



2018 RELOCATION

SITE NAME:
SWEETEST HEART OF MARY
SITE NUMBER:
DE04229B

STREET ADDRESS:
4440 E. CANFIELD D/B/A 4440 RUSSELL ST.
DETROIT, MICHIGAN 48207

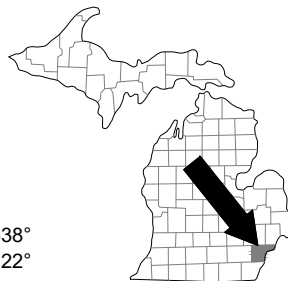
T-Mobile
 28505 SCHOOLCRAFT RD, BLDG#6
 LIVONIA, MICHIGAN 48150
 Phone: 734.367.7200
 Fax: 734.367.7242
 CONTACT: KEN KALOUSEK
 (734) 444-0181

LANDTECH PROJECT NUMBER: 18323064			
REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

FROM T-MOBILE OFFICE HEAD NORTH ON MERRIMAN ROAD TO I-96; TURN EAST ON I-96 AND CONTINUE TO I-75; TURN SOUTH ON I-75 AND PROCEED TO WARREN AVENUE; TURN EAST ON WARREN AVENUE AND CONTINUE TO RUSSELL STREET; TURN SOUTH ON RUSSELL STREET AND PROCEED TO CANFIELD STREET; SITE IS LOCATED AT THE NORTHEAST CORNER OF RUSSELL STREET AND CANFIELD STREET.

DRIVING DIRECTIONS

LATITUDE: 42.35805538°
 LONGITUDE: -83.0480622°



FAA INFORMATION

THE UTILITIES SHOWN ON THESE DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. OTHER UTILITIES THAT ARE NOT SHOWN MAY BE PRESENT AT THE SITE. LANDTECH ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF THE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

THIS SEAL CERTIFIES ONLY THE CIVIL ENGINEERING DESIGN AND RELATED DETAILS SHOWN ON THESE PLANS. THIS SEAL DOES NOT CERTIFY ANY ARCHITECTURAL, ELECTRICAL, MECHANICAL, STRUCTURAL DESIGN, AND RELATED DETAILS INCLUDED IN THESE PLANS.

