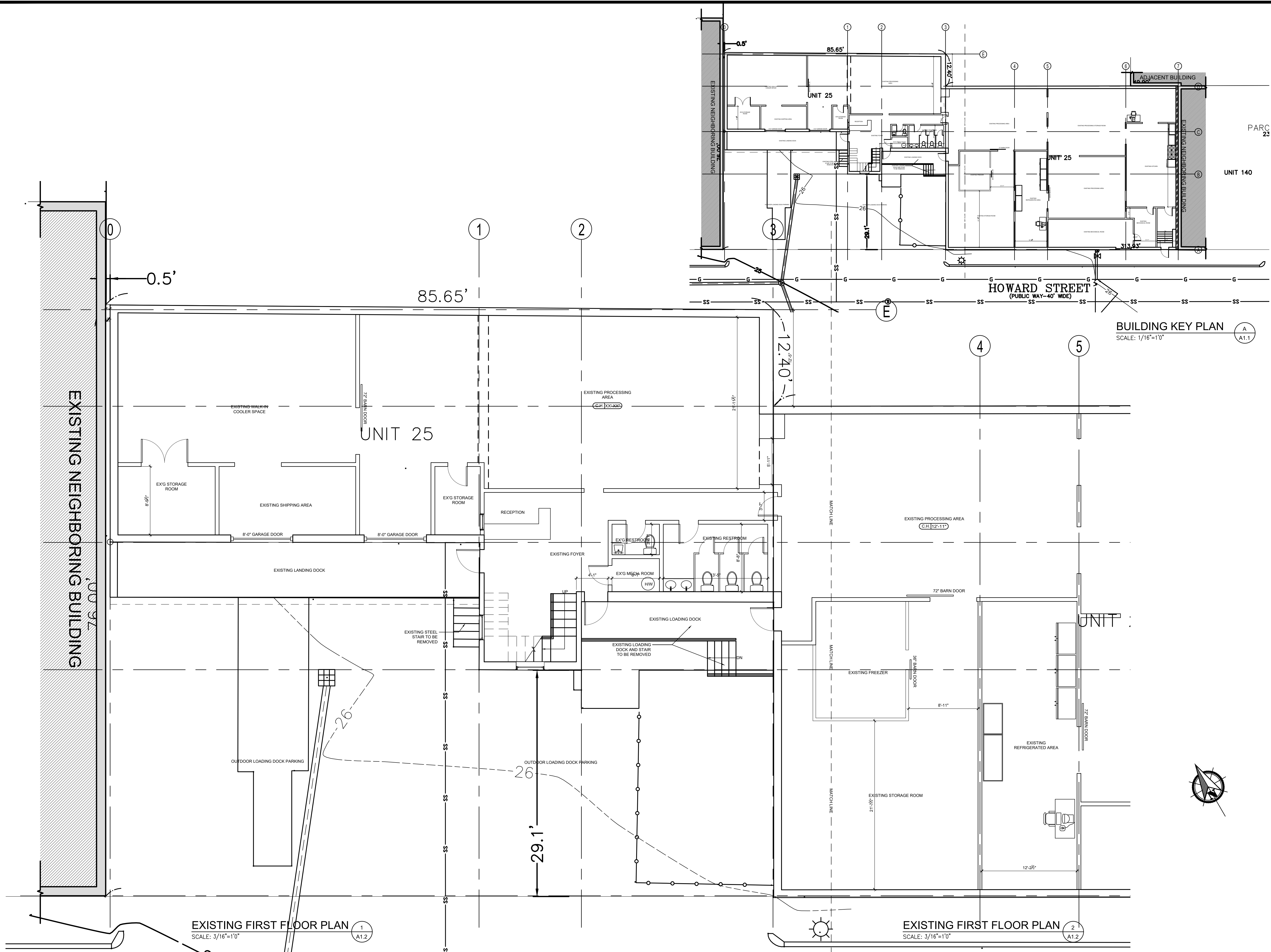
PROJECT NO. 21217

SHEET TITLE

PROPOSED  
 SITE  
 PLAN

DRAWN: J.C.	DRAWING NO:
SCALE: NOTED	
DATE: 07-14-2023	
CHECKED:	
SHEET OF	<b>A1.0</b>



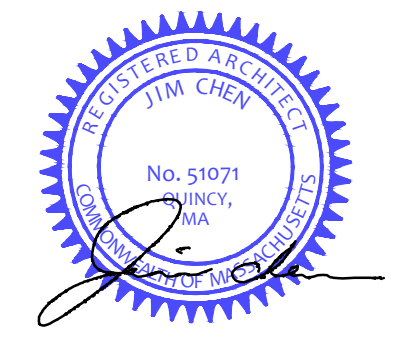


EXISTING FIRST FLOOR PLAN 1  
SCALE: 3/16"=1'0" A1.2

EXISTING FIRST FLOOR PLAN 2  
SCALE: 3/16"=1'0" A1.1

CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE
1	J.C.	PLAN REV.	11/04/22

PROJECT

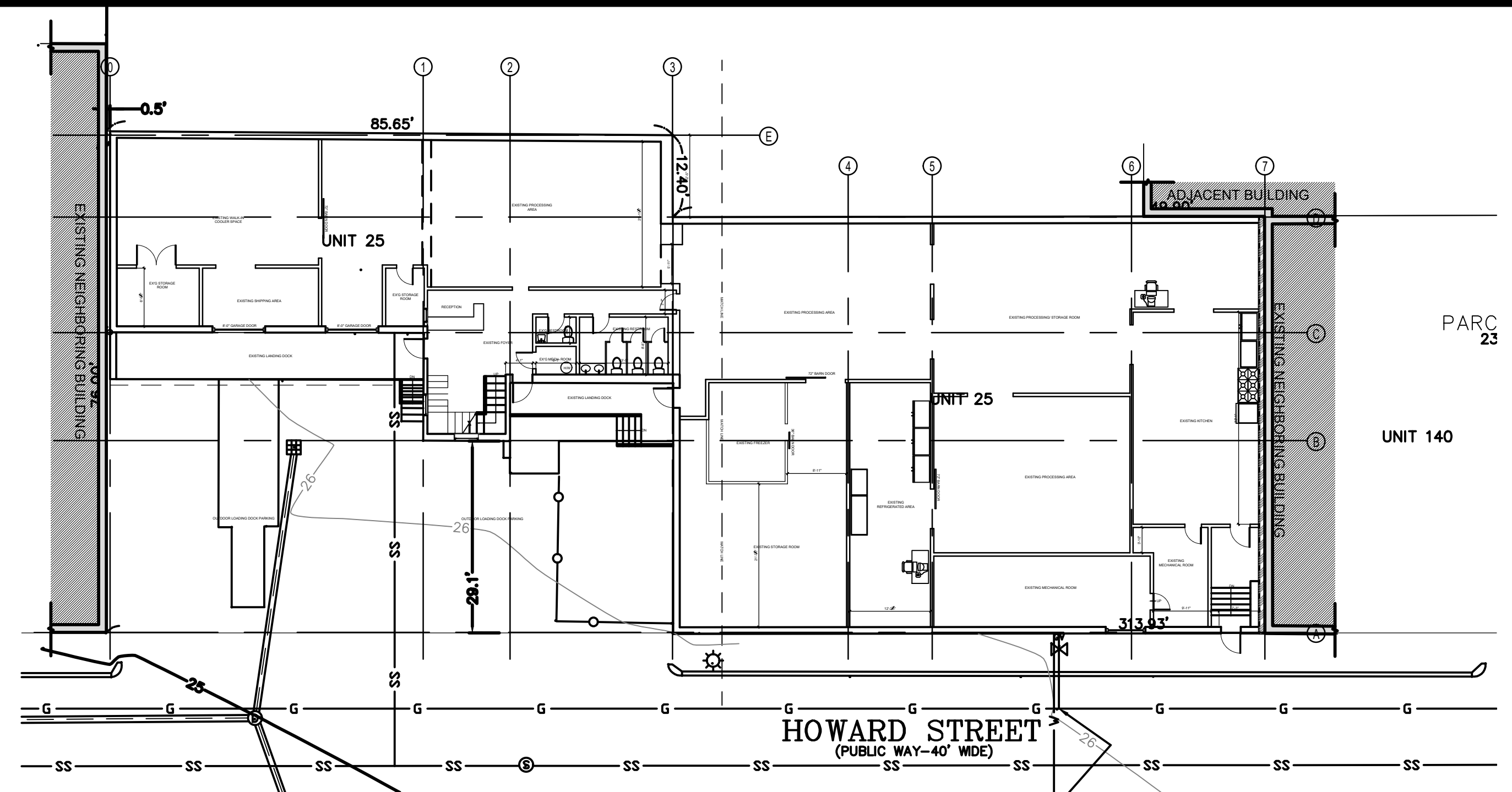
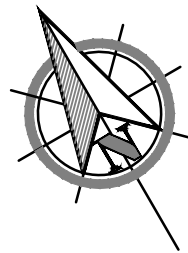
**SHANGHAI CORP**  
SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

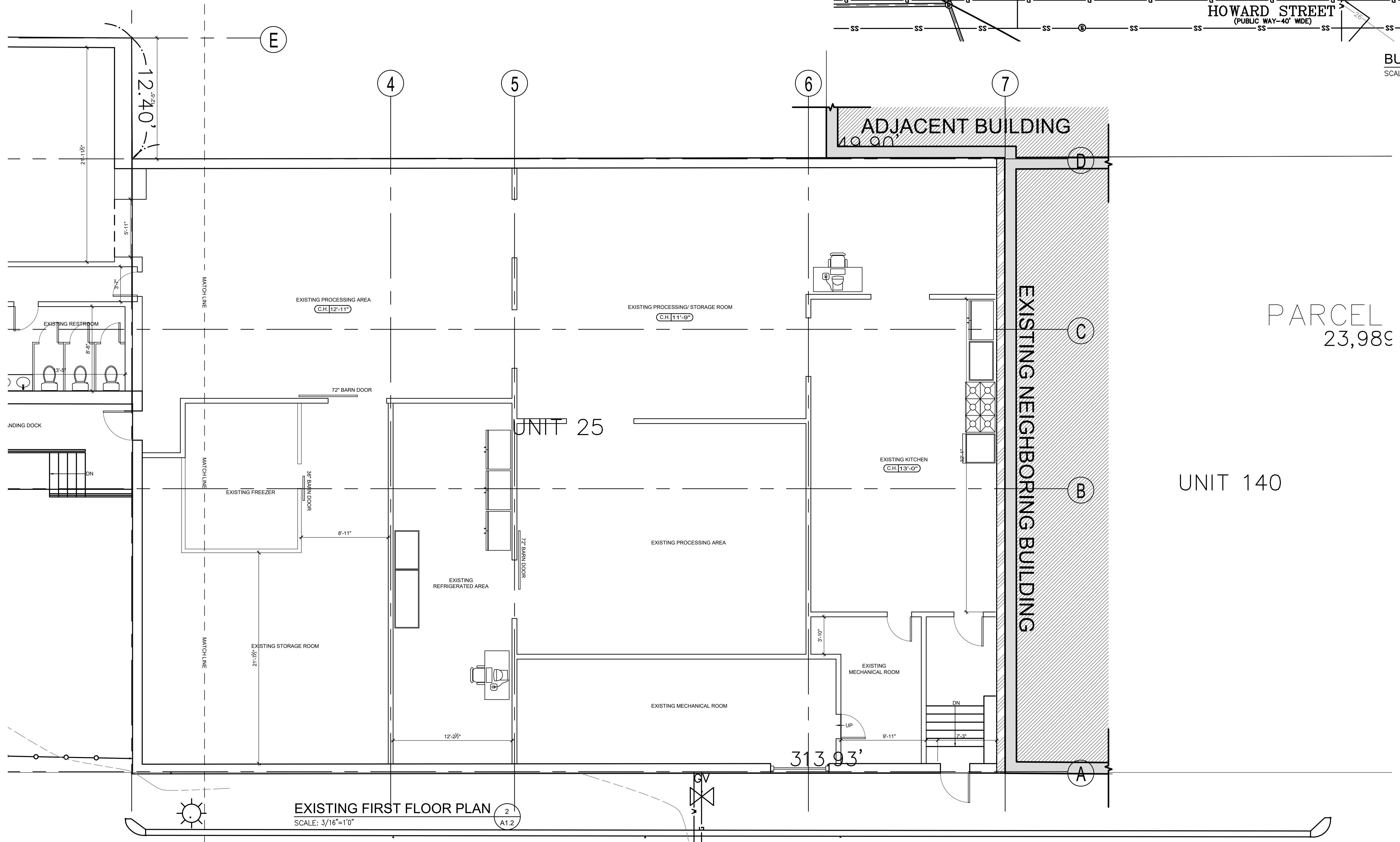
SHEET TITLE

EXISTING  
FLOOR  
PLAN

DRAWN: J.C.	DRAWING NO:
SCALE: NOTED	
DATE: 07-14-2023	
CHECKED:	
SHEET OF	<b>A1.1</b>



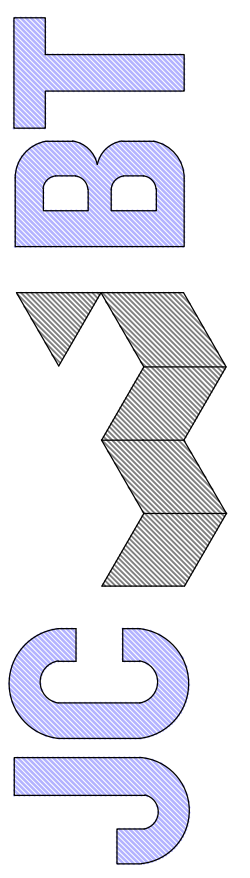
**BUILDING KEY PLAN**  
SCALE: 1/16"=1'0"  
A  
A1.1



**EXISTING FIRST FLOOR PLAN**  
SCALE: 3/16"=1'0"  
2  
A1.2

PARCEL  
23,98¢

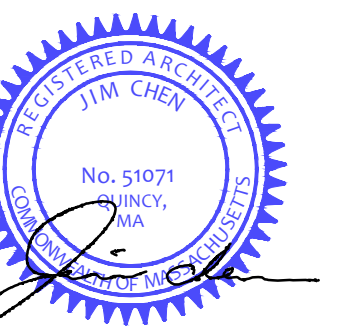
UNIT 140



ARCHITECT  
585 WASHINGTON STREET, QUINCY, MA 02169  
ADMIN@JCBTARCHITECT.COM  
TEL: (617) 404-8182

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REVISIONS

NO.	BY	DESCRIPTION	DATE
1	J.C.	PLAN REV.	11/04/22

PROJECT

SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

EXISTING  
FLOOR  
PLAN

DRAWN: KX

SCALE: NOTED

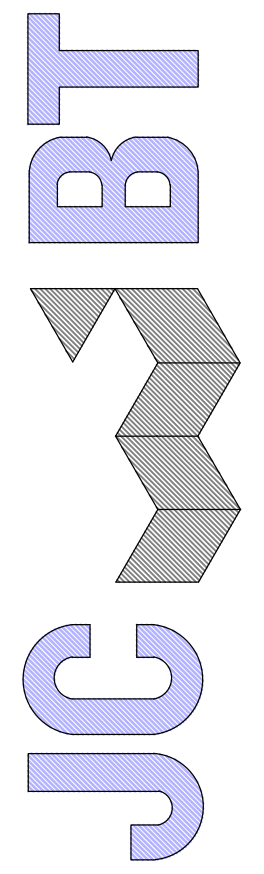
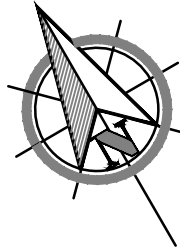
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CHECKED:

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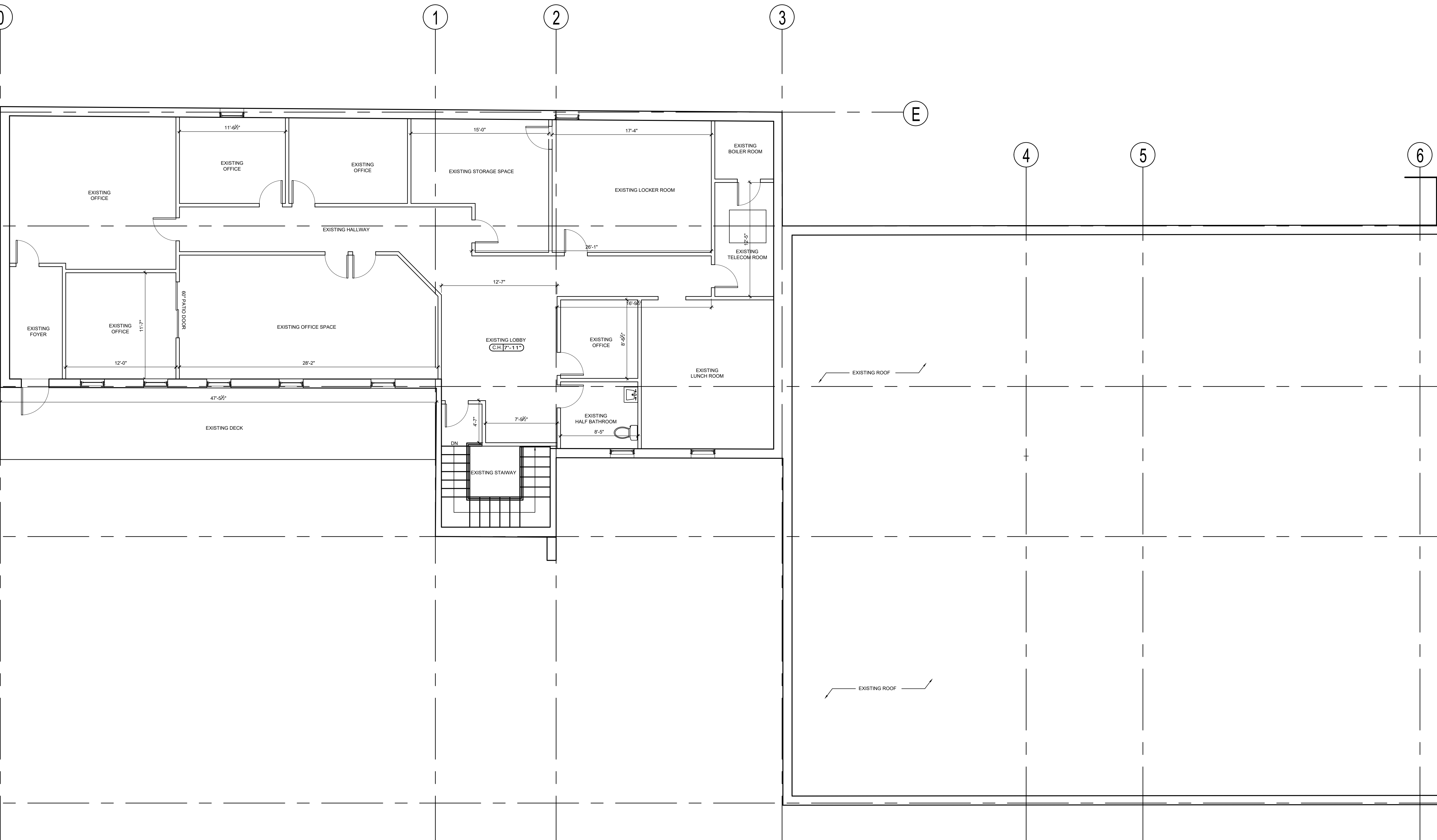
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A1.2



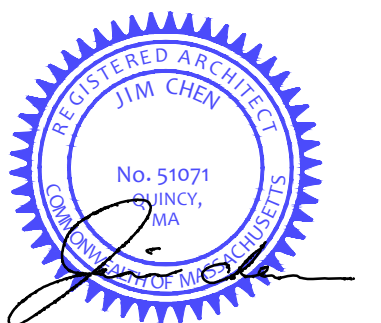
ARCHITECT  
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 ADMIN@JCJB TARCHITECT.COM  
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EXISTING NEIGHBORING BUILDING



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NO.	BY	DESCRIPTION	DATE
1	J.C.	PLAN REV.	11/04/22

PROJECT

SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA  
 PROJECT NO. 21217

SHEET TITLE

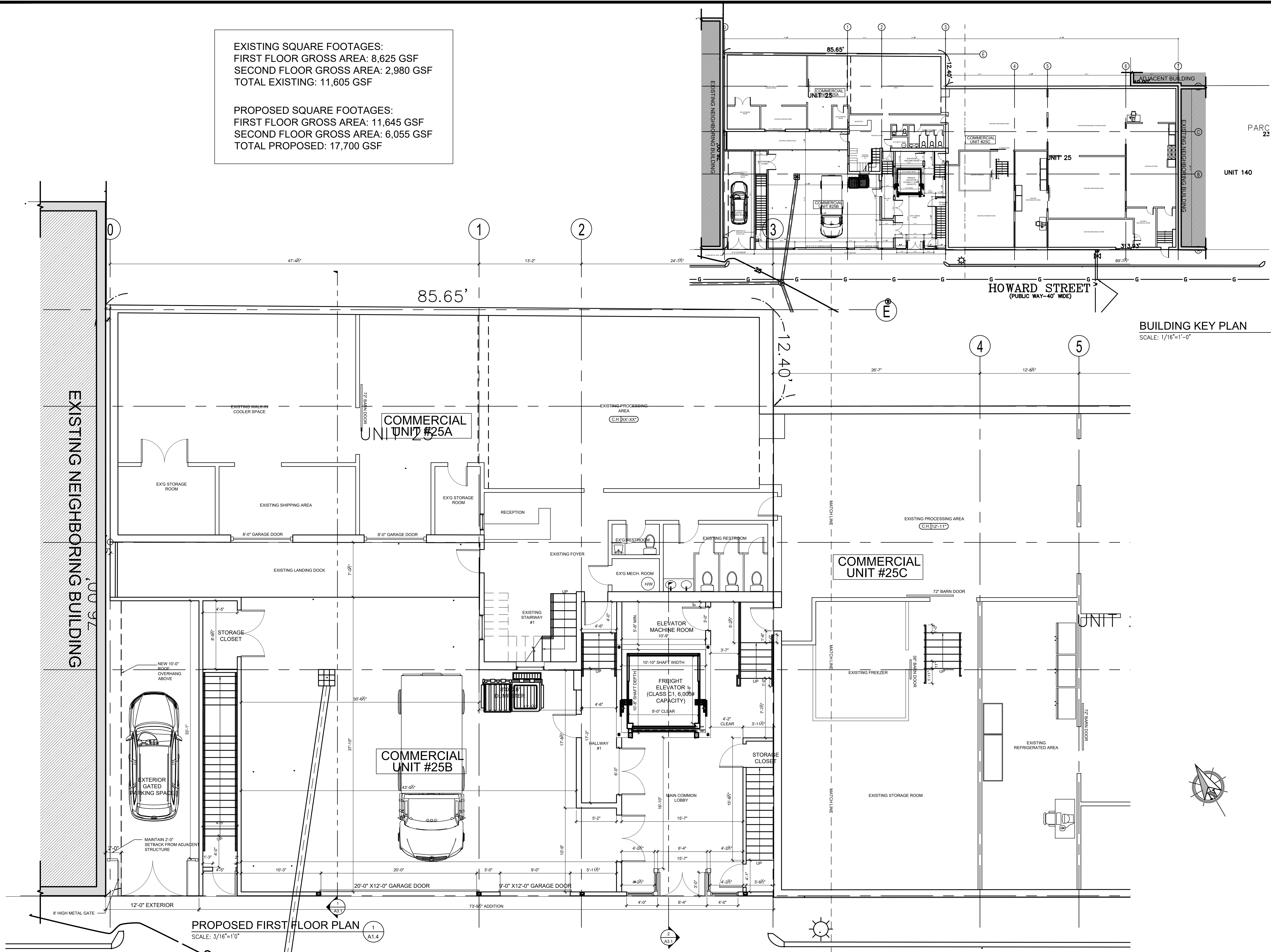
EXISTING  
 FLOOR  
 PLAN

DRAWN: KX	DRAWING NO:
SCALE: NOTED	
DATE: 12-30-2021	
CHECKED:	
SHEET OF	A1.3

EXISTING SECOND FLOOR PLAN  
 SCALE: 3/16"=1'0"  
 1  
 A1.3

EXISTING SQUARE FOOTAGES:  
 FIRST FLOOR GROSS AREA: 8,625 GSF  
 SECOND FLOOR GROSS AREA: 2,980 GSF  
 TOTAL EXISTING: 11,605 GSF

PROPOSED SQUARE FOOTAGES:  
 FIRST FLOOR GROSS AREA: 11,645 GSF  
 SECOND FLOOR GROSS AREA: 6,055 GSF  
 TOTAL PROPOSED: 17,700 GSF



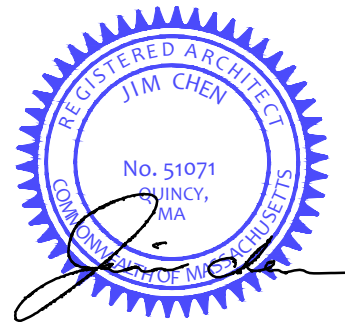
**BUILDING KEY PLAN**  
 SCALE: 1/16"=1'-0"

**PROPOSED FIRST FLOOR PLAN**  
 SCALE: 3/16"=1'-0"

**JC BT**  
 ARCHITECT  
 585 WASHINGTON STREET, QUINCY, MA 02169  
 ADMIN@JCBTARCHITECT.COM  
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REVISIONS

NO.	BY	DESCRIPTION	DATE
3	J.C.	PLAN REV.	07/01/23
2	J.C.	PLAN REV.	2/01/22
1	J.C.	PLAN REV.	11/04/22

PROJECT

**SHANGHAI CORP**  
 SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

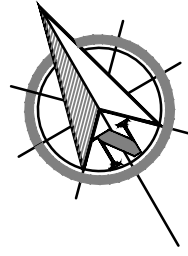
PROJECT NO. 21217

SHEET TITLE

**PROPOSED FLOOR PLAN**

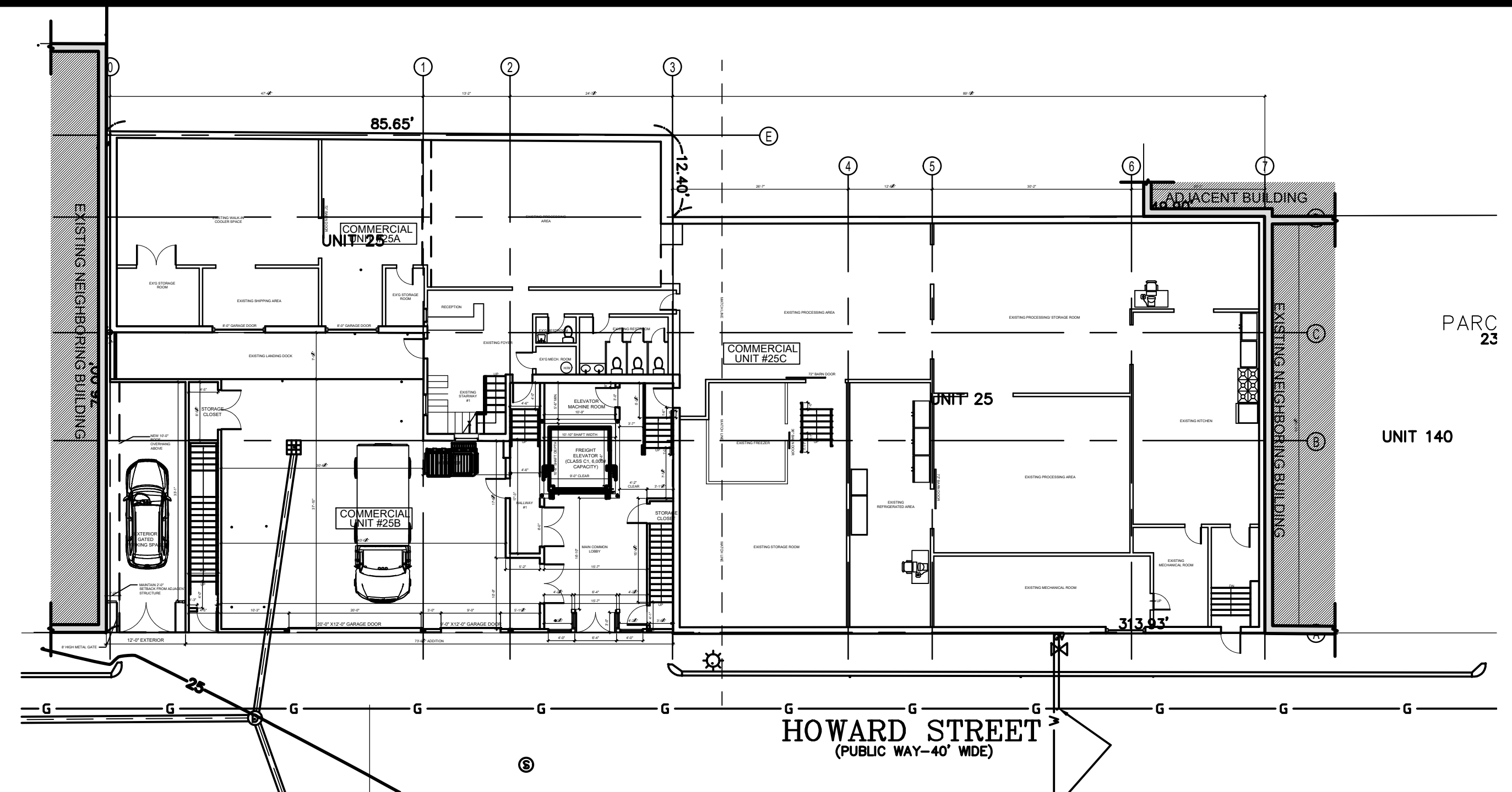
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DATE: 12-30-2021	
CHECKED:	
SHEET OF	<b>A1.4</b>



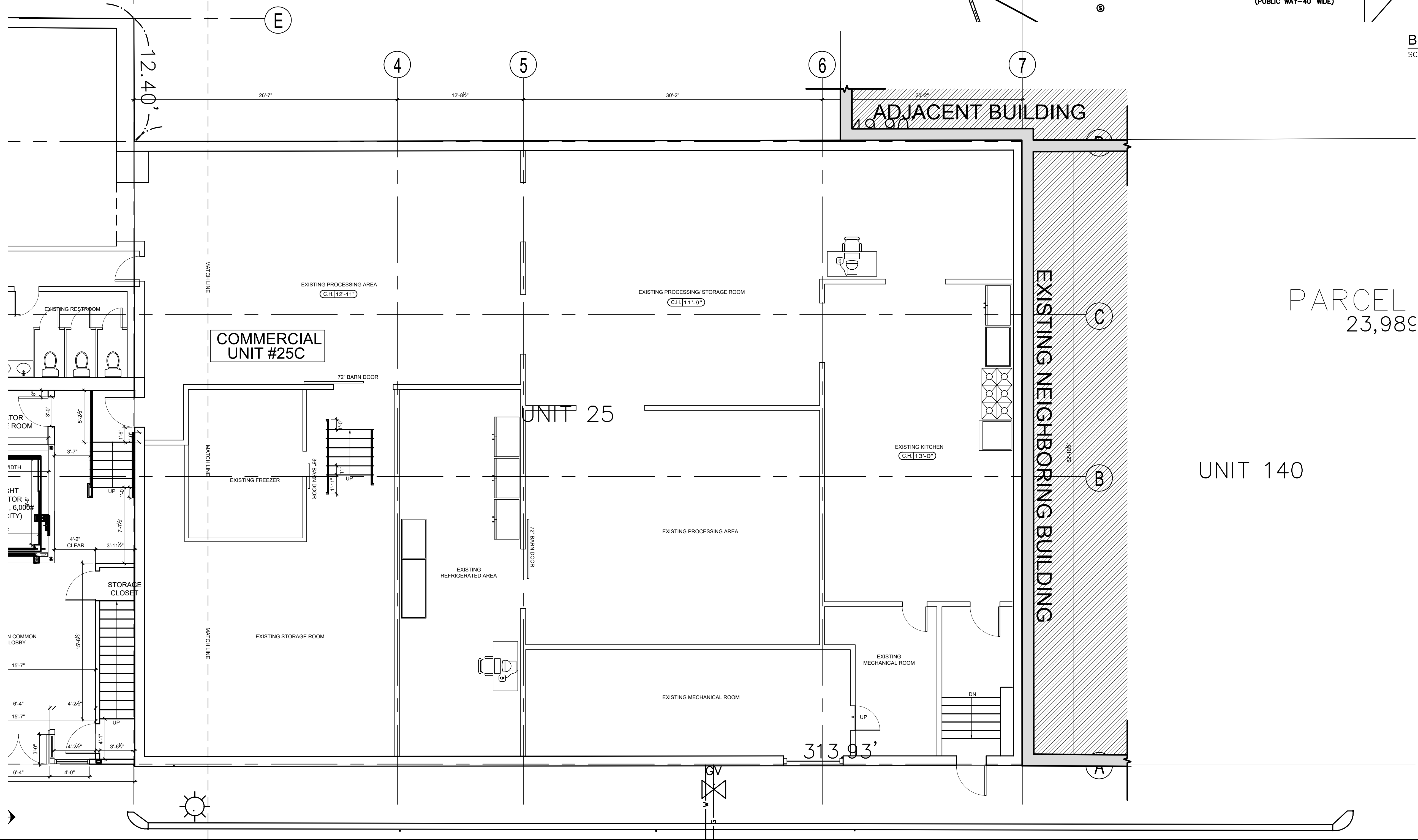


EXISTING SQUARE FOOTAGES:  
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 SECOND FLOOR GROSS AREA: 2,980 GSF  
 TOTAL EXISTING: 11,605 GSF

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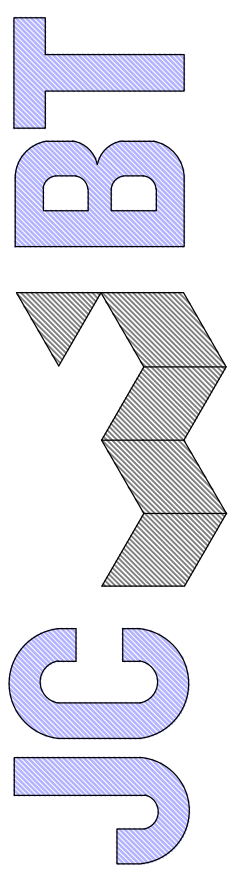


**BUILDING KEY PLAN**  
 SCALE: 1/16"=1'-0"



PARCEL  
 23,989

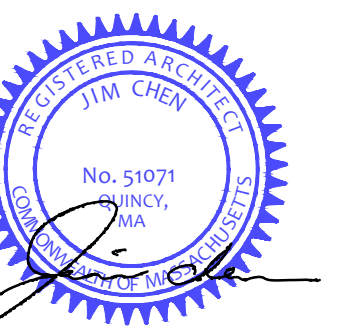
UNIT 140



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REVISIONS

NO.	BY	DESCRIPTION	DATE
3	J.C.	PLAN REV.	07/01/23
2	J.C.	PLAN REV.	2/01/22
1	J.C.	PLAN REV.	11/04/22

PROJECT

**SHANGHAI CORP**

SHANGHAI CORP  
 FACTORY ADDITION

25 HOWARD ST.  
 ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

**PROPOSED FLOOR PLAN**

DRAWN: KX

SCALE: NOTED

DATE: 12-30-2021

CHECKED:

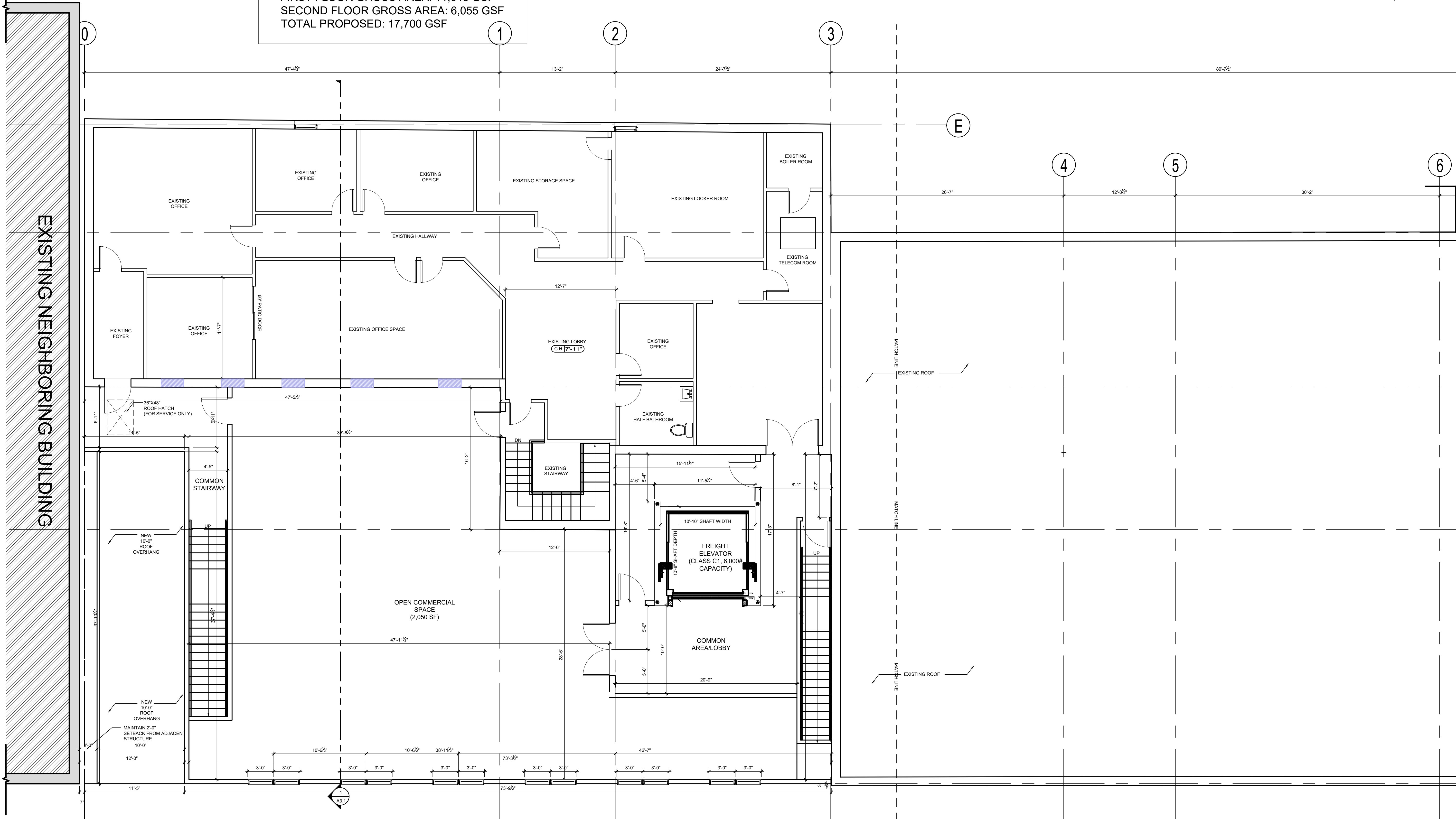
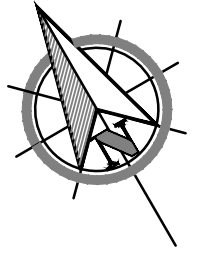
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DRAWING NO:

**A1.5**

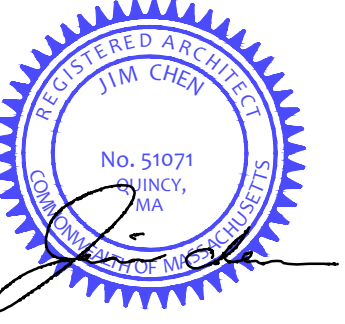
EXISTING SQUARE FOOTAGES:  
 FIRST FLOOR GROSS AREA: 8,625 GSF  
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REVISIONS

NO.	BY	DESCRIPTION	DATE
3	J.C.	PLAN REV.	07/01/23
2	J.C.	PLAN REV.	2/01/22
1	J.C.	PLAN REV.	11/04/22

PROJECT

**SHANGHAI CORP**  
 SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

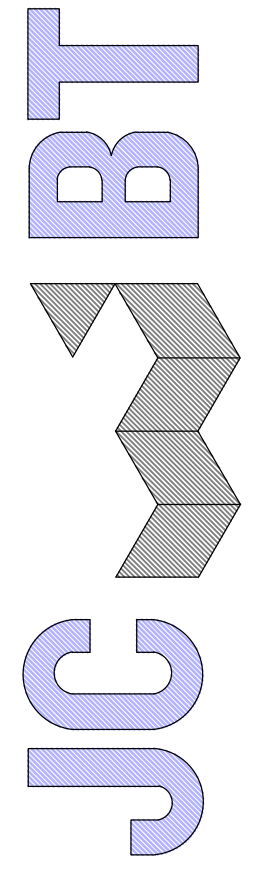
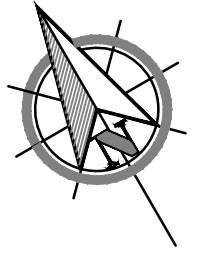
PROPOSED FLOOR PLAN

DRAWN: KX	DRAWING NO:
SCALE: NOTED	
DATE: 12-30-2021	
CHECKED:	
SHEET OF	<b>A1.6</b>

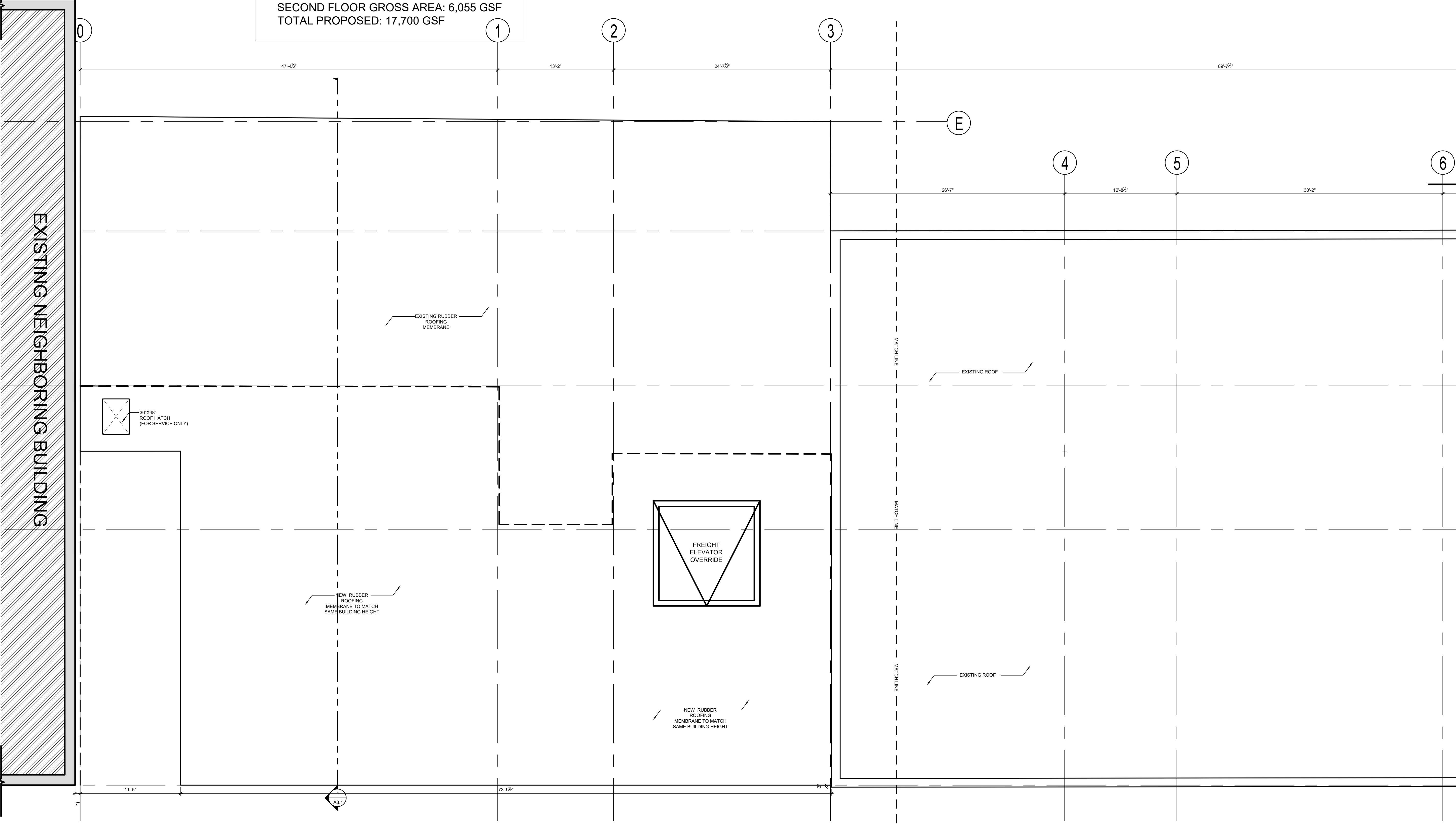
PROPOSED SECOND FLOOR PLAN  
 SCALE: 3/16"=1'0"  
 1  
 A1.6