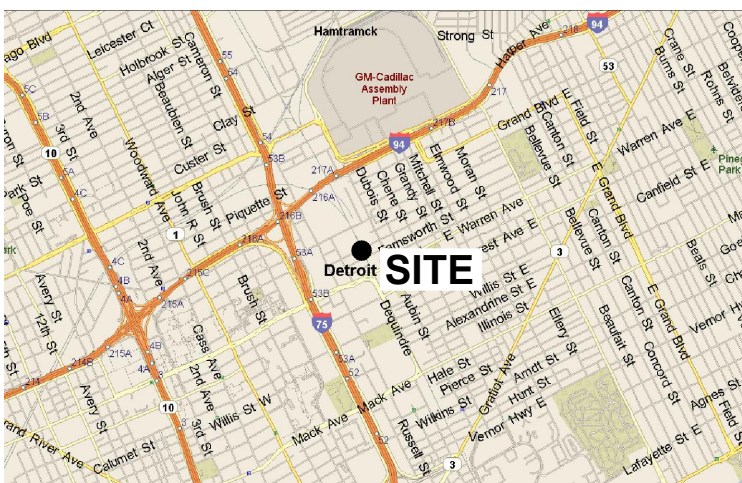
UTILITY NOTICE

SHEET DESCRIPTION

- | | |
|-------|-------------------------------|
| T-1 | TITLE SHEET |
| C-1 | SITE PLAN |
| C-1.1 | SITE PLAN |
| C-2 | EQUIPMENT ROOM |
| C-2.1 | FLOOR PLANS |
| C-3 | EXISTING ANTENNA PLAN |
| C-4 | PROPOSED ANTENNA PLAN |
| C-5 | ELEVATION VIEW |
| C-5.1 | PICTORIAL VIEWS |
| C-5.2 | PICTORIAL VIEWS |
| C-6 | EQUIPMENT DETAILS |
| C-6.1 | EQUIPMENT DETAILS |
| C-6.2 | ANTENNA DETAILS |
| C-6.3 | MOUNTING DETAILS |
| SK-1 | PLATFORM STRUCTURAL PLAN |
| SK-2 | ANTENNA STRUCTURAL DETAIL |
| SK-3 | PLATFORM STRUCTURAL DETAIL |
| E-1 | CONDUIT CABLE SCHEMATIC |
| E-1.1 | CABLE DETAILS |
| E-1.2 | ELECTRIC DETAILS |
| E-2 | ONE-LINE DIAGRAM |
| E-3 | GROUNDING PLAN |
| E-3.1 | GROUNDING DETAILS |
| E-3.2 | GROUNDING SCHEMATIC |
| M-1 | HVAC DETAILS |
| M-1.1 | HVAC GENERAL NOTES |
| M-1.2 | EXHAUST FAN & LOUVER SCHEDULE |
| N-1 | GENERAL NOTES |
| N-2 | GENERAL NOTES |

2018 RELOCATION

NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



LOCATION MAP



APPLICANT/LESSEE

NAME: T-MOBILE
 ADDRESS: 28505 SCHOOLCRAFT ROAD, BLDG #6
 LIVONIA, MI 48150
 CONTACT: KEN KALOUSEK
 PHONE: (734) 444-0181

PROPERTY INFORMATION

PROPERTY OWNER: CATHOLIC ARCHDIOCESE OF DETROIT
 ADDRESS: 12 STATE STREET,
 DETROIT, MI 48226

CONTACT: PHONE:
 AREA OF CONSTRUCTION: 165 SQ. FT.
 PRESENT OCCUPANCY TYPE: ASSEMBLY
 PROPOSED OCCUPANCY TYPE: ASSEMBLY
 CURRENT ZONING:
 PARCEL NUMBER: WARD 7, ITEM 001241
 HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.

CIVIL ENGINEER & SURVEYOR:

NAME: LANDTECH PROFESSIONAL SURVEYING & ENGINEERING
 ADDRESS: 1275 MCGREGOR WAY
 GRAWN, MI 49637
 CONTACT: MATTHEW MOKANYK, P.S., P.E.
 PHONE: (231) 943-0050

PROJECT SUMMARY

ATTENTION GC:
 THESE DRAWINGS ARE PREPARED BASED ON RFDS DATED: 3/26/18
 GENERAL CONTRACTOR TO CHECK WITH CONSTRUCTION TO VERIFY THAT THE RFDS IS CORRECT.

RFDS DESIGN

TITLE	NAME	DATE
OPERATIONS		
RF ENGINEER		
ZONING ADMINISTRATOR		
CONSTRUCTION MANAGER		
POWER APPROVAL		
FIBER/AAV APPROVAL		

T-MOBILE APPROVALS

SIGNATURE _____ DATE _____
 PRINTED NAME _____
 NO CHANGES CHANGES NEEDED SEE COMMENTS

LESSOR APPROVAL

SHEET INDEX

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES:

- | | |
|----------------------------------|--------------------------------------|
| 1. 2015 MICHIGAN BUILDING CODE | 7. 2015 MICHIGAN PLUMBING CODE |
| 2. 2015 MICHIGAN MECHANICAL CODE | 8. INTERNATIONAL FIRE CODE |
| 3. ANSI/TIA-222-H | 9. 2015 MICHIGAN UNIFORM ENERGY CODE |
| 4. NATIONAL ELECTRIC CODE 2017 | 10. MIOSHA RULES AND REGULATIONS |
| 5. LOCAL BUILDING CODE | 11. NFPA-101 LIFE SAFETY CODE |
| 6. CITY/COUNTY ORDINANCES | |

CITY OF DETROIT HAD ADOPTED MICHIGAN BUILDING CODE 2015 AND MICHIGAN REHABILITATION, PL FOLLOW.

USE GROUP: A-3
 CONSTRUCTION TYPE: A-1

CODE COMPLIANCE

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 DETROIT, MICHIGAN 48207

Sheet Title:
TITLE SHEET

Sheet Number:
T-1

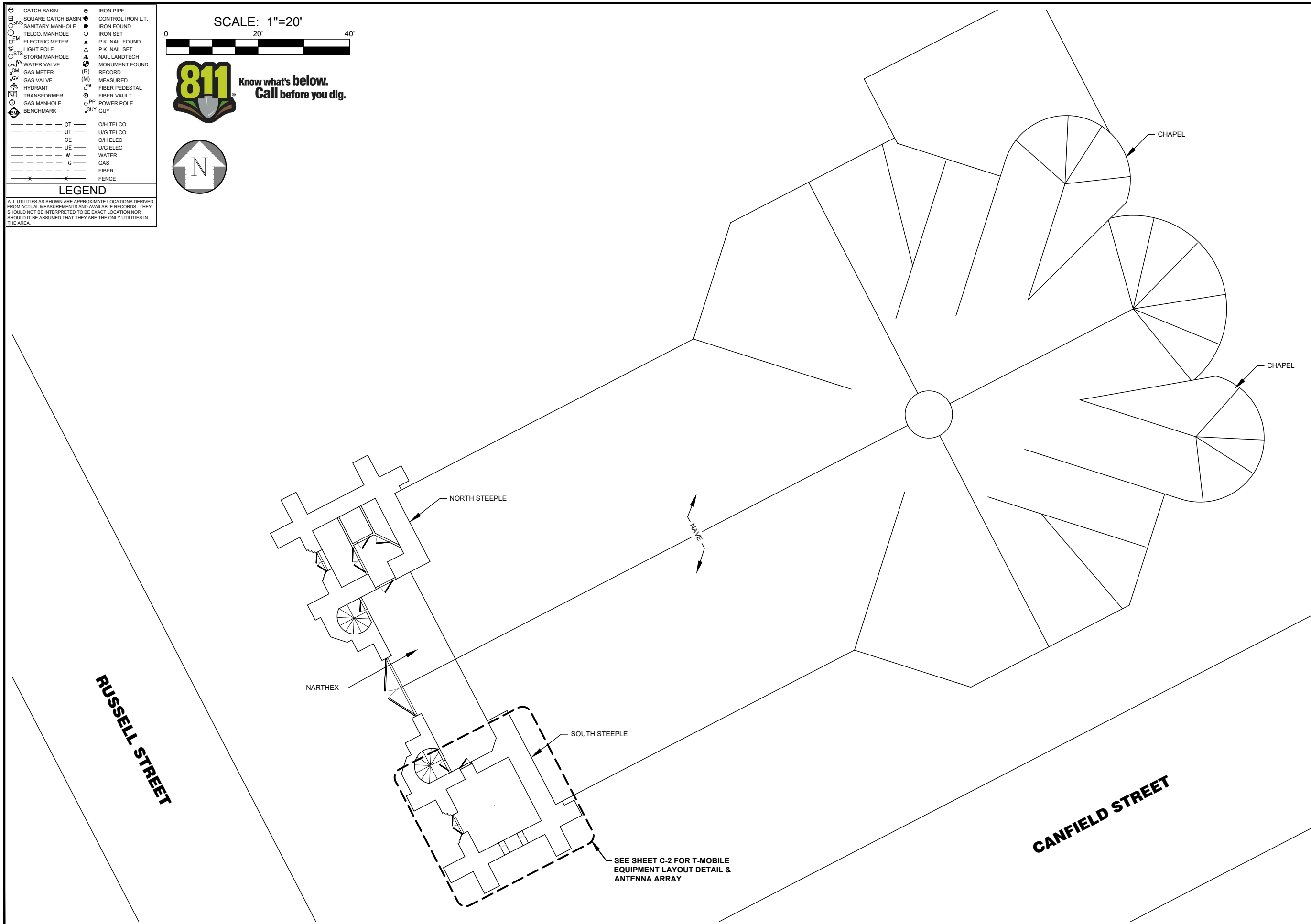
CATCH BASIN
 SQUARE CATCH BASIN
 SANITARY MANHOLE
 TELCO. MANHOLE
 ELECTRIC METER
 LIGHT POLE
 STORM MANHOLE
 WATER VALVE
 GAS METER
 GAS VALVE
 HYDRANT
 TRANSFORMER
 GAS MANHOLE
 BENCHMARK
 IRON PIPE
 CONTROL IRON L.T.
 IRON FOUND
 IRON SET
 P.K. NAIL FOUND
 P.K. NAIL SET
 NAIL LANDTECH
 MONUMENT FOUND
 RECORD
 MEASURED
 FIBER PEDESTAL
 FIBER VAULT
 POWER POLE
 GUY
 O/H TELCO
 U/G TELCO
 O/H ELEC
 U/G ELEC
 WATER
 GAS
 FIBER
 FENCE