EXISTING SQUARE FOOTAGES:  
 FIRST FLOOR GROSS AREA: 8,625 GSF  
 SECOND FLOOR GROSS AREA: 2,980 GSF  
 TOTAL EXISTING: 11,605 GSF

PROPOSED SQUARE FOOTAGES:  
 FIRST FLOOR GROSS AREA: 11,645 GSF  
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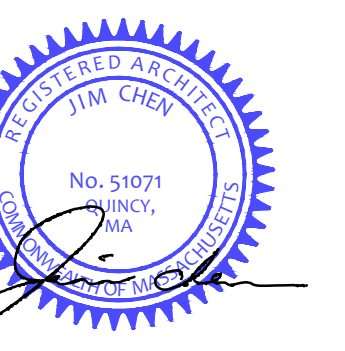


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REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE
3	J.C.	PLAN REV.	07/01/23
2	J.C.	PLAN REV.	2/01/22
1	J.C.	PLAN REV.	11/04/22

PROJECT

**SHANGHAI CORP**  
 SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

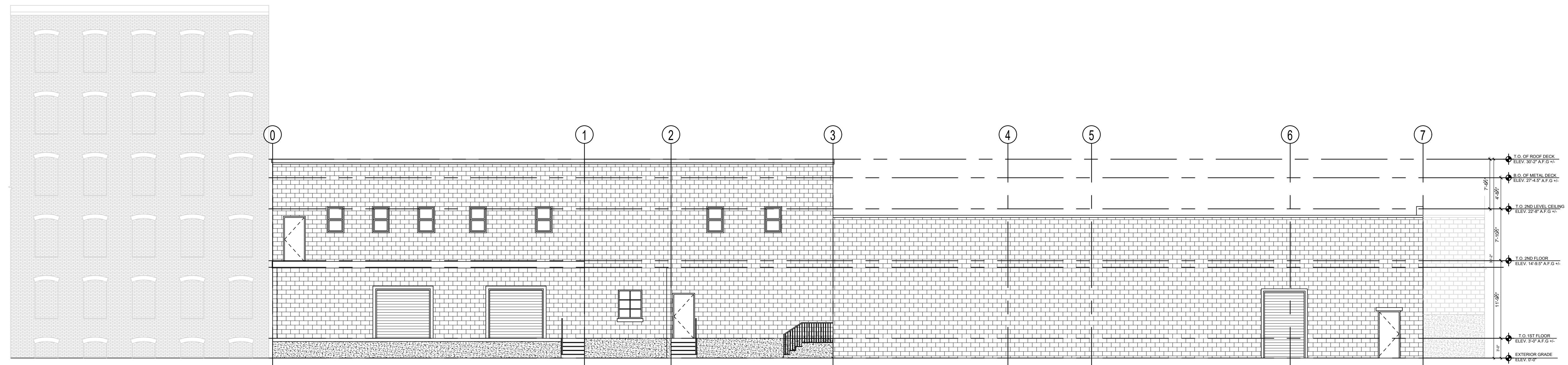
PROJECT NO. 21217

SHEET TITLE

**PROPOSED FLOOR PLAN**

DRAWN: KX	DRAWING NO:
SCALE: NOTED	
DATE: 12-30-2021	
CHECKED:	
SHEET OF	<b>A1.7</b>

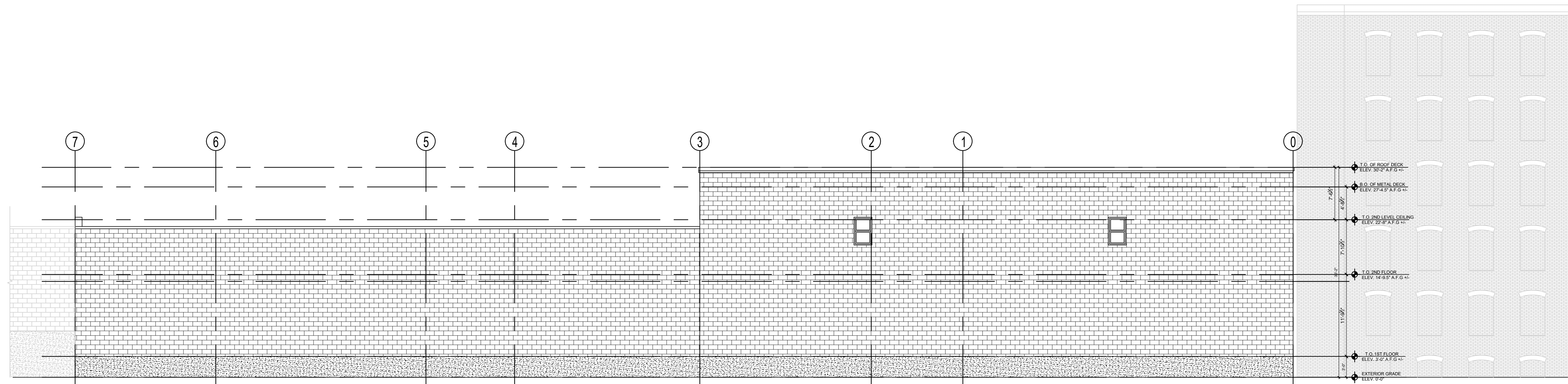
PROPOSED ROOF FLOOR PLAN 1  
 SCALE: 3/16"=1'0" A1.7



**EXISTING FRONT ELEVATION**

SCALE: 1/8"=1'0"

1  
A2.1



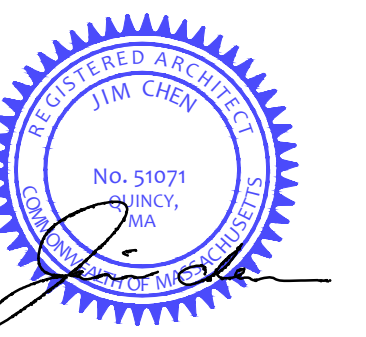
**EXISTING REAR ELEVATION**

SCALE: 1/8"=1'0"

2  
A2.1

CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE
1	J.C.	PLAN REV.	11/04/22

PROJECT

**SHANGHAI CORP.**

SHANGHAI CORP  
FACTORY ADDITION

25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

EXISTING  
EXTERIOR  
ELEVATIONS

DRAWN: KX

SCALE: NOTED

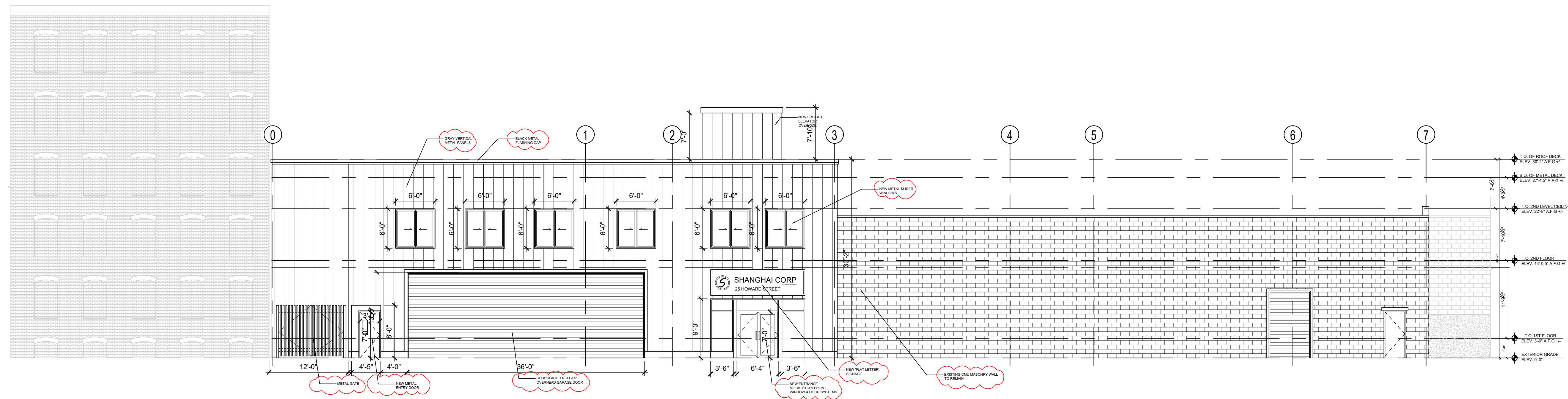
DATE: 12-30-2021

CHECKED:

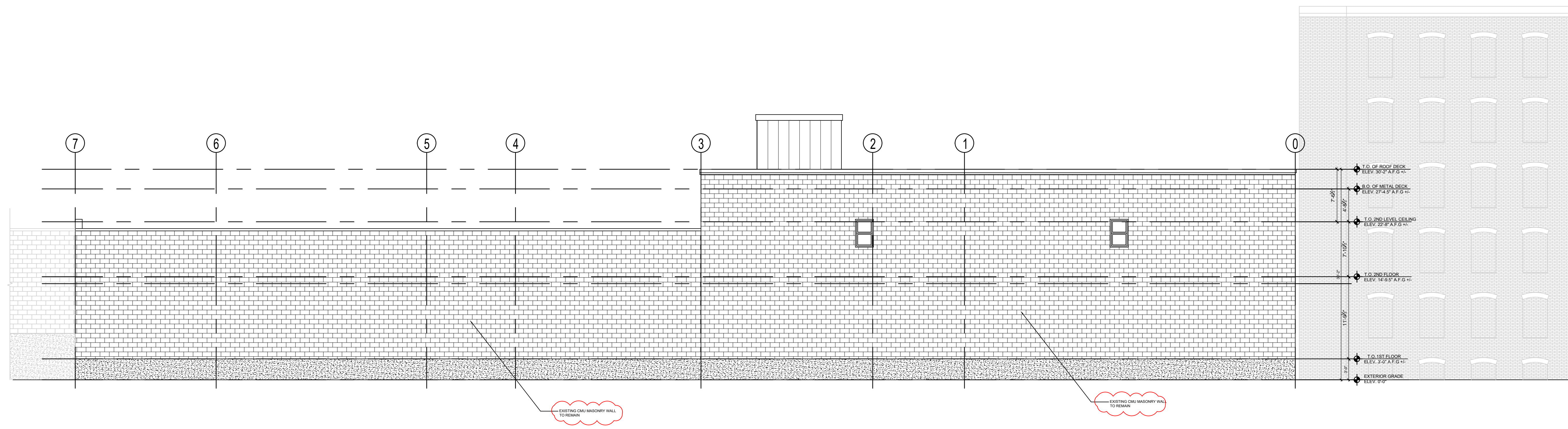
SHEET OF

DRAWING NO:

**A2.1**



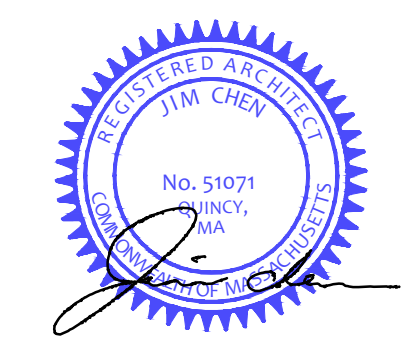
PROPOSED FRONT ELEVATION (HOWARD STREET VIEW) 1  
SCALE: 1/4"=1'-0" A2.2



PROPOSED REAR ELEVATION 2  
SCALE: 1/4"=1'-0" A2.2

CONSULTANT

REGISTRATION



REVISIONS

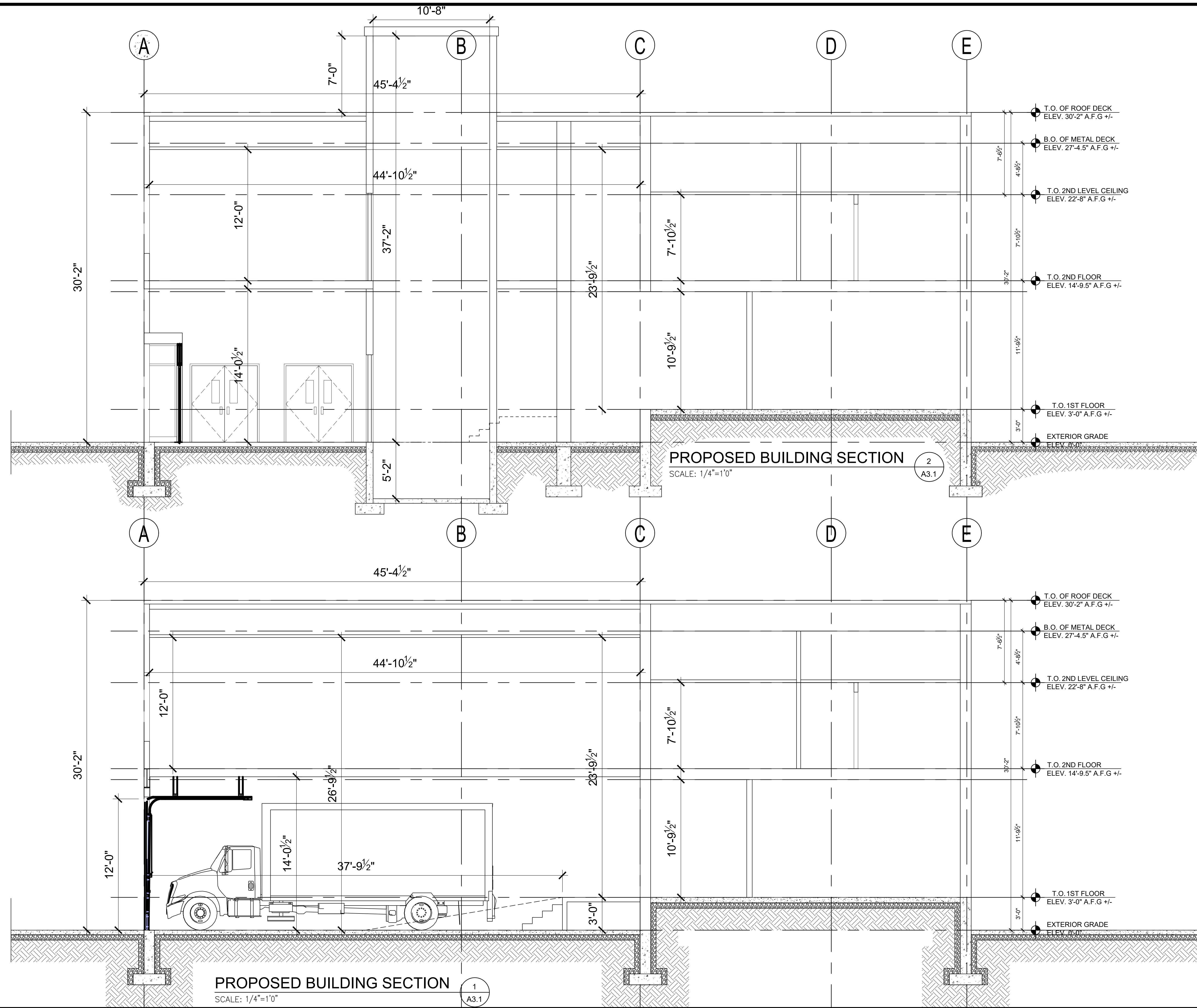
NO.	BY	DESCRIPTION	DATE
4	J.C.	EXT. MATERIAL BPDA	10/16/23
3	J.C.	GARAGE SIZE TO 30FT	09/06/23
2	J.C.	PLAN REV.	12/02/22
1	J.C.	PLAN REV.	11/04/22

PROJECT  
**SHANGHAI CORP.**  
SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA  
PROJECT NO. 21217

SHEET TITLE

PROPOSED EXTERIOR ELEVATIONS

DRAWN: J.C.	DRAWING NO:
SCALE: NOTED	
DATE: 07-14-2023	
CHECKED:	
SHEET OF	<b>A2.2</b>



CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE
1	J.C.	PLAN REV.	11/04/22

PROJECT

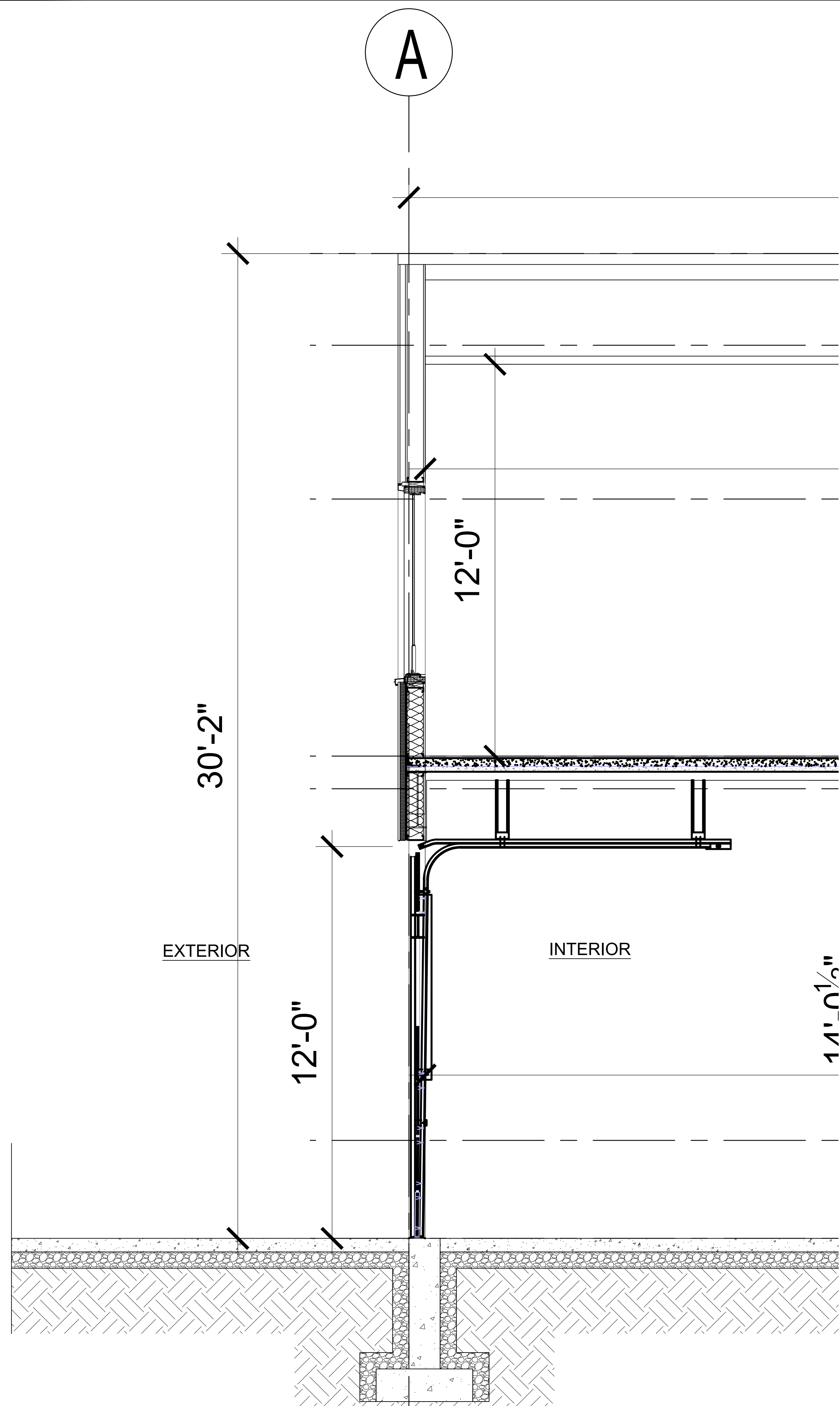
**SHANGHAI CORP.**  
SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

BUILDING SECTIONS

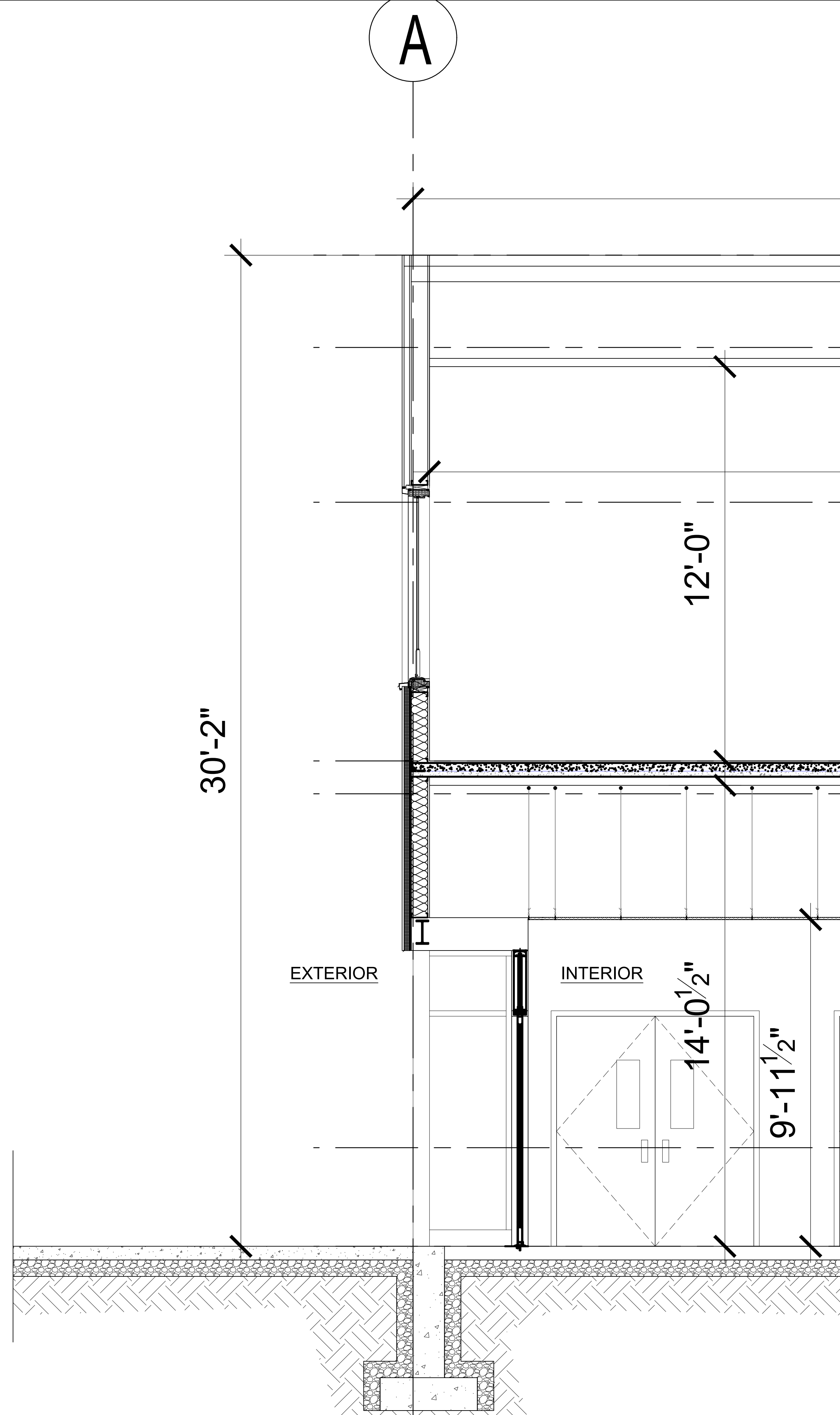
DRAWN: KX	DRAWING NO:
SCALE: NOTED	
DATE: 12-30-2021	
CHECKED:	
SHEET OF	<b>A3.1</b>



PROPOSED WALL SECTION

SCALE: 1/2"=1'0"

1  
A3.2



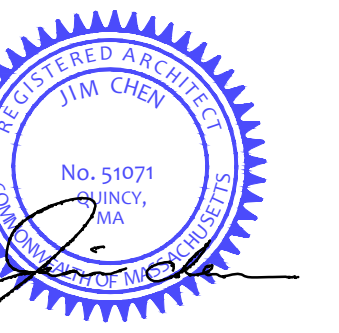
PROPOSED WALL SECTION

SCALE: 1/2"=1'0"

2  
A3.2

CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE
1	J.C.	PLAN REV.	11/04/22

PROJECT

**SHANGHAI CORP.**

SHANGHAI CORP  
FACTORY ADDITION

25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PROPOSED WALL  
SECTIONS

DRAWN: J.C.

DRAWING NO.

SCALE: NOTED

DATE: 07-14-2023

CHECKED:

SHEET OF

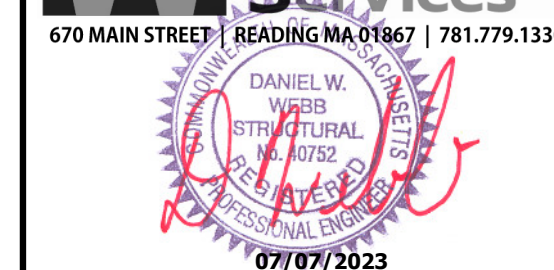
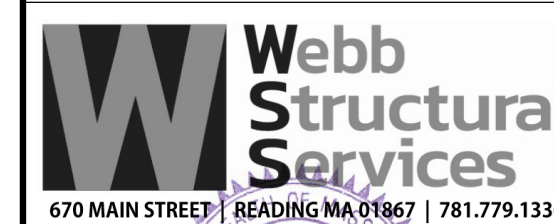
A3.2







CONSULTANT



REGISTRATION

REVISIONS

NO.	BY	DESCRIPTION	DATE
-	-	-	-

PROJECT

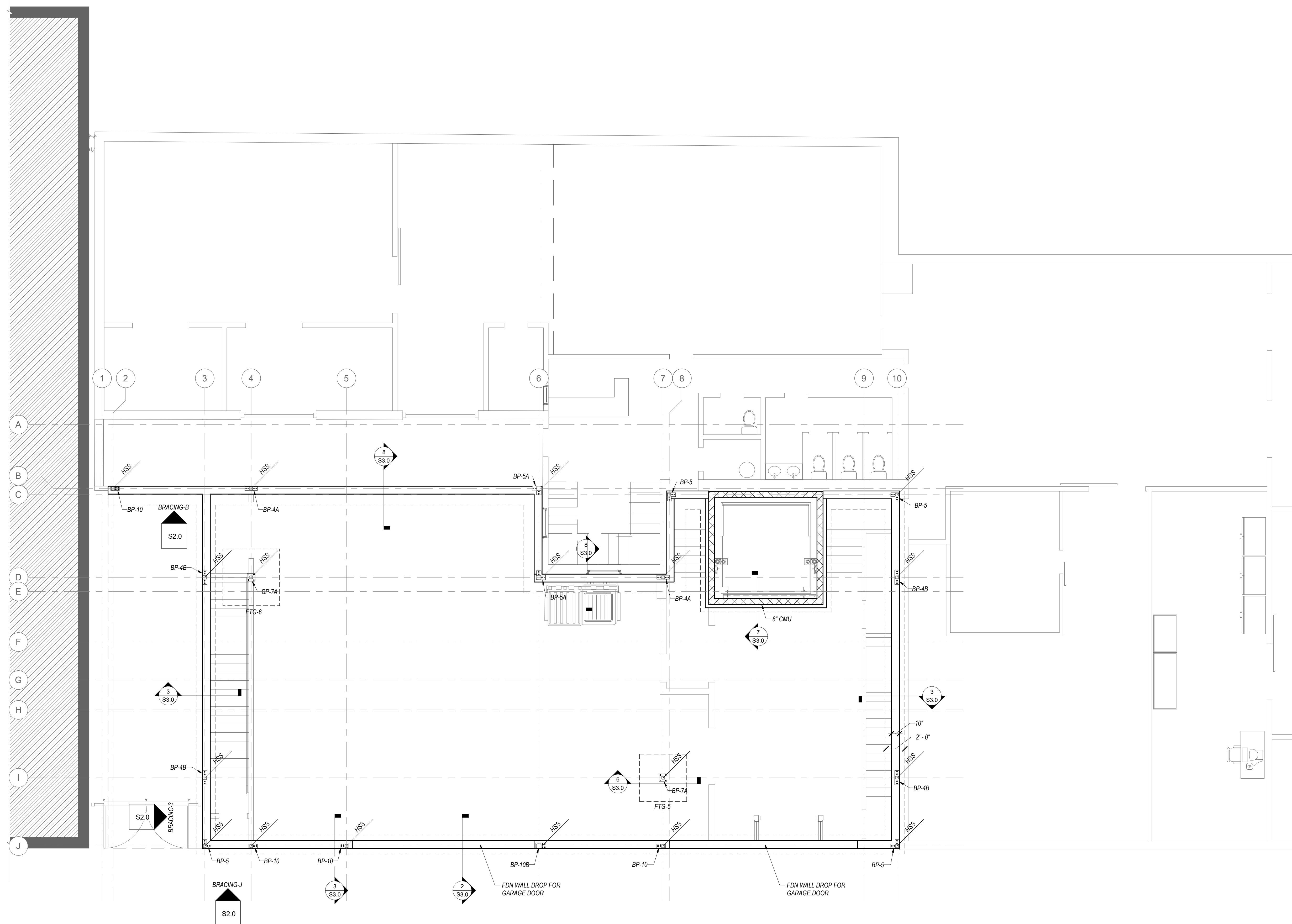
SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

WSS # 23021

SHEET TITLE

FOUNDATION PLAN

DRAWN:	DRAWING NO.
SCALE: As indicated	
DATE: 07.07.23	
CHECKED:	
SHEET OF	<b>S1.0</b>

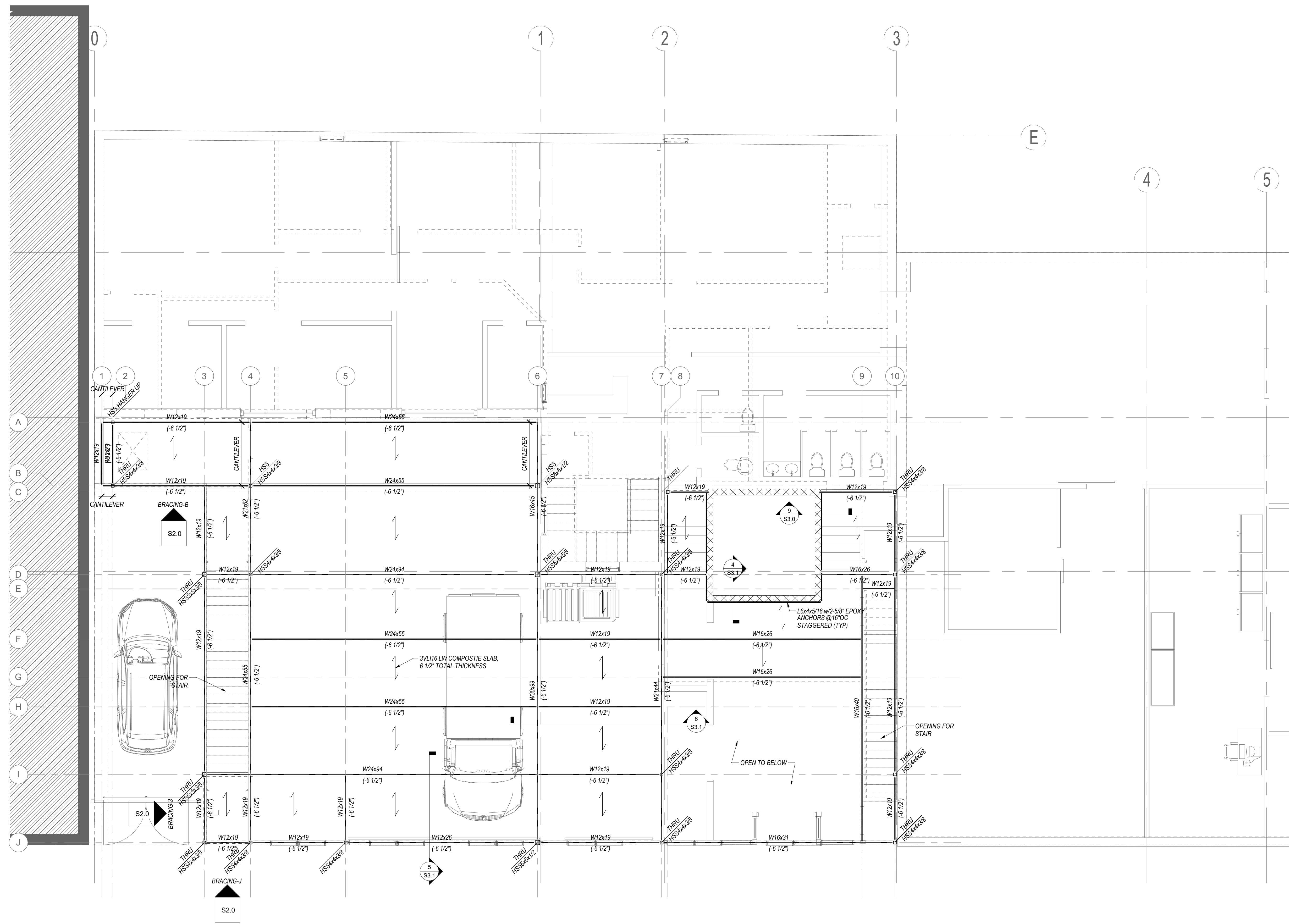


**FOUNDATION PLAN**  
3/16" = 1'-0"

- FOUNDATION NOTES:**
- REFERENCE ARCHITECTURAL PLANS FOR FOUNDATION DIMENSIONS AND ELEVATIONS NOT SHOWN
  - GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER OF ANY TOP OF WALL ELEVATION AND DIMENSION DEVIATIONS BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS

BASE PLATE SCHEDULE				
TYPE	COUNT	DESCRIPTION	TYPE COMMENTS	
BP-4A	2	1/2" x 5" x 16"	(4) 5/8"Ø CONCRETE SCREWS (6" EMBED)	
BP-4B	4	1/2" x 6" x 18"	(4) 5/8"Ø EPOXY (6" EMBED)	
BP-5	4	1/2" x 5" x 10 1/2" x 10 1/2" CORNER PLATE	(4) 5/8"Ø CONCRETE SCREWS (6" EMBED)	
BP-5A	2	1/2" x 6" x 11 1/2" x 11 1/2" CORNER PLATE	(4) 5/8"Ø CONCRETE SCREWS (6" EMBED)	
BP-7A	2	1/2" x 10" x 10"	(4) 5/8"Ø CONCRETE SCREWS (6" EMBED)	
BP-10	4	1/2" x 5" x 11"	(4) 5/8"Ø CONCRETE SCREWS (6" EMBED)	
BP-10B	1	1/2" x 7" x 13"	(4) 5/8"Ø CONCRETE SCREWS (6" EMBED)	

FOOTING SCHEDULE					
TYPE	COUNT	LENGTH	WIDTH	THICKNESS	REBAR
FTG-5	1	5'-0"	5'-0"	1'-0"	5-#6 EW BTM
FTG-6	1	6'-0"	6'-0"	1'-4"	5-#6 EW BTM



**SECOND FLOOR FRAMING PLAN**  
 3/16" = 1'-0"

**TOP OF STEEL ELEVATION:**  
 1. TOP OF STEEL ELEV. = 14'-2 3/4", UNO  
 2ND FLOOR ELEV. = 14'-9 1/4"

7/2023 1:48:11 PM A:\s\4\Drawings\2301 - HOWARD ST. 21 HOWARD ST.1.dwg

**CONSULTANT**  
**Webb Structural Services**  
 670 MAIN STREET | READING, MA 01867 | 781.779.1330  
 DANIEL W. WEBB  
 STRUCTURAL ENGINEER  
 REG. NO. 0753  
 07/07/2023

**REGISTRATION**

NO.	BY	DESCRIPTION	DATE
-	-	-	-

**REVISIONS**

NO.	BY	DESCRIPTION	DATE
-	-	-	-

**PROJECT**

-

SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

WSS # 23021

**SHEET TITLE**

**SECOND FLOOR FRAMING PLAN**

DRAWN:	DRAWING NO.:
SCALE: As indicated	
DATE: 07.07.23	
CHECKED:	
SHEET OF	<b>S1.1</b>

CONSULTANT



670 MAIN STREET | READING, MA 01867 | 781.779.1330

REGISTRATION

REVISIONS

NO.	BY	DESCRIPTION	DATE
-	-	-	-

PROJECT

SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

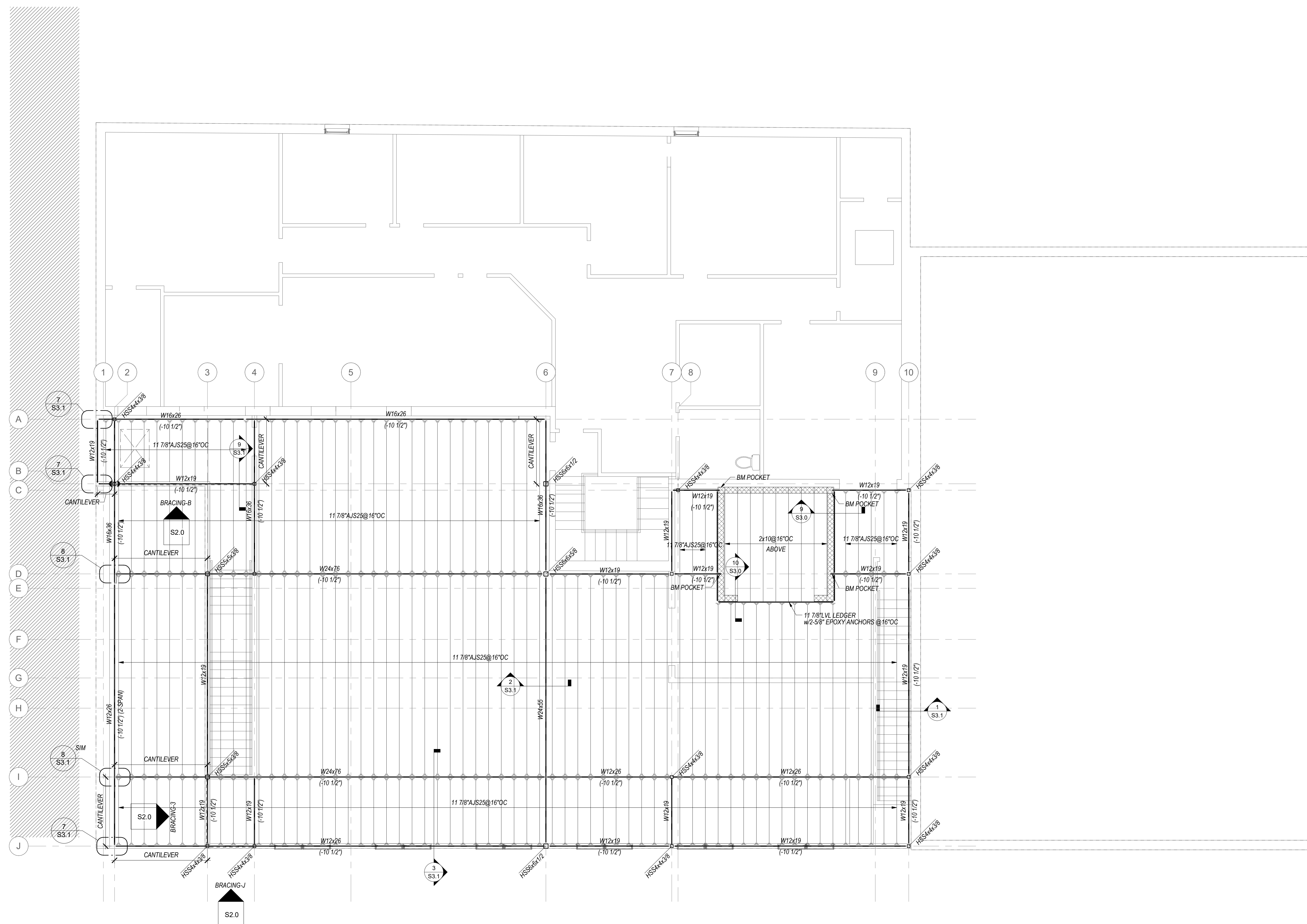
WSS # 23021

SHEET TITLE

ROOF FRAMING PLAN

DRAWN:	DRAWING NO.
SCALE: As indicated	
DATE: 07.07.23	
CHECKED:	
SHEET OF	

S1.2

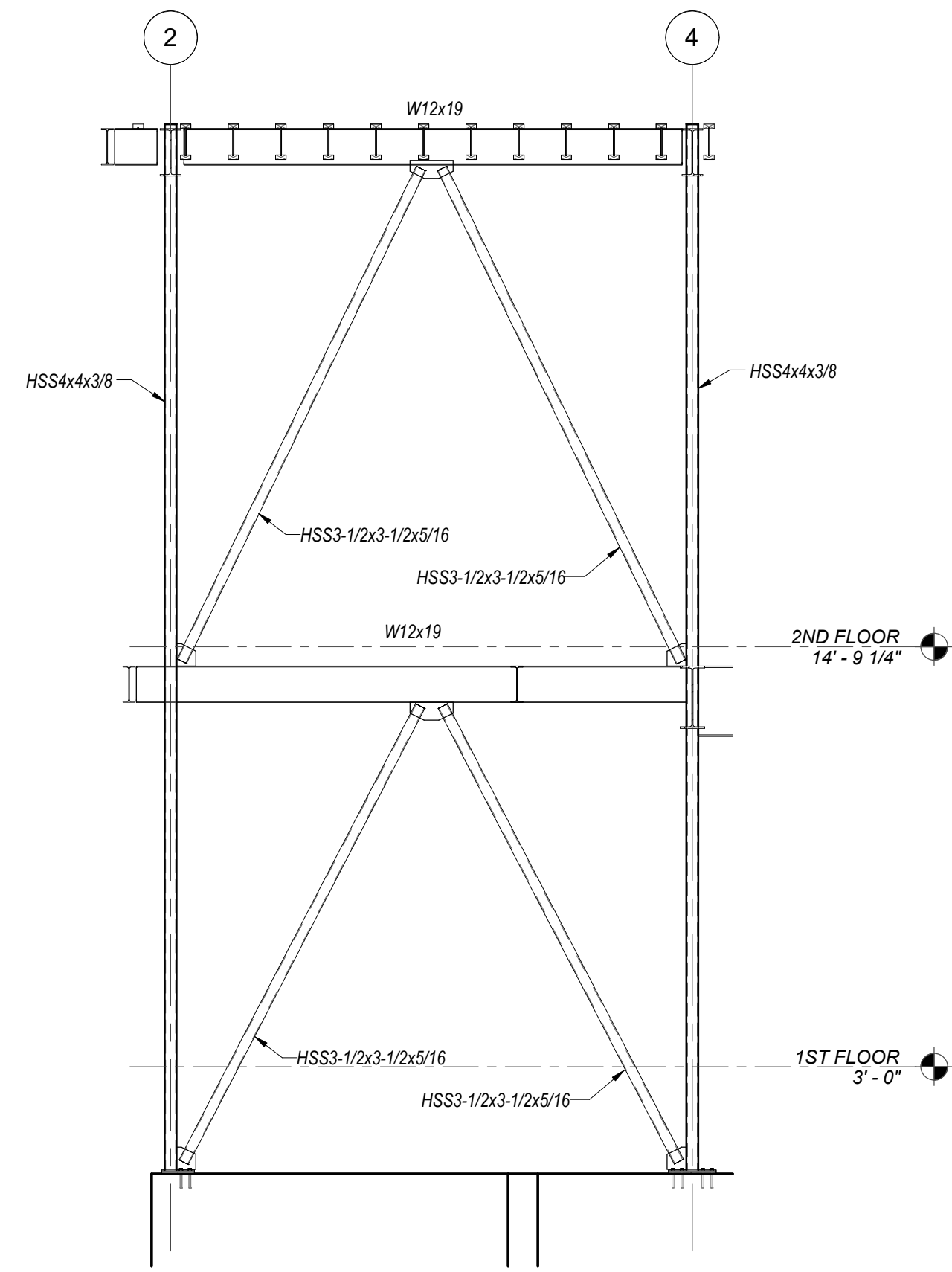


ROOF FRAMING PLAN  
3/16" = 1'-0"

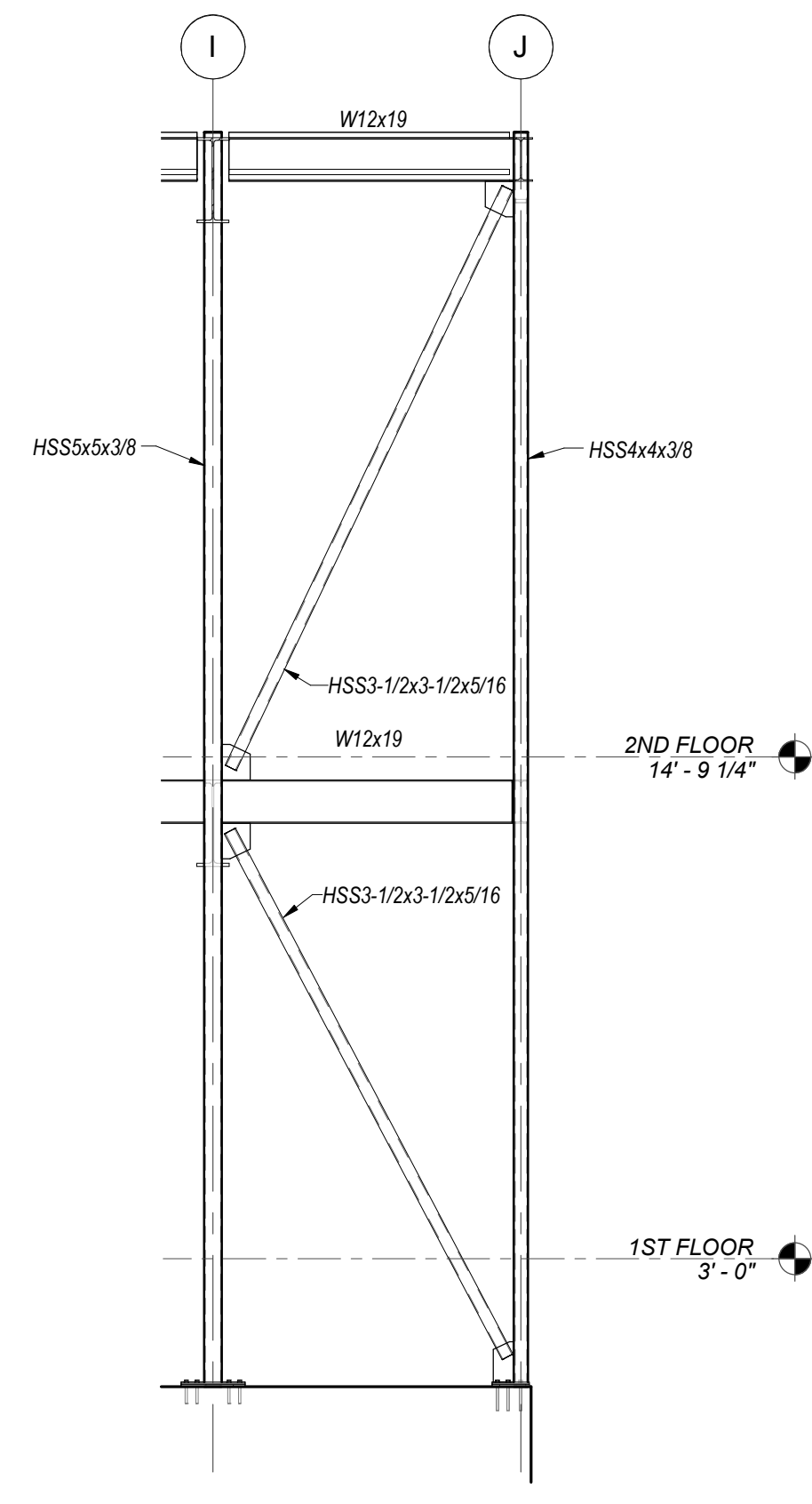
FLOOR & ROOF FRAMING NOTES:  
1. ALL INDIVIDUAL LVLS ARE 1 3/4" THICK UNLESS NOTED OTHERWISE ON PLAN.