OT
 UT
 OE
 UE
 W
 G
 F
 X

LEGEND
 ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

SCALE: 1"=20'

811 Know what's below. Call before you dig.



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 (734) 444-0181

LANDTECH PROJECT NUMBER: 18323064

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B	11/02/18	HVAC & STRUCTURAL ADD	CDR

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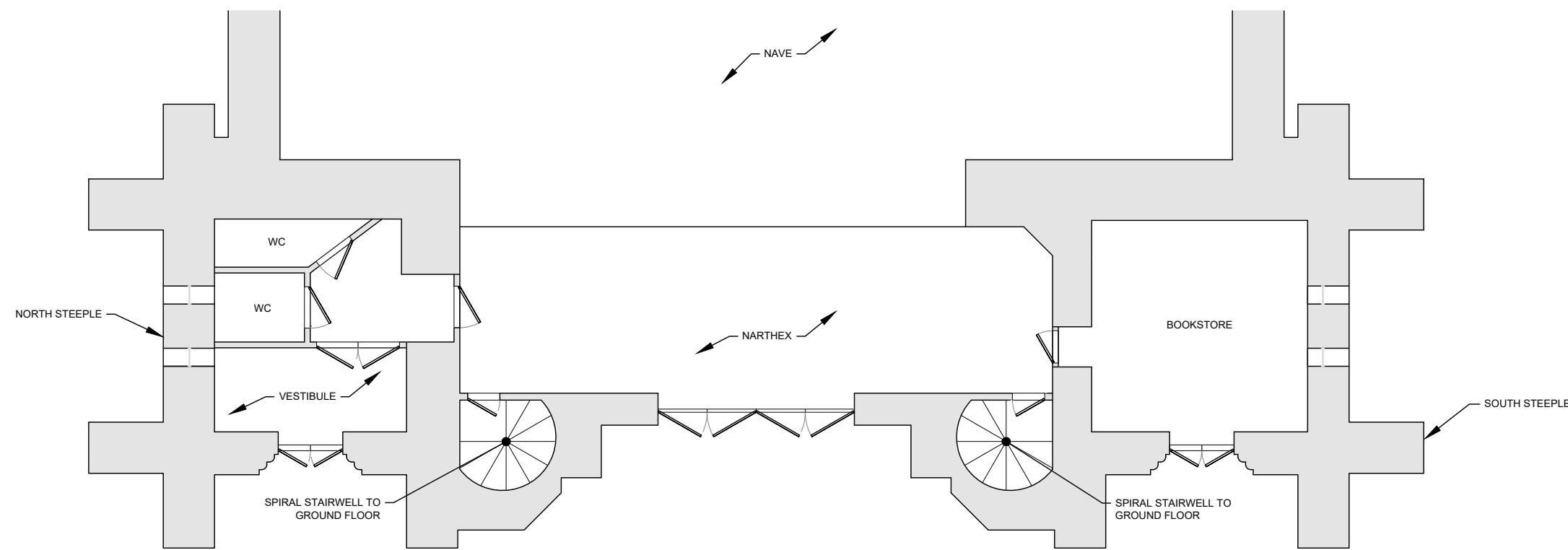
Sheet Title:
SITE PLAN