LATERAL LEGEND

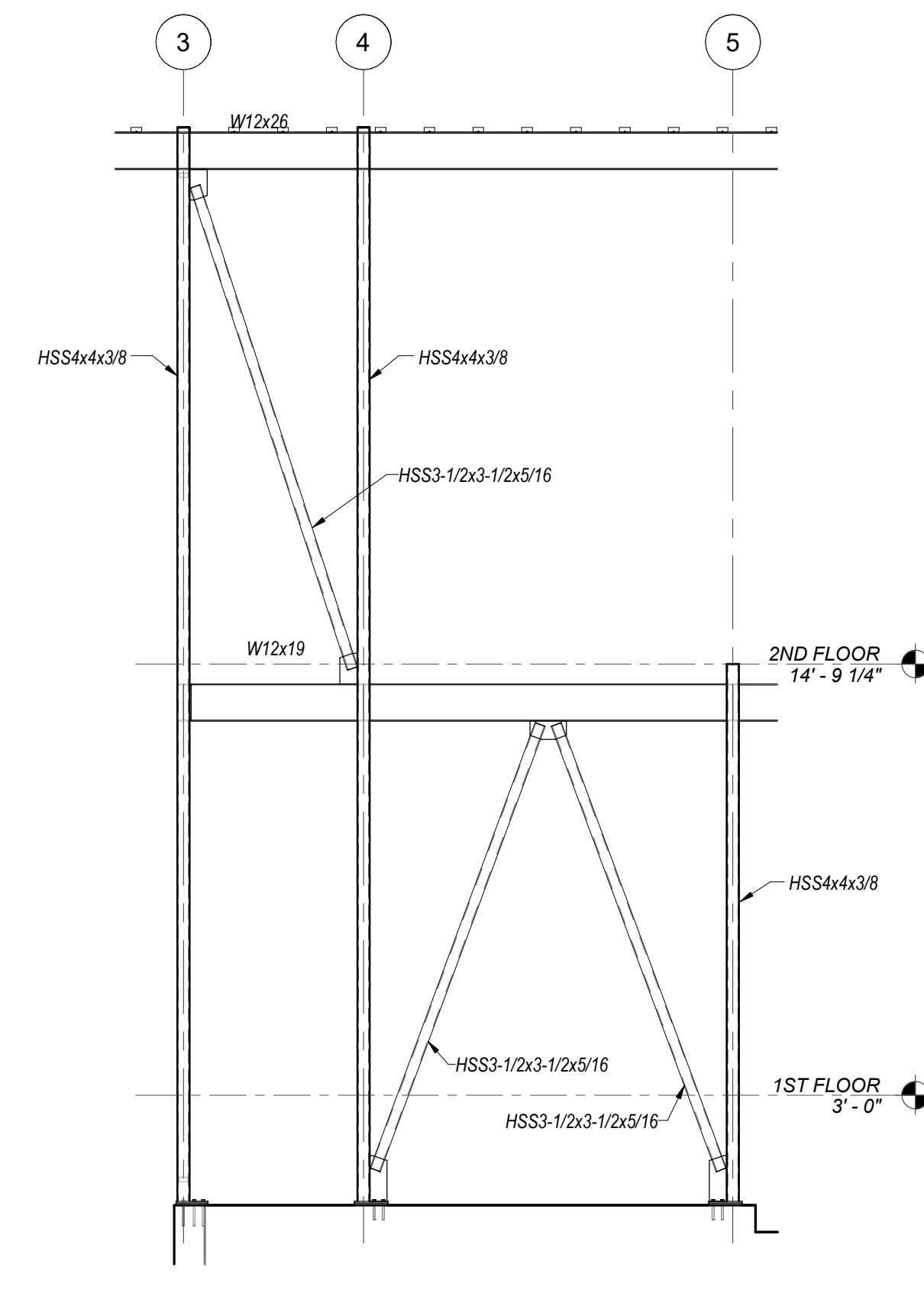
1. SHEARWALL =	
2. BEARING WALL =	
3.  =	DENOTES STEEL MOMENT RESISTING CONNECTION



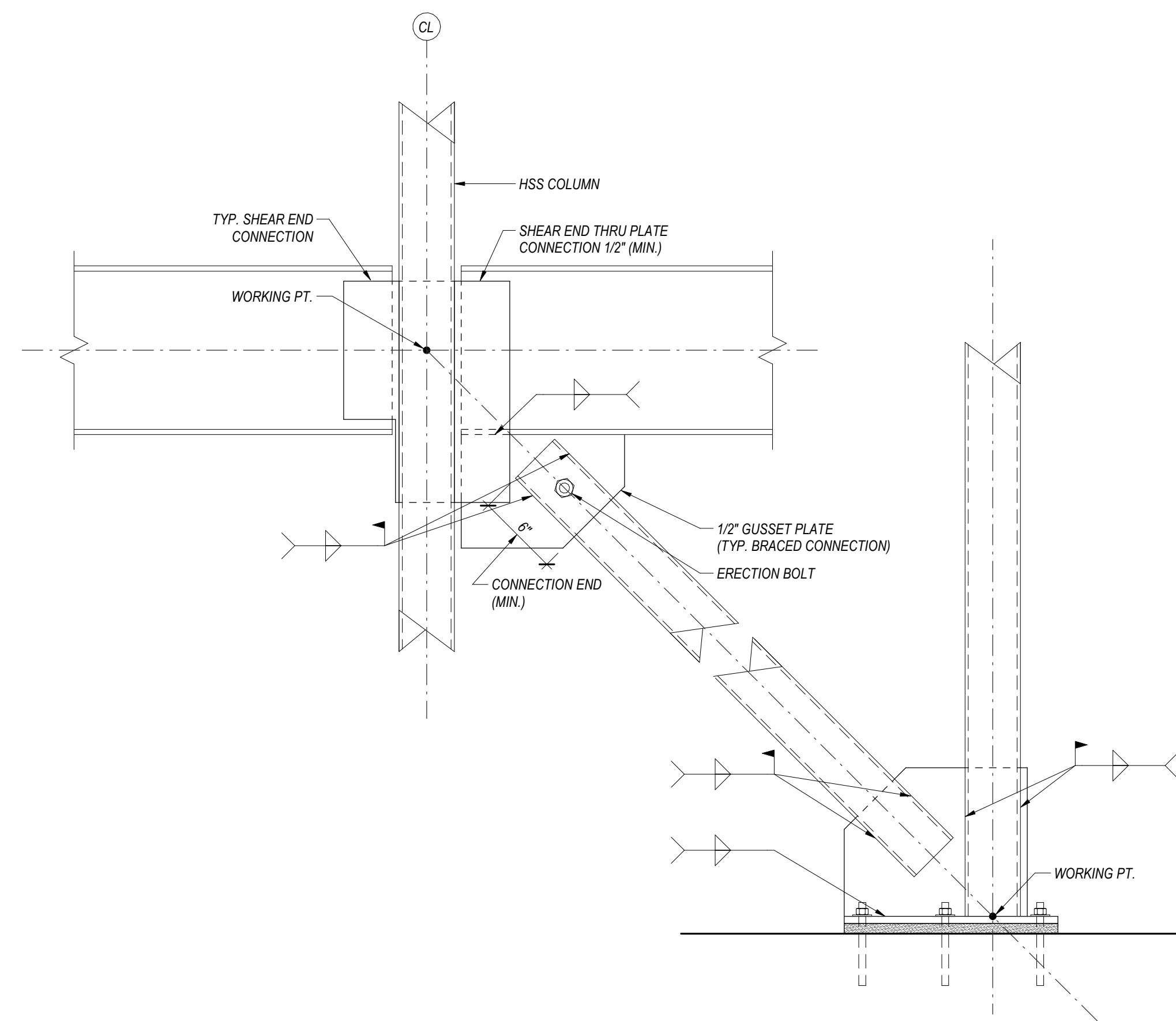
**1 BRACING-B**  
1/4" = 1'-0"



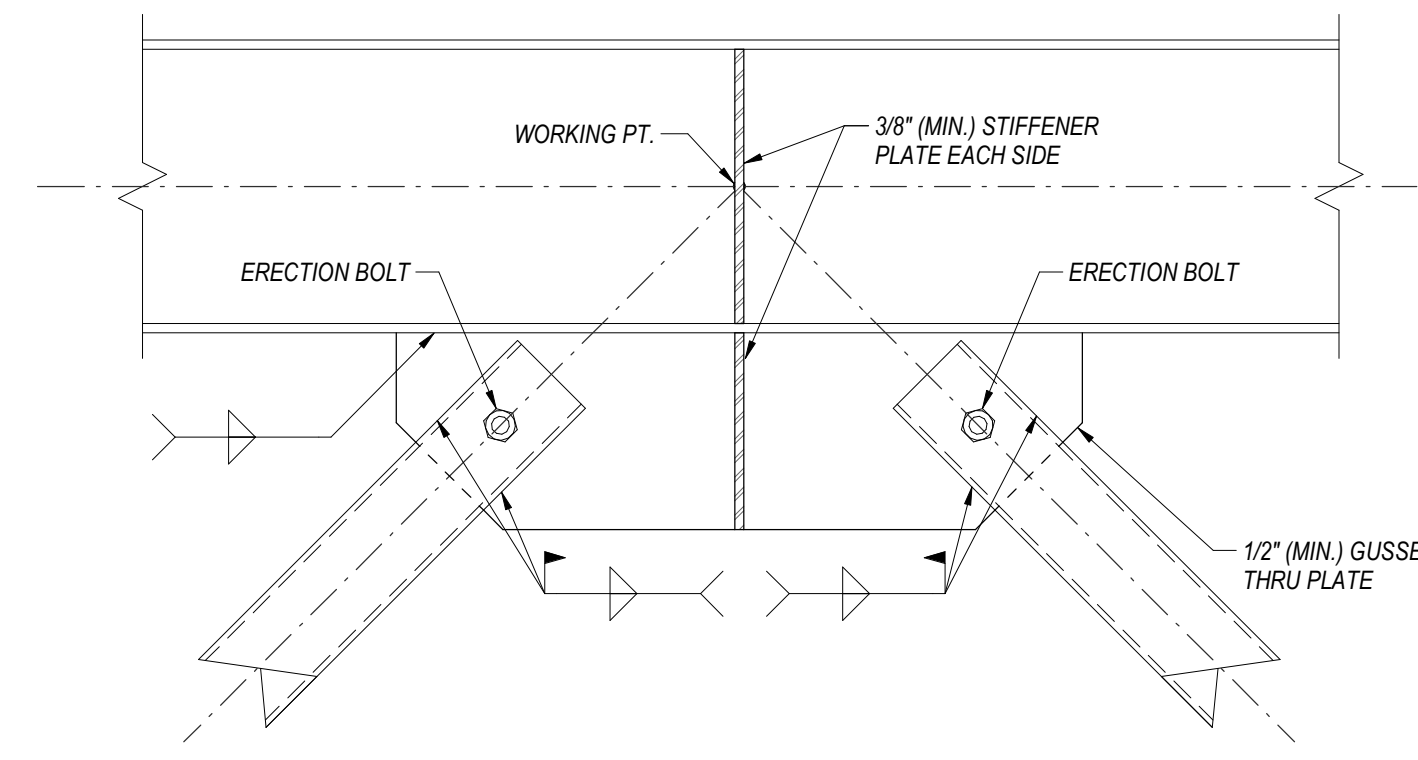
**2 BRACING-3**  
1/4" = 1'-0"



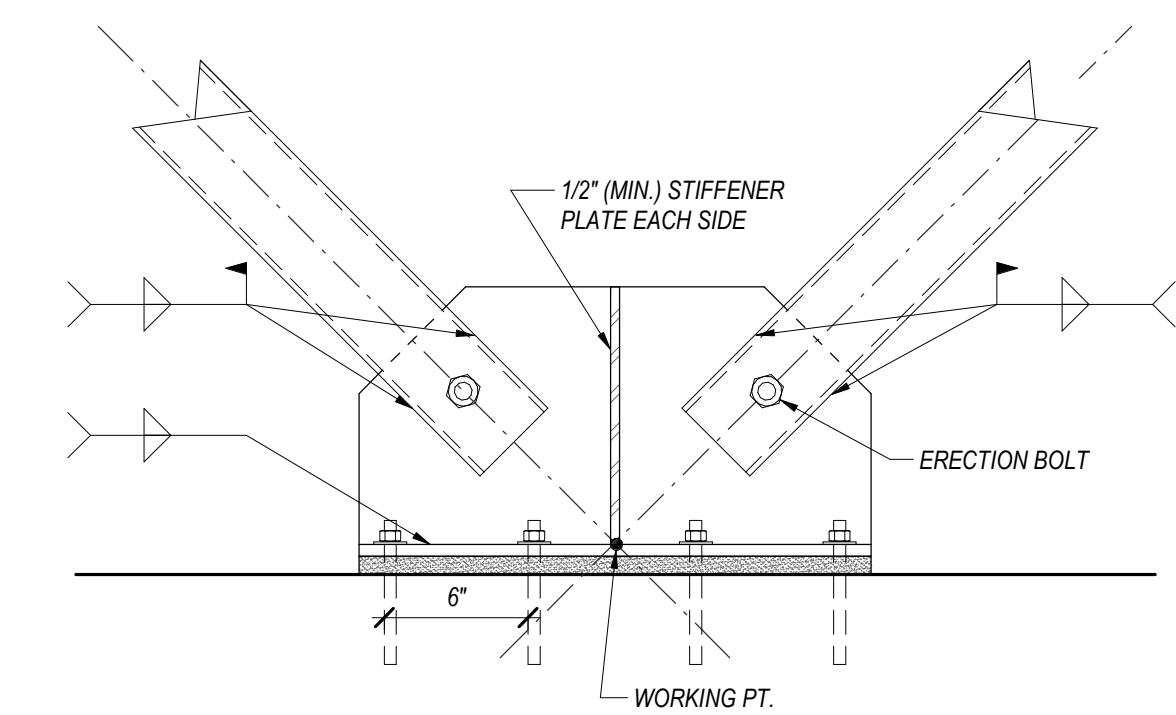
**3 BRACING-J**  
1/4" = 1'-0"



**4 TYPICAL BRACING CONNECTIONS**  
1 1/2" = 1'-0"



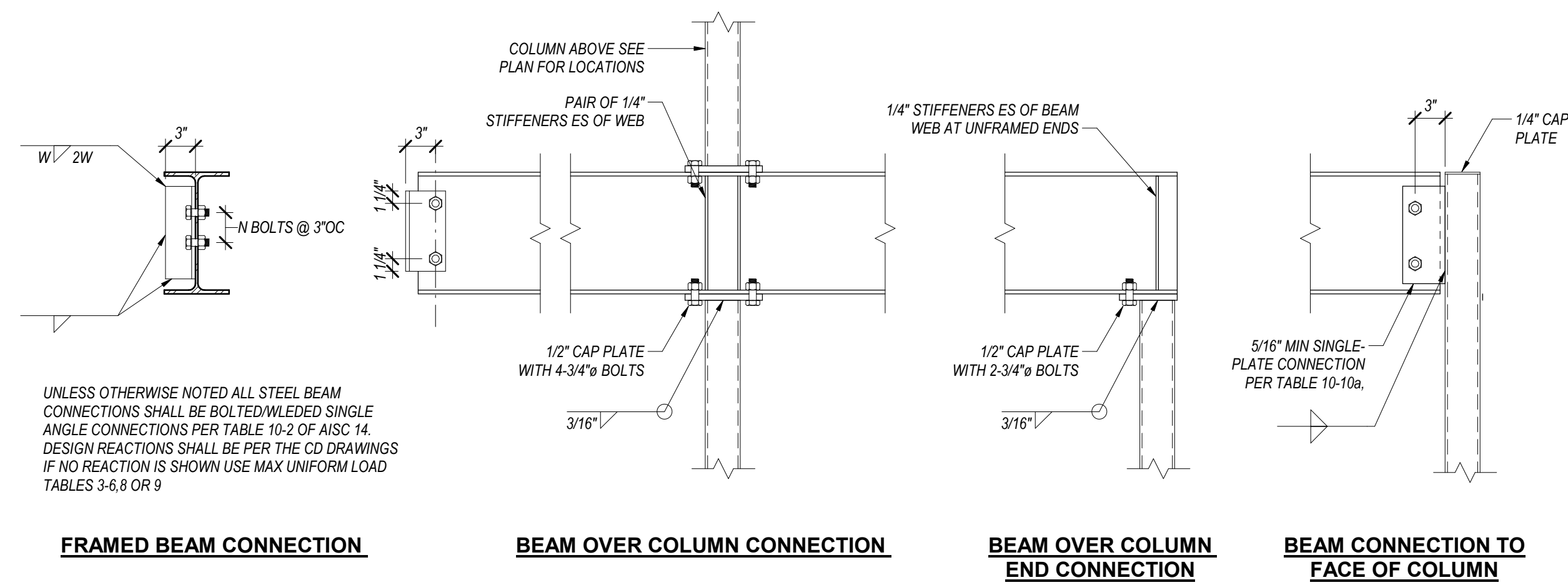
**5 TYPICAL BRACING CONNECTION (TOP)**  
1 1/2" = 1'-0"



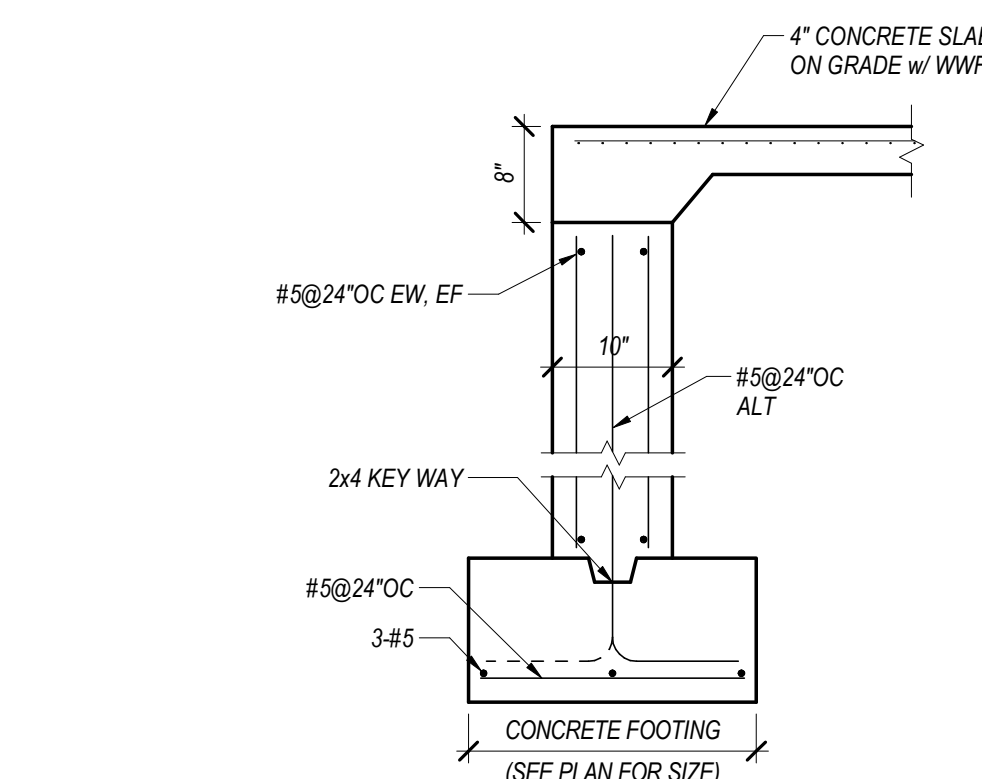
**6 TYPICAL BRACING CONNECTION (BOTTOM)**  
1 1/2" = 1'-0"

REVISIONS			
NO.	BY	DESCRIPTION	DATE
-	-	-	-

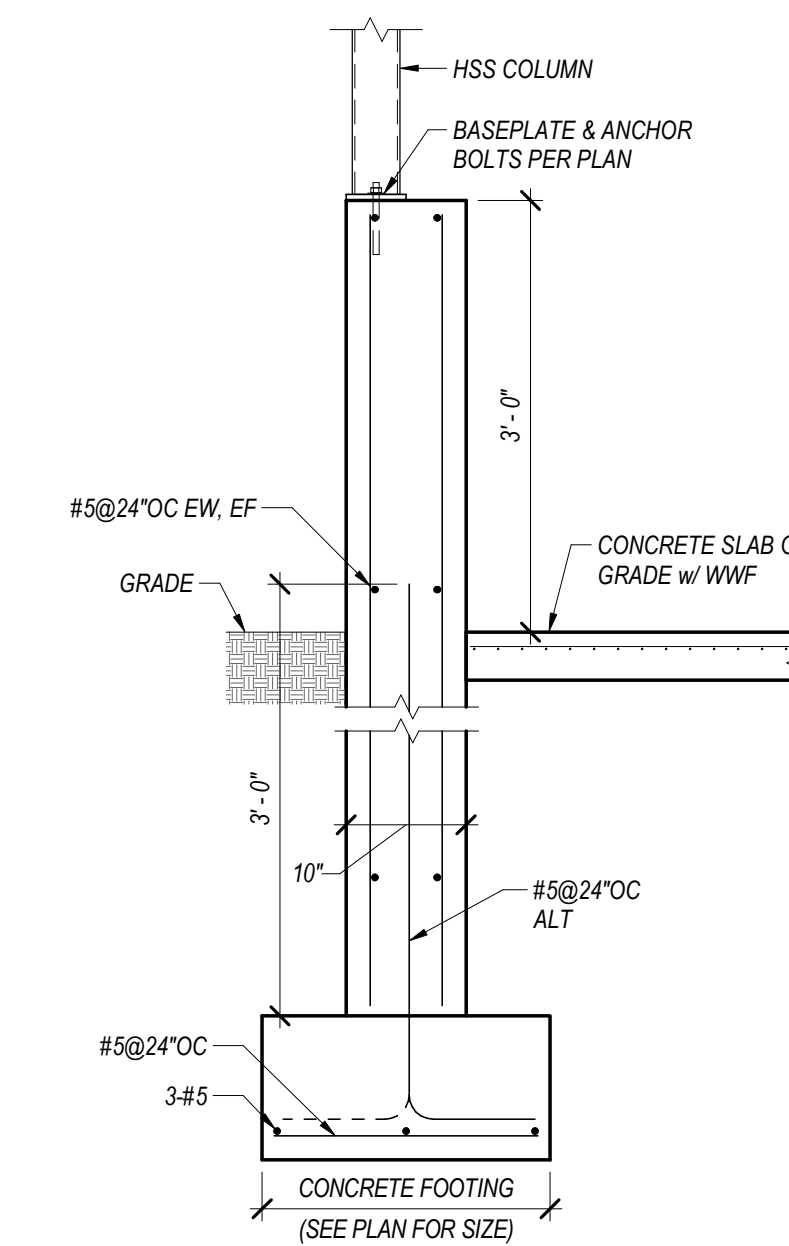
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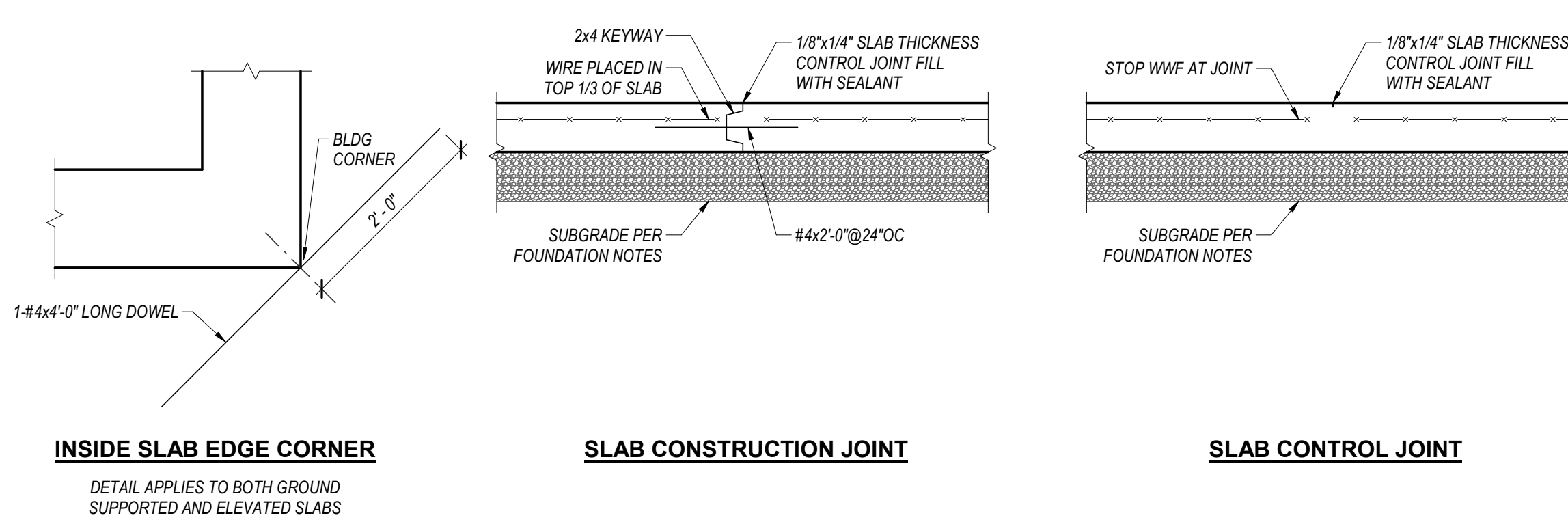
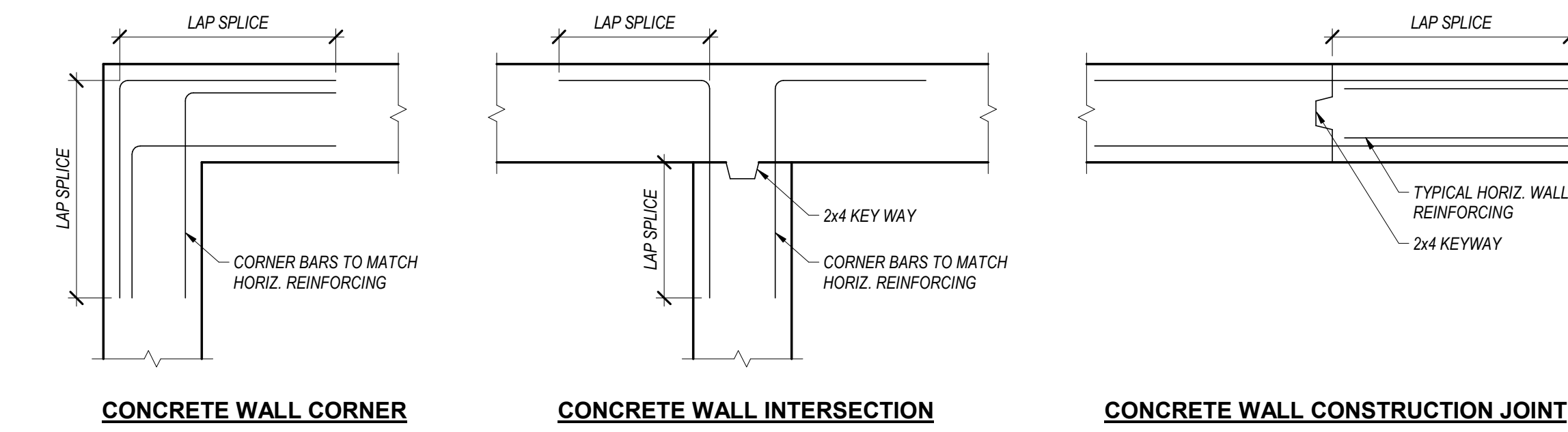
1 TYPICAL STEEL DETAILS  
1" = 1'-0"



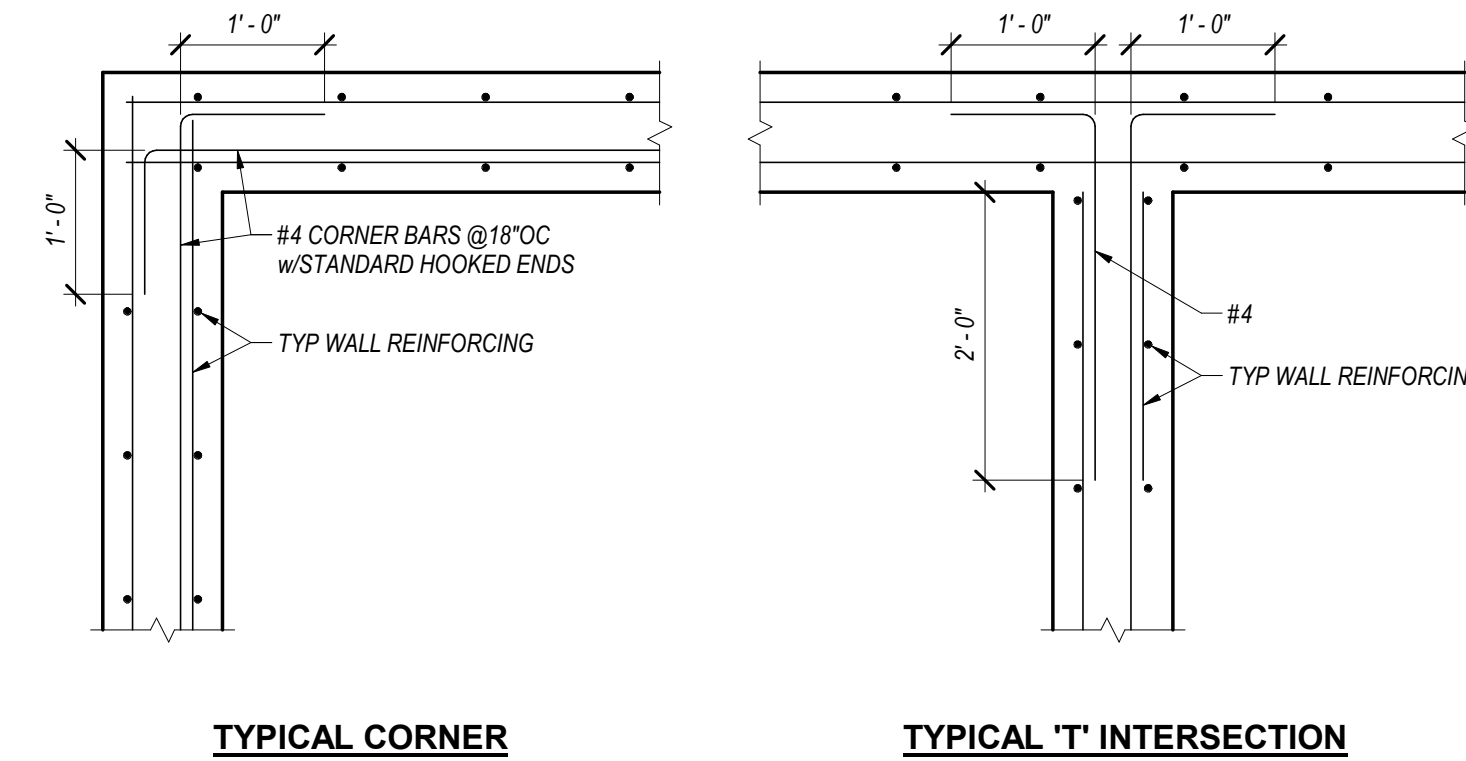
2 FOUNDATION WALL AT PARKING GARAGE  
3/4" = 1'-0"



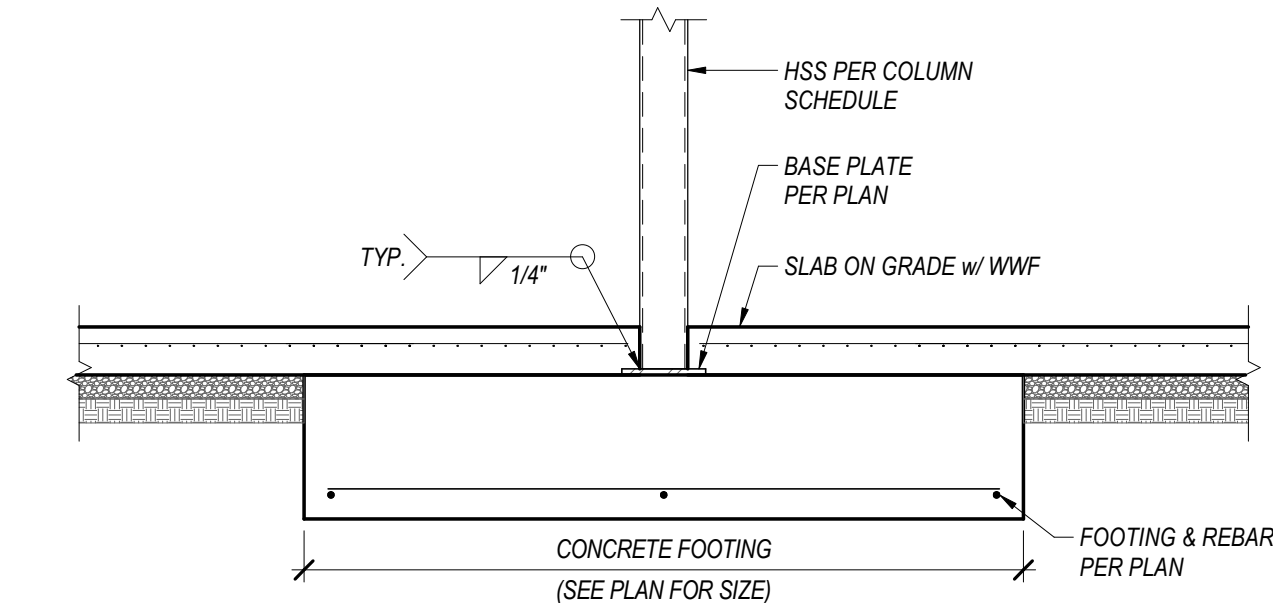
3 FOUNDATION WALL AT PARKING GARAGE  
3/4" = 1'-0"



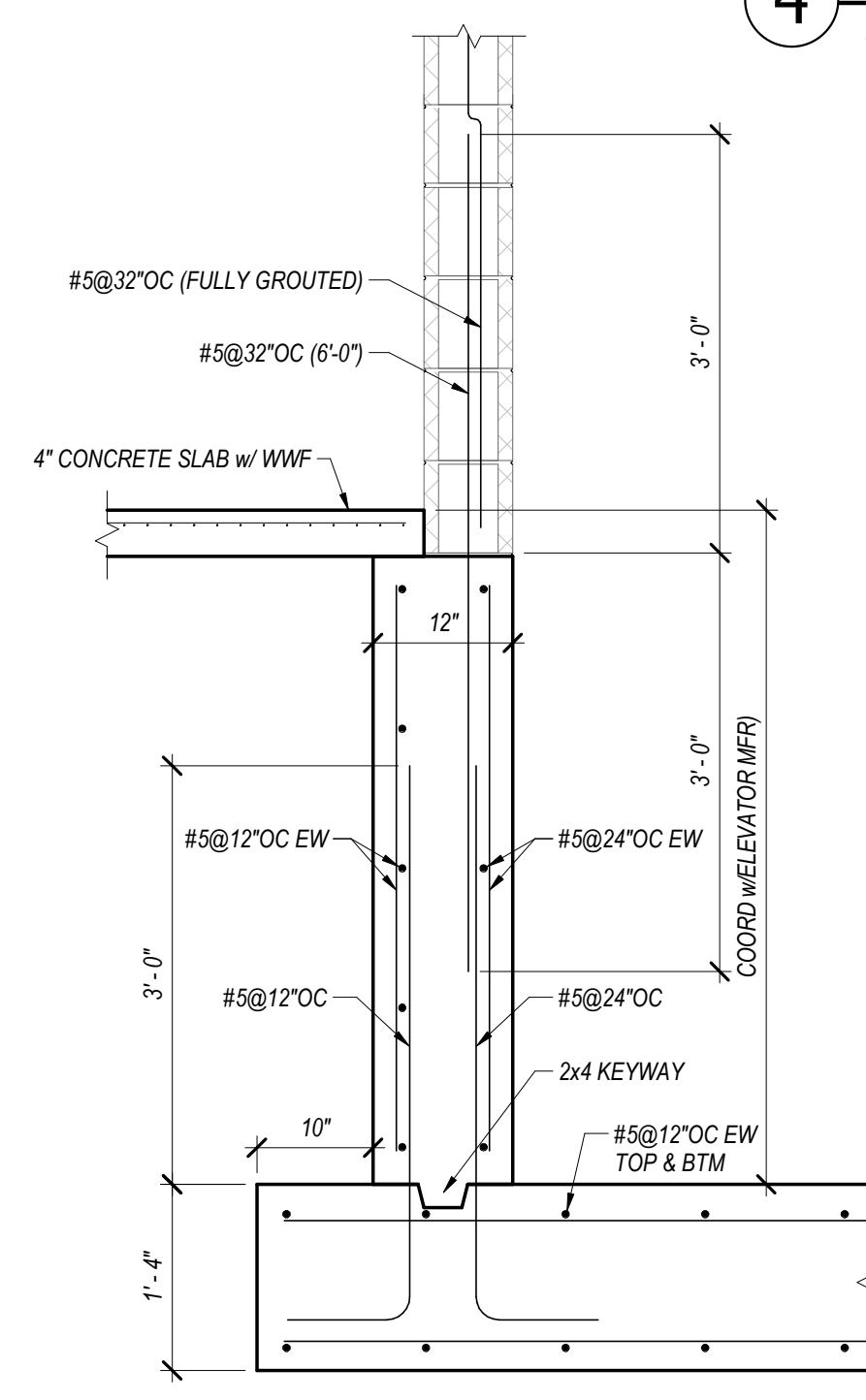
4 TYPICAL CONCRETE DETAILS  
3/4" = 1'-0"



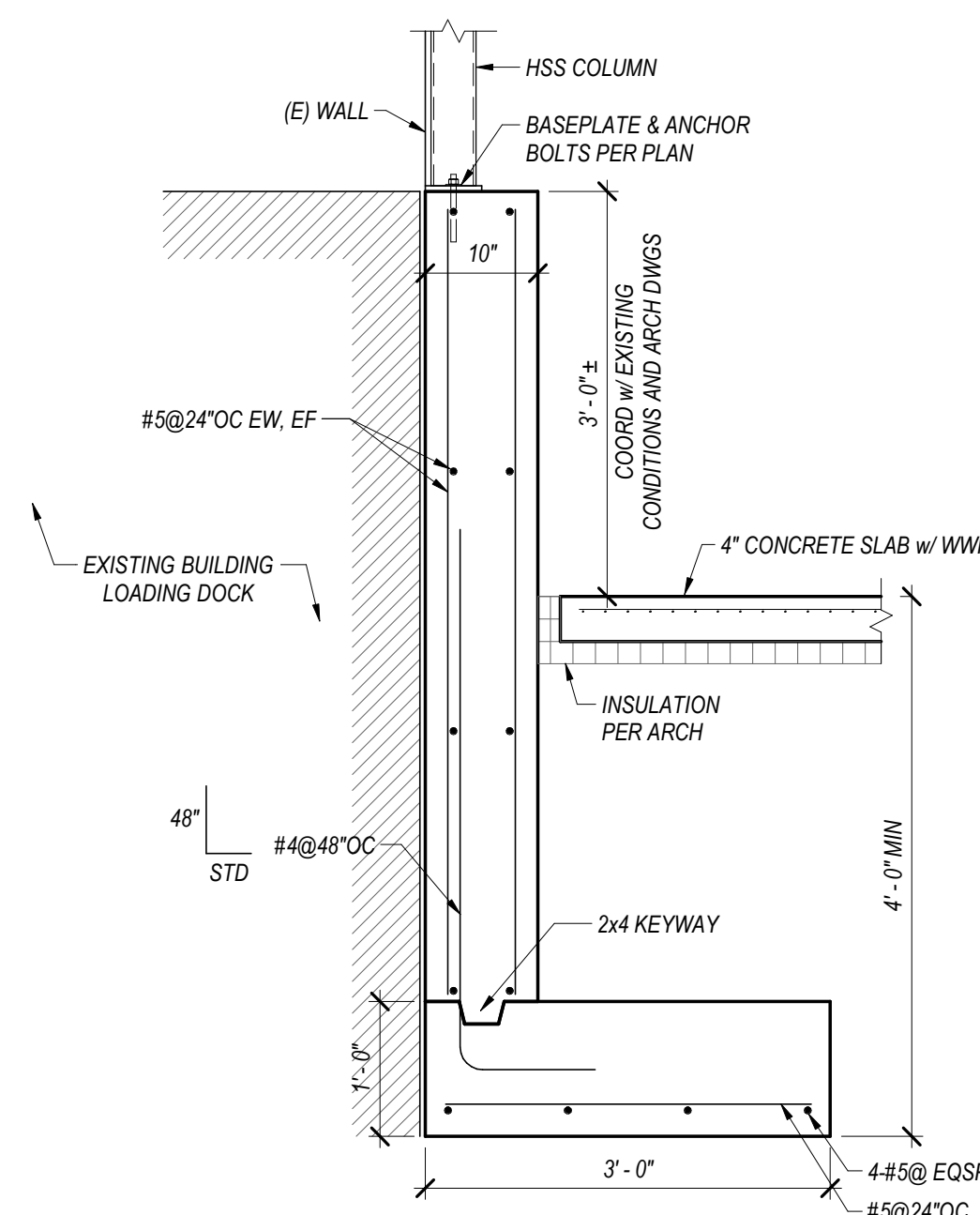
5 MISC REINF WALL  
3/4" = 1'-0"



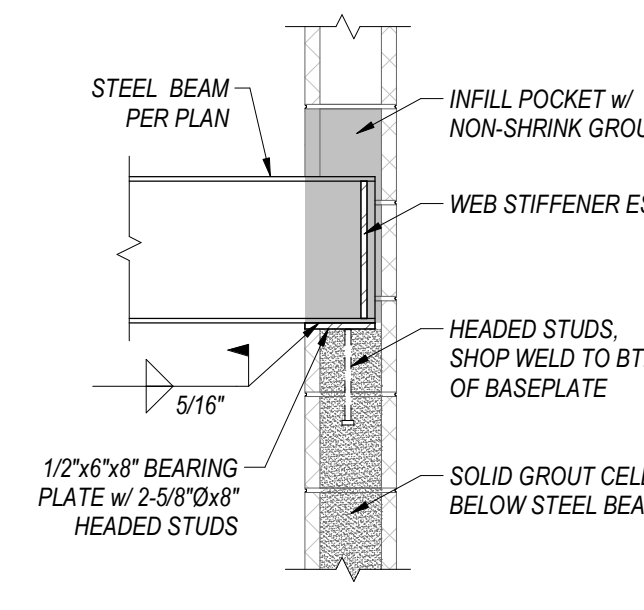
6 INTERNAL COLUMN FOOTING  
3/4" = 1'-0"



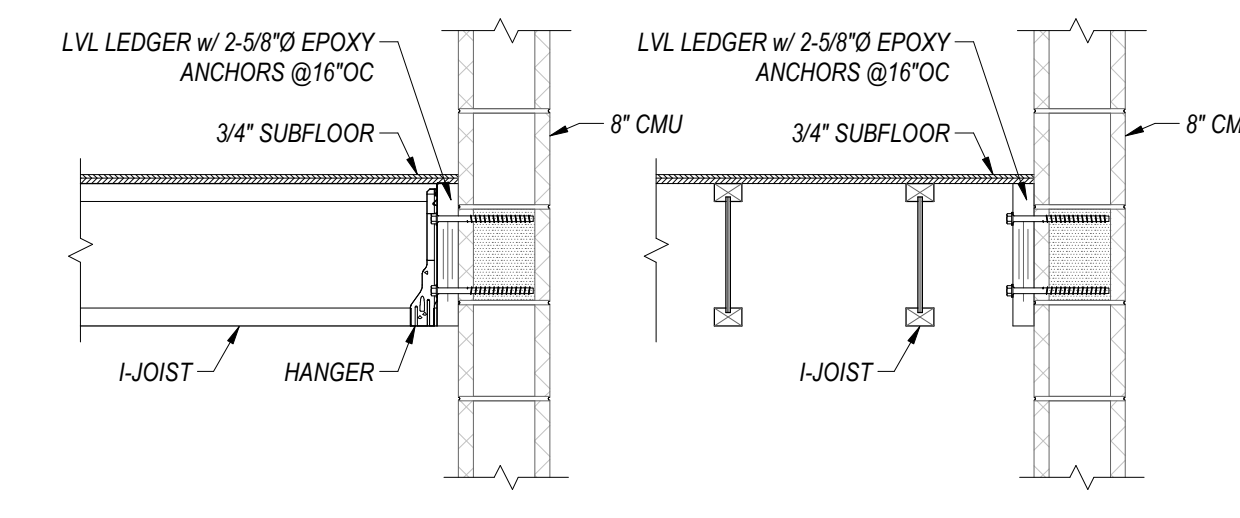
7 ELEVATOR  
3/4" = 1'-0"



8 SECTION  
3/4" = 1'-0"



9 BEAM POCKET DETAIL  
3/4" = 1'-0"

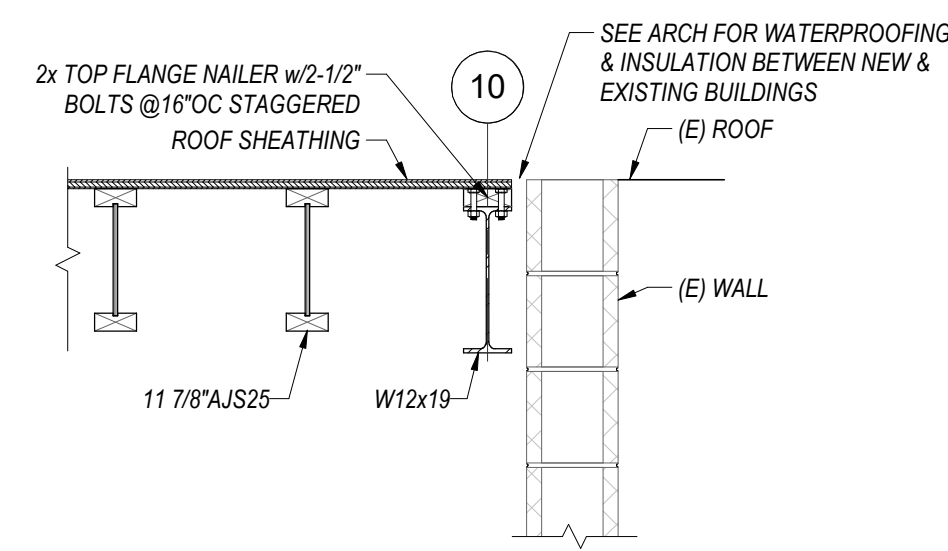


10 JOIST CONNECTION TO CMU  
3/4" = 1'-0"

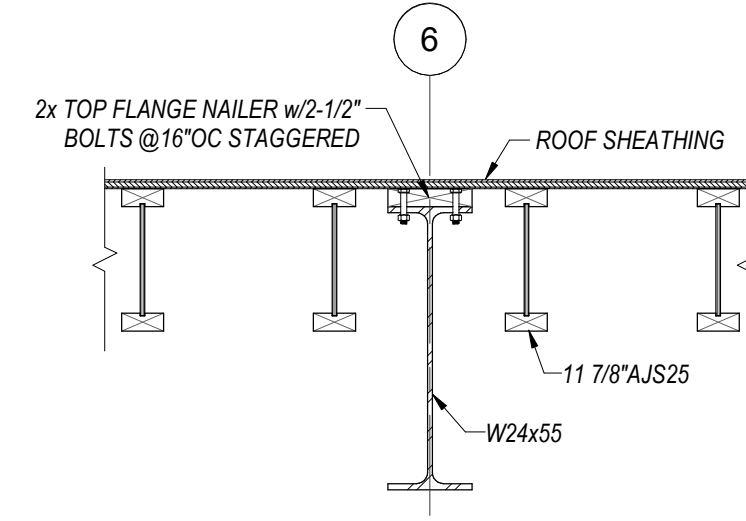
REVISIONS

NO.	BY	DESCRIPTION	DATE

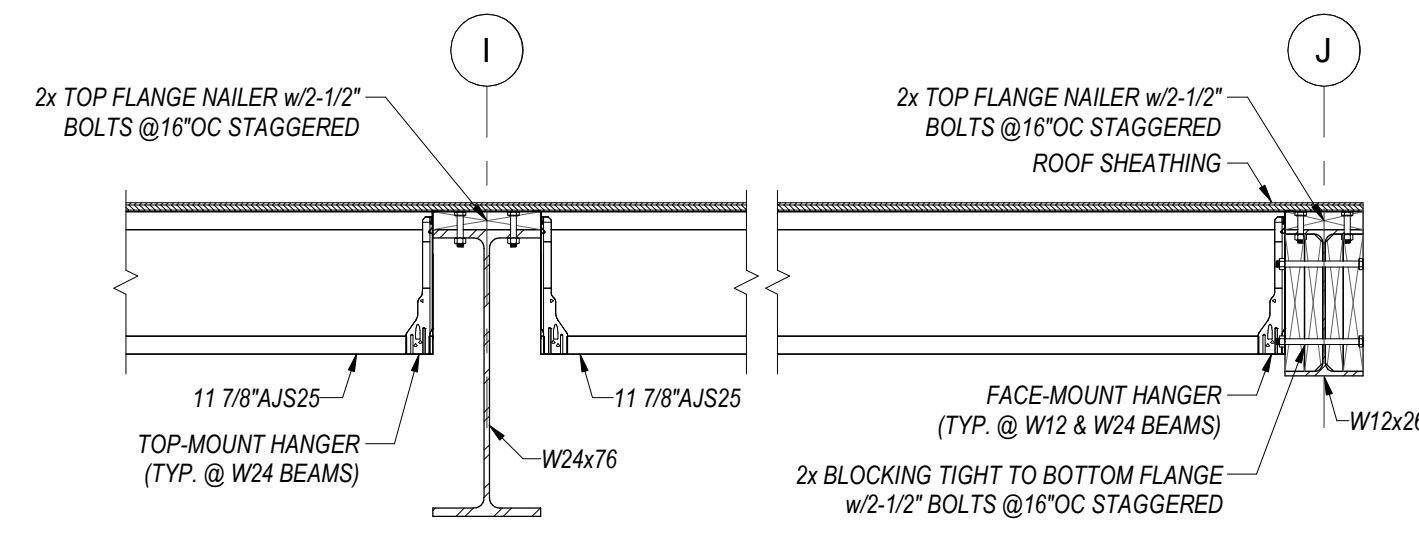
7/2023 1:40:17 PM Admin@jcbt.com (23021) 25 HOWARD ST, ROXBURY, MA 01867



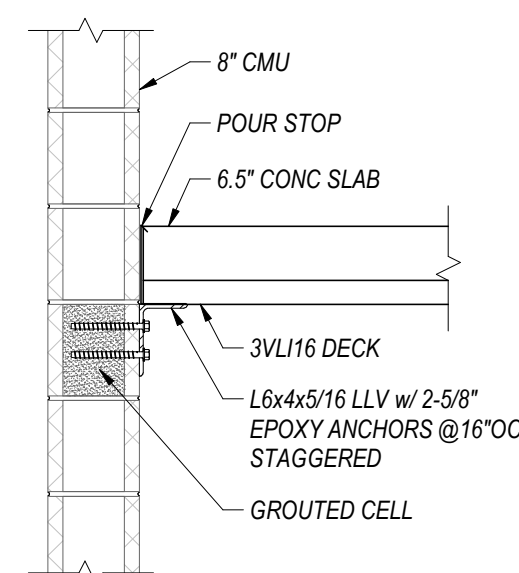
**1 SECTION**  
3/4" = 1'-0"



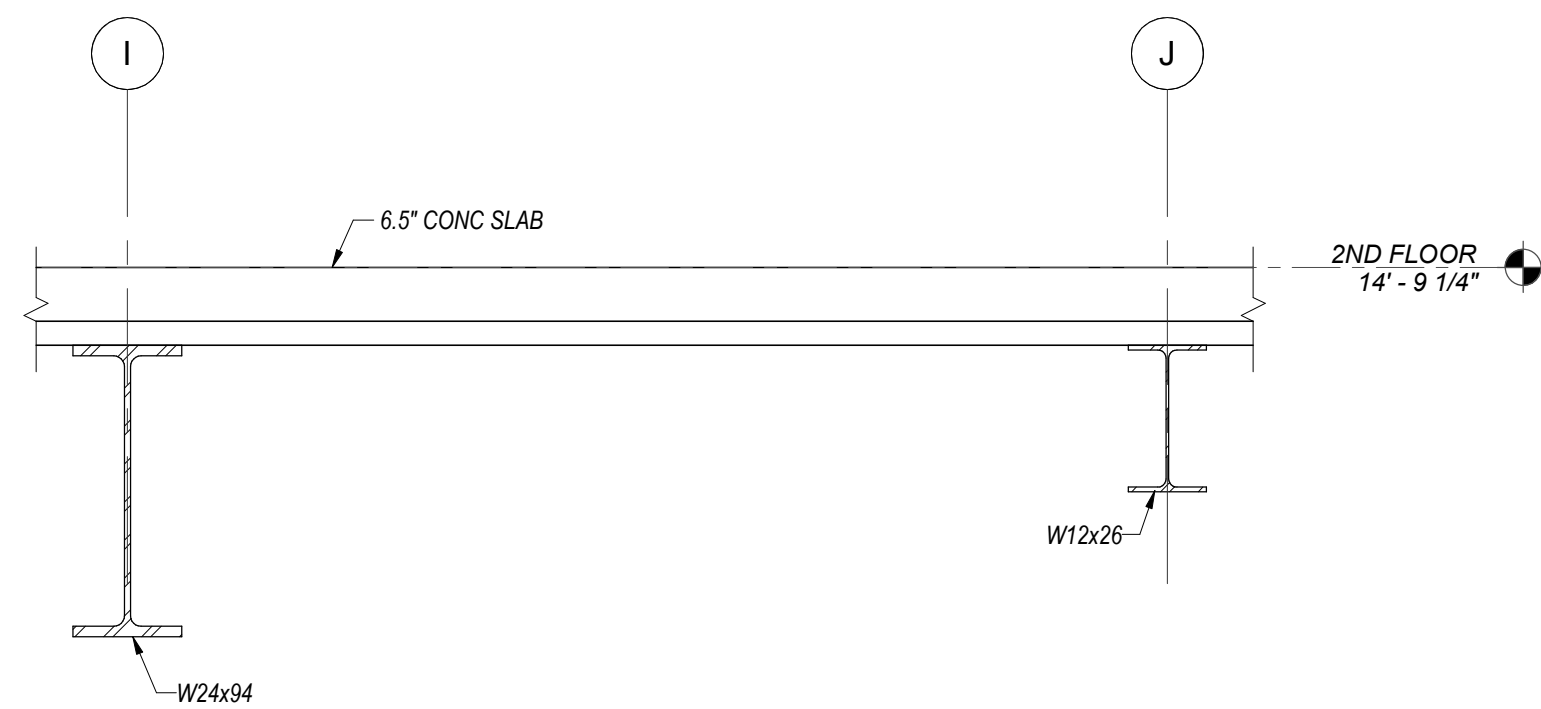
**2 SECTION**  
3/4" = 1'-0"



**3 SECTION**  
3/4" = 1'-0"



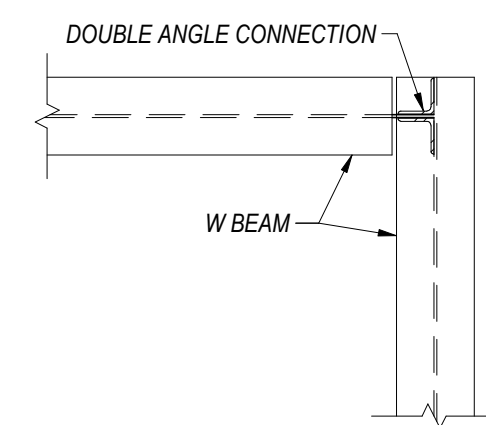
**4 SECTION**  
3/4" = 1'-0"



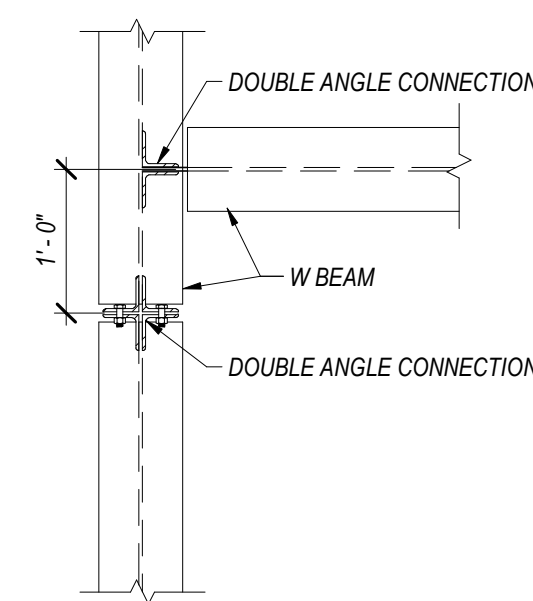
**5 SECTION**  
3/4" = 1'-0"



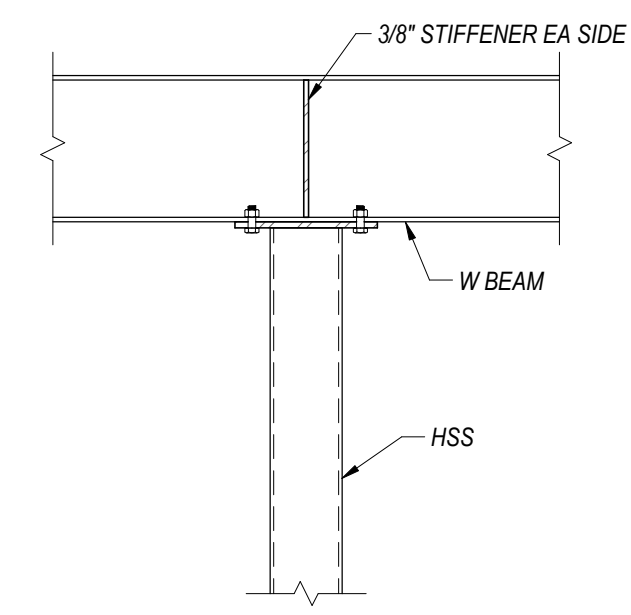
**6 SECTION**  
3/4" = 1'-0"



**7 SECTION**  
3/4" = 1'-0"



**8 SECTION**  
3/4" = 1'-0"



**9 TYPICAL CANTILEVER**  
3/4" = 1'-0"

CONSULTANT



670 MAIN STREET | READING, MA 01867 | 781.779.1330

REGISTRATION

REVISIONS

NO.	BY	DESCRIPTION	DATE
-	-	-	-

PROJECT

SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

WSS # 23021

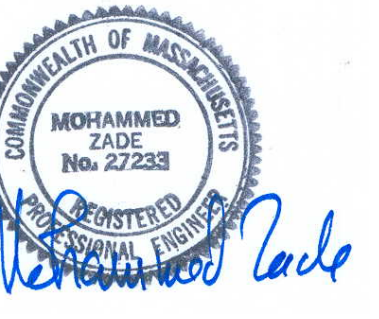
SHEET TITLE

STRUCTURAL  
DETAILS

DRAWN:	DRAWING NO.
SCALE: 3/4" = 1'-0"	<b>S3.1</b>
DATE: 07.07.23	
CHECKED:	
SHEET OF	

CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE

PROJECT

SHANGHAI CORP  
FACTORY ADDITION  
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PROPOSED  
HVAC  
PLAN

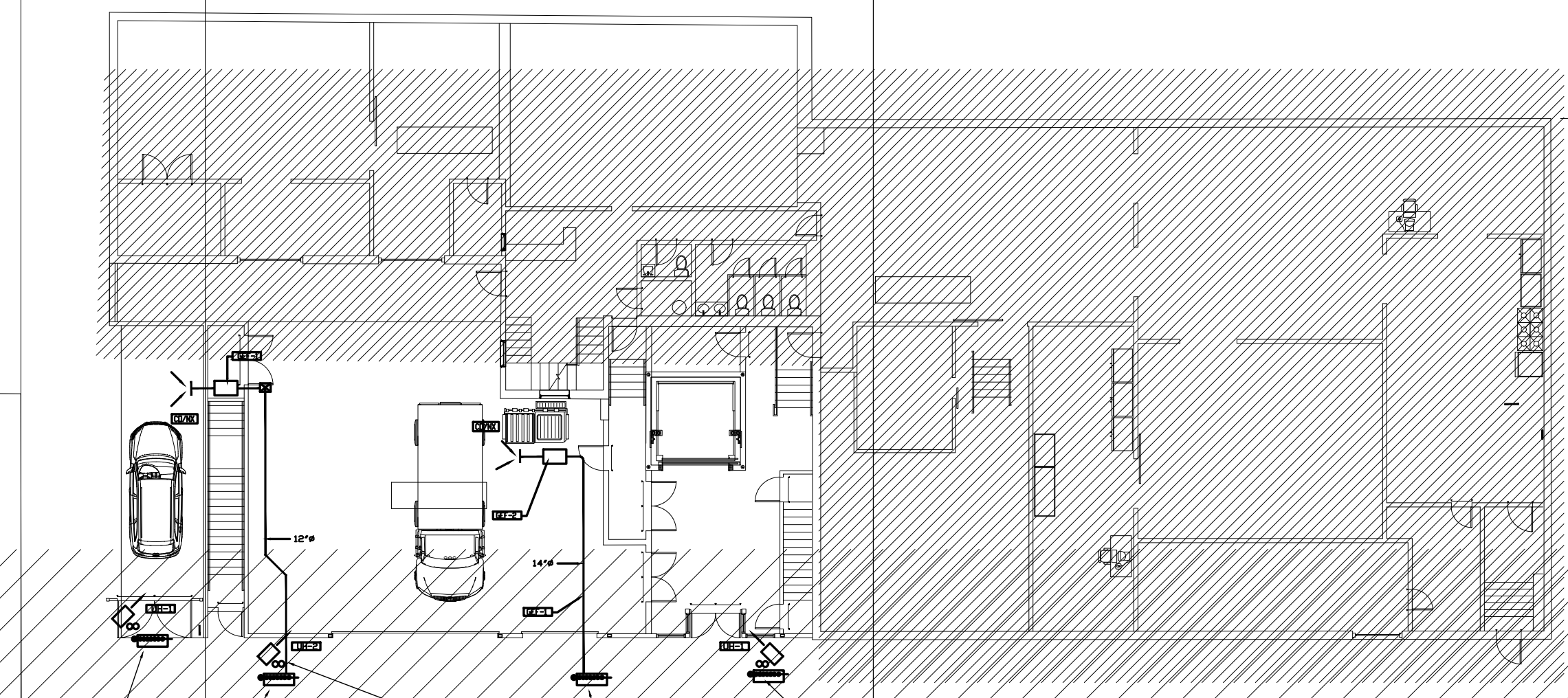
DRAWN: \_\_\_\_\_ DRAWING NO: \_\_\_\_\_

SCALE: NOTED

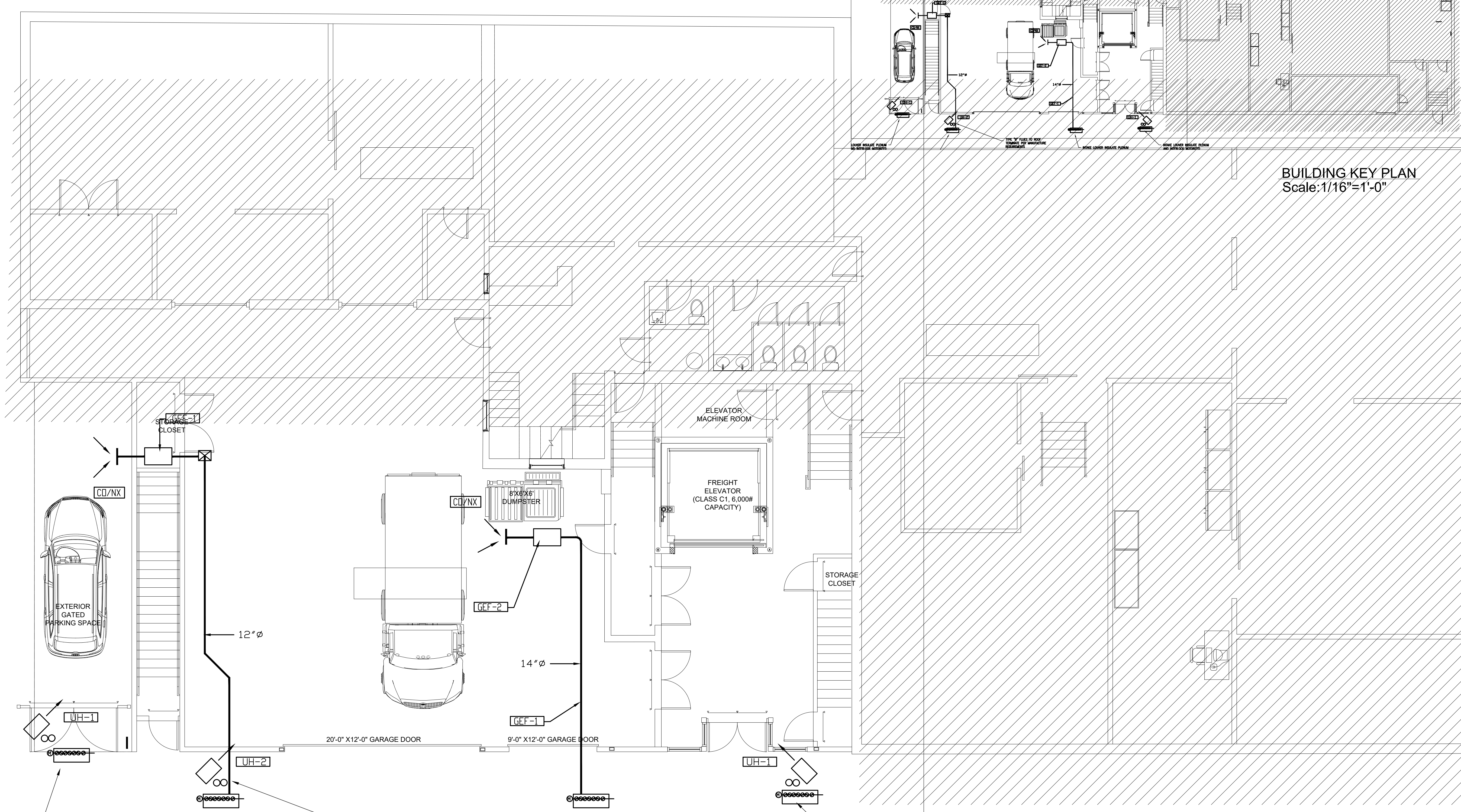
DATE: 07-17-23

CHECKED: \_\_\_\_\_

H1.0



BUILDING KEY PLAN  
Scale: 1/16"=1'-0"



PROPOSED FIRST FLOOR PLAN  
SCALE: 3/16"=1'-0"

PROPOSED FIRST FLOOR PLAN  
SCALE: 3/16"=1'-0"

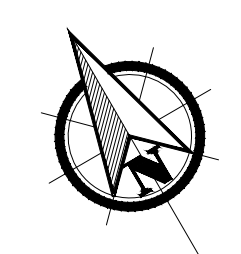
INTAKE LOUVER INSULATE PLENUM AND INTERLOCK MOTORIZED DAMPER WITH GEF-1  
2 SF. FREE AREA

EXHAUST LOUVER INSULATE PLENUM AND INTERLOCK MOTORIZED DAMPER WITH GEF-1  
2 SF. FREE AREA

TYPE "B" FLUES TO ROOF TERMINATE PER MANUFACTURE REQUIREMENTS

INTAKE LOUVER INSULATE PLENUM AND INTERLOCK MOTORIZED DAMPER WITH GEF-1  
2 SF. FREE AREA

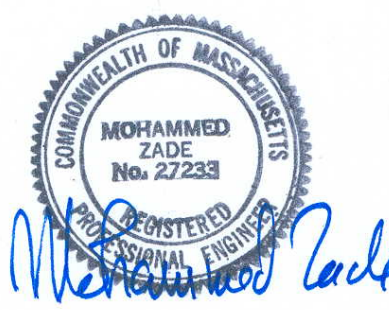
INTAKE LOUVER INSULATE PLENUM AND INTERLOCK MOTORIZED DAMPER WITH GEF-2  
2 SF. FREE AREA





CONSULTANT

REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE

PROJECT

SHANGHAI CORP  
FACTORY ADDITION

25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PROPOSED  
HVAC  
PLAN

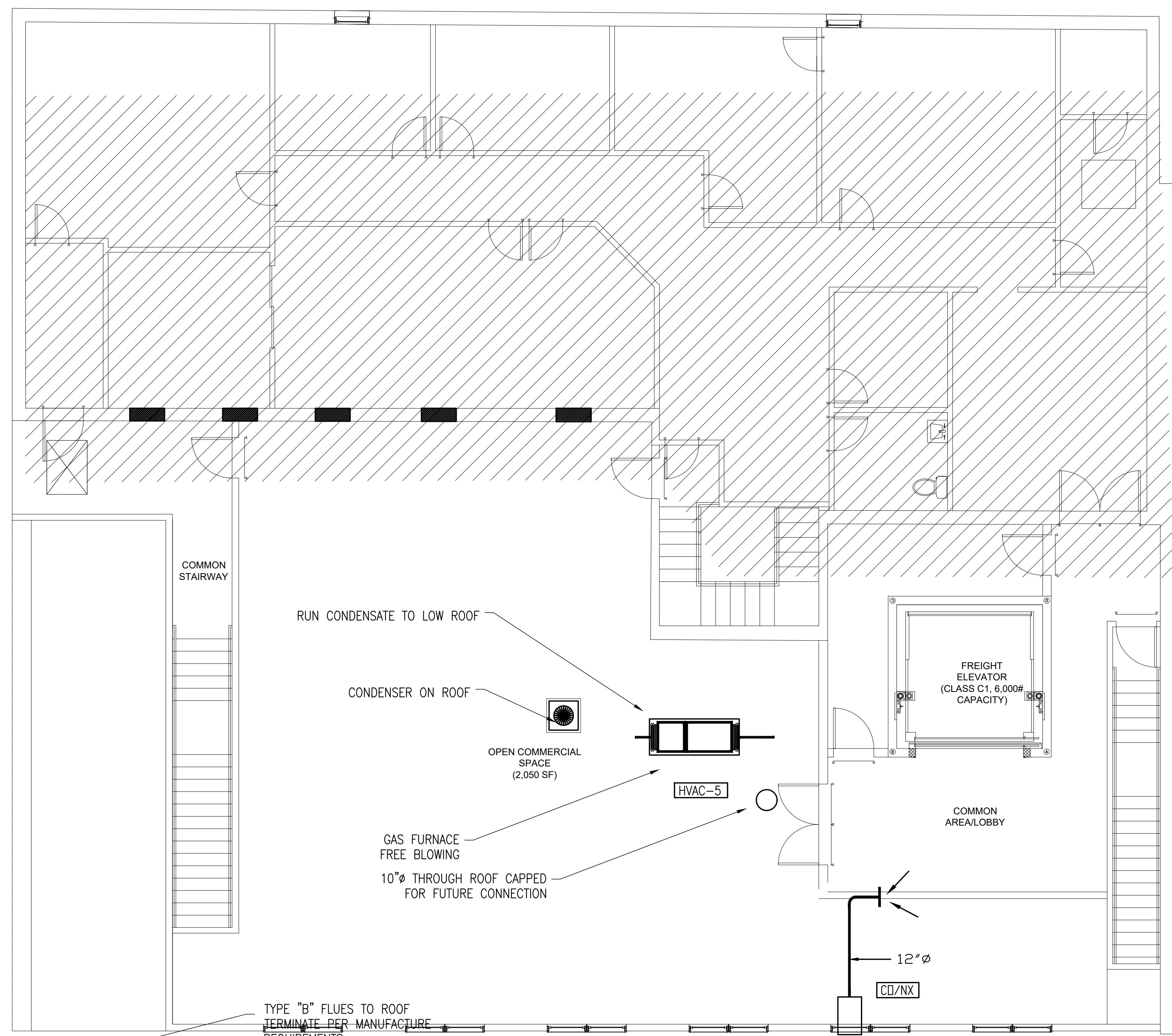
DRAWN: \_\_\_\_\_ DRAWING NO:

SCALE: NOTED

DATE: 07-17-23

CHECKED: \_\_\_\_\_

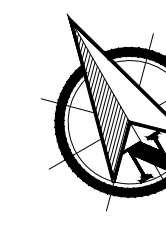
## H1.2



PROPOSED SECOND FLOOR PLAN

SCALE: 3/16"=1'-0"

1  
A1.6



**LEGEND**

	SUPPLY AIR DUCT UP		CHILLED OR HOT WATER RETURN
	SUPPLY AIR DUCT DOWN		CHILLED OR HOT WATER SUPPLY
	RETURN AIR DUCT UP		CONDENSER WATER RETURN PIPE
	RETURN AIR DUCT DOWN		CONDENSER WATER SUPPLY PIPE
	VOLUM DAMPER		HOT WATER RETURN PIPE
	MOTORIZED DAMPER		HOT WATER SUPPLY PIPE
	FIRE DAMPER		CONDENSATE DRAIN PIPE
	1" LINED DUCTWORK		PIPE UP
	RETURN OR EXHAUST AIR REGISTER		PIPE DOWN
	SUPPLY AIR DIFFUSER		BALL VALVE
	THERMOSTAT		GATE VALVE
	ROOFTOP UNIT		CHECK VALVE
	ENERGY RECOVERY UNIT		STRAINER
	GENERAL CONTRACTOR		UNION
	PLUMBING CONTRACTOR		3-WAY CONTROL VALVE
	ELECTRICAL CONTRACTOR		2-WAY CONTROL VALVE
	DOWN		BALANCING VALVE
			THERMOMETER
			PRESSURE GAUGE
			FLEXIBLE PIPE CONNECTION

TYPE	DESCRIPTION	MODEL (BASED ON TTUS)	NEC SIZE	MAX CFM	MAX NC
A	ROUND CEILING DIFFUSER	TITUS TMR	8x8	175	14
A1	LOUVER FACE CEILING DIFFUSER FOR 2'x2' LAY-IN CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR.	TITUS TDCA, BORDER 3	6x6 9x9 12x12 15x15 18x18	150 250 450 650 900	18 18 18 18 18
B	DOUBLE DEFLECTION REGISTER FOR SHEET ROCK CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR.	TITUS 272RS	10x6 12x6 20x6 18x10	150 250 400 650	10 14 18 18
E	DOUBLE DEFLECTION GRILLE FOR SHEET ROCK CEILING OR WALL INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR AS NEEDED	TITUS, 25 RL, BORDER 3	10x10 12x6 20x6 18x10	150 250 400 650	10 14 16 18
F	PERFORATED 24x24 FACE RETURN GRILLE FOR 2'x2' LAY-IN CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR AS NEEDED	TITUS PAR	6x6 8x8 12x12	150 250 375	18 18 18

PROVIDE HANDS OFF AUTO SWITCH FOR ALL MECHANICAL EQUIPMENT

**GENERAL NOTES:**

1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCONSISTENCY, OMISSION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS, DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRACT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERRORS, OMISSIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

2. ALL PENETRATIONS OF ASSEMBLIES EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE SEALED WITH FDM SEALANT OR EQUIVALENT SEALER TO PROVIDE ZERO AIR INFILTRATION COORDINATE WITH FIRE STOPPING REQUIREMENTS.

3. NO COMPONENT OF ANY SYSTEM SHALL RUN THROUGH THE STAIR ENCLOSURE THAT DOES NOT RELATE TO OR SERVE THE STAIR ENCLOSURE.

**LOUVER NOTES**

LOUVER DIMENSIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS. LOUVERS SHALL BE AMCA CERTIFIED FOR WIND DRIVEN RAINS. BLADES SHALL BE 4" DEEP MOUNTED BETWEEN 35-45 DEGREES WITH DRAINABLE BLADE AND DRAINABLE HEAD. PROVIDE BIRD SCREENS IN COMPLIANCE WITH IMC 401. PROVIDE CLOR ANODIZED LOUVER PER ARCHITECTS DIRECTION. LOUVERS SHALL BE AS MANUFACTURED BY GREENHECK MODEL EHH 401 SERIES.

**INSULATION NOTES**

CONTRACTOR SHALL FOLLOW THE MOST STRINGENT INSULATION REQUIREMENT FOR EACH ITEM.

THE FOLLOWING SYSTEMS SHALL BE INSULATED. DUCT LINER SHALL BE CLOSED CELL TYPE, GERM FOAM

IECC 2015 REQUIREMENTS:

- HEATING HOT WATER MAINS AND BRANCHES:  
PIPING < 1" REQUIRES 1 1/2" INSULATION  
PIPING > 1 1/2" REQUIRES 2" INSULATION
- SUPPLY & RETURN DUCTWORK FROM HVAC UNITS:  
1 1/2" INSULATION MIN. R-6

LEED/ASHRAE 2013 REQUIREMENTS:

- HEATING HOT WATER MAINS AND BRANCHES:  
PIPING < 1 1/2" REQUIRES 1 1/2" INSULATION  
PIPING > 1 1/2" REQUIRES 2" INSULATION
- SUPPLY & RETURN DUCTWORK FROM HVAC UNITS:  
1" INSULATION MIN. R-6

GENERAL INSULATION REQUIREMENTS:

- ALL LINED SUPPLY, RETURN AND TRANSFER DUCTWORK SHALL BE 1" DUCT LINER  
-DUCT INSULATION SHALL CONTINUE OVER DUCT AT LINED POINT  
-FIRST 10' OF SUPPLY AND RETURN FOR ALL ERU'S AND HVAC UNITS
- CONDENSATE DRAIN: 1"
- ALL DUCTWORK IN CEILING SPACE SHALL HAVE R-6 INSULATION,
- REFRIGERANT PIPING 3/4" ARAMELEX

ALL DUCTWORK ON ROOF OR UNCONDITIONED SPACE SHALL BE INSULATED WITH R-12 INSULATION AND COVERED WITH EPDM ROOFING MATERIAL FOR WATER TIGHT INSTALLATION.

**CO & NO2 DETECTION AND CONTROL SYSTEM**

Provide and install in MCC Controls Multi-Point Gas Detection controller (MGC series) with Carbon Monoxide (CO) and Nitrogen Dioxide (NO2) remote sensors as indicated:

Controller (MGC):

A. The control panel shall provide continuous monitoring of the designated gas levels in the assigned area and control the ventilation system. The control panel shall have status indicator LED's located on the front; Red = Fail, Yellow = Alarm. The control panel shall include a two-line, backlit LCD display of 16 characters, at 1 digit resolution. The controller shall be NRTL performance tested and certified to ANSI/UL 2017. The controller shall continuously detect the surrounding air for any traces of carbon monoxide and nitrogen dioxide gas. The controller shall be factory set to 50 PPM for CO and 2PPM for NO2 for the low alarm and 100 PPM for CO and 5 PPM for NO2 for the high alarm. When 50 PPM CO and or 2 PPM NO2 is reached, the sensor shall activate the low alarm relay and the corresponding ventilation equipment, such as the exhaust fans, dampers, etc. If the gas level continues to increase to 150 PPM CO and or 5 PPM NO2 and maintain that PPM reading for a duration of 10 minutes (adjustable), the high alarm shall activate the associated remote devices, such as the horn/strobe and any other audio/visual alarms, etc. The sensor shall continue to monitor the specified gas and it shall not be possible to reset the alarm until the gas level has dropped either 4 or 10% below the alarm set points, as selected.

CARBON MONOXIDE (CO) SENSOR/TRANSMITTER

B. The carbon monoxide sensor/transmitter shall provide monitoring of the Carbon Monoxide levels in the parking garage. The sensors shall be electrochemical type and shall have plug-in technology. The sensor range shall be 0-250 ppm carbon monoxide. Each sensor/transmitter shall cover 7,500 square feet of the garage floor and placement shall be applied strategically and appropriately per floor plan requirement. The sensor/transmitter shall be contained in a NEMA 4X metal enclosure. The enclosure for the sensor/transmitter shall be installed on walls or columns approximately 5 feet above the floor. If the level of Carbon Monoxide reaches 50 PPM in the area of detection, the low alarm shall activate and the exhaust fans will be started. If the level of CO increases to 150 PPM, the high alarm shall activate.

NITROGEN DIOXIDE (NO2) SENSOR/TRANSMITTER

C. The Nitrogen Dioxide sensor/transmitter shall provide monitoring of the Nitrogen Dioxide levels present in diesel exhaust in the parking garage. The sensors shall be electrochemical type and have plug-in technology. The sensor range shall be 0-10 ppm Nitrogen Dioxide. Each sensor/transmitter shall cover 7,500 square feet of the garage floor and placement shall be applied strategically and appropriately per floor plan requirement. The sensor/transmitter shall be contained in a NEMA 4X enclosure. The enclosure with the sensor/transmitter shall be installed on walls or columns approximately 5 feet above the floor. If the level of NO2 reaches 2 PPM, the low alarm shall activate. If the level of NO2 increases to 5 PPM, the high alarm shall activate.

SIZE	MAX. CFM
6" DA	100
7" DA	150
8" DA	200
9" DA	300
10" DA	400

NOTE: MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 4 FT.

TAG	LOCATION	TYPE	MBH INPUT	MBH OUTPUT	CFM	HP	RPM	V/Ø	VENT	DIM-WEIGHT	MODEL (REZNR)
UH-1	AS SHOWN	GAS FIRED	100	97	1350	1/4	1750	115/1	4" INL./4" EXH.	20HX50WX40L-230LBS	UDAS-100
UH-2	AS SHOWN	GAS FIRED	75	62	960	.06	1750	115/1	4" INL./4" EXH.	20HX50WX40L-230LBS	UDAS-75
UH-3	AS SHOWN	GAS FIRED	250	234	3202	1/4	1750	115/1	6" INL./4" EXH.	20HX50WX40L-230LBS	UEAS-250

NOTE: 1) PROVIDE COMPLETE VERTICAL OR HORIZONTAL VENT/COMBUSTION AIR KIT  
2) PROVIDE WALL MOUNTED THERMOSTAT.