Sheet Number:
C-1

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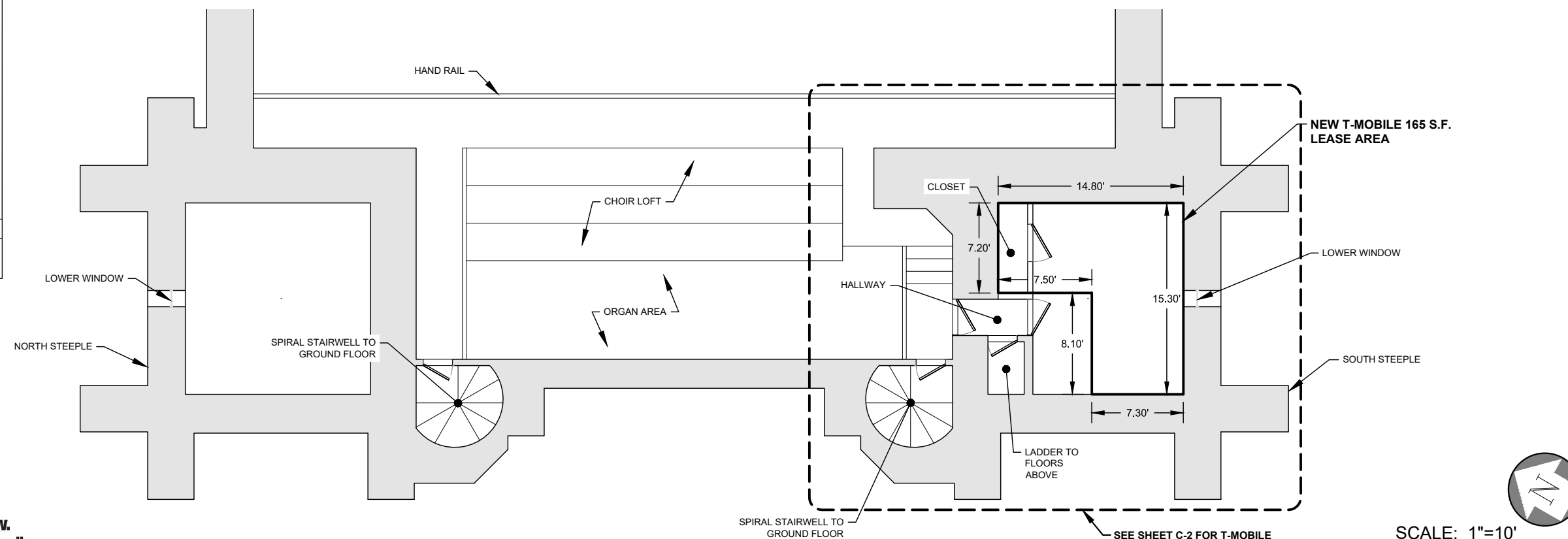


GROUND FLOOR 1"=10' **1**

- ⊕ CATCH BASIN
- ⊕ SQUARE CATCH BASIN
- ⊕ SANITARY MANHOLE
- ⊕ TELCO. MANHOLE
- ⊕ ELECTRIC METER
- ⊕ LIGHT POLE
- ⊕ STORM MANHOLE
- ⊕ WATER VALVE
- ⊕ GAS METER
- ⊕ GAS VALVE
- ⊕ HYDRANT
- ⊕ TRANSFORMER
- ⊕ GAS MANHOLE
- ⊕ BENCHMARK
- ⊕ IRON PIPE
- ⊕ CONTROL IRON L.T.
- ⊕ IRON FOUND
- ⊕ IRON SET
- ⊕ P.K. NAIL FOUND
- ⊕ P.K. NAIL SET
- ⊕ NAIL LANDTECH
- ⊕ MONUMENT FOUND
- ⊕ RECORD
- ⊕ MEASURED
- ⊕ FIBER PEDESTAL
- ⊕ FIBER VAULT
- ⊕ POWER POLE
- ⊕ GUY

- OT --- OH TELCO
- UT --- U/G TELCO
- OE --- OH ELEC
- UE --- U/G ELEC
- W --- WATER
- G --- GAS
- F --- FIBER
- X --- FENCE

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SECOND FLOOR LOFT AND STEEPLE PLAN 1"=10' **1**



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Sheet Title: **SITE PLAN**

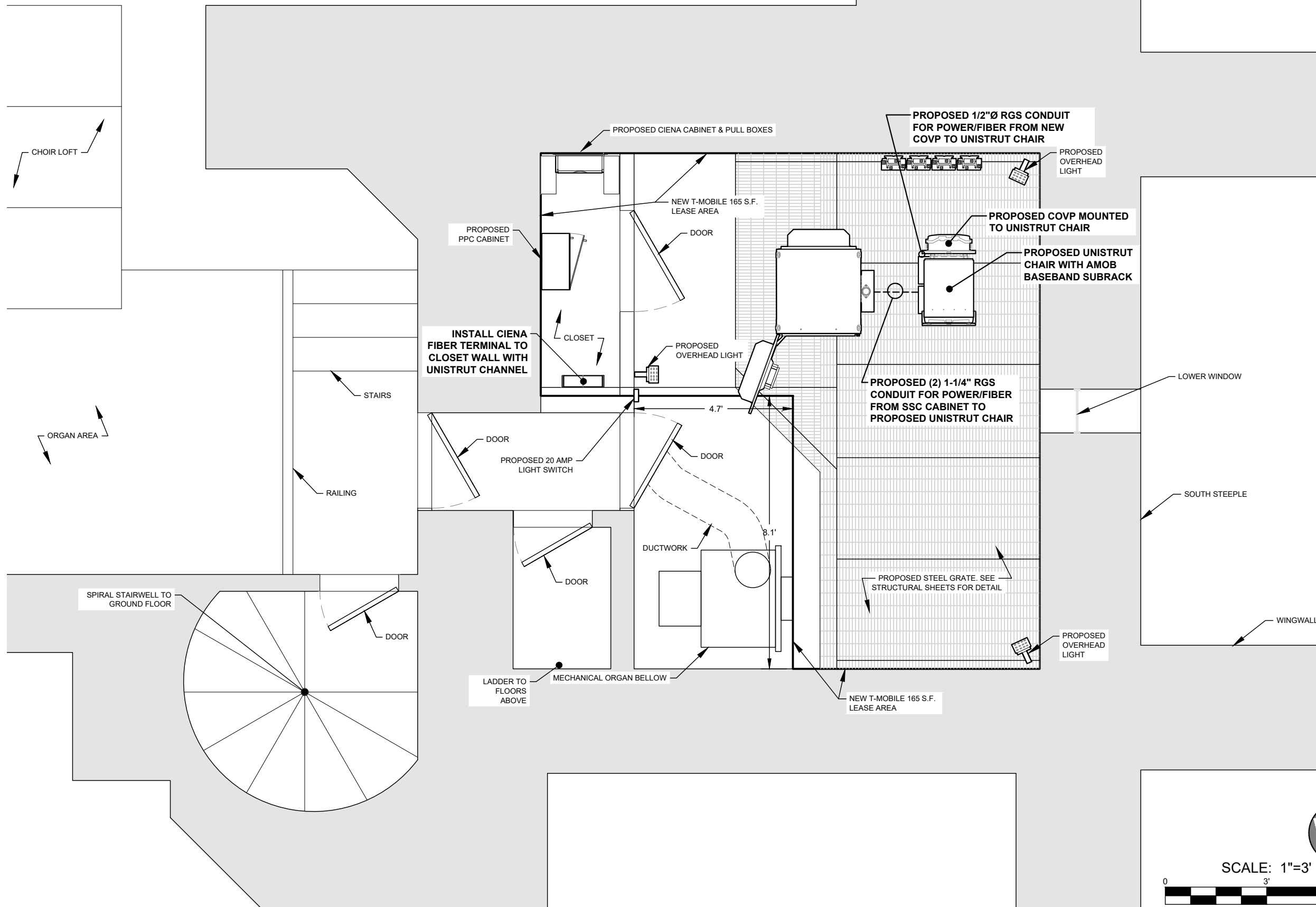
Sheet Number: **C-1.1**



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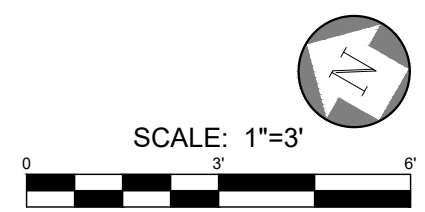
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Sheet Title: EQUIPMENT ROOM