TAG	INDOOR SECTION (VFD)								CONDENSING SECTION											
	NOM. CAP. TON	CFM	ESP IN.	FAN HP	TOT. MBH	SENS. MBH	GAS FURN.(MBH) TUB/100FT	FLUE	V/Ø	FLA	MCA	MOCP	V/Ø	EER	SEER	STRETCH SEER	DB	MODEL (BASED ON CARRIER)	INDOOR	
HVAC-5	5	1800	.5	3/4	57	41	80	72	70 FT	115/1	29.6	35	50	208/1	12.6	15.5	15.0-YES	72	58MVC120-20 W/24APAT-060 AND MATCHING COIL	18"Wx28"Dx40"H+12" COIL

WITH EACH INDOOR UNIT PROVIDE  
-HONEYWELL T-7300 THERMOSTAT, ACID NEUTRALIZER, AIR FILTER, COMBUSTION AIR INTAKE AND EXHAUST FLUE PIPES, CONDENSATE DRAINS SHALL BE TYPE 1" COPPER WITH 1 1/2" FIBERGLASS INSULATION RUN TO INDIRECT WASTE ABOVE BATHROOM CEILING.  
PROVIDE ZONE CONTROL AS REQUIRED TO MATCH NUMBER OF MOTORIZED DAMPERS  
WHEN RUN IN UNCONDITIONED SPACES PROVIDE MINIMUM 1" INSULATION FOR THE FLUE/VENT PIPES TO MATCH MAXIMUM LENGTHS ON FLUE LENGTH (INCLUDES 6 ELBOWS)  
PROVIDE REFRIGERANT LINES BETWEEN INDOOR AND OUTDOOR UNITS AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE 3/4" ARMOFLEX INSULATION ON REFRIGERANT LINES.  
PROVIDE MERV 8 FILTER (MERV 6 FOR EXDAR) AND MERV 13 FOR LEED PROJECTS

**ELECTRIC HEATER SCHEDULE**

TYPE	KW	VOLT/PH	DIMENSIONS	MODEL NUMBER-COLOR BY ARCH
RWH-1	1	120/1		Q'MARK#CRA 1512-T2
RWH-2	2	120/1	19"HX16"WX4"D	Q'MARK# MCSSARWH1802/HTWHS1
RWH-4	4	208/1	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHS1
SWH-4	4	208/1	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHSM
EBB-2	0.4	120/1		Q'MARK#QMK-2512W-W/T/STAT
EBB-3	0.75	120/1		Q'MARK#QMK-2513W-W/T/STAT
EBB-4	1	120/1		Q'MARK#QMK-2514W-W/T/STAT
EBB-6	1.5	120/1		Q'MARK#QMK-2516W-W/T/STAT
UH-5	5	208/1		Q'MARK#MUH-35-W/T/STAT
CCH-4	4	208/1		Q'MARK#CDF548-W/T/STAT

TAG	LOCATION	SERVICE	TYPE	DRIVE	CFM	SP	RPM	HP	V/Ø	ROOF OPENING&DIMENSIONS	GREENHECK MODEL	CONTROLS
GEF-1	GARAGE	EXHAUST	ROOF	BELT	2,500	.375"	890	3/4	208/1	18-1/2" X 18-1/2"	GB-161-7	CO SENSOR/MANUAL
GEF-2	GARAGE	EXHAUST	WALL	BELT	5,000	0.375	830	3/4	208/1	36X38X40" DEEP	SB-2H30-7	CO SENSOR/MANUAL
GEF-3	GARAGE	EXHAUST	WALL	BELT	5,000	0.375	830	3/4	208/1	38X38X40" DEEP	SB-2H30-7	CO SENSOR/MANUAL

NOTE: 1. PROVIDE WALL HOUSING WITH GUARD, MOTORIZED DAMPER, DAMPER GUARD, DISCONNECT SWITCH AND STARTER WITH ALL FANS.  
2. INTERLOCK WITH CO DETECTION SYSTEM  
3. PROVIDE INSULATED CURB WITH GEF-1  
4. PROVIDE VFD FOR GEF-1&2 FOR LOW SPEED CONTINUOUS OPERATION AND HIGH ON ACTIVATION ON CO SENSOR

**VEHICULAR EXHAUST FAN SCHEDULE**

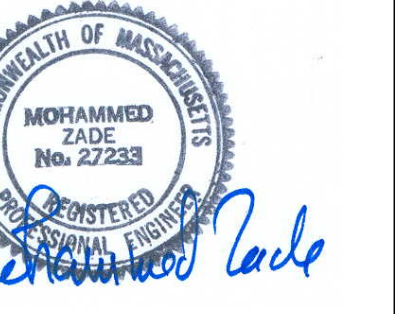
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VEF-1	AS SHOWN	GARAGE	ROOF	BELT	1,500	1.5"	1403	2	208/3Ø	33"x36"x35"	CMB-25	CONTROL PANEL

NOTE: 1. PROVIDE WEATHER GUARD, DAMPER GUARD, DISCONNECT SWITCH AND STARTER WITH ALL FANS.  
2. WITH THE WEATHER GUARD SYSTEM PROVIDE THE FOLLOWING FOR EACH GARAGE BAY  
-HOSE ASSEMBLY WITH LFT RETRACTOR

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**PROJECT**

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FACTORY ADDITION

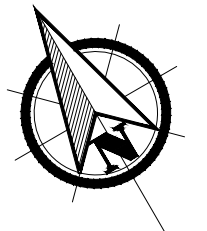
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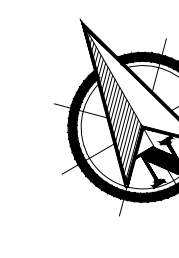
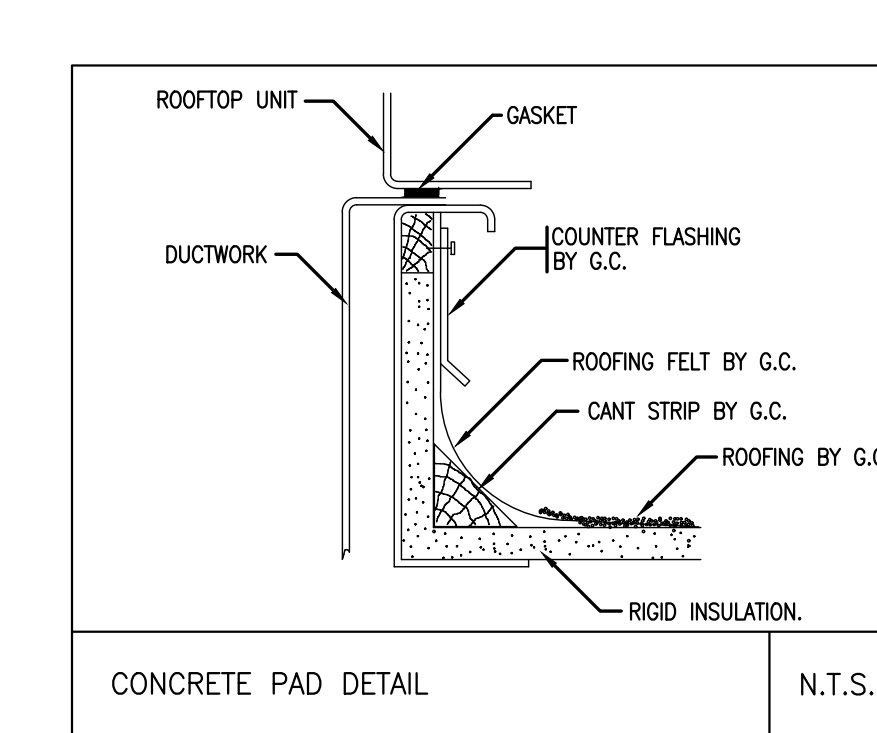
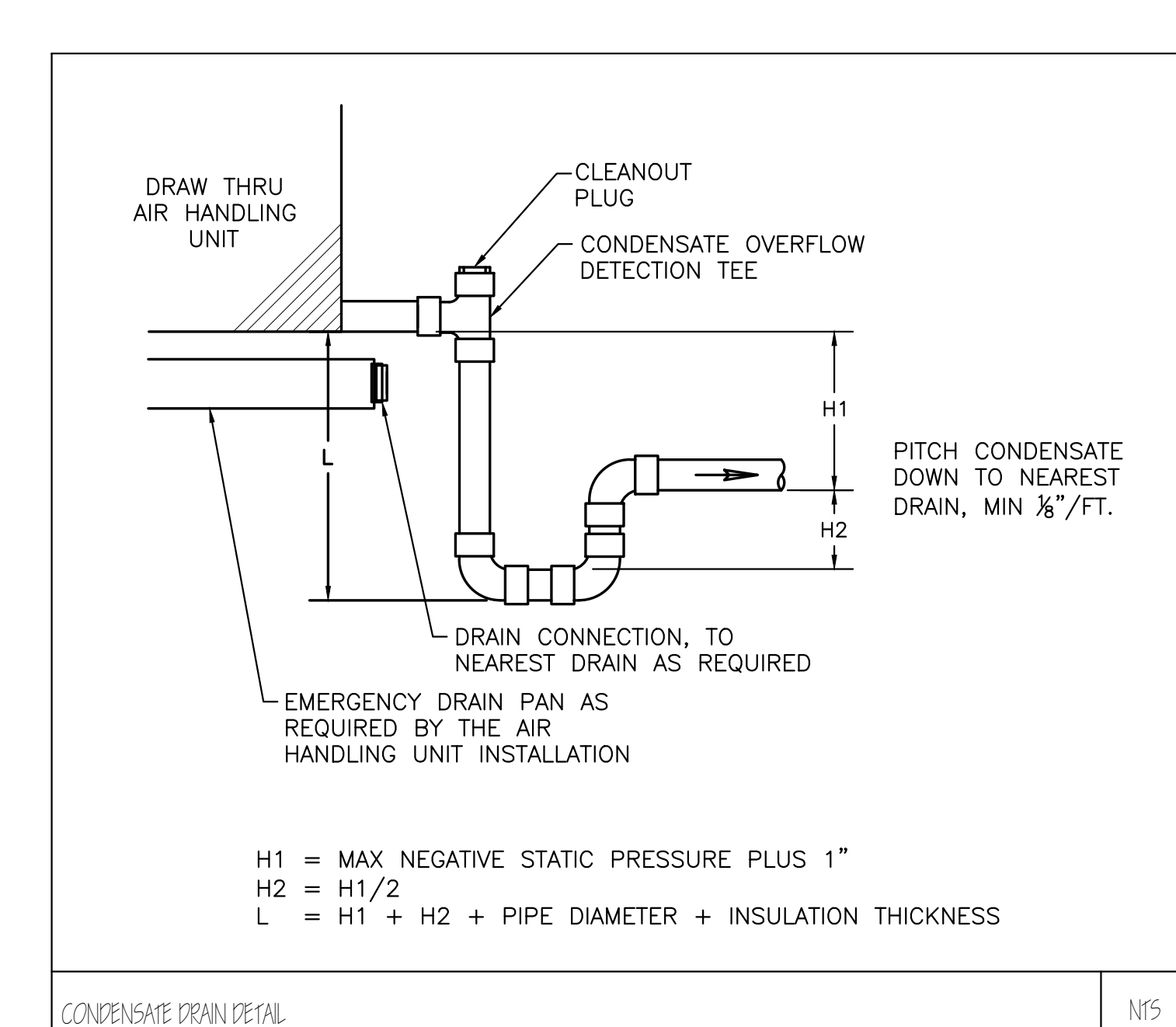
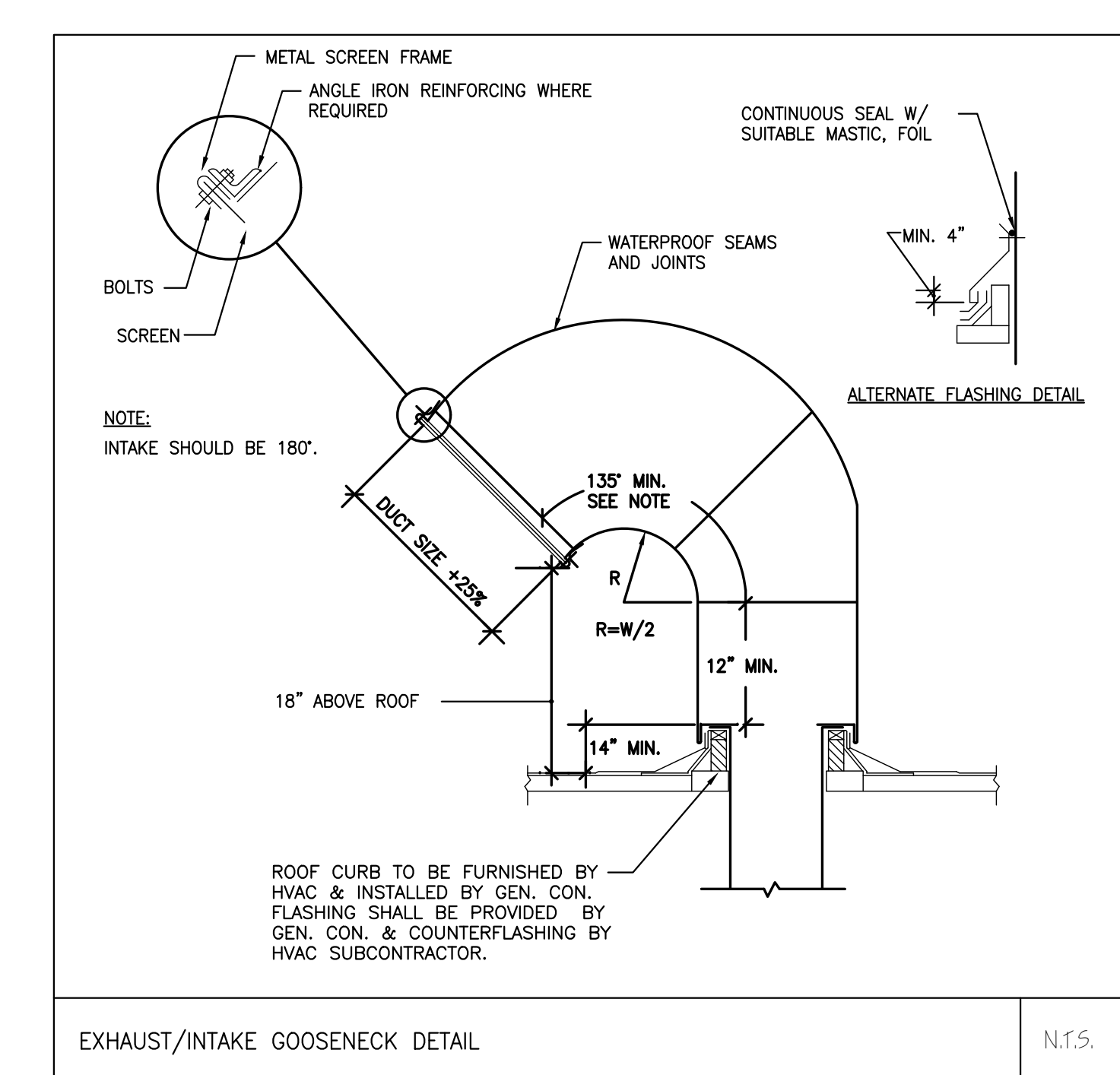
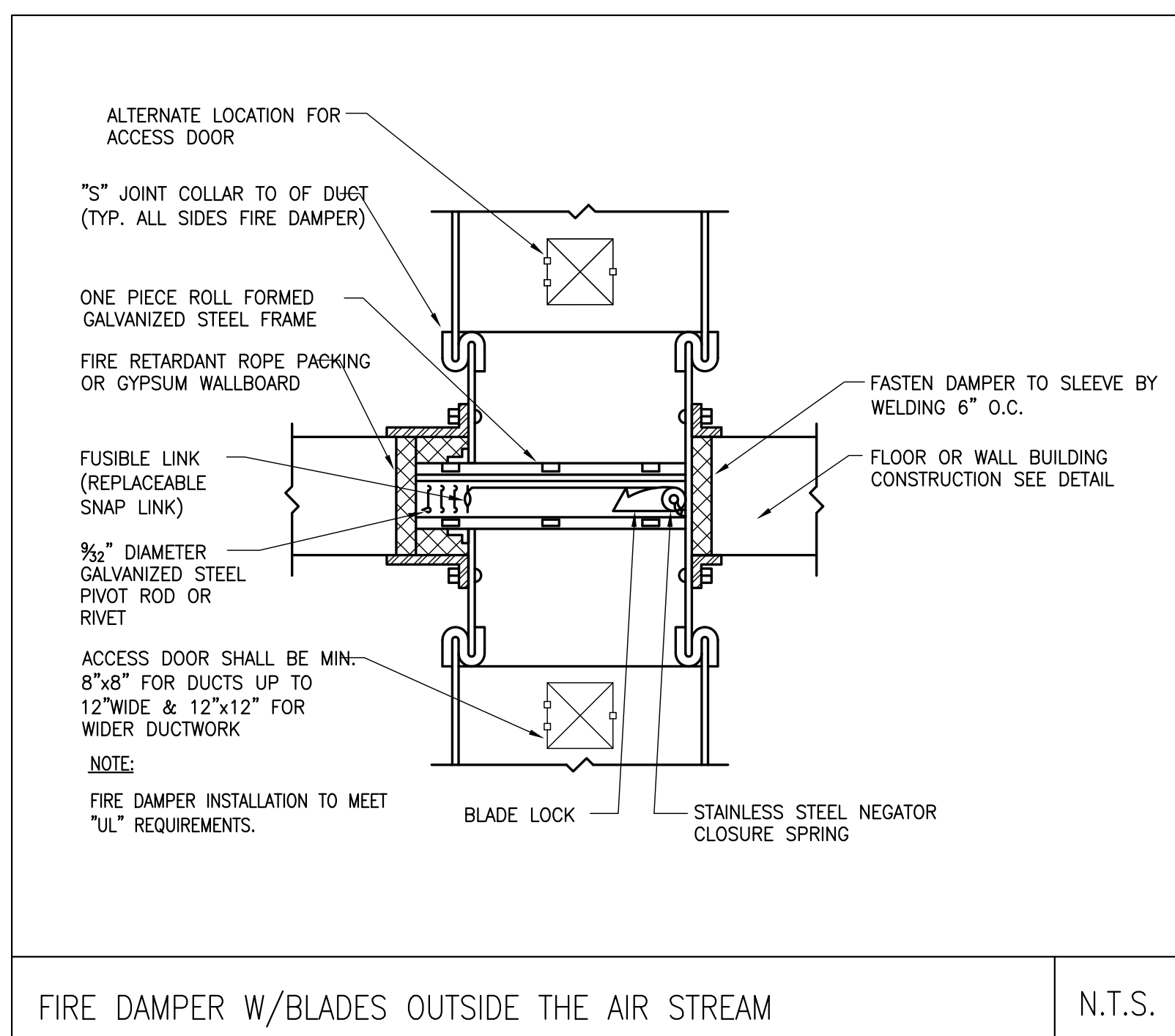
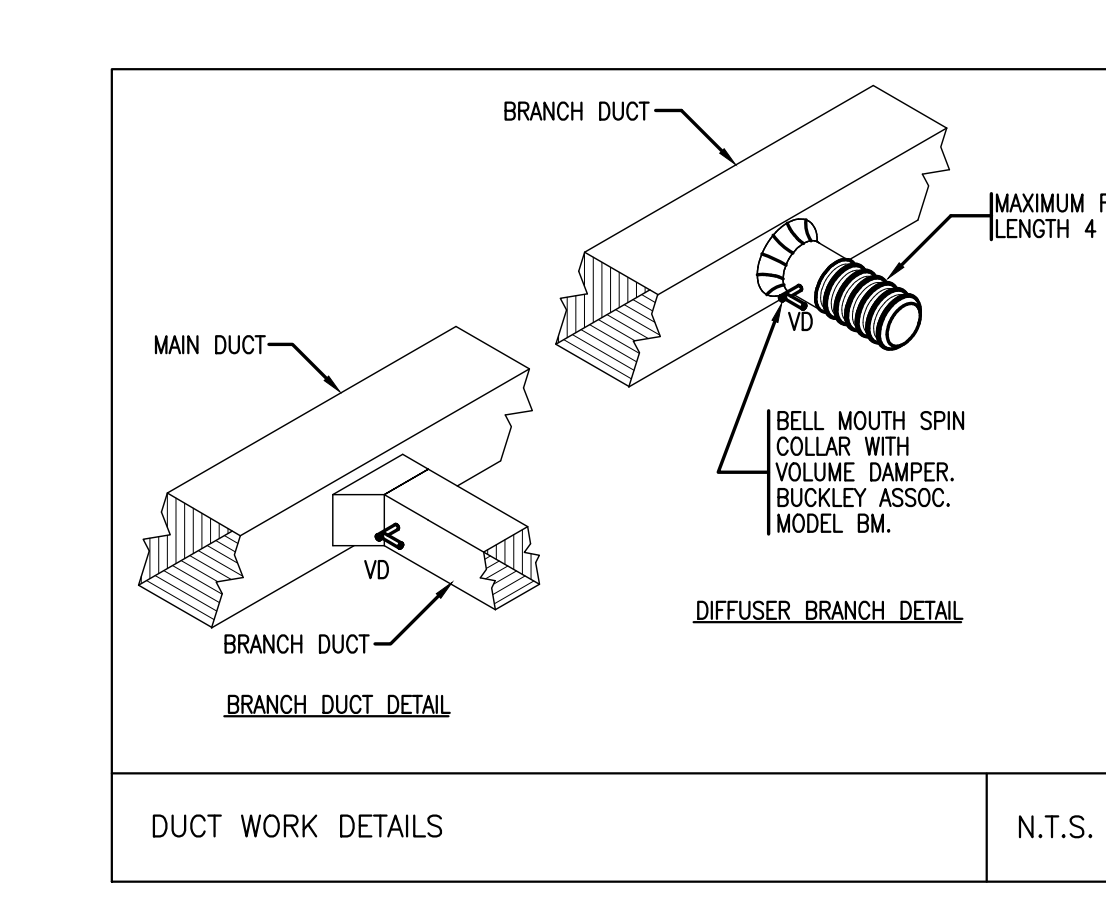
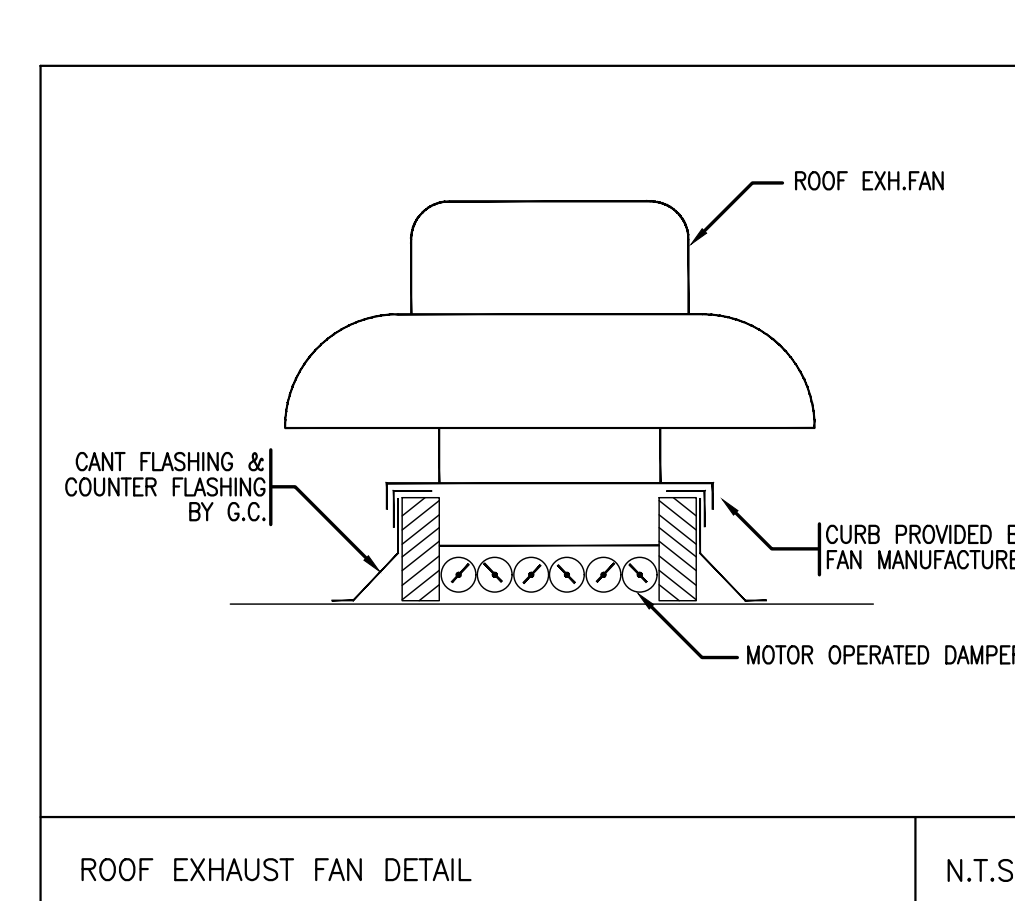
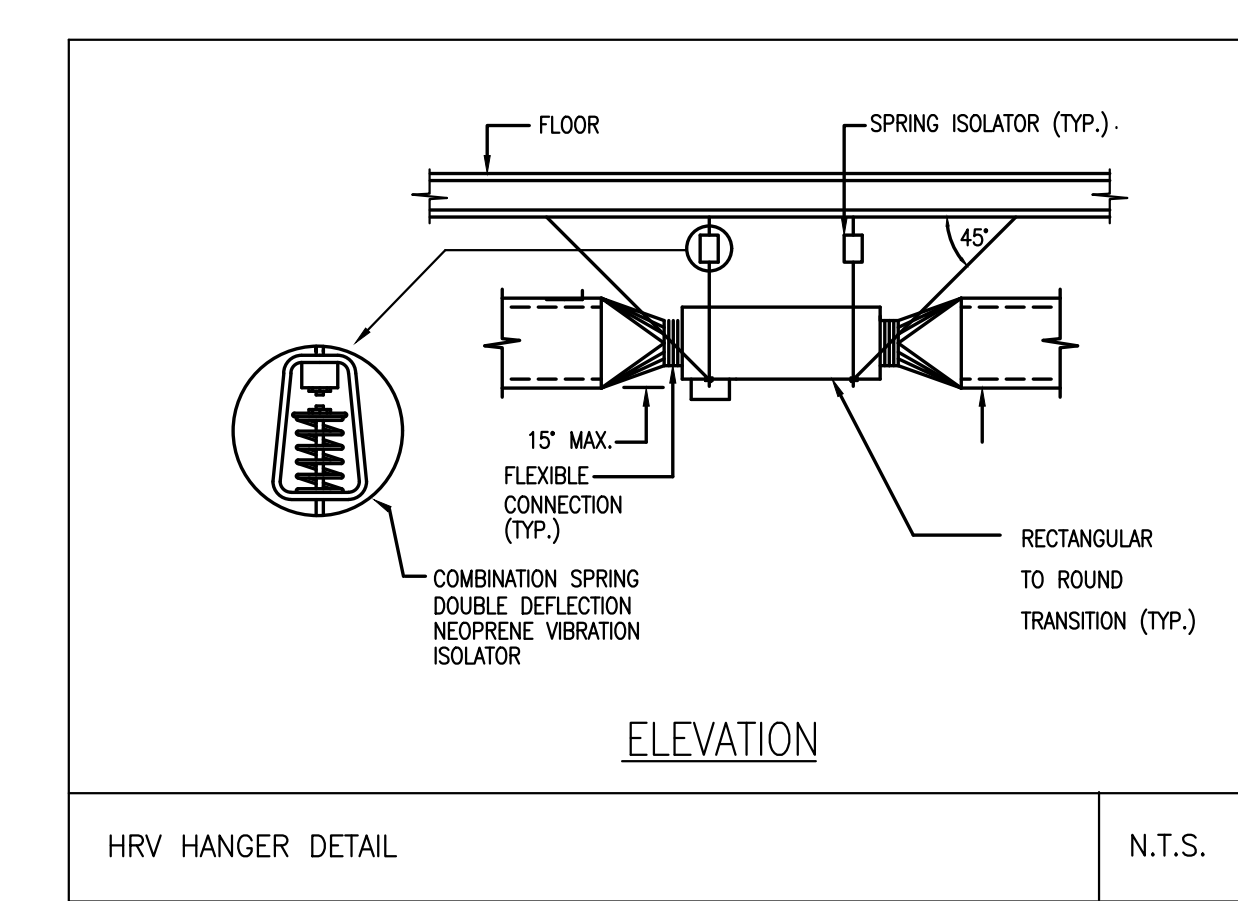
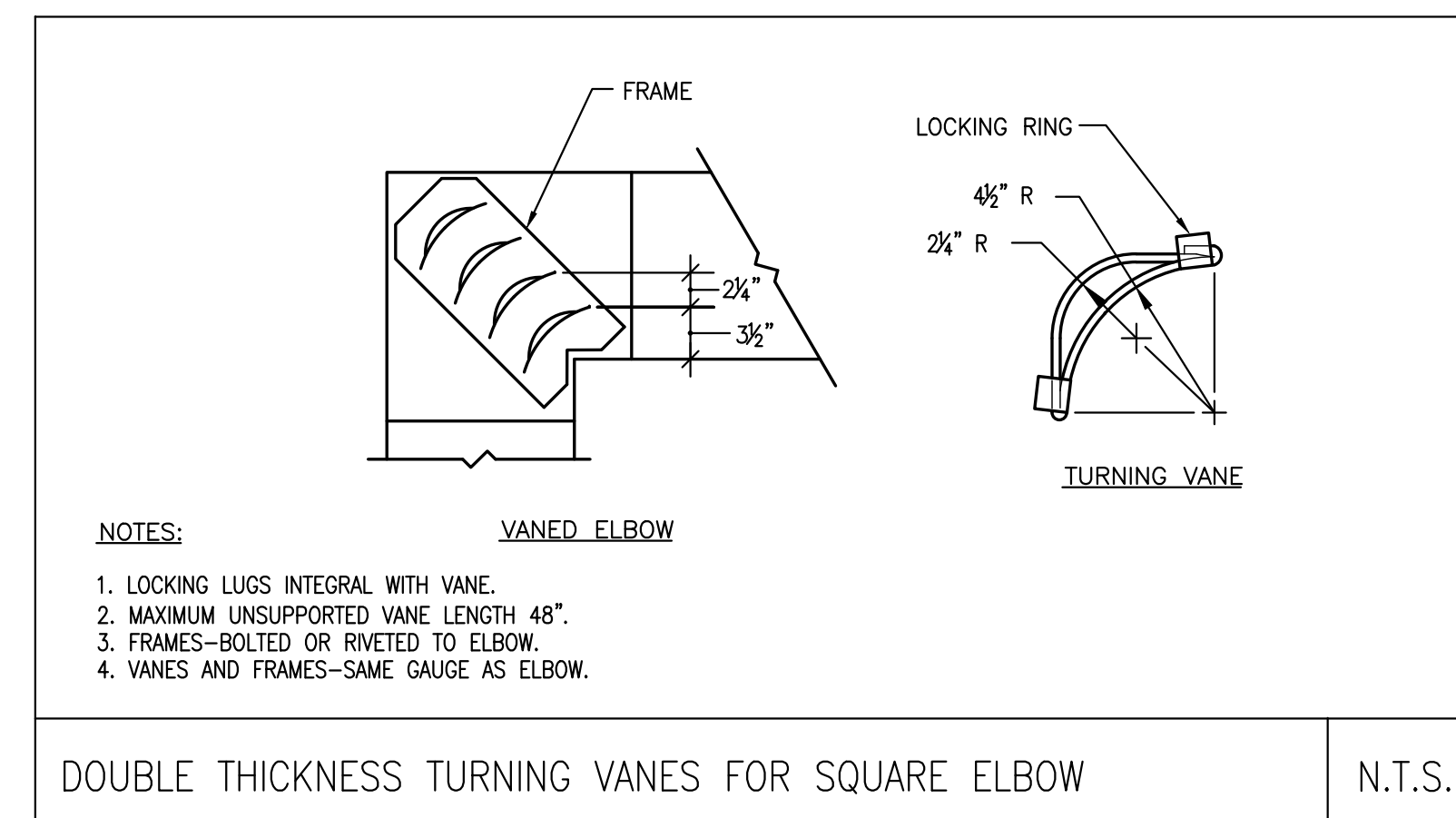
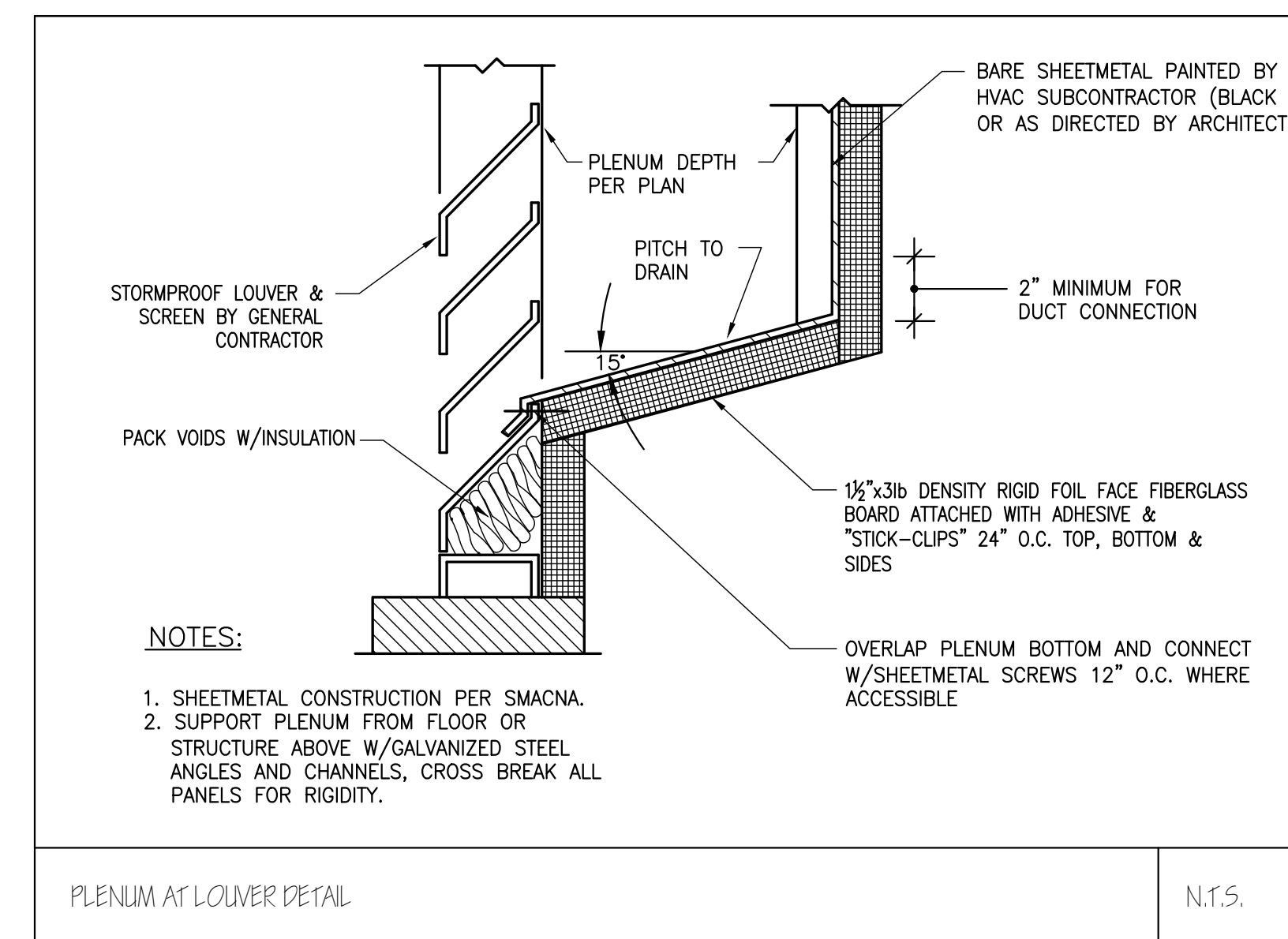
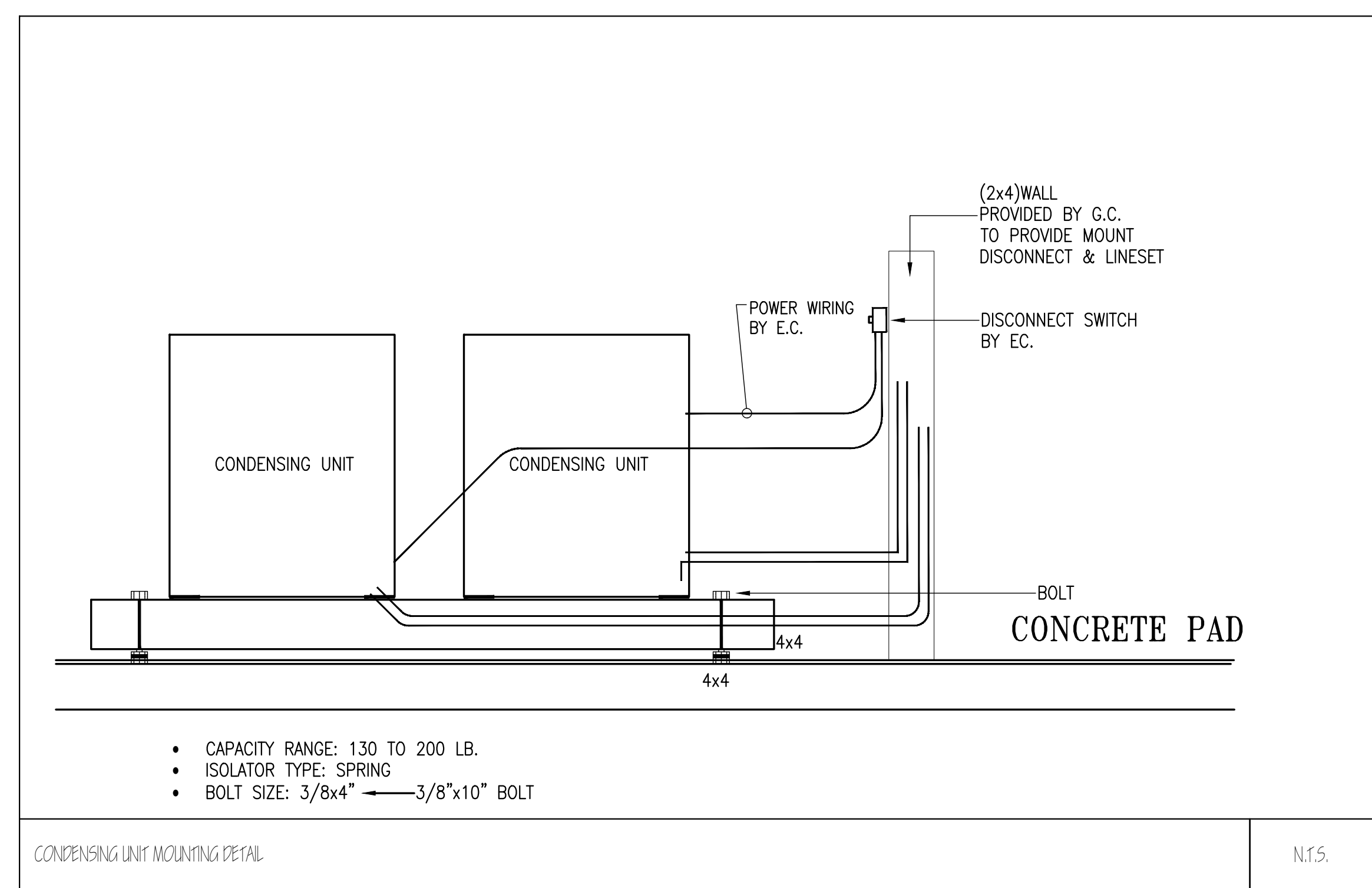
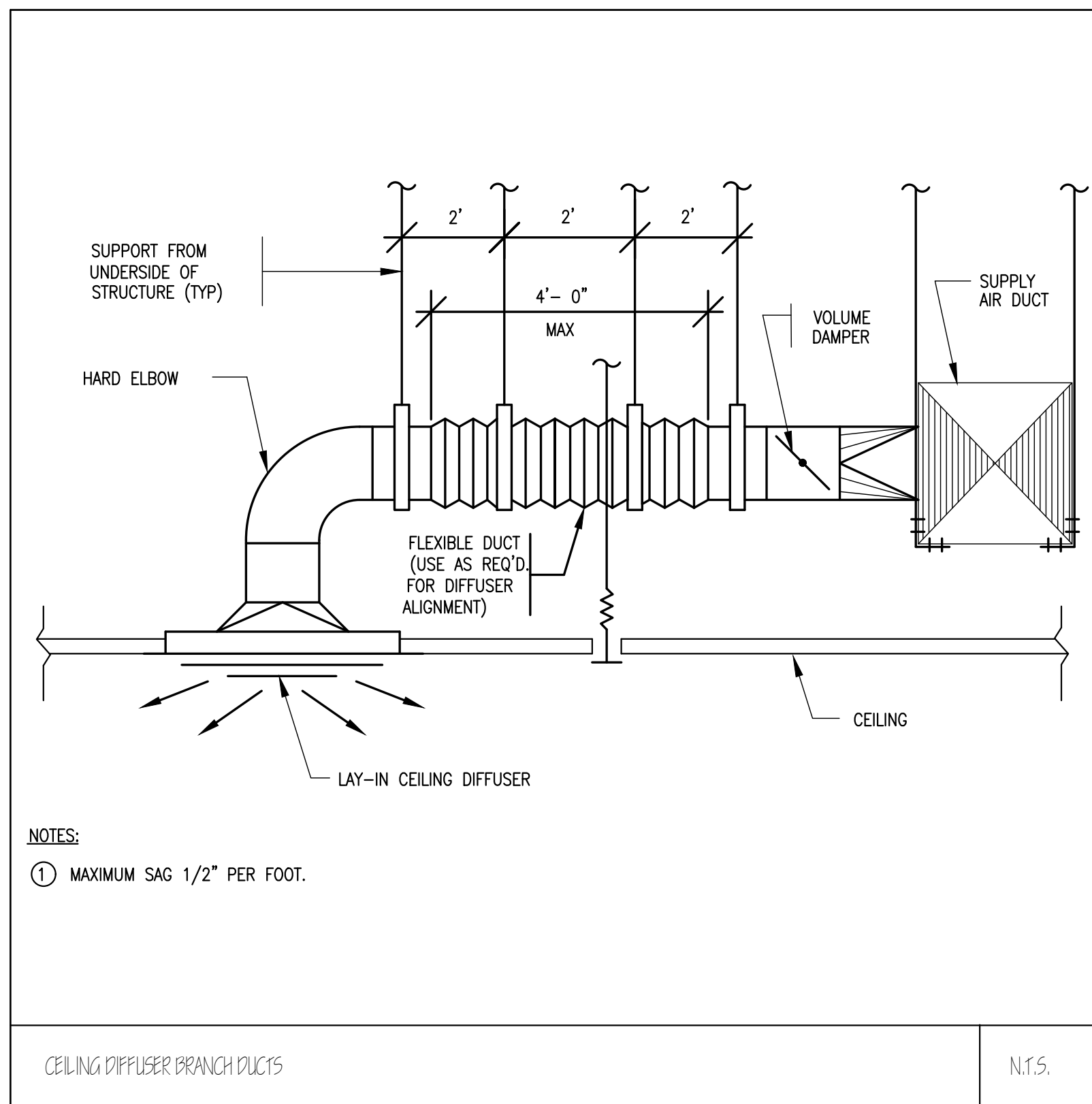
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**SHEET TITLE**

**HVAC NOTES  
& SCHEDULES**

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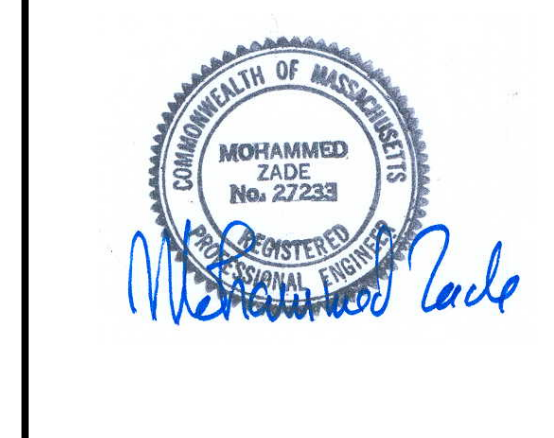




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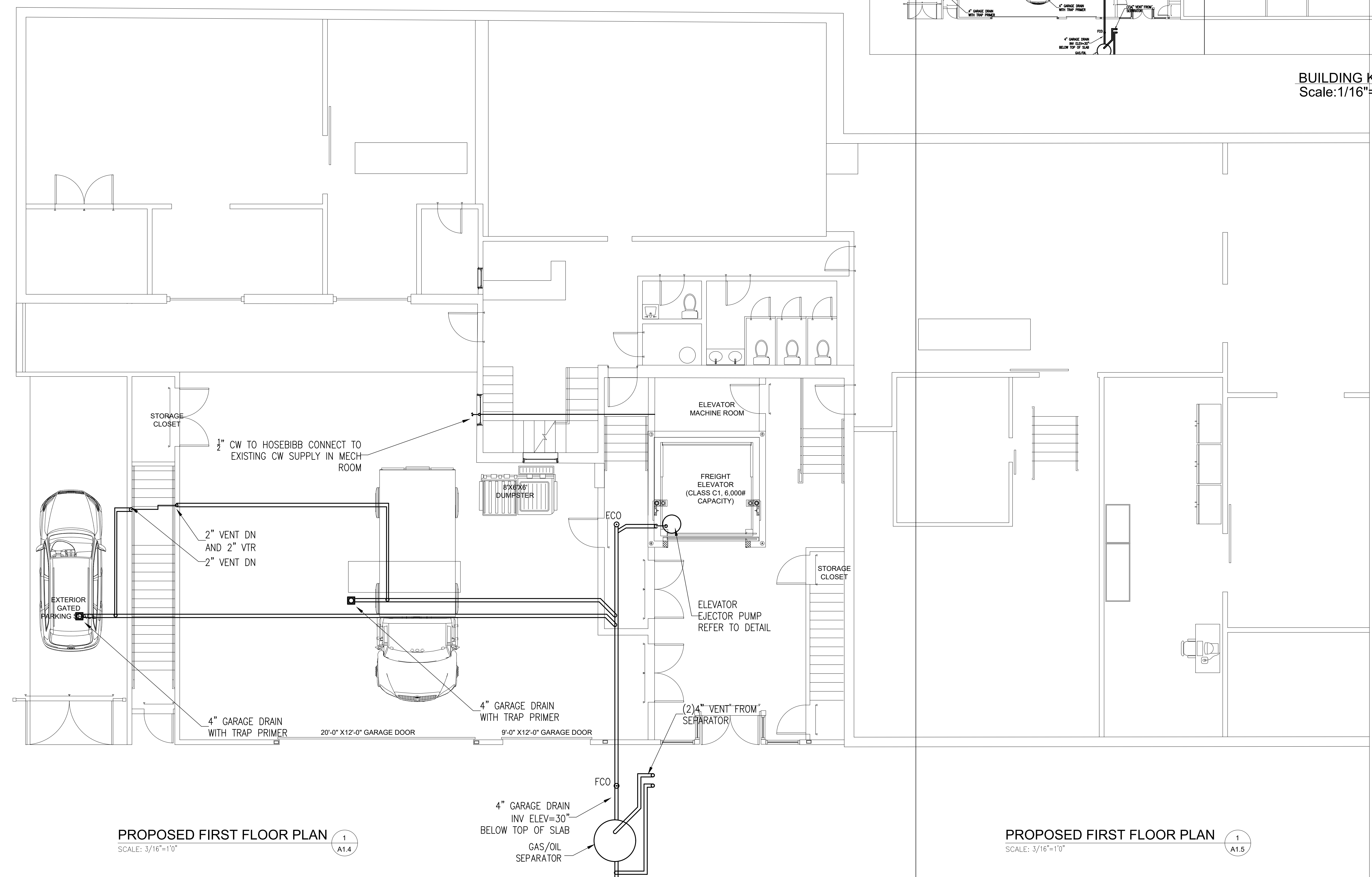
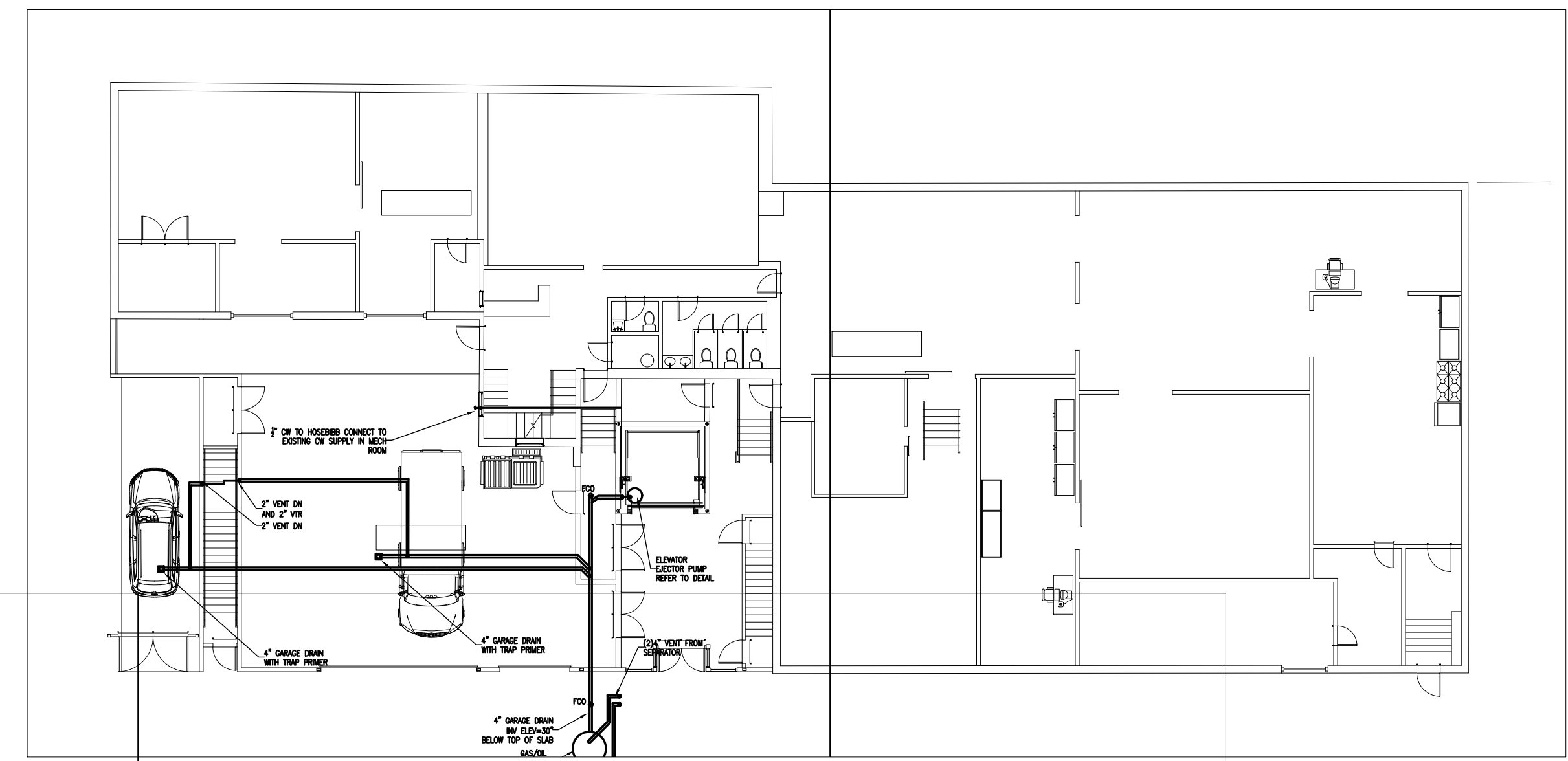
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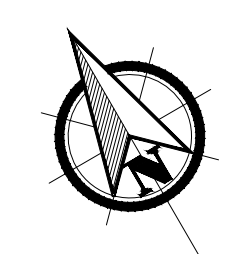
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**BUILDING KEY PLAN**  
 Scale: 1/16"=1'-0"