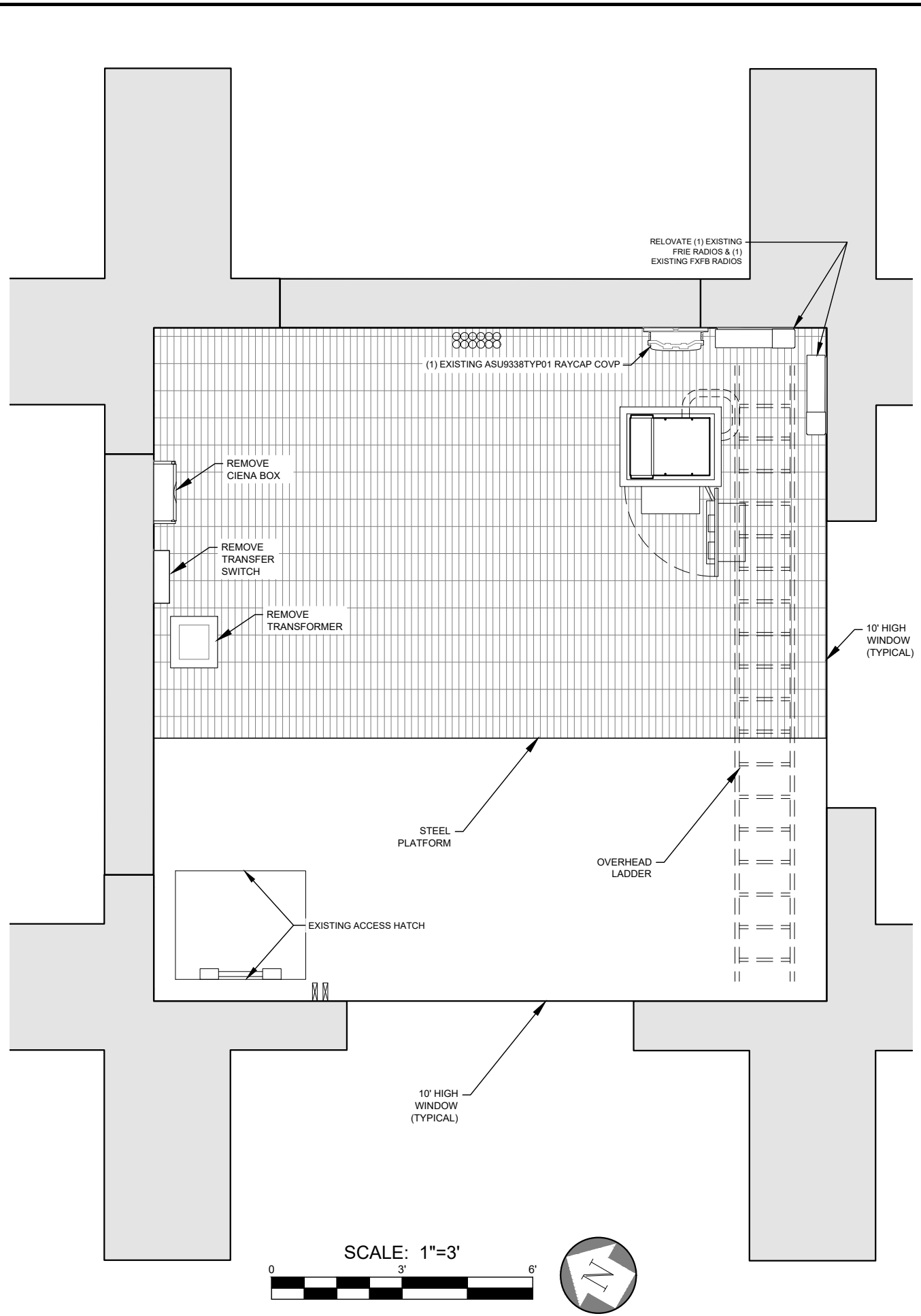
Sheet Number: C-2