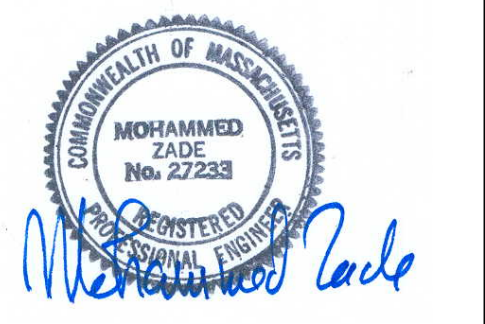
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**PROPOSED FIRST FLOOR PLAN** 1  
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SHEET TITLE

**PROPOSED PLUMBING PLAN**

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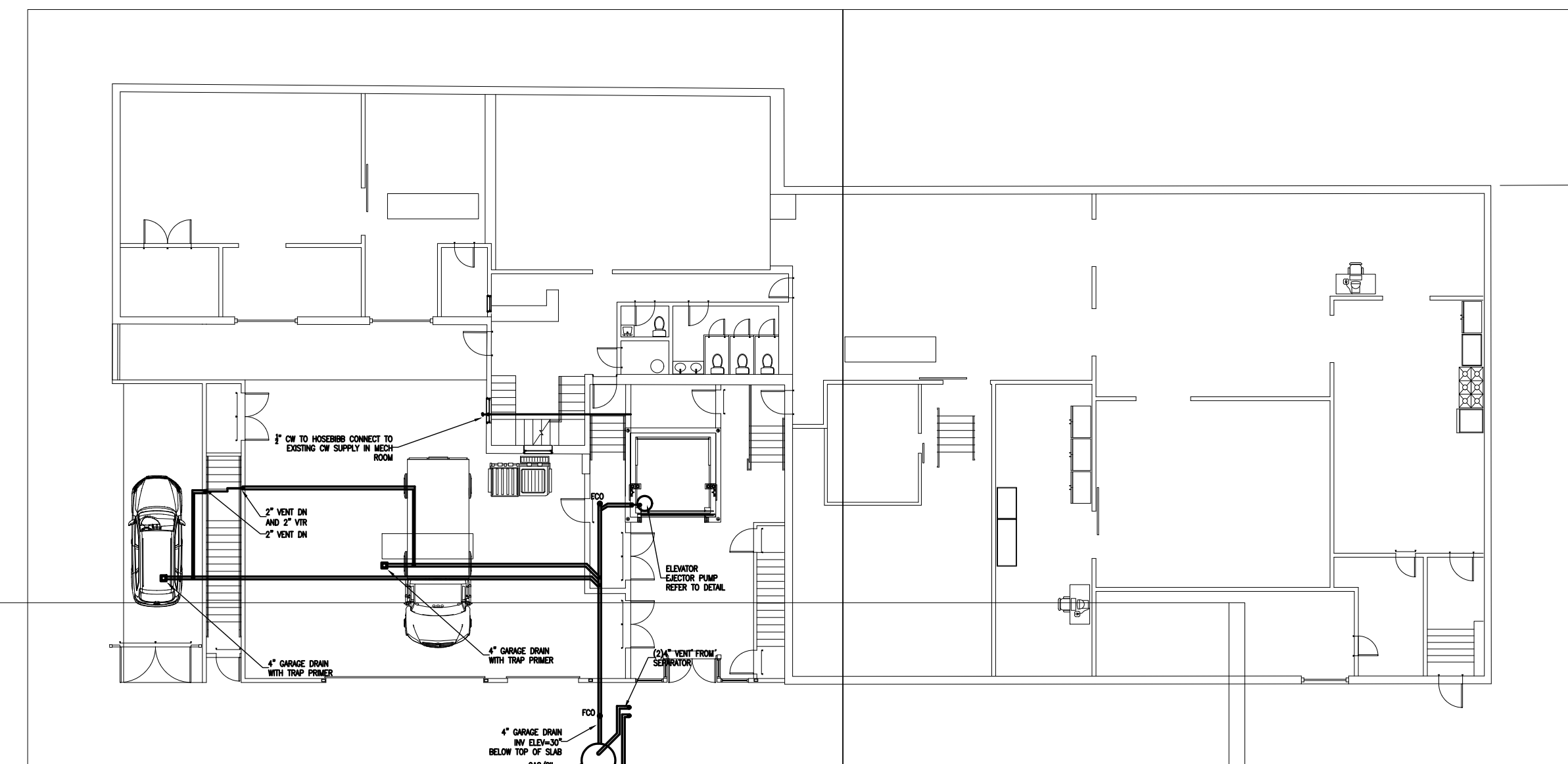
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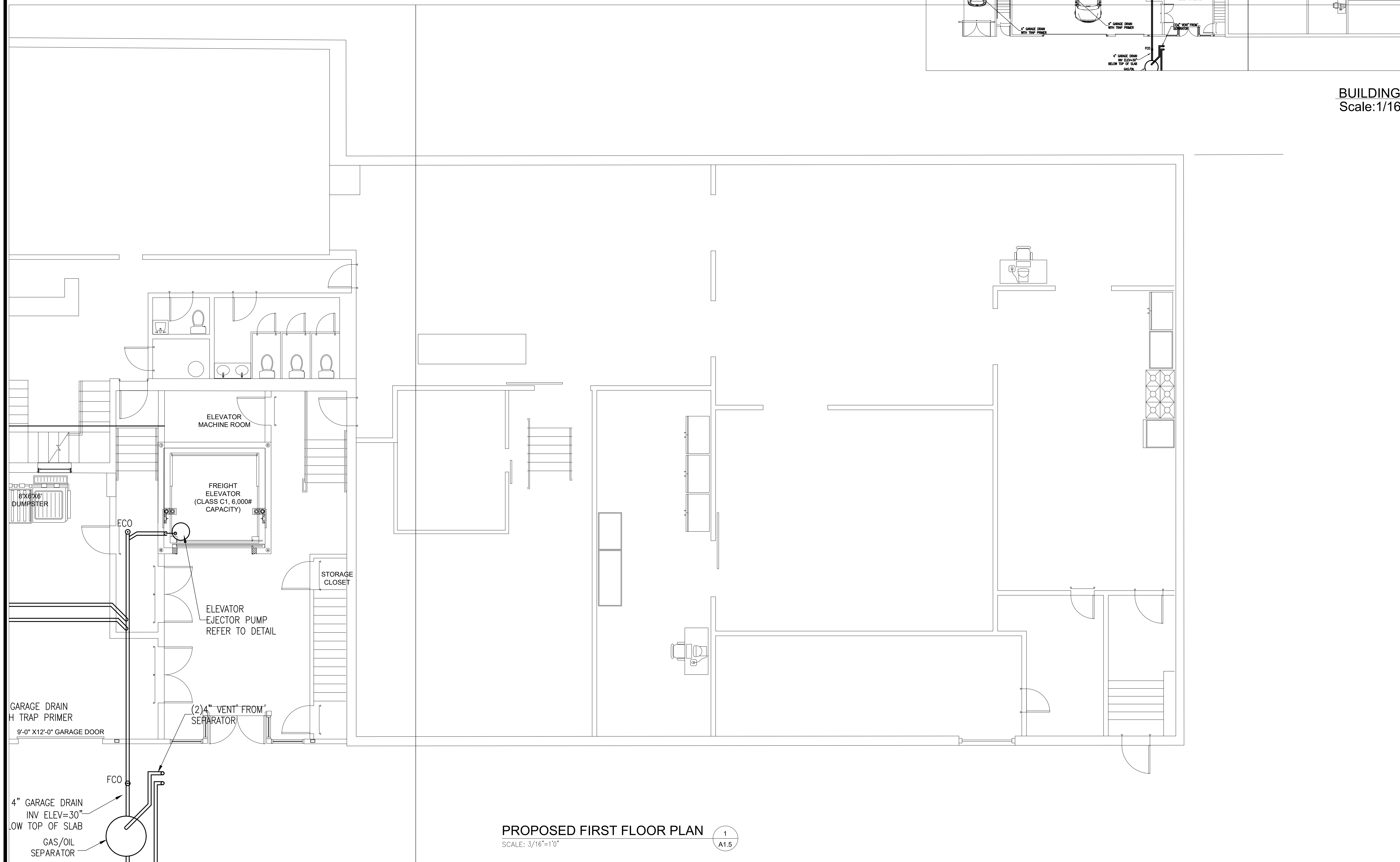
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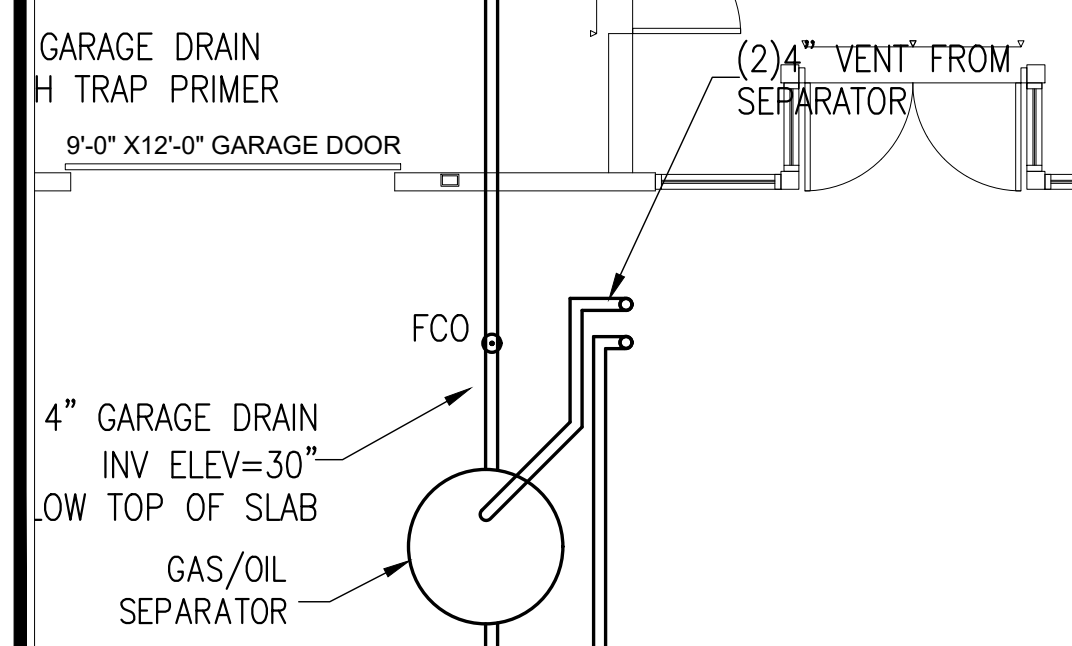
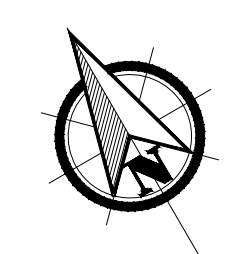
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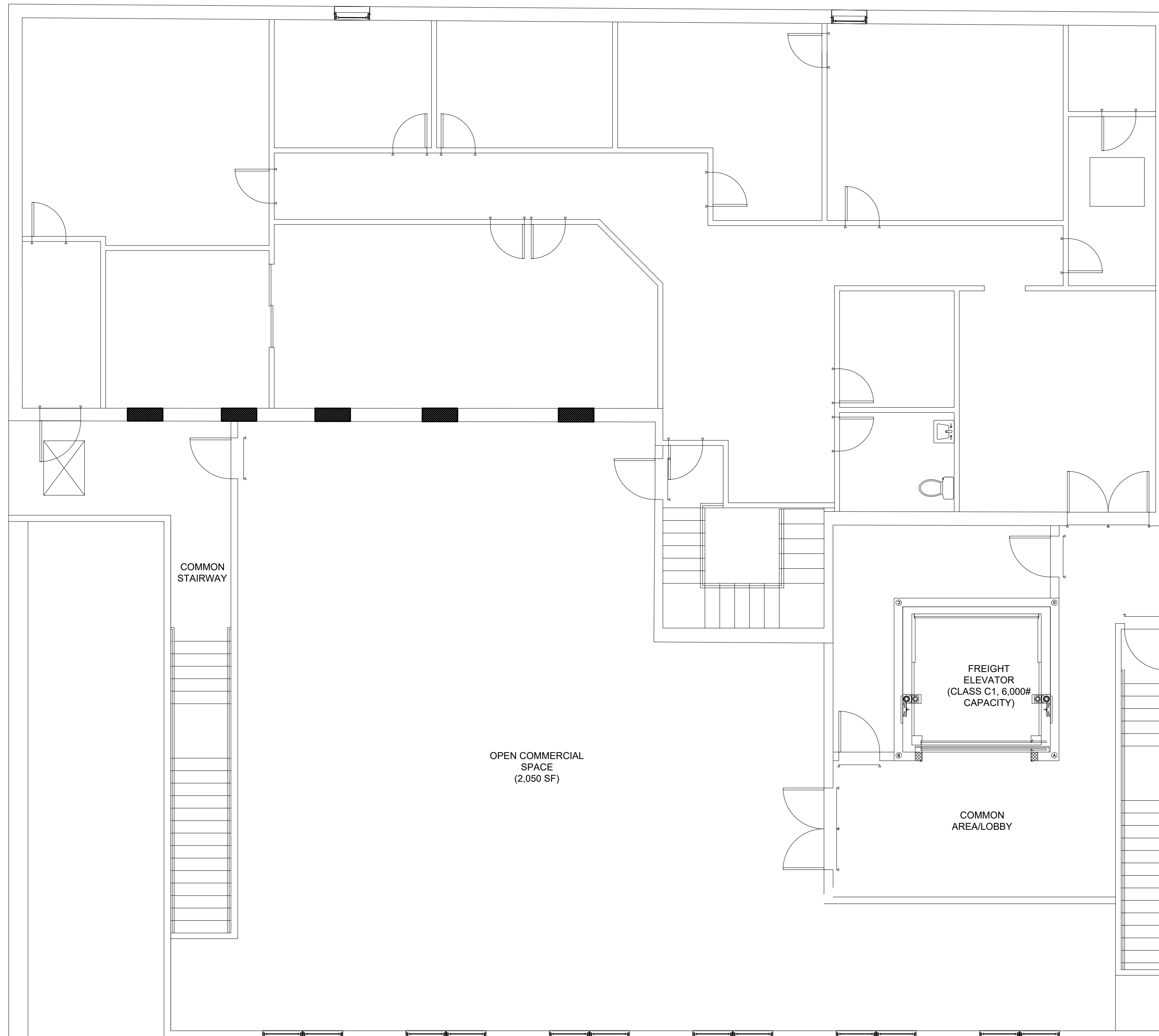


BUILDING KEY PLAN  
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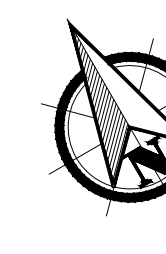
PROPOSED FIRST FLOOR PLAN  
SCALE: 3/16"=1'0" 1/A1.5





PROPOSED SECOND FLOOR PLAN  
SCALE: 3/16"=1'0"

1  
A1.6



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PROPOSED  
PLUMBING  
PLAN

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## GENERAL NOTES

- 1) FOR EXACT LOCATION OF PLUMBING FIXTURES SEE ARCHITECTURAL DRAWINGS.
- 2) EXAMINE ALL CONTRACT DRAWINGS, GENERAL CONDITIONS AND SPECIFICATIONS WHICH MAY AFFECT THE WORK.
- 3) ALL PLUMBING WORK MUST BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH INSTALLATION.
- 4) CHECK INVERT ELEVATIONS AND EXACT LOCATIONS OF ALL OUTSIDE UTILITIES BEFORE INSTALLING ANY UNDERGROUND.
- 5) NO CHANGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION OF THE ARCHITECT.
- 6) NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.
- 7) ALL PLUMBING SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LOCAL AND STATE PLUMBING CODES.
- 8) ROUGHING DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR.
- 9) INSTALL ALL HOT AND COLD WATER PIPING AS PER SPECIFICATIONS.
- 10) INSTALL SHUTOFF GATE VALVES ON ALL BRANCH SUPPLY LINES AND AT THE BASE OF HOT AND COLD WATER RISERS.
- 11) PLUMBING CONTRACT SHALL REQUIRE PANELS TO ACCESS THE CONCEALED PLUMBING CLEANOUTS, DRAINS, DEVICES AND CONTROLS. ACCESS PANELS SHALL BE FIRE RATED TO MATCH THE PENETRATING PARTITION OR CEILING TYPE. GENERAL CONTRACTOR SHALL INSTALL THE ACCESS PANELS.
- 12) INSTALL ALL FLOOR CLEANOUTS TO CLEAR EQUIPMENT.
- 13) PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND CHARGES IN CONNECTION WITH THE WORK.
- 14) PLUMBING CONTRACTOR SHALL PROVIDE WATERTIGHT SLEEVES FOR ALL PIPES PASSING THRU BASEMENT WALLS.
- 15) INSTALL CLEANOUTS AT THE BASE OF ALL SANITARY STACKS.
- 16) INSTALL ALL HORIZONTAL RUNS OF PIPING AS HIGH AS POSSIBLE, PITCH ALL WATER PIPING TO DRAIN, DRAW OFFS AT ALL POINTS.
- 17) PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO OUTSIDE UTILITIES.
- 18) FOR PIPE SIZES NOT SHOWN ON PLANS SEE DETAILS & RISER DIAGRAMS.

	<p>SANITARY ABOVE FLOOR SANITARY UNDER FLOOR VENT VENT BURIED COLD WATER HOT WATER HOT WATER CIRCULATION SHUT OFF VALVE CHECK VALVE FLOOR CLEANOUT CLEANOUT WALL CLEANOUT VENT RISER VENT THRU ROOF HUB DRAIN FLOOR DRAIN FLOOR CLEANOUT UNION HOSE BIBB ROOF DRAIN VENT STACK WASHER BOX WATER CLOSET LAVATORY SINK SHOWER KITCHEN SINK</p>
- PLUMBING LEGEND	N.T.S.

### PIPING MATERIAL NOTES

SANITARY AND VENT: BELOW GROUND: SWCI WITH PUSH ON JOINTS.  
ABOVE GROUND:  
-SWCI WITH HUSKY 4-BAND CLAMPS

WATER PIPING: TYPE "L" COPPER WITH 95-5 SOLDER JOINTS

GAS PIPING: SCHEDULE 40 ER/ERW BLACK STEEL WITH THREADED JOINTS OR WELDED.

### GENERAL NOTES:

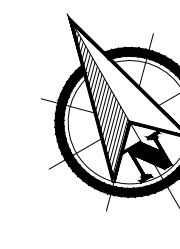
1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCONSISTENCY, OMISSION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS, DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRACT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERROR, OMISSIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED IN CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

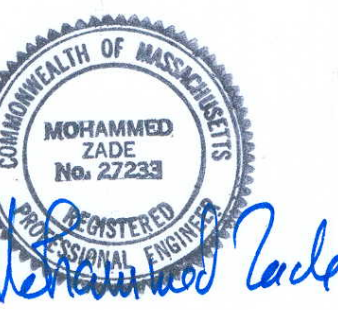
2. ALL PENETRATIONS OF ASSEMBLIES EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE SEALED WITH FOAM SEALANT OR EQUIVALENT SEALER TO PROVIDE ZERO AIR INFILTRATION. COORDINATE WITH FIRE STOPPING REQUIREMENTS.

3. NO COMPONENT OF ANY SYSTEM SHALL RUN THROUGH THE STAIR ENCLOSURE THAT DOES NOT RELATE TO OR SERVE THE STAIR ENCLOSURE.



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REVISIONS

NO.	BY	DESCRIPTION	DATE

PROJECT

SHANGHAI CORP  
FACTORY ADDITION

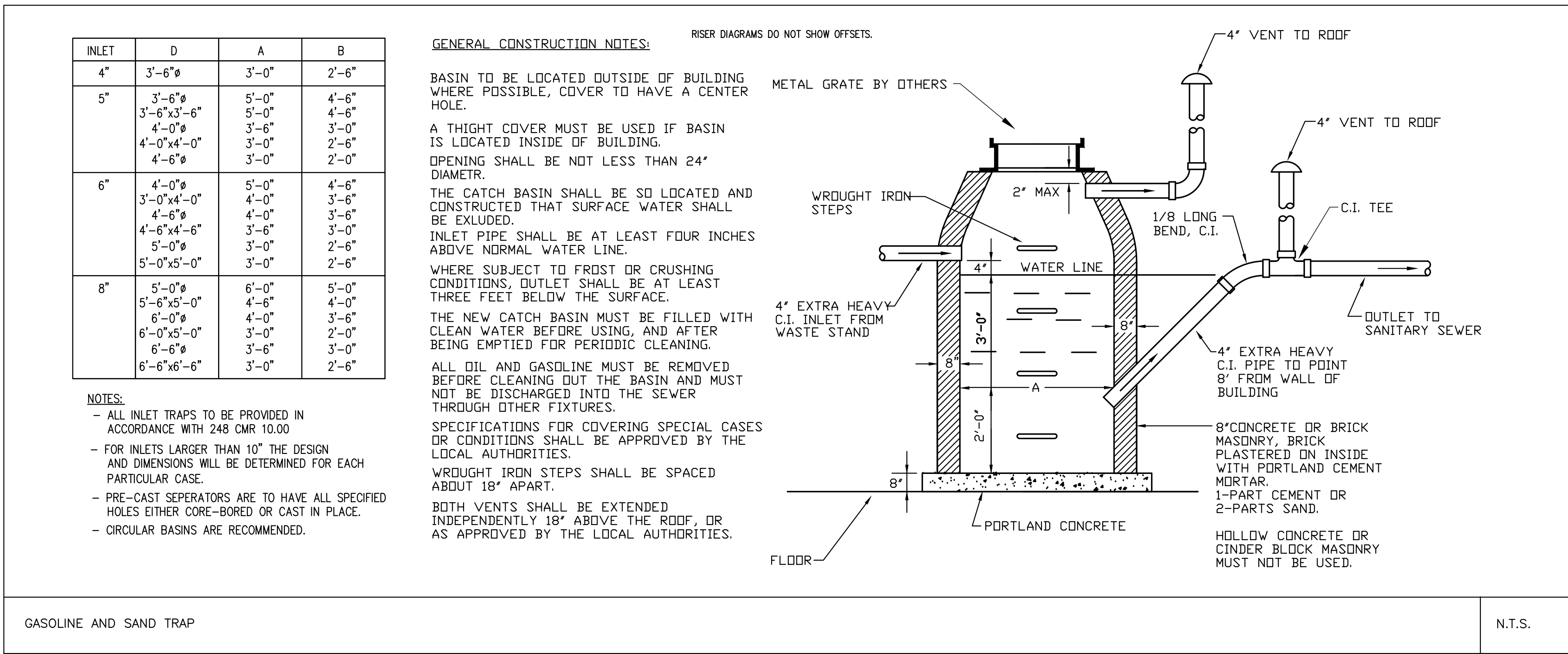
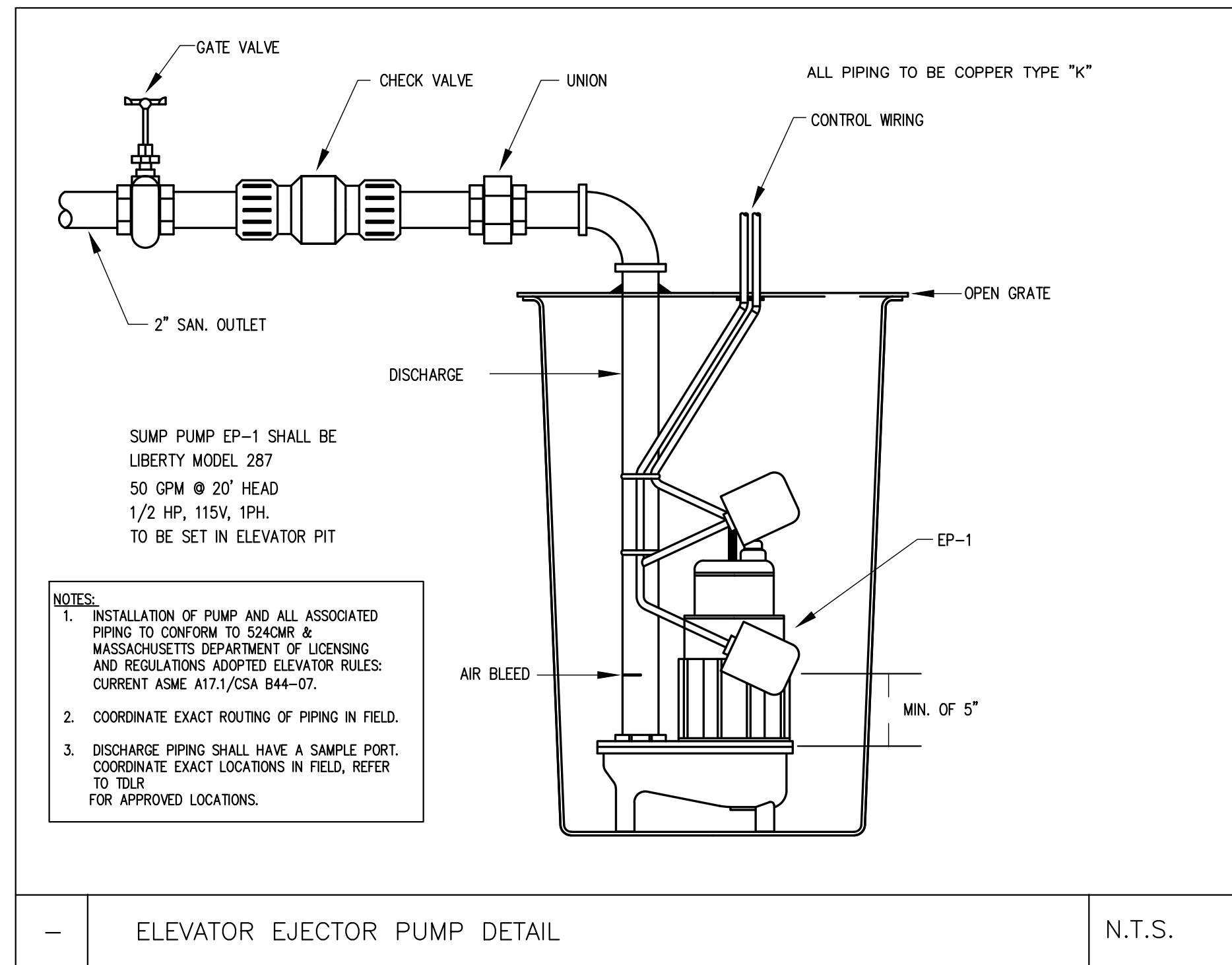
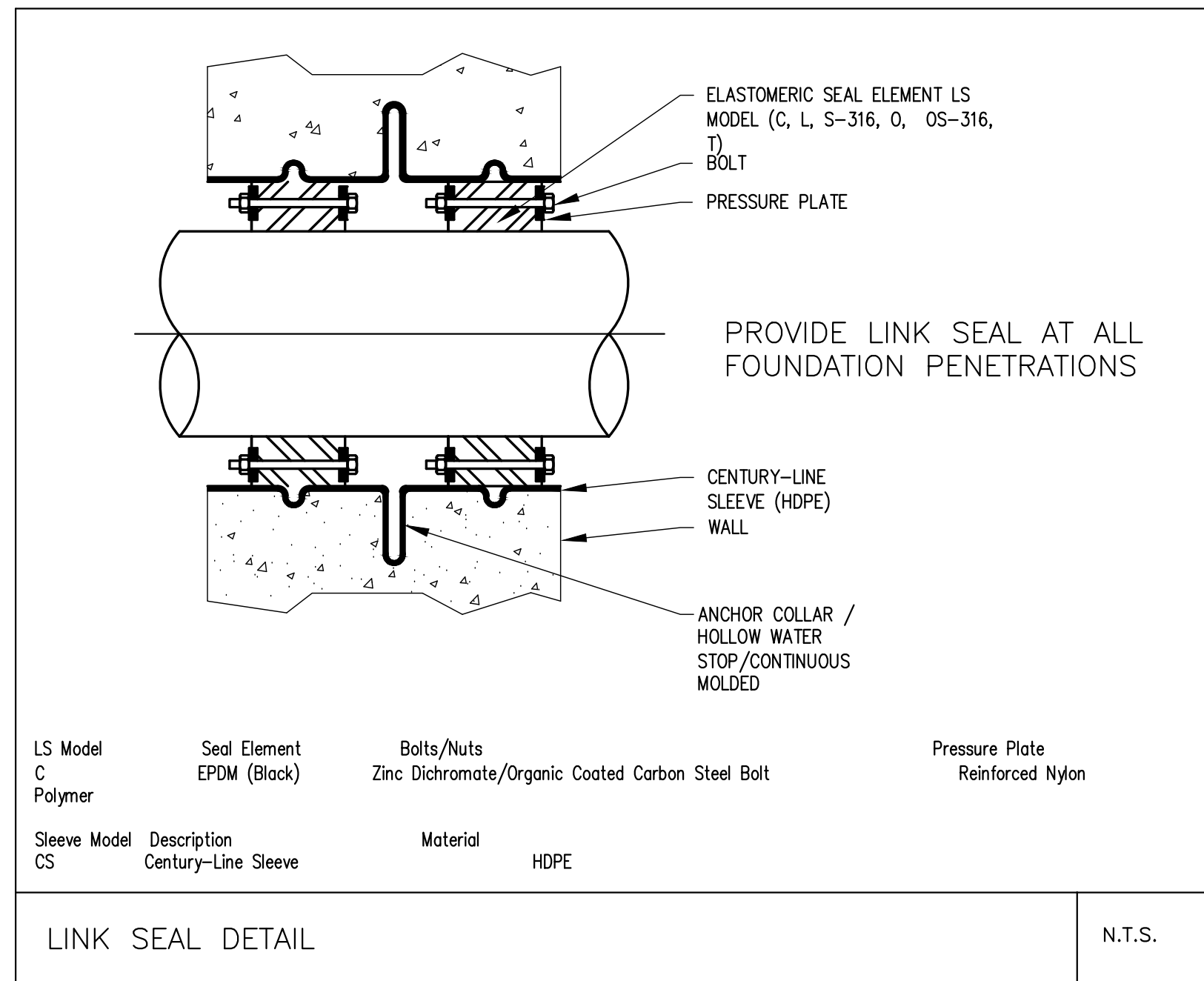
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PLUMBING  
NOTES

DRAWN:	DRAWING NO:
SCALE: NOTED	P2.0
DATE: 07-17-23	
CHECKED:	



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REGISTRATION



REVISIONS

NO.	BY	DESCRIPTION	DATE

PROJECT

SHANGHAI CORP  
FACTORY ADDITION

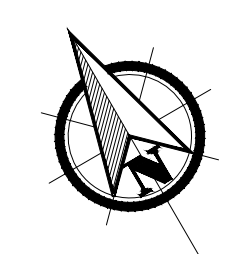
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PLUMBING  
DETAILS

DRAWN:	DRAWING NO:
SCALE: NOTED	
DATE: 07-17-23	
CHECKED:	<b>P2.1</b>





CONSULTANT

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 TEL: (617) 338-4406  
 FAX: (617) 451-2540  
 E-MAIL: zade@zadeengineering.com

REGISTRATION



REVISIONS

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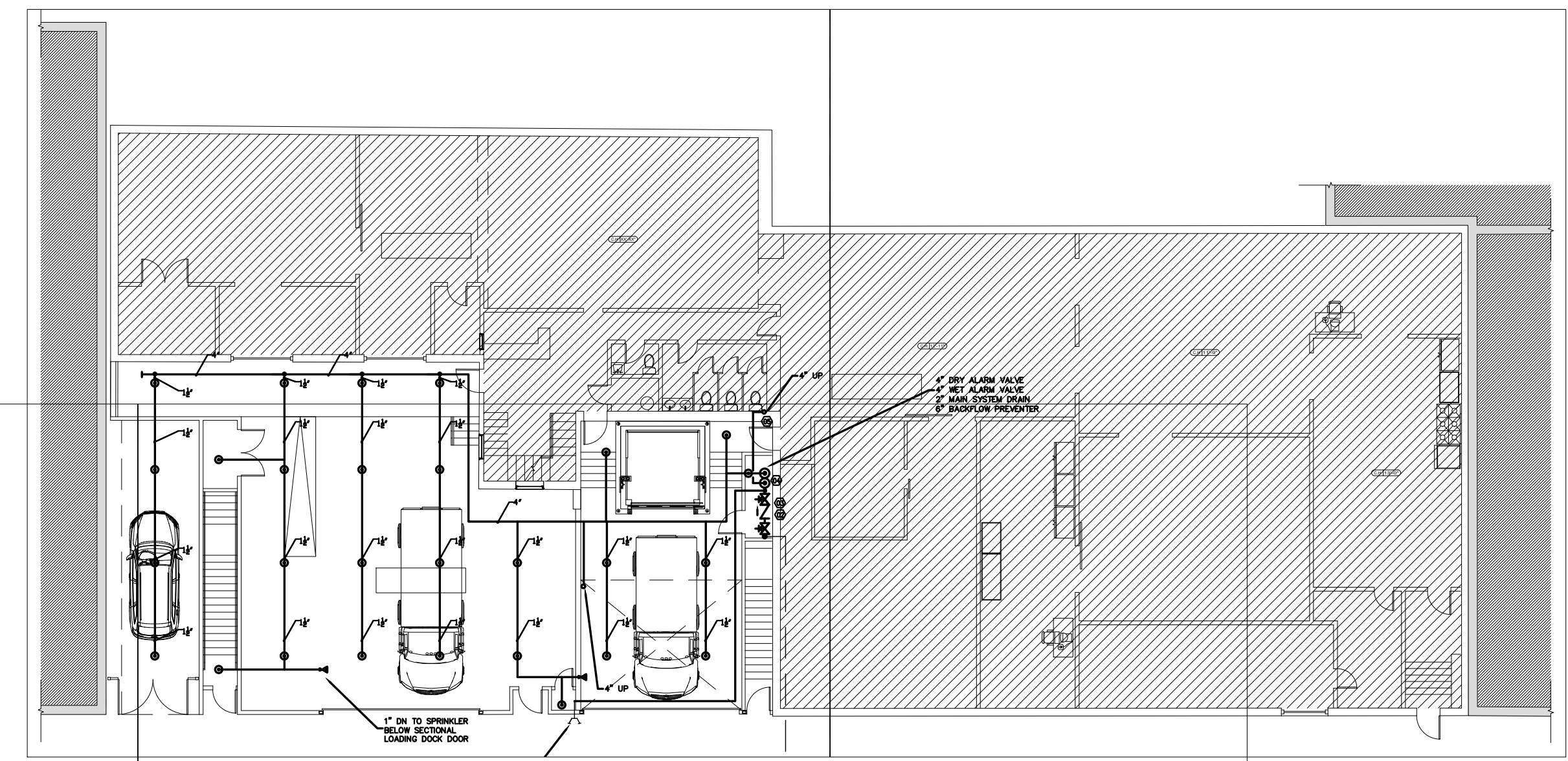
SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

PROJECT NO. 21217

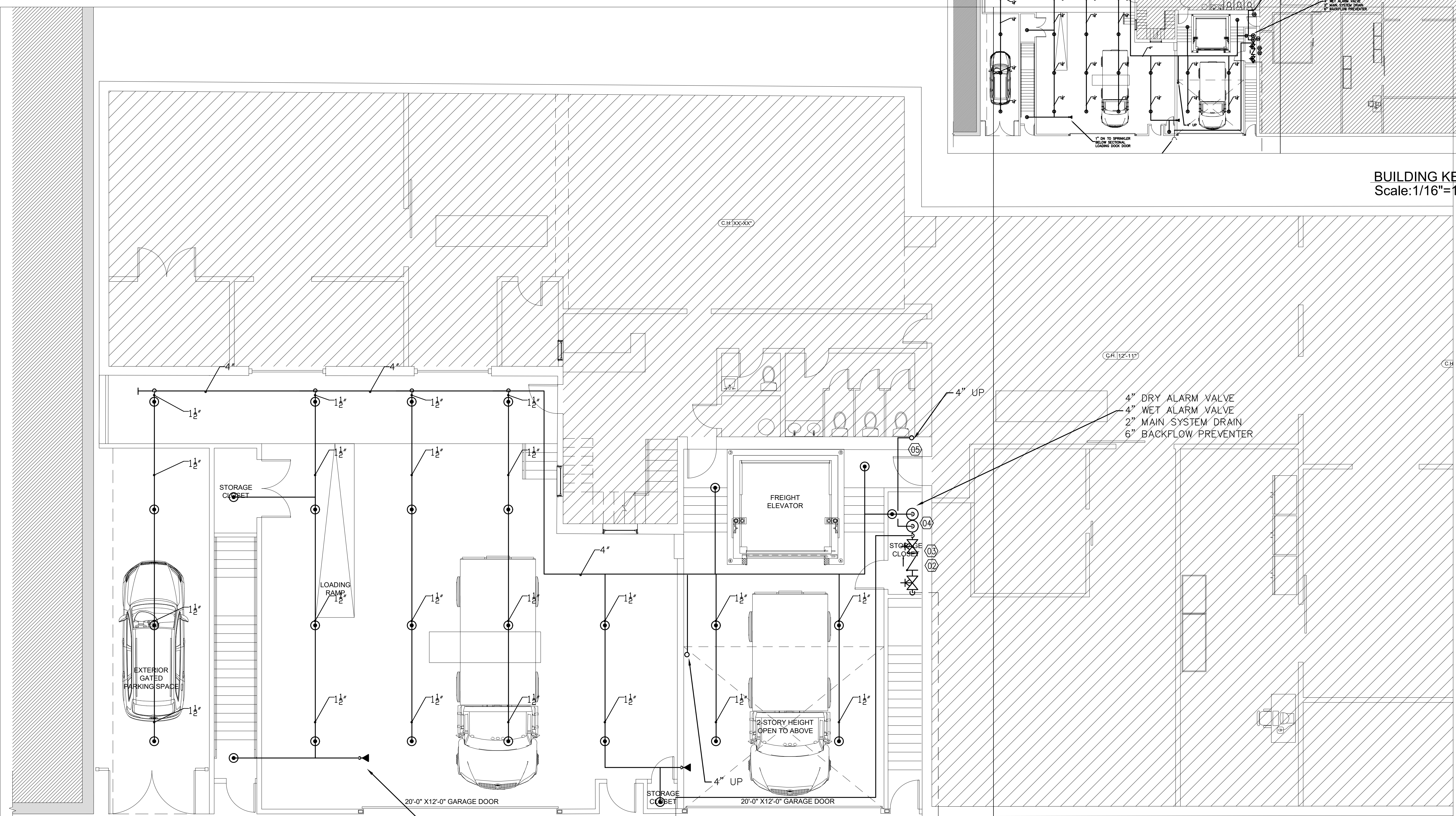
SHEET TITLE

**PROPOSED FIRE PROTECTION PLAN**

DRAWN: JD	DRAWING NO:
SCALE: NOTED	
DATE: 07-17-23	
CHECKED:	<b>FP1.0</b>



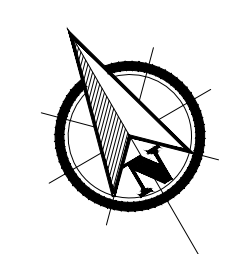
**BUILDING KEY PLAN**  
 Scale: 1/16"=1'-0"



**PROPOSED FIRST FLOOR PLAN**  
 SCALE: 3/16"=1'-0" (A1.4)

**PROPOSED FIRST FLOOR PLAN**  
 SCALE: 3/16"=1'-0" (A1.5)

6" FIRE SERVICE INSTALLED,  
 FLUSHED AND TESTED WITH  
 ACCORDANCE TO NFPA-24



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PROJECT

SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

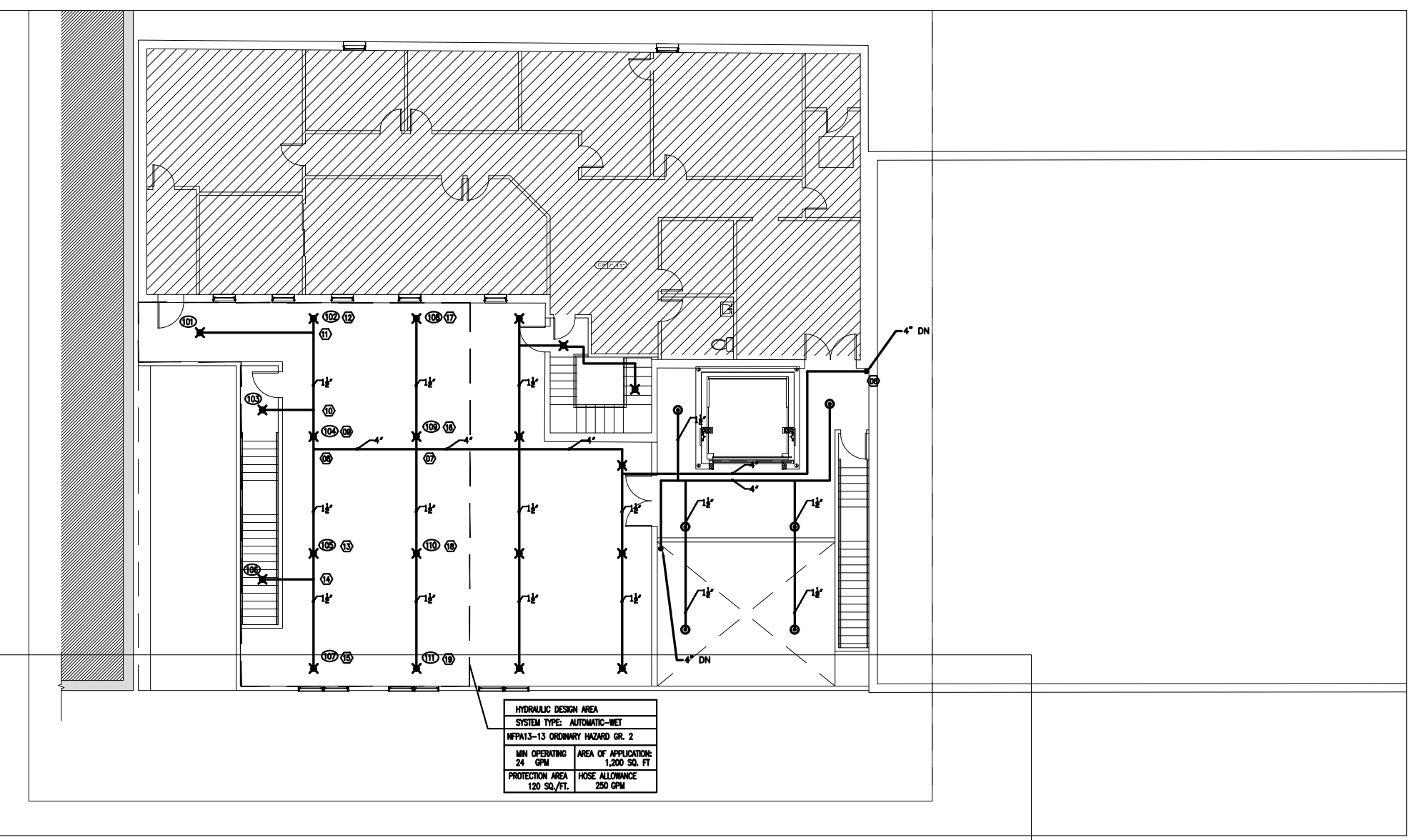
**PROPOSED  
 FIRE PROTECTION  
 PLAN**

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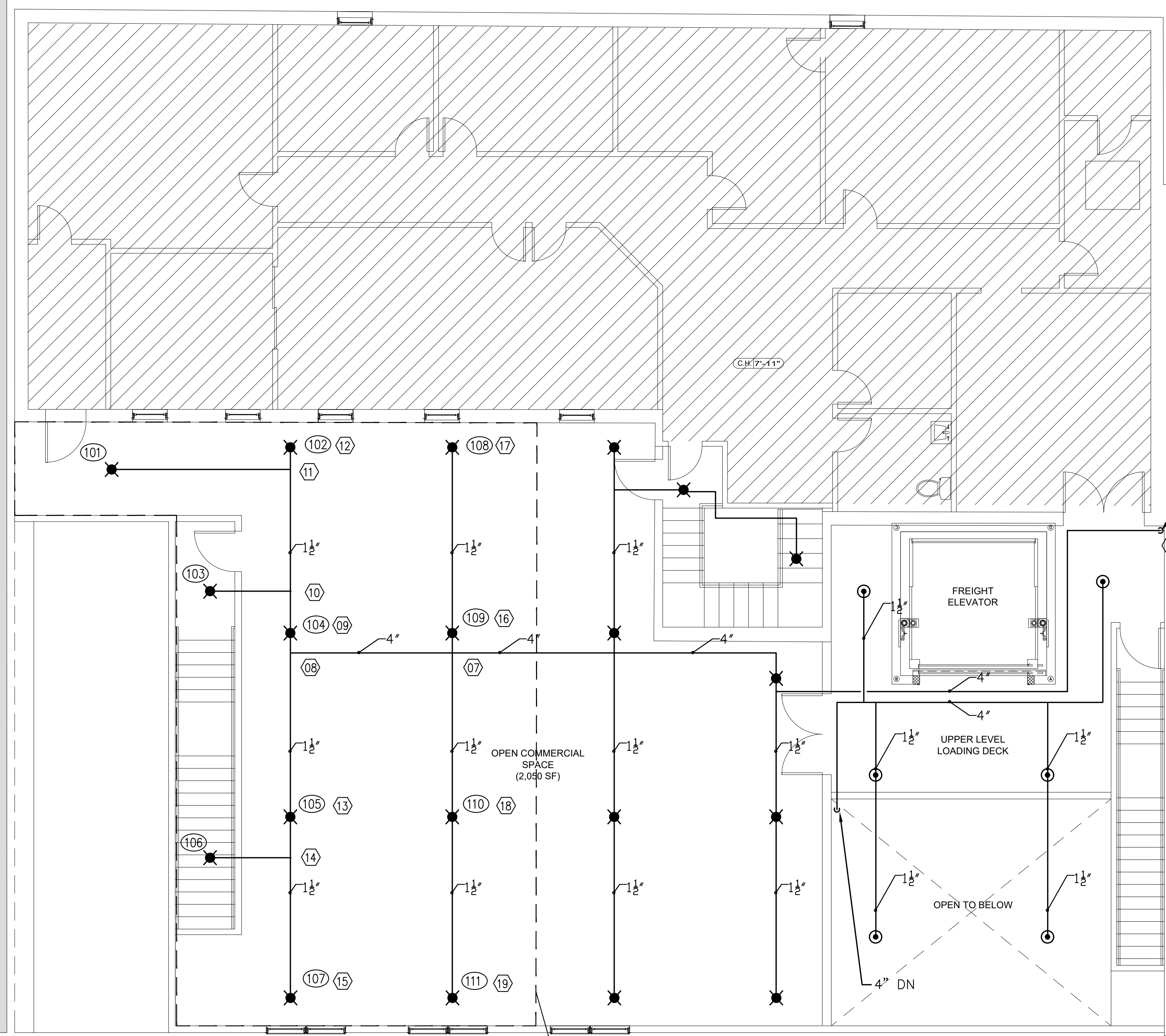
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DATE: 07-17-23

CHECKED:      **FP.1**

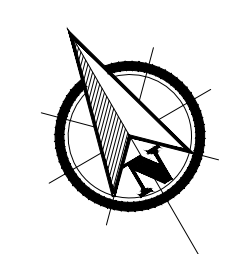


**BUILDING KEY PLAN**  
 Scale: 1/16"=1'-0"



**PROPOSED SECOND FLOOR PLAN**  
 SCALE: 3/16"=1'-0"      1  
 A1.6

HYDRAULIC DESIGN AREA	
SYSTEM TYPE: AUTOMATIC-WET	
NFPA13-13 ORDINARY HAZARD GR. 2	
MIN OPERATING 24 GPM	AREA OF APPLICATION: 1,200 SQ. FT.
PROTECTION AREA 120 SQ./FT.	HOSE ALLOWANCE 250 GPM



**DESIGN CRITERIA**  
THE AUTOMATIC FIRE SUPPRESSION SYSTEM HAS BEEN DESIGNED PER NFPA-13 2013, CMR 780 WITH AMENDMENTS

1. THE DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC IN NATURE AND MAY NOT DEPICT EVERY COMPONENT REQUIRED TO FURNISH A FULLY CODE COMPLIANT SYSTEM. THE FIRE PROTECTION CONTRACTOR IS REQUIRED TO PROVIDE ALL MATERIAL AND LABOR TO FURNISH A FULLY CODE COMPLIANT SYSTEM PER NFPA-13 2013

**PIPE, FITTINGS AND JOINTS**  
1. PIPE AND FITTINGS SHALL CONFORM TO THE LATEST ANSI, ASTM, NFPA AND AWWA STANDARDS INCLUDING LATEST AMENDMENTS AND SHALL BE LISTED FOR USE WITH FIRE SPRINKLER SYSTEMS  
2. SEE MATERIAL SCHEDULE ON DETAIL SHEET

**HANGERS AND SUPPORTS**  
1. HANGERS AND SWAY BRACING WHERE REQUIRED, SHALL BE INSTALLED TO MEET NFPA AND LOCAL STATE BUILDING CODE COMPLIANCE AS TO LOCATION, SPACING, AND MAXIMUM LOADS.  
2. HANGER MATERIAL SHALL BE COMPATIBLE WITH PIPING MATERIALS WITH WHICH IT COMES INTO CONTACT.  
3. HANGERS SHALL BE INSTALLED, IN ADDITION TO THE ABOVE, AT ALL CHANGES OF DIRECTION (HORIZONTAL AND VERTICAL), VALVES AND EQUIPMENT CONNECTIONS. HANGERS SHALL BE LOCATED SO THAT THEIR REMOVAL IS NOT REQUIRED TO SERVICE, ASSEMBLE OR REMOVE EQUIPMENT.  
4. HORIZONTAL RUNS MAY USE BAND HANGERS UP TO 4" SIZE. PIPING LARGER THAN 4" SHALL BE PROVIDED WITH CLEVIS TYPE.  
5. ALL RODS, CLAMPS, NUTS, WASHERS, SHIELDS AND HANGERS IN ALL AREAS SHALL BE ELECTRO-GALVANIZED COATED STEEL.

**VALVES AND SUNDRIES**  
1. SHUTOFF VALVES ON THE ABOVEGROUND FIRE PROTECTION SYSTEM SHALL BE UL, FM BUTTERFLY OR OS&Y GATE VALVES, AS INDICATED, ON SIZES 2-1/2" AND LARGER, VALVES UP TO 2" SHALL BE UL, FM BALL VALVES. ALL ISOLATION / CONTROL VALVES SHALL BE MONITORED.  
2. CHECK VALVES SHALL BE 175-POUND CLASS FOR FIRE PROTECTION.  
3. VALVES SHALL BE PROVIDED WITH SEATS SUITABLE FOR THE SERVICE INTENDED.  
4. VALVES SHALL BE AS MANUFACTURED BY NIBCO, VICTAULIC, WALLWORTH, MILWAUKEE OR APPROVED EQUAL MANUFACTURERS MODEL NUMBERS REFERENCED BELOW ARE USED TO INDICATE A TYPE, MATERIAL AND QUALITY TO BE PROVIDED.  
5. ALL VALVES SPECIFIED HEREIN SHALL BE UL/FM APPROVED, 175 PSI MINIMUM WORKING PRESSURE. ALL CONTROL VALVES SHALL BE PROVIDED WITH TAMPER SWITCH.

**AUTOMATIC SPRINKLERS**  
1. SPRINKLER HEADS: QUICK RESPONSE, BULB TYPE, AND STYLE AS INDICATED OR REQUIRED BY THE APPLICATION. UNLESS OTHERWISE INDICATED.  
2. IN ALL OPEN AREAS, WHERE ELECTRICAL EQUIPMENT IS LOCATED, AN APPROVED TYPE SHIELD, TO KEEP WATER OFF THE ELECTRICAL EQUIPMENT, SHALL BE PROVIDED.  
3. PROVIDE ALL SPRINKLER HEADS WITH PROTECTIVE CAGE.  
4. PROVIDE IN THE VALVE ROOM, A FINISHED STEEL CABINET SUITABLE FOR WALL MOUNTING, WITH HINGED COVER AND SPACE FOR 6 SPARE SPRINKLER HEADS PLUS SPRINKLER HEAD WRENCH.

**SPRINKLER SHOP DRAWINGS**  
1. PRIOR TO INSTALLATION FIRE PROTECTION CONTRACTOR SHALL FURNISH COMPLETE TIER II SHOP DRAWINGS AND HYDRAULIC CALCULATIONS BASED ON A RECENT HYDRANT FLOW TEST FOR APPROVAL BY THE ENGINEER OF RECORD. FINAL AFFIDAVITS CANNOT BE ISSUED WITHOUT APPROVED SHOP DRAWINGS

**FLUSHING AND TESTING**  
1. ALL LABOR, MATERIALS, INSTRUMENTS, DEVICES AND POWER REQUIRED FOR TESTING SHALL BE PROVIDED BY THIS CONTRACTOR. THE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER, GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT AND SUCH OTHER PARTIES, AS MAY HAVE LEGAL JURISDICTION. NO PIPING IN ANY LOCATION SHALL BE CLOSED UP, FURRED IN, OR COVERED BEFORE TESTING.  
2. WHERE PORTIONS OF PIPING SYSTEMS ARE TO BE COVERED OR CONCEALED BEFORE COMPLETION OF THE PROJECT, THOSE PORTIONS SHALL BE TESTED SEPARATELY IN THE MANNER SPECIFIED HEREIN FOR THE RESPECTIVE ENTIRE SYSTEM.  
3. ANY PIPING OR EQUIPMENT THAT HAS BEEN LEFT UNPROTECTED AND SUBJECT TO MECHANICAL OR OTHER INJURY IN THE OPINION OF THE GENERAL CONTRACTOR SHALL BE RE TESTED IN PART OR IN WHOLE AS DIRECTED.  
4. THE ENGINEER RETAINS THE RIGHT TO REQUEST A RECHECK OR RESETTING OF ANY PUMP OR INSTRUMENT BY THIS CONTRACTOR DURING THE GUARANTEE PERIOD AT NO ADDITIONAL COST TO THE CONTRACTOR.  
5. REPAIR, OR IF DIRECTED, REPLACE ANY DEFECTIVE WORK WITH NEW WORK WITHOUT EXTRA CHARGE TO THE CONTRACT. REPEAT TESTS AS DIRECTED, UNTIL THE WORK IS PROVEN TO MEET THE REQUIREMENTS SPECIFIED HEREIN.  
6. RESTORE TO ITS FINISHED CONDITION ANY WORK, DAMAGED OR DISTURBED, PROVIDED BY OTHER CONTRACTORS AND ENGAGE THE ORIGINAL CONTRACTOR TO DO THE WORK OF RESTORATION TO THE DAMAGED OR DISTURBED WORK.  
7. THIS CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND ANY INSPECTORS HAVING JURISDICTION, A MINIMUM OF 48 HOURS IN ADVANCE OF MAKING ANY REQUIRED TESTS SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS HIS SCHEDULED TESTS.  
8. TESTING SHALL BE IN ACCORDANCE WITH NFPA-13 "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS".  
9. EACH SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSI FOR TWO HOURS.  
10. FLUSHING OF ALL BURIED SUPPLY PIPING SHALL BE PERFORMED AT A MINIMUM RATE OF 880 GPM FOR SYSTEMS WITH A 6" SERVICE.  
11. ALL WATER FLOW DETECTING DEVICES AND CIRCUITS SHALL BE FLOW TESTED THROUGH THE INSPECTOR'S TEST CONNECTION AND ACTIVATE WITHIN FIVE MINUTES OF INITIATION.  
12. ALL FLOW TESTS ON THE FIRE PROTECTION SYSTEMS SHALL BE PERFORMED IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.  
13. SPRINKLER FLOW TEST DISCHARGE AND FLUSHING WATER DISCHARGE SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT OR PUBLIC WORKS AS TO ACCEPTABLE DISCHARGE POINTS PRIOR TO SCHEDULING OF FLUSHING AND TESTS. THIS CONTRACTOR SHALL PROVIDE ALL HOSE AND EQUIPMENT NECESSARY TO PERFORM THE REQUIRED TESTING AND FLUSHING.

**AS BUILT DRAWINGS AND CONTRACTOR CERTIFICATES**  
1. CONTRACTOR SHALL HAVE, ON HAND, AT TIME OF FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION, FOR TEMPORARY / FINAL CERTIFICATE OF OCCUPANCY, ALL COMPLETED CERTIFICATES OF MATERIAL AND TESTING FOR ABOVEGROUND AND UNDERGROUND PIPING AS WELL AS THE AS- BUILT DRAWINGS OF THE FIRE PROTECTION INSTALLATION.  
2. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD AT SUCH A TIME WHERE THE INSTALLATION HAS PROGRESSED TO 90% AND PRIOR TO WALLS BEING CLOSED FOR INSPECTION.

**PATCHING, REPLACEMENT AND MODIFICATION OF EXISTING WORK**  
1. AFTER INSTALLATION OF PIPELINES, THE CONTRACTOR SHALL NEATLY PATCH, REPAIR, AND/OR REPLACE EXISTING WORK WHERE DAMAGED, REMOVED OR ALTERED FOR PIPE LINE INSTALLATION. THIS WORK SHALL BE SIMILAR AND EQUAL IN QUALITY TO THE WORK REMOVED OR DAMAGED, UNLESS OTHERWISE SHOWN OR SPECIFIED. SUCH WORK SHALL INCLUDE PATCHING AND REPLACEMENT OF EXISTING PIPING AT POINTS OF CONNECTION TO NEW PIPING, PATCHING OF INSULATION, AND WHEREVER ANY SUCH PATCHING WORK IS INDICATED ON THE DRAWINGS OR OTHERWISE REQUIRED.

**INSTALLATION**  
1. GENERAL: INSTALL FIRE PROTECTION SPECIALTY VALVES, FITTINGS, AND SPECIALTIES IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, NFPA 13 AND 14, AND THE AUTHORITY HAVING JURISDICTION.  
2. USE PROPER TOOLS TO PREVENT DAMAGE DURING INSTALLATIONS.  
3. ALL PENDENT MOUNTED SPRINKLERS SHALL BE INSTALLED ON RETURN BENDS.  
4. ALL SPRINKLERS INSTALLED IN ACOUSTICAL CEILING TILES SHALL BE CENTERED IN TILES WHERE APPLICABLE.  
5. COORDINATE AND VERIFY DRAFT CURTAINS ARE INSTALLED AS REQUIRED BY SPRINKLER HEAD SPECIFICATIONS  
6. CONTRACTOR IS RESPONSIBLE TO PROVIDE 100% SPRINKLER BUILDING INCLUDING ALL COMBUSTIBLE CONCEALED SPACES WHETHER SHOWN ON THIS PLAN OR NOT  
7. NO WORK SHALL COMMENCE BEFORE HAVING FULL APPROVAL FROM THIS OFFICE

## FIRE PROTECTION SPECIFICATION

### FIRE PROTECTION SPECIFICATION

- THIS IS A PERFORMANCE SPECIFICATION AND REQUIRES THE FIRE PROTECTION CONTRACTOR TO FURNISH A FULL SET OF NFPA-13-13 WORKING DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD PRIOR TO INSTALLATION
- SPRINKLER PIPING SHALL BE SCH.10/40 BLACK STEEL WITH 125 LB. CAST IRON THREADED/GROOVED JOINTS WHERE EXPOSED.
- SPRINKLER HEADS IN UNFINISHED AREAS SHALL BE UPRIGHT TYPE SPRINKLERS WITH HEAD CAGES
- APPLY AND OBTAIN PERMIT AND APPROVAL FROM LANDLORD'S INSURANCE COMPANY, FIRE DEPARTMENT AND STATE AND LOCAL AUTHORITIES.
- COORDINATE WITH FULL PLAN SET AND ARCHITECTURAL REFLECTED CEILING PLAN FOR THE LOCATION OF SPRINKLER HEADS.
- COORDINATE SPRINKLER WORK WITH OTHER DISCIPLINES. SINCE PERFORMANCE OF SPRINKLER SYSTEM IS AFFECTED BY OBSTRUCTIONS AND NOT OTHER WAY AROUND, THIS CONTRACTOR SHALL COORDINATE ALL LIGHTING FIXTURE LOCATIONS AND TYPES AND OTHER OBSTRUCTIONS PRIOR TO ANY WORK DONE.
- THE SYSTEM SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI PRESSURE FOR 2 HOURS. THERE WILL BE NO VISIBLE LEAKAGE WHEN THE SYSTEM IS SUBJECTED TO THE HYDROSTATIC PRESSURE TEST.
- GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR FROM THE DATE OF ACCEPTANCE.

## FIRE PROTECTION MATERIAL SCHEDULE

SYSTEM	PIPE							FITTINGS				JOINTS						
	BLAZEMASTER CPVC	DUCTILE IRON	EXTRA HEAVY CAST IRON	STEEL SCHED 10	STEEL SCHED 30	STEEL SCHED 40	STEEL SCHED 80	BLACK	GALVANIZED	CEMENT LINED	MALLEABLE IRON	BLAZEMASTER CPVC LINED	GALVANIZED	VICTAULIC	DUCTILE IRON	MECH-JOINT-FLANGED	GROOVED	SLIP
BURIED BUILDING FIRE SERVICE																		
RESIDENTIAL CROSS MAINS																		
RESIDENTIAL BRANCH LINES																		
ARM-OVER & DROPS																		
SPRINKLER DRAIN PIPE																		
DRY SPRINKLER SYSTEM																		

**FLOW TEST DATA**

STATIC	-----	90 PSI
RESIDUAL	-----	87 PSI
FLOW	-----	1,584 GPM

DATE: 3/10/2021  
LOCATION: 145 HOWARD ST.

### PREPARATION OF SHOP DRAWINGS:

PER 780CMR 901.2.1  
SPRINKLER CONTRACTOR SHALL PREPARE TIER II SHOP DRAWINGS INCLUDING PIPING & HYDRAULIC CALCULATIONS, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ENGINEER SHALL CERTIFY SYSTEM INSTALLATION FOR CODE COMPLIANCE AT PROJECT COMPLETION.

### FIRE SPRINKLER LEGEND

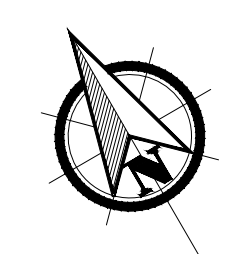
SYM	POSITION	FINISH	TEMP	K	NPT
⊗	UPRIGHT	BRASS	155°	5.60	1/2"
⊗	UPRIGHT	BRASS	155°	16.8	3/4"
●	PENDENT	CONCEALED	155°	5.60	1/2"
▷	DRY SIDEWALL	CONCEALED	155°	5.60	1/2"
⊙	DRY PENDENT	CONCEALED	155°	5.60	1/2"

### FIRE PROTECTION ABBREVIATIONS

DSW	DRY SIDEWALL
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DIA	DIAMETER
DR	DRAIN
ETR	EXISTING TO REMAIN
FHV	FIRE HOSE VALVE
IT	INTERMEDIATE TEMPERATURE
FP	FIRE PROTECTION
FS	FLOW SWITCH
SP	STANDPIPE
GV	GATE VALVE
GAL	GALLONS
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
DN	PIPE DROP
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE REDUCING VALVE
RV	RELIEF VALVE
SPK	SPRINKLER
TS	TAMPER SWITCH
UP	PIPE RISE
VIF	VERIFY IN FIELD

### FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
	SUPERVISED BUTTERFLY VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	SUPERVISED OS&Y GATE VALVE
	FLOW ALARM SWITCH
	SPRINKLER ZONE CONTROL ASSEMBLY (SEE DETAIL)
	PUMP (FIRE DR JOCKEY)
	DRY ALARM VALVE
	WET ALARM VALVE
	CHECK VALVE
	DRAIN VALVE
	FIRE VALVE ASSEMBLY 2-1/2" X 2-1/2" X 1-1/2"
	PIPE DROP
	PRESSURE GAUGE
	HYDRAULIC JUNCTION POINT
	HYDRAULIC DISCHARGE NODE



### CONSULTANT

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### REGISTRATION



### REVISIONS

NO.	BY	DESCRIPTION	DATE

### PROJECT

SHANGHAI CORP  
FACTORY ADDITION  
  
25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

### SHEET TITLE

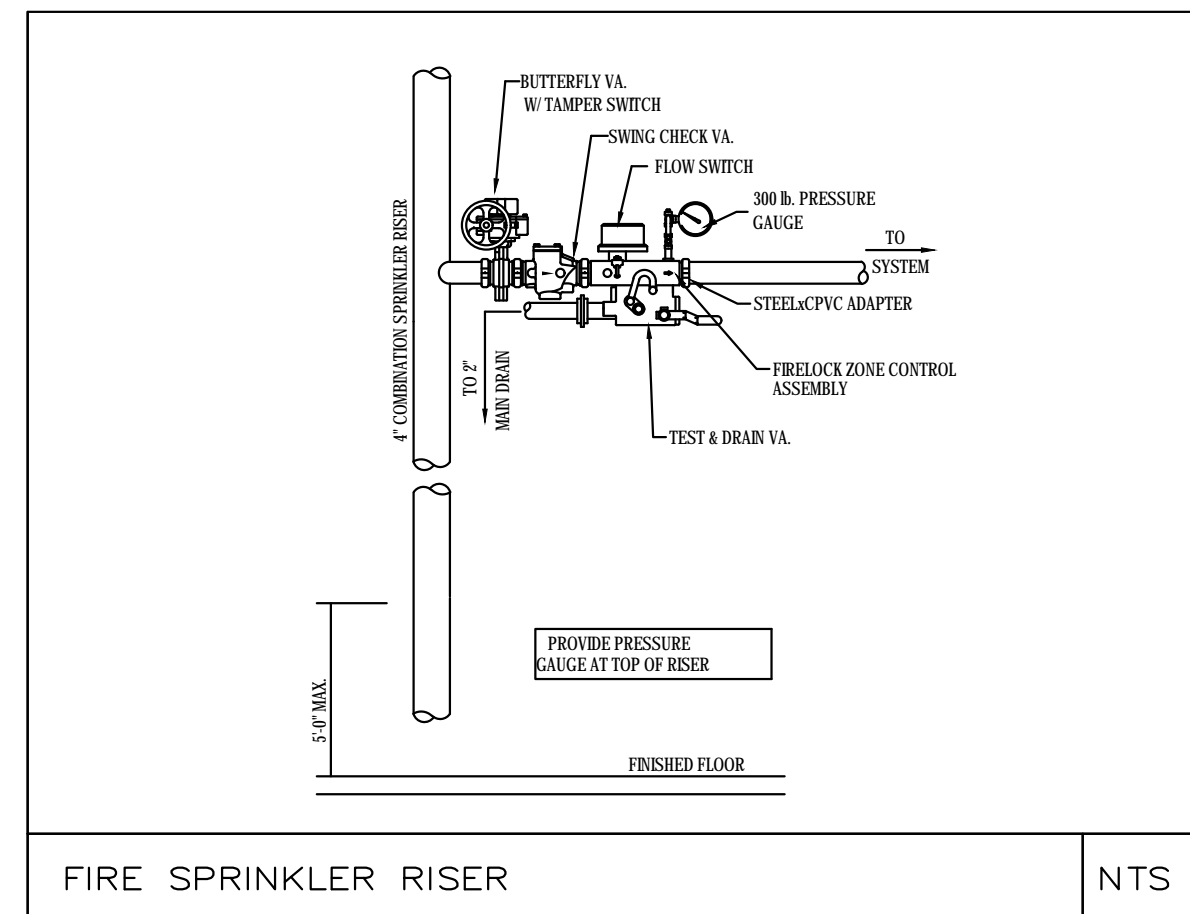
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SCALE: NOTED

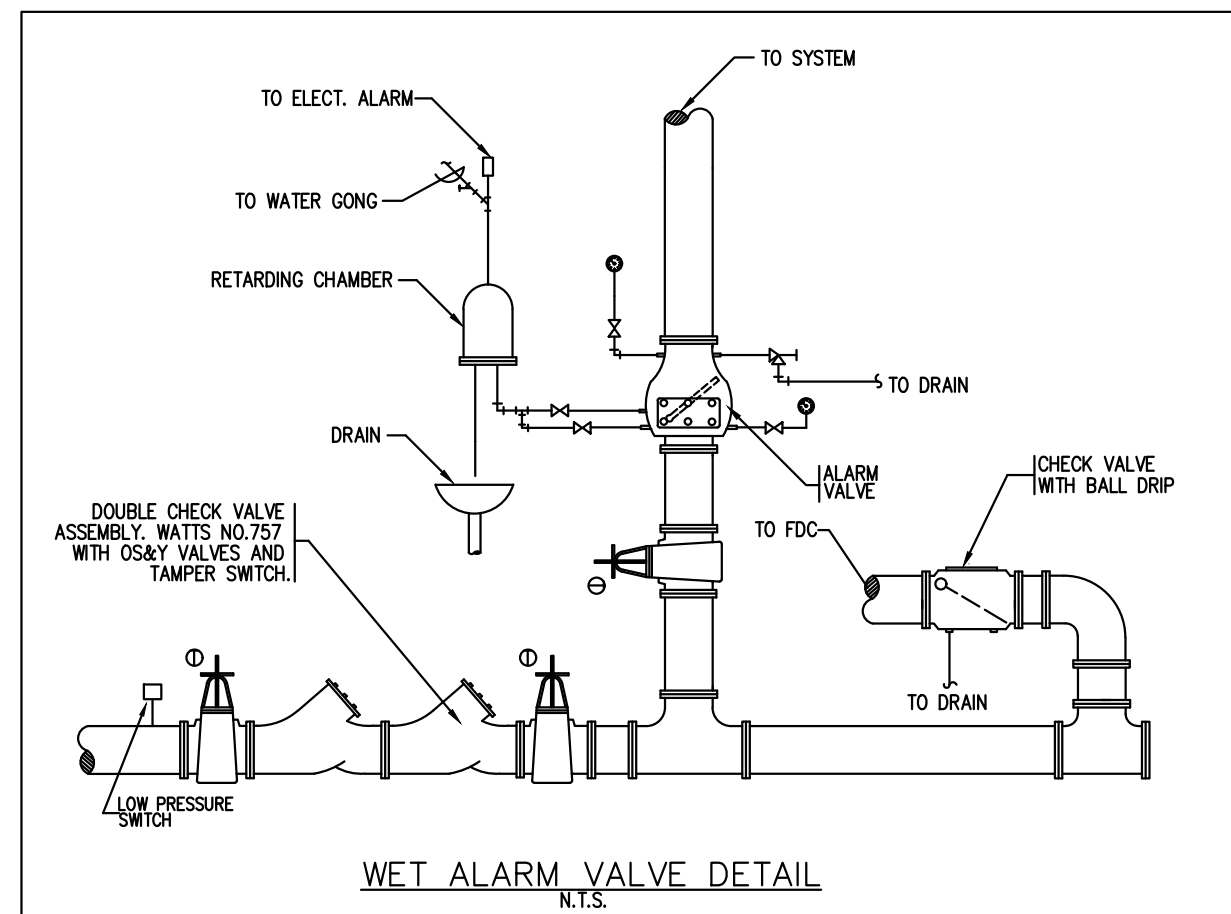
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CHECKED: **FP2.0**



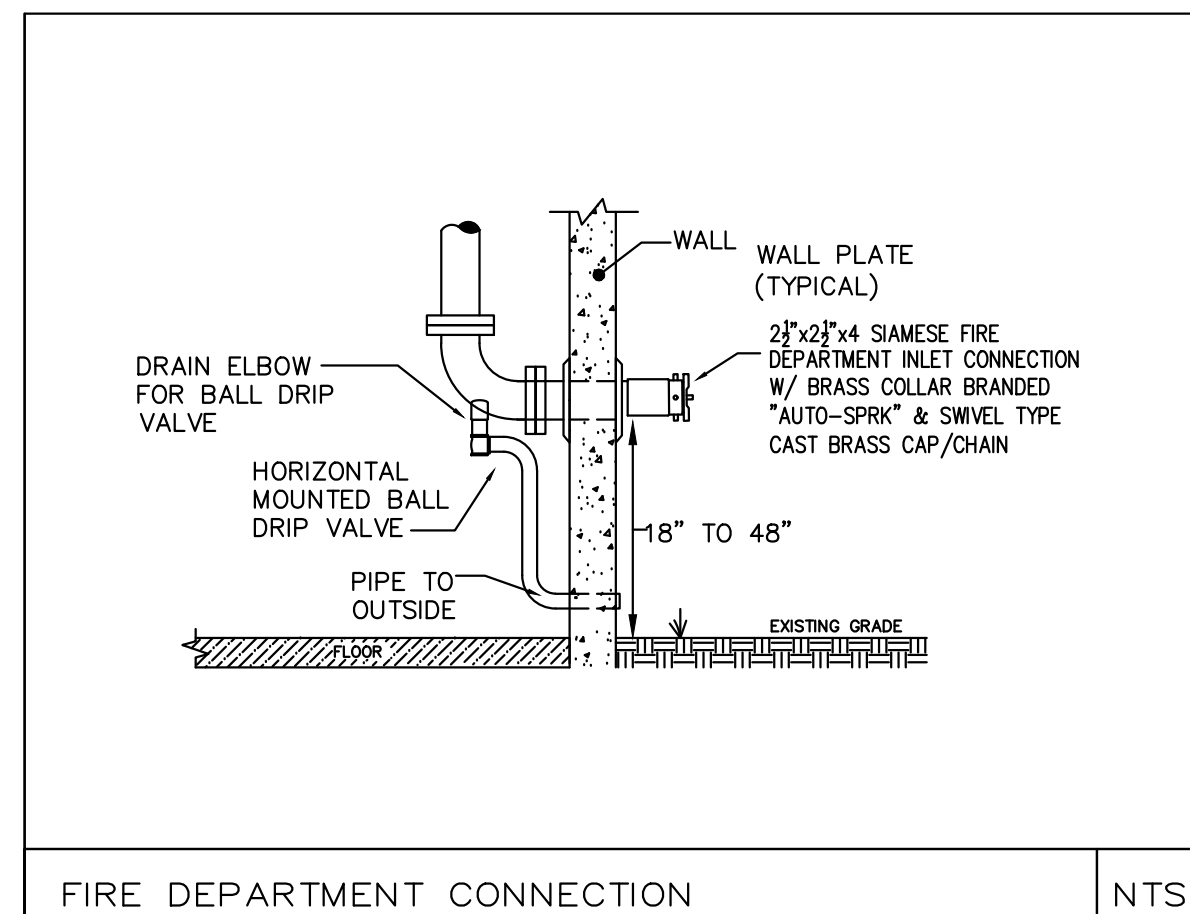
FIRE SPRINKLER RISER

NTS



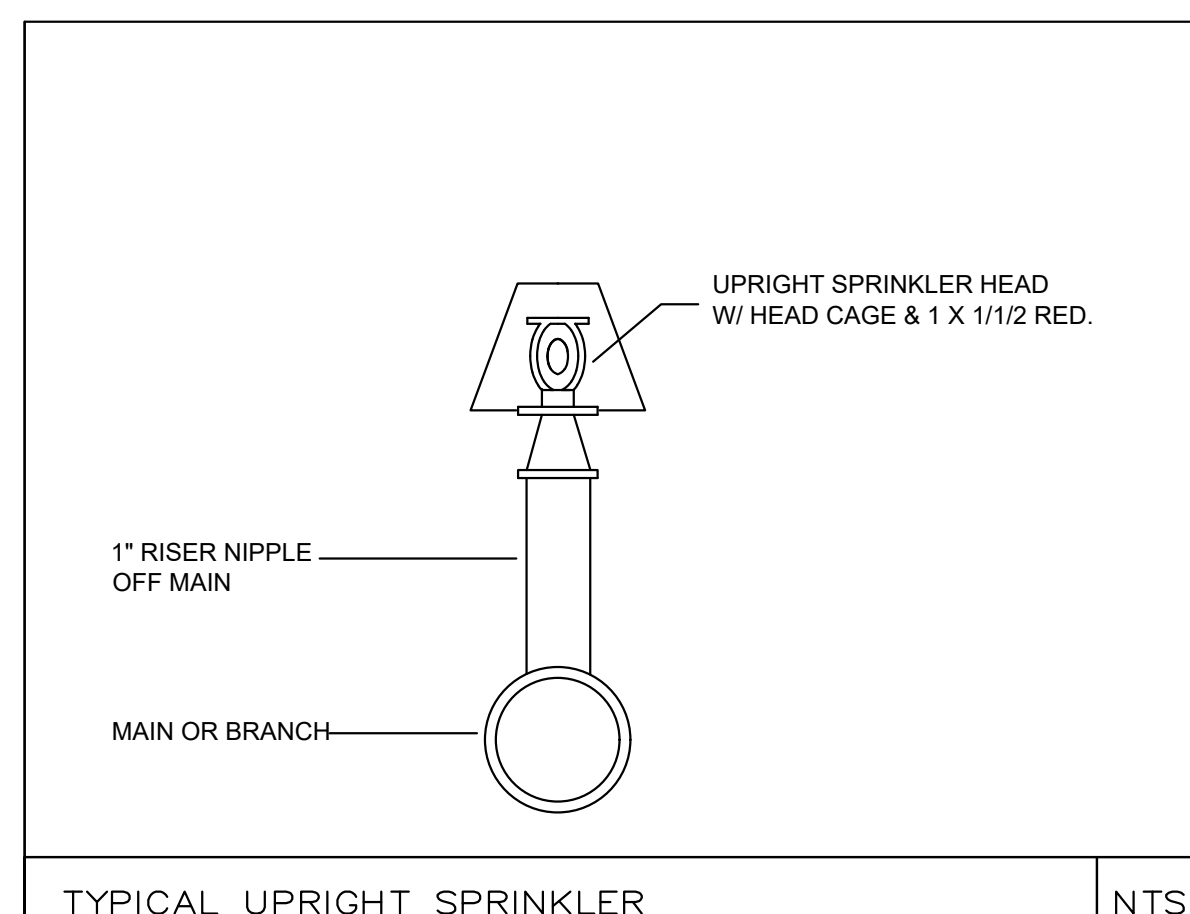
WET ALARM VALVE DETAIL

NTS



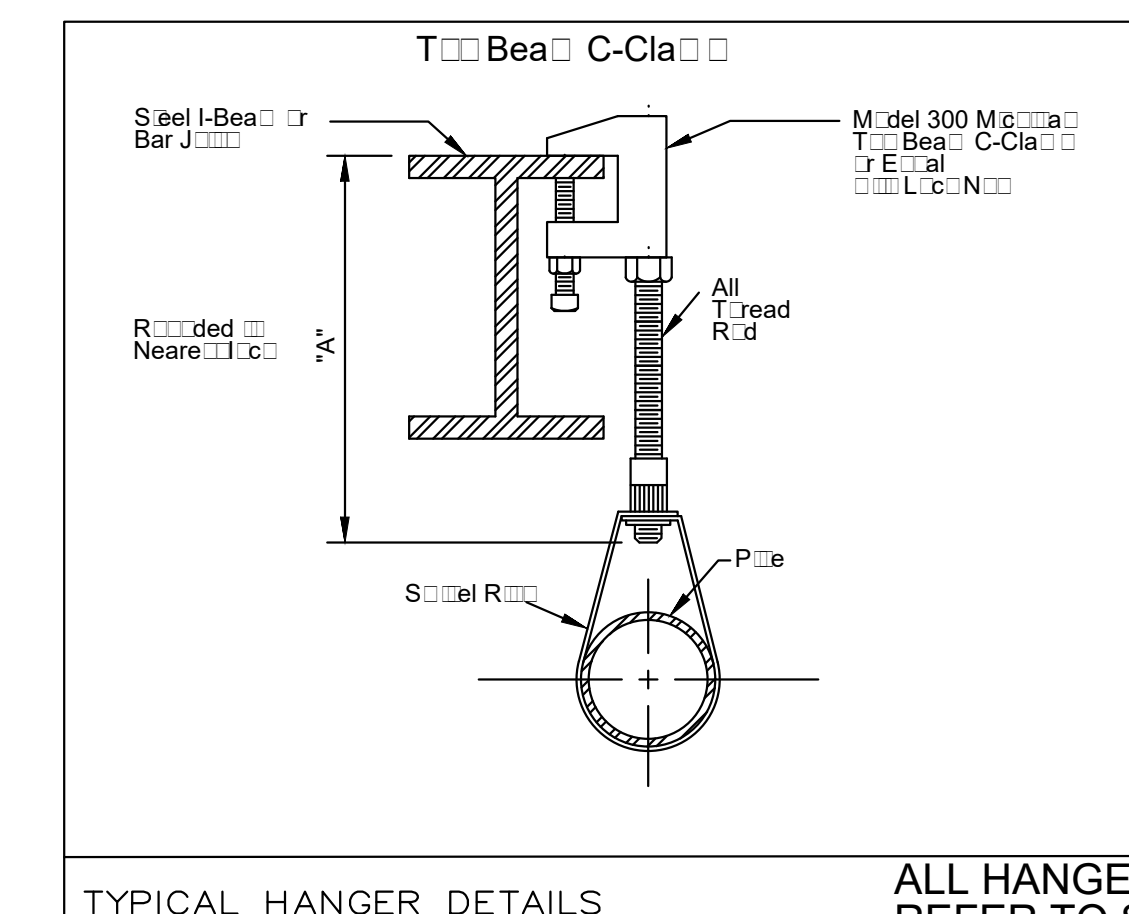
FIRE DEPARTMENT CONNECTION

NTS

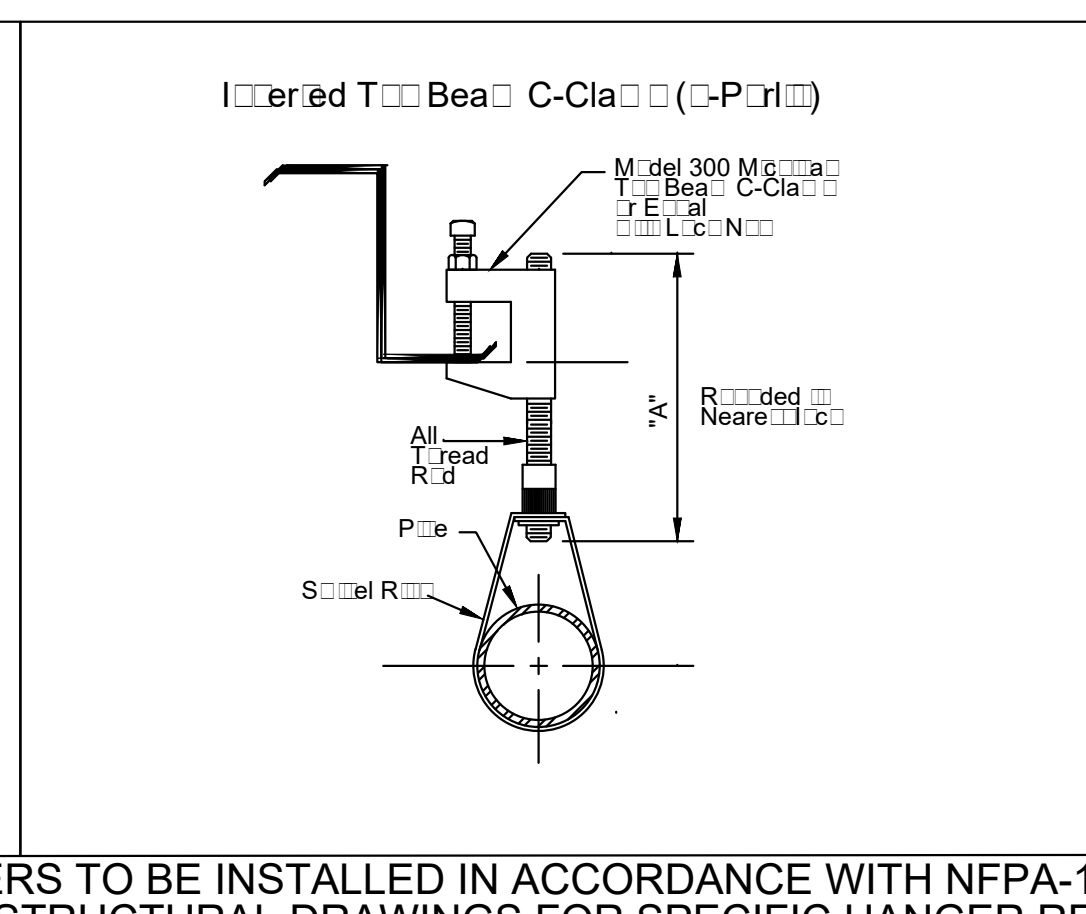


TYPICAL UPRIGHT SPRINKLER

NTS

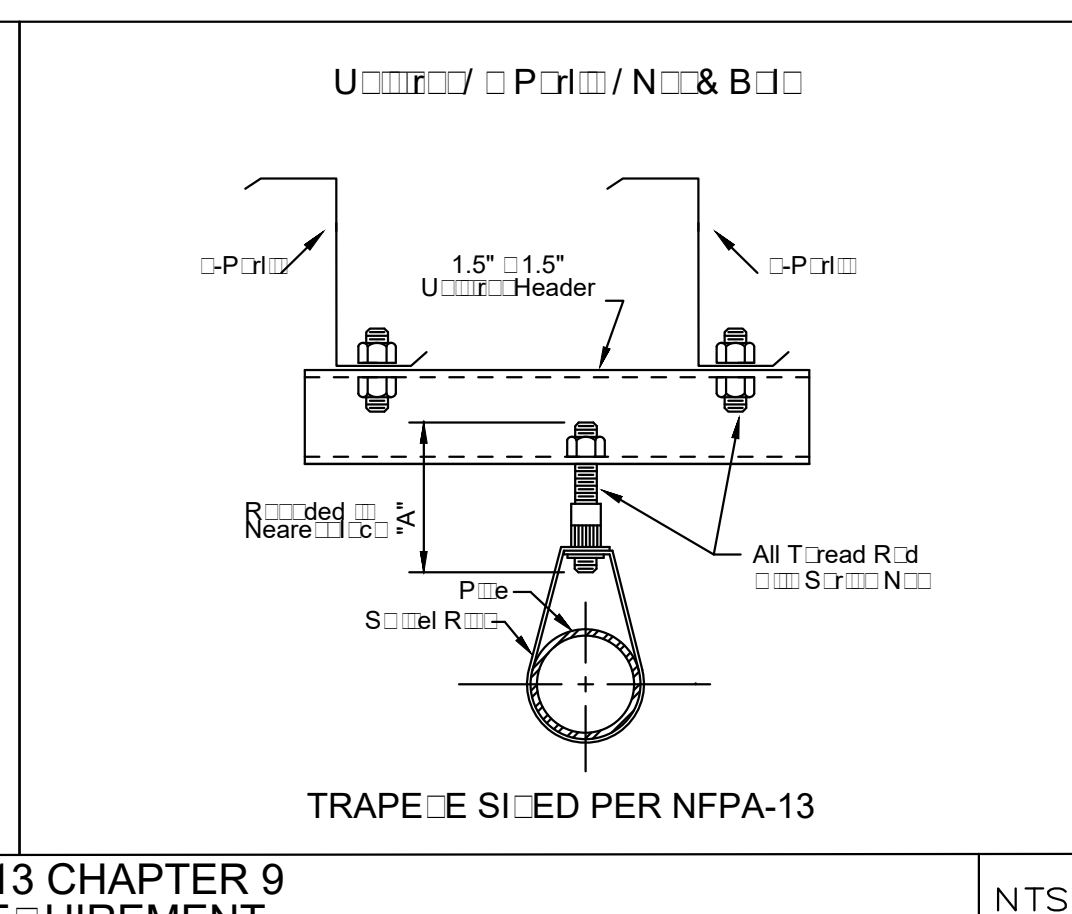


TYPICAL HANGER DETAILS

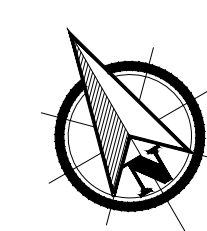


ALL HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA-13 CHAPTER 9 REFER TO STRUCTURAL DRAWINGS FOR SPECIFIC HANGER REQUIREMENT

NTS

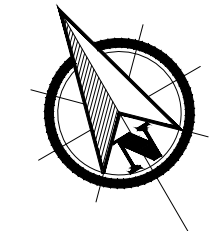
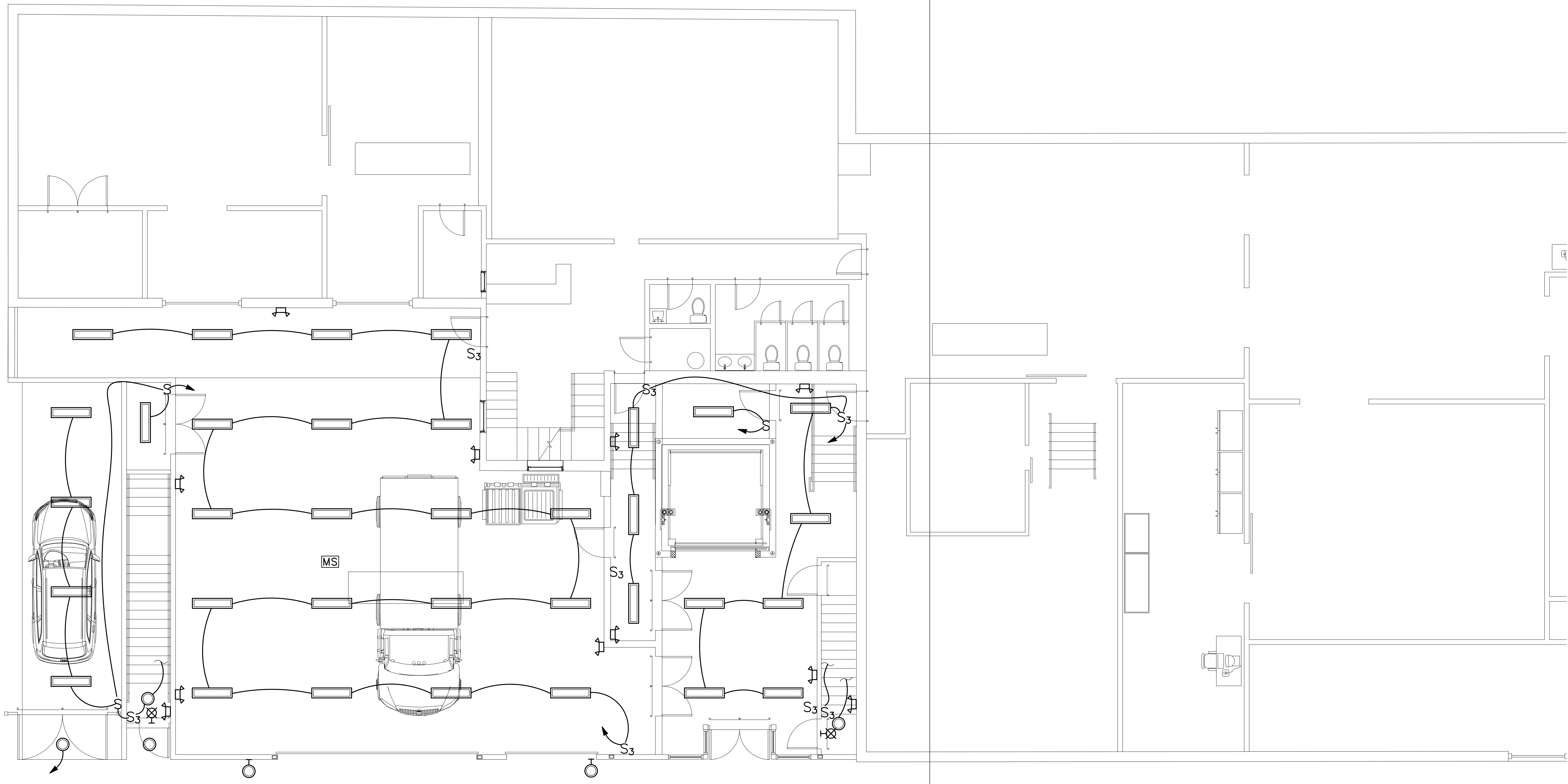


TRAPEZOIDAL PER NFPA-13



REVISIONS

NO.	BY	DESCRIPTION	DATE



CONSULTANT

REGISTRATION



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NO.	BY	DESCRIPTION	DATE

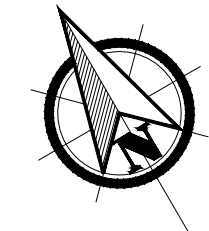
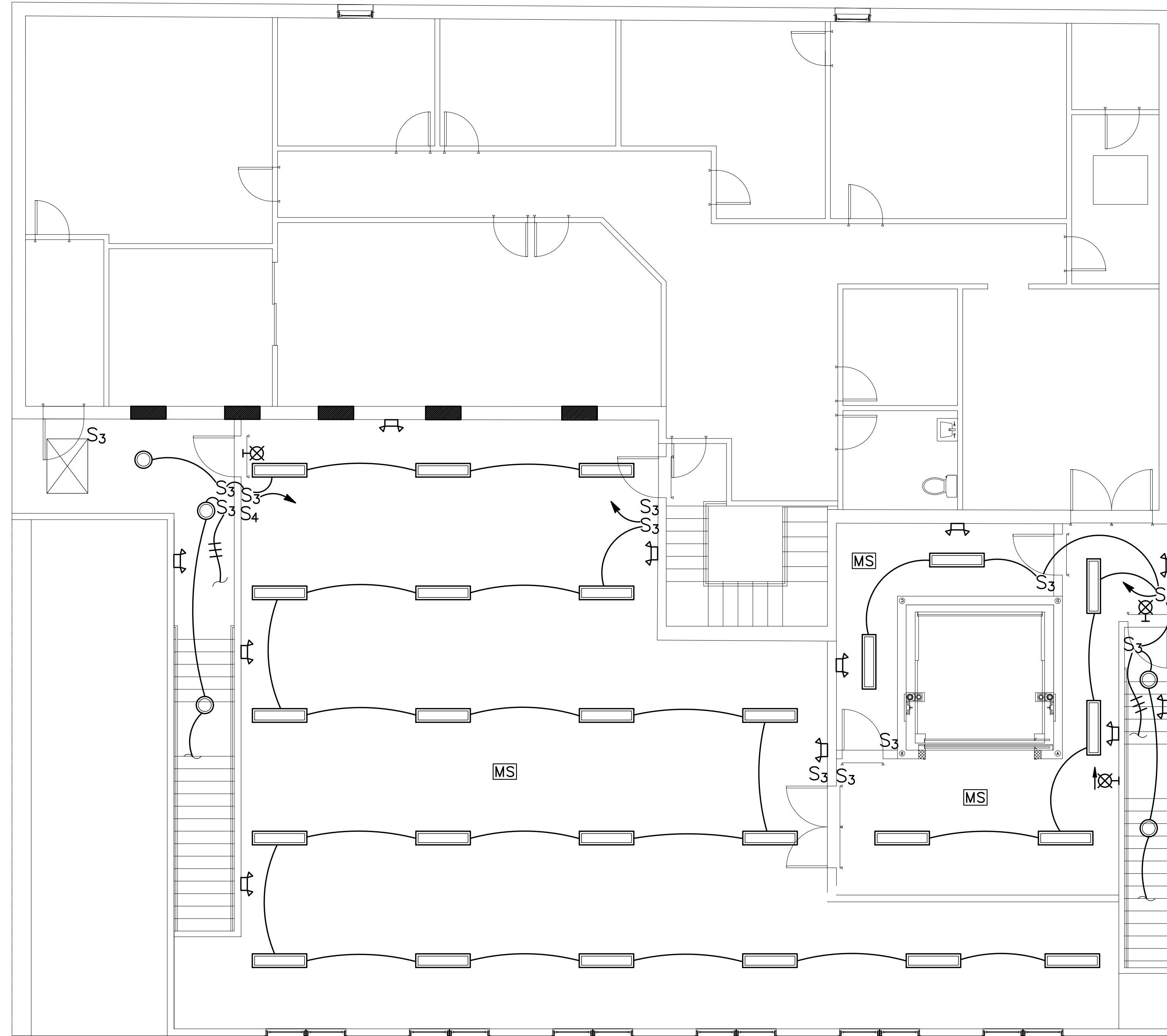
PROJECT

SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE  
 FIRST  
 FLOOR PLAN  
 (LIGHTING)

DRAWN: MP	DRAWING NO:
SCALE: NOTED	<b>E1.0</b>
DATE: 07-17-23	
CHECKED: MZ	
SHEET OF	



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REVISIONS

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PROJECT

SHANGHAI CORP  
 FACTORY ADDITION  
 25 HOWARD ST.  
 ROXBURY, MA  
 PROJECT NO. 21217

SHEET TITLE  
 SECOND  
 FLOOR PLAN  
 (LIGHTING)

DRAWN: MP	DRAWING NO:
SCALE: NOTED	<b>E2.0</b>
DATE: 07-17-23	
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*Muzaffer Muhtezabe*

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SHANGHAI CORP  
FACTORY ADDITION

25 HOWARD ST.  
ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

FIRST  
FLOOR PLAN  
(POWER)

DRAWN: MP

DRAWING NO:

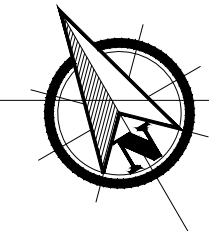
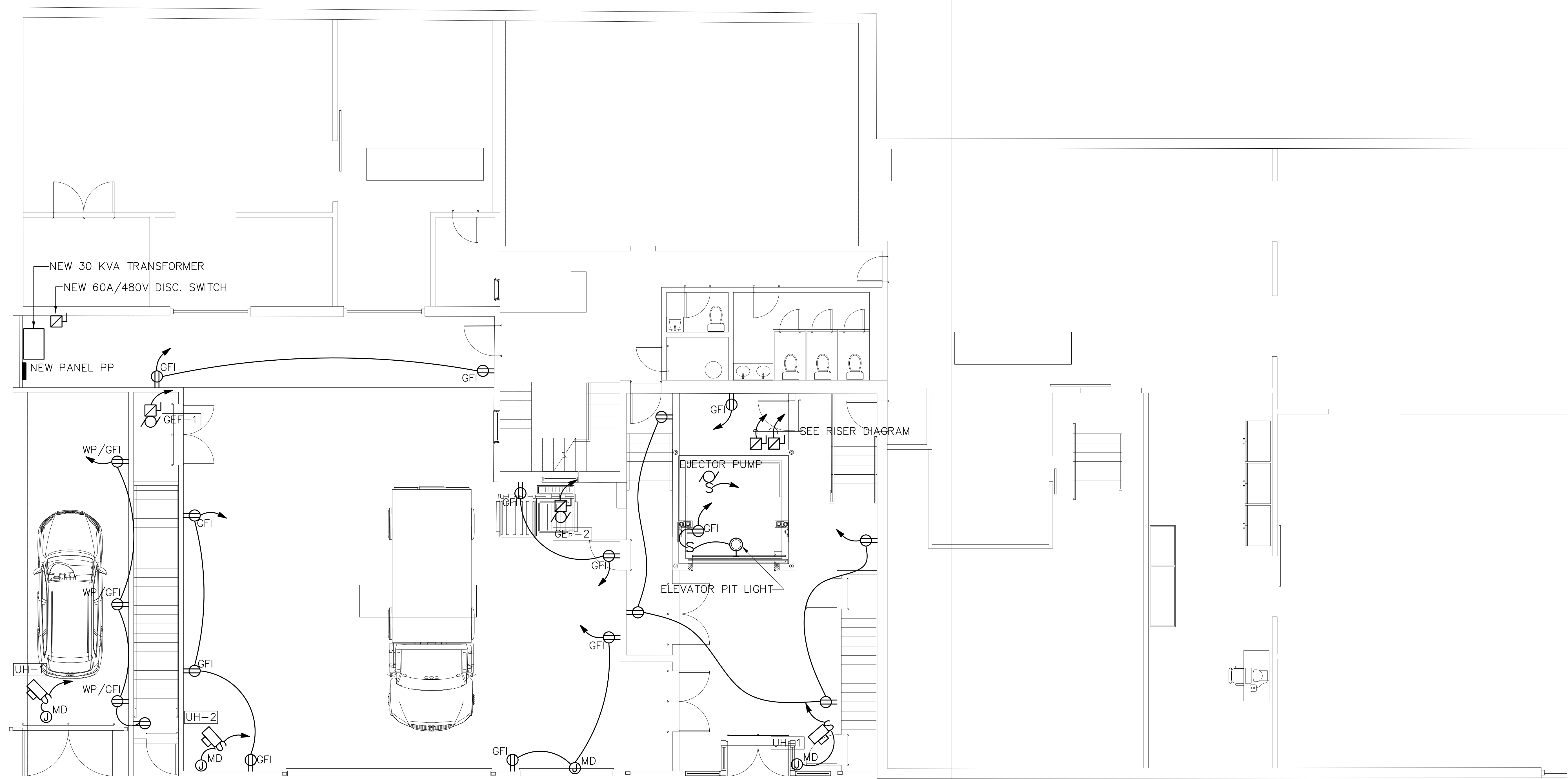
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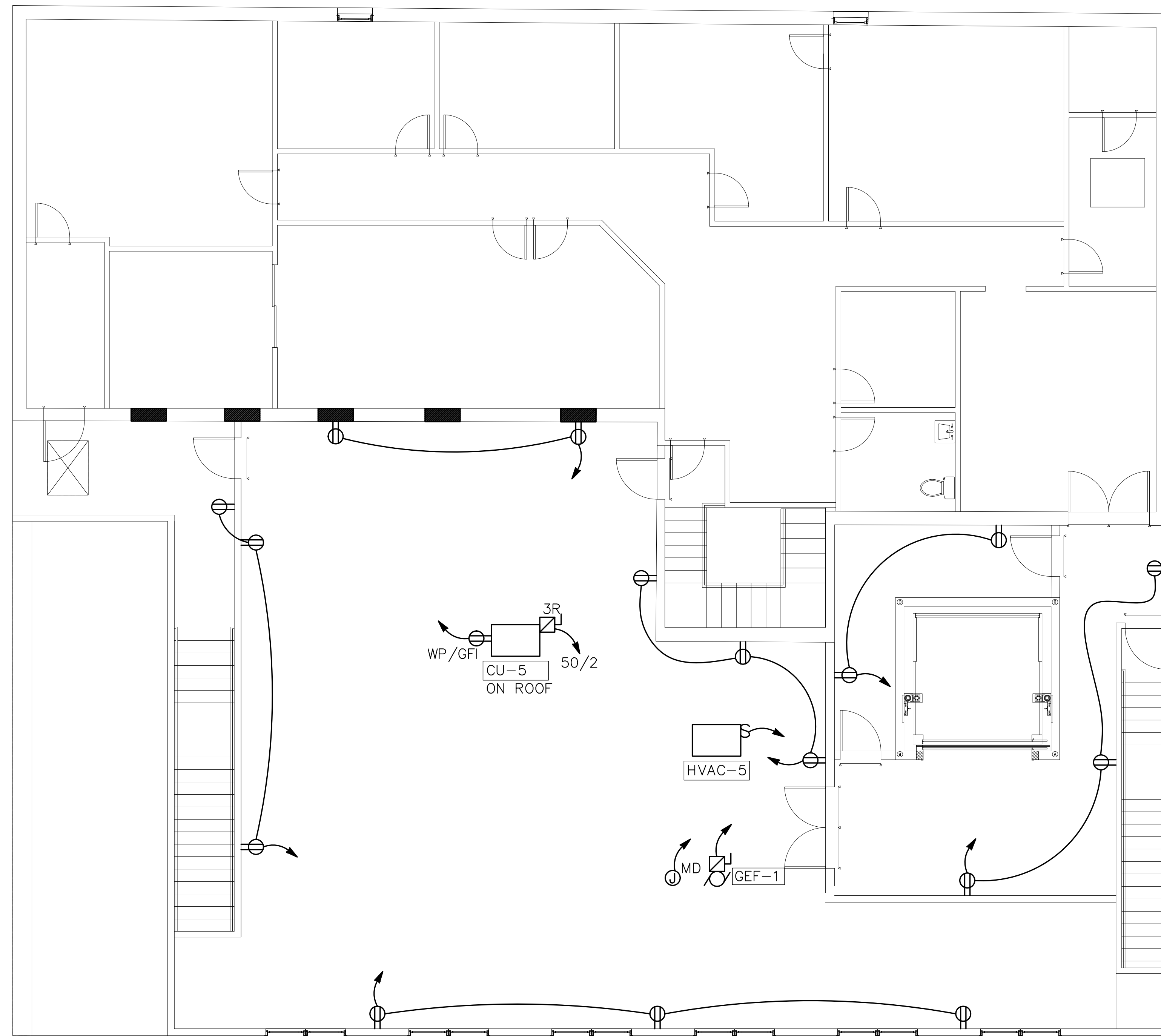
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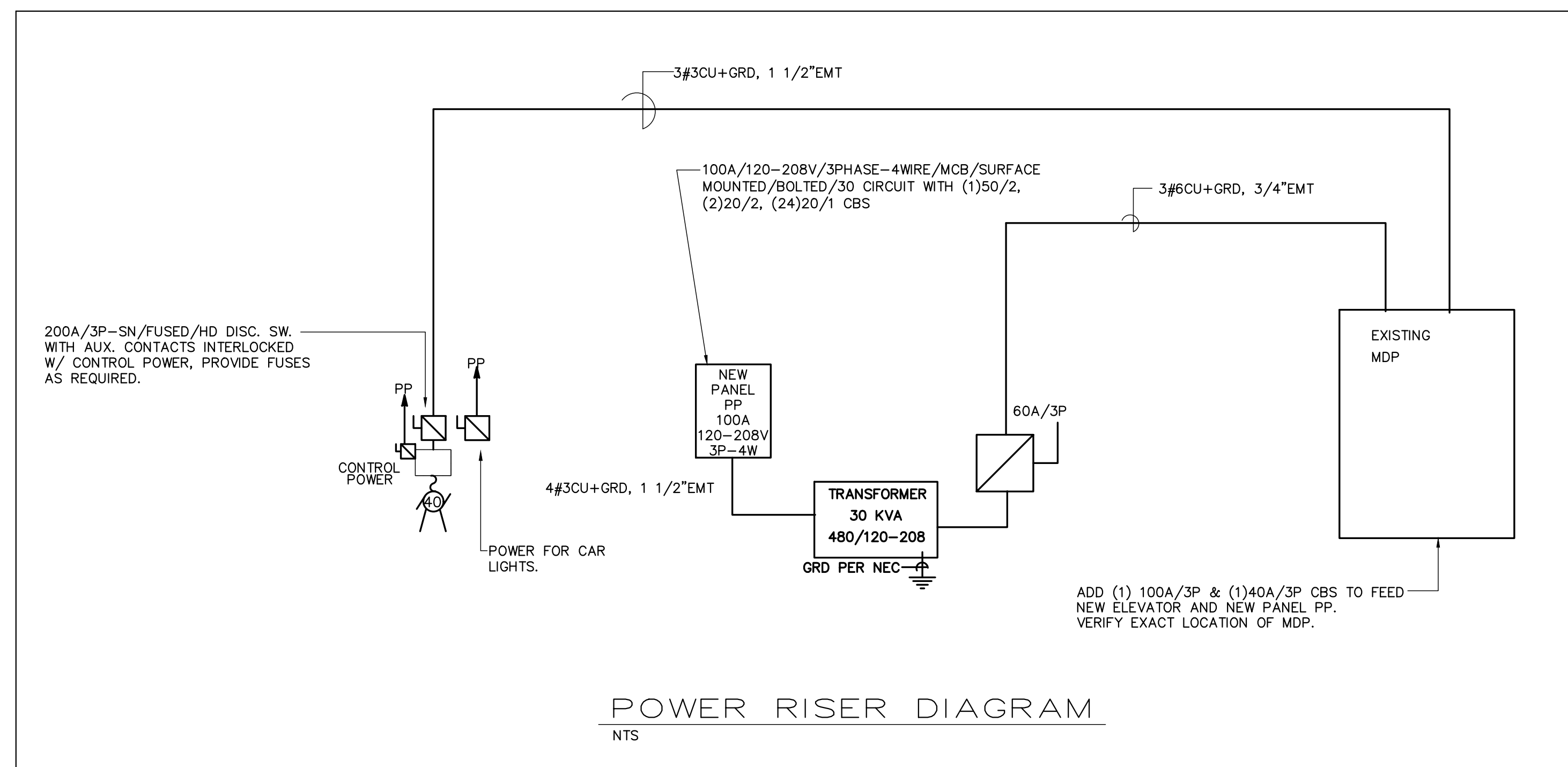
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 SECOND  
 FLOOR PLAN  
 (POWER)

DRAWN: MP	DRAWING NO:
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FIXTURE SCHEDULE					
TYPE	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP	DESCRIPTION
	LITHONIA	ZLID L48 3000LM FST 40K	120	LED	4' PENDANT MOUNTED
	CARRY \$100/-	PER FIXTURE	120	LED	SURFACE MOUNTED DOWN LIGHT
	CARRY \$100/-	PER FIXTURE	120	LED	EXTERIOR WALL SCONCE
	EMERGI-LITE	PRO2VM	120		EMERGENCY LIGHT WITH BUILT-IN BATTERY
	EMERGI-LITE	LEDPXN1/2R	120		EXIT SIGN

LAMPS AND BALLASTS SHALL BE IN COMPLIANCE WITH LOCAL UTILITY COMPANY REBATE PROGRAMS. SPECIFICATIONS ABOVE FOR THE FIXTURE TYPE ONLY. FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS THD LESS THAN 215. FIXTURES MOUNTED IN INSULATED CEILINGS, EC SHALL PROVIDE HOODS TO KEEP INSULATION AWAY



LOCATION OF ALL MECHANICAL EQUIPMENTS AND ELECTRICAL CHARACTERISTICS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR PRIOR TO ANY WORK DONE. ALL EQUIPMENT RELATING TO MECHANICAL COMPONENTS SHALL BE ORDERED ONLY AFTER THE APPROVAL OF MECHANICAL EQUIPMENT SHOP DRAWINGS

UNLESS NOTED OTHERWISE ALL WIRING SHALL BE #12AWG, CU, AND FED FROM PANEL PP VIA 20A/1P C.B. CIRCUITS LONGER THAN 100FT SHALL BE #10 CU

NO EXPOSED WIRING IS ALLOWED. ALL CONCEALED WIRING UNLESS NOTED SHALL BE "MC". ALL WIRING IN BLOCK WALLS SHALL BE CONCEALED, RUN IN CONDUIT.

WIRING IN ALL EXPOSED AREAS SHALL BE IN METALLIC RACEWAYS AS WIREMOLD OR EQUAL. RACEWAYS SHALL BE PAINTED AS DIRECTED BY THE ARCHITECT. SURFACE RACEWAYS SHALL CLOSELY FOLLOW THE SURFACE AND WRAP AROUND THE BEAMS AS REQUIRED. PRIOR TO ANY INSTALLATION, SUBMIT LAYOUT SKETCH INDICATING PROPOSED ROUTING FOR APPROVAL. ARCHITECT HAS THE RIGHT TO MODIFY OR CHANGE LAYOUT AS NEEDED. ANY CHANGES PRIOR TO ANY INSTALLATION SHALL BE AT NO CHANGE TO CONTRACT PRICE.

EXACT LOCATION AND TYPES OF ALL LIGHTING FIXTURES, MOUNTING HEIGHTS AND MOUNTING DETAILS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ANY CONFLICTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION PRIOR TO ANY WORK DONE. OBTAIN LATEST COPY OF THE CEILING PLAN FROM ARCHITECT PRIOR TO ANY WORK DONE.

TO MEET IECC CONTRACTOR SHALL PROVIDE IN EACH SPACE (EXCEPT CORRIDORS, BATHROOMS AND UTILITY/MECHANICAL ROOMS), CEILING MOUNTED OCCUPANCY SENSOR TO CONTROL LIGHTS IN THE SPACE. INSTALL SELF CONTAINED TYPE OR RELAY TYPE CEILING MOUNT SENSORS AS REQUIRED TO MATCH LOAD AND VOLTAGE CHARACTERISTICS. LOCATE SENSOR IN CEILING AWAY FROM THE DOOR NOT TO PICK UP NUISANCE ACTIVATION.

IN AREAS WHERE FIXTURES ARE MOUNTED INTO INSULATED CEILINGS, THIS CONTRACTOR SHALL PROVIDE HOODS, 3" LARGER THAN FIXTURES TO KEEP INSULATION AWAY FROM THE FIXTURES AND TO MAINTAIN INSULATION INTEGRITY OF THE CEILING, SEE ARCHITECTURAL DRAWINGS FOR AREAS WHERE THESE HOODS MAY BE REQUIRED.

CONNECT ALL EXIT SIGNS AND EMERGENCY BATTERIES TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS TYPICAL FOR ALL AREAS

WHERE CEILING IS FIRE RATED, ALL RECESSED FIXTURES AND EXHAUST FANS SHALL BE INSTALLED WITH FIRE RATED ENCLOSURES 3" MINIMUM LARGER THAN FIXTURES TO MAINTAIN INTEGRITY OF CEILING FIRE RATING AND COOLING OF THE FIXTURES.

COORDINATE LOCATION OF SURFACE MOUNTED LIGHT FIXTURES WITH SPRINKLER CONTRACTOR PRIOR TO ANY INSTALLATION

## SYMBOL LIST

	CEILING MOUNTED LIGHT FIXTURE.
	WALL MOUNTED LIGHT FIXTURE.
	2'X2' OR 2'X4' FLUORESCENT LIGHT FIXTURE.
	1'X4' FLUORESCENT WALL/CEILING MOUNTED LIGHT FIXTURE.
	SINGLE POLE LIGHT SWITCH
	THREE-WAY LIGHT SWITCHES
	DIMMER SWITCH MINIMUM 1000W OR AS REQUIRED PER CIRCUIT
	DUPLEX RECEPTACLE, 120V,18" AFF.
	DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER 8" ABOVE COUNTER TO C.
	120V DOUBLE DUPLEX CONVENIENCE RECEPTACLE
	DUPLEX RECEPTACLE ABOVE COUNTER, 8" ABOVE COUNTER TO C.
	TELEPHONE JACK COMPLETE W/JACK AND COVER, ("W" WALL MOUNTED @ 4'-0" A.F.F.)
	TELE/DATA OUTLETS, COMPLETE W/JACK AND COVER, HEIGHT AT 18" TO C AFF.
	CABLE TV OUTLET, COMPLETE W/JACK AND COVER, HEIGHT AT 18" TO C AFF.
	MOTOR
	FUSED DISCONNECT SWITCH, (3R RAIN-PROOF).
	STARTER
	SYSTEM TYPE SMOKE DETECTOR
	DUCT SMOKE DETECTOR W/REMOTE TEST SWITCH
	HEAT DETECTOR
	FIRE ALARM PULL AND A/V DEVICE
	FIRE ALARM PULL STATION CENTERLINE 4'-0" AFF
	FIRE ALARM AUDIO/VISUAL UNIT. MTD. @ 6'-8" AFF
	FIRE ALARM LIGHT. MTD. @ 6'-8" AFF
	TYPICAL WIRING, DIAGONAL LINES INDICATES QUANTITY OF CONDUCTORS.
	HOMERUN TO PANEL WITH CONDUCTOR.(HOT, NEUTRAL, GROUND)
	JUNCTION BOX
	LIGHTING & POWER PANEL, RECESSED
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR
	TAMPER SWITCH
	FLOW SWITCH
	RACEWAY CONCEALED IN CEILING, PLENUM OR WALLS
	RACEWAY CONCEALED IN SLAB (FLOOR)
	UNIVERSAL MOUNTING EXIT SIGN (DOUBLE FACED), ARROWS AS INDICATED.
	EMERGENCY LIGHT WITH BUILT-IN BATTERY.
	OCCUPANCY SENSOR

## ELECTRICAL SPECIFICATIONS

### 1.1 General

- The General Conditions and Drawings issued for this Project shall be considered as part of the Electrical Specifications.
- The term "This Contractor" as used under this Section and wherever used on the Drawings shall mean the Electrical Contractor.

### 1.2 Scope of Work

- The work under this Specification includes the furnishing of all labor and materials as specified herein and as shown on the Drawings necessary to install a complete and ready for operation. Manufacturer's catalogue numbers are shown for reference purposes only. They are meant to provide a general description of the design and quality of materials required. Equivalent products by other manufacturers will be considered.

### 1.3 Codes and Specifications

- The work shall be conducted in accordance with the latest rules and regulations of the State of MASSACHUSETTS and the local codes as most recently issued, OSHA codes, National Electrical Codes and NFPA.
- All exposed wiring shall be in electric metallic tubing. All concealed wiring shall be in accordance with local codes.
- All branch circuit conductors shall be copper, minimum #12 AWG size THHN or THHW as required, 600V rated.
- All feeder conductors shall be copper, AWG size as noted XHHW insulation, 600V.

### 1.4 Coordination of Work

- The Contractor shall schedule and coordinate his work with all trades involved to insure proper installation and operation.
- The Contract Drawings are diagrammatic only and indicate the extent, general locations and arrangement of the piping and wiring of equipment. The exact locations shall be coordinated with Architectural Drawings and Documents of other trades.
- This Contractor shall verify fixture mounting and location against plans, elevations and detail drawings. Exact location of all fixtures shall be confirmed with owner's representative prior to rough-in.
- Submit Shop Drawings and product data within thirty (30) days after award of the Contract. Check, stamp and mark with project name submittals before transmitting to Architect. Indicate deviations from Contract Documents.
- This Contractor shall give notices, file plans, obtain permits and licenses, pay fees and back charges, and obtain the necessary approvals from authorities that have jurisdiction.
- Material and equipment shall be UL, ASME and AGA approved for intended service.
- Guarantee work in writing for one year from date of final acceptance. Repair or replace defective materials or installation at no cost to Owner. Correct damage caused in making necessary repairs and replacements under guarantee at no cost to the Owner.
- Submit guarantee to Architect before final payment.

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TEL: (617) 404-8182

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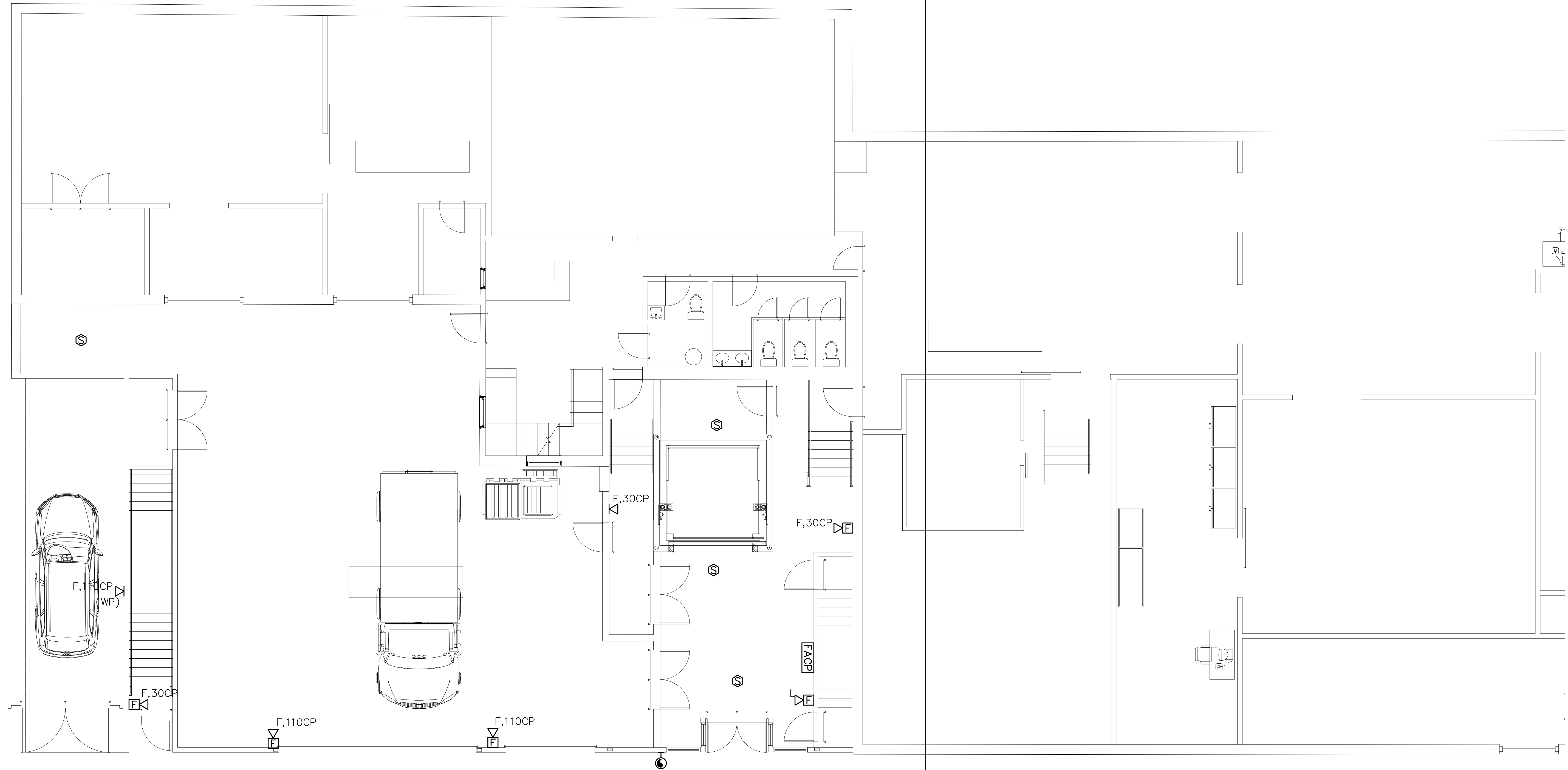
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PROJECT NO. 21217

SHEET TITLE  
ELECTRICAL  
DETAILS

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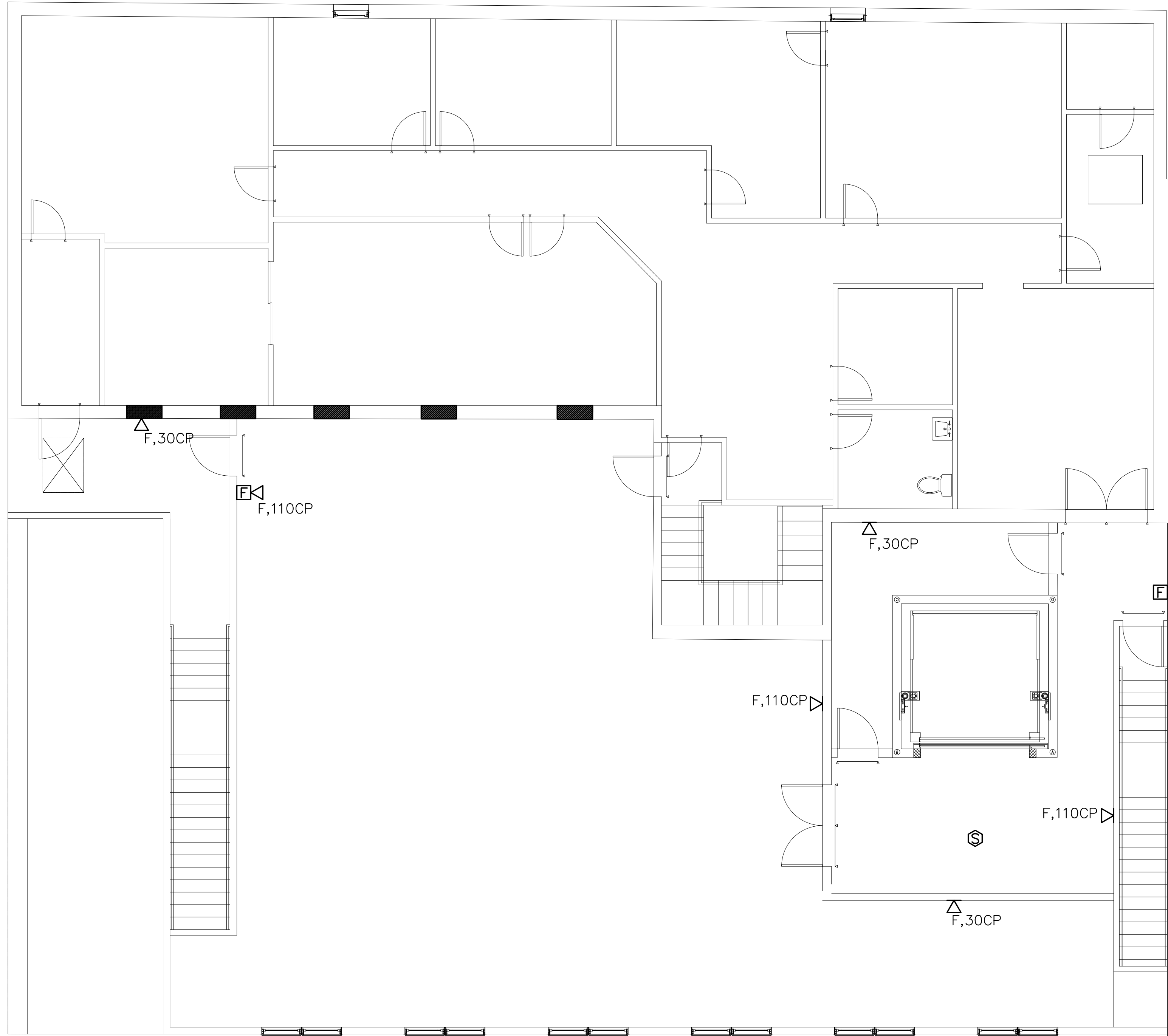
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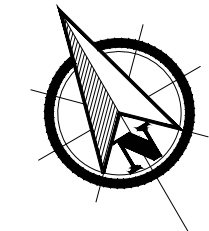
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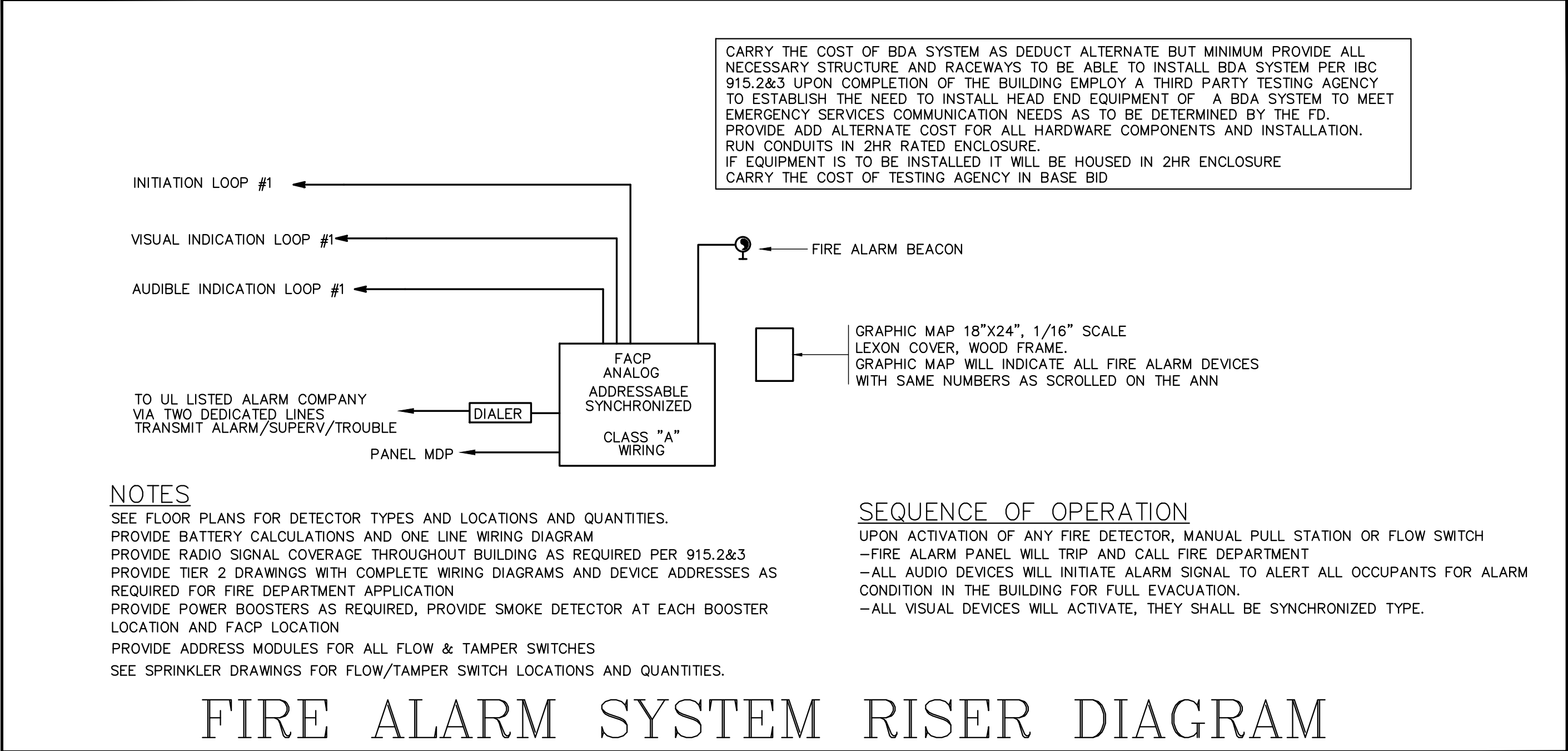
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PROJECT NO. 21217

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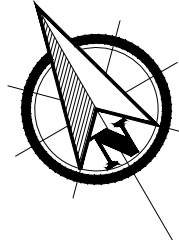




# FIRE ALARM SYSTEM RISER DIAGRAM

**SYMBOL LIST**

	SYSTEM TYPE SMOKE DETECTOR
	DUCT SMOKE DETECTOR W/REMOTE TEST SWITCH
	HEAT DETECTOR
	FIRE ALARM PULL AND A/V DEVICE
	FIRE ALARM PULL STATION CENTERLINE 4'-0" AFF
	FIRE ALARM AUDIO/VISUAL UNIT. MTD. 6'-8" AFF
	FIRE ALARM LIGHT. MTD. 6'-8" AFF
	HOMERUN TO PANEL WITH CONDUCTOR.(HOT, NEUTRAL, GROUND)
	FIRE ALARM CONTROL PANEL



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FIRE ALARM  
DETAILS

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