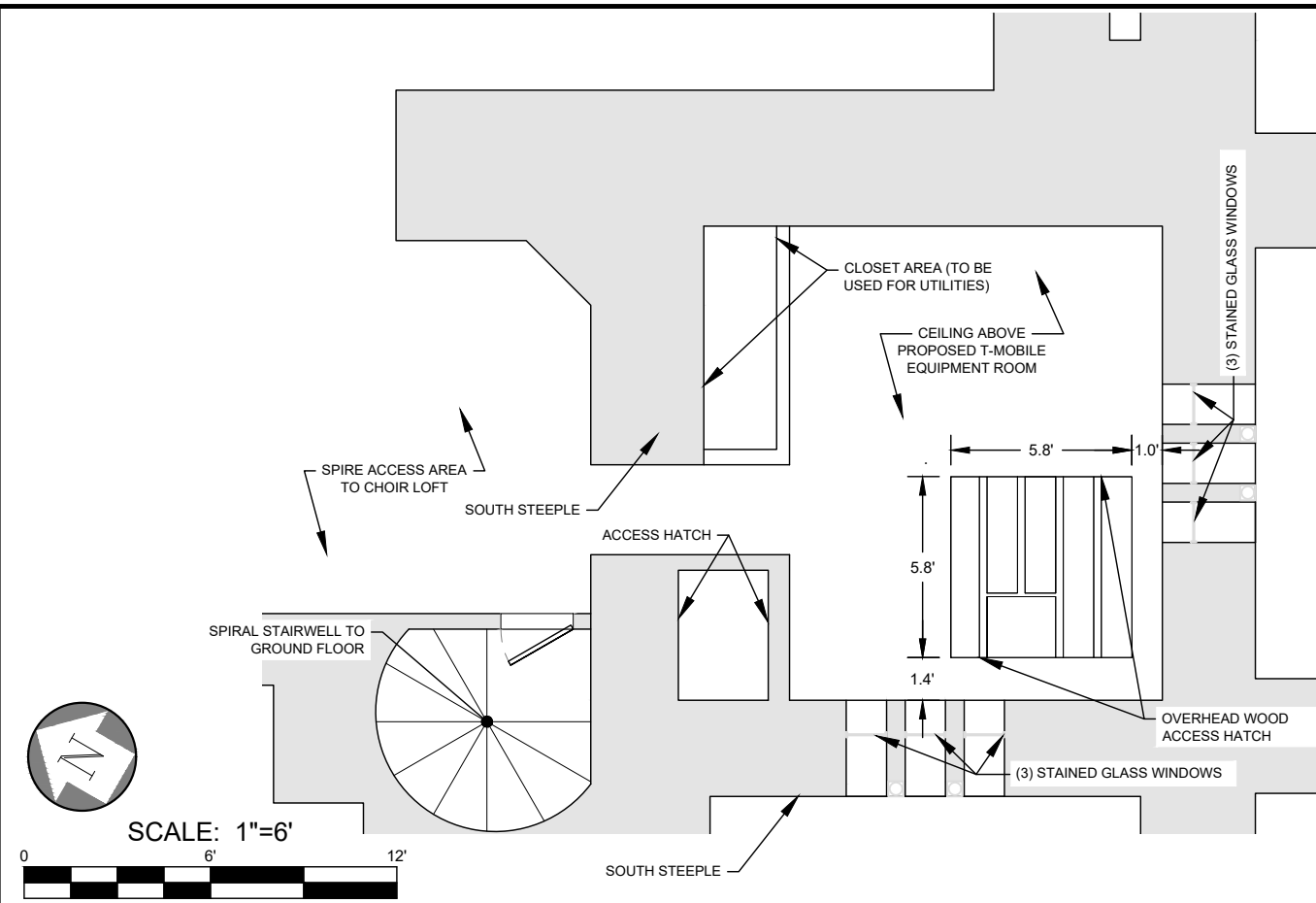
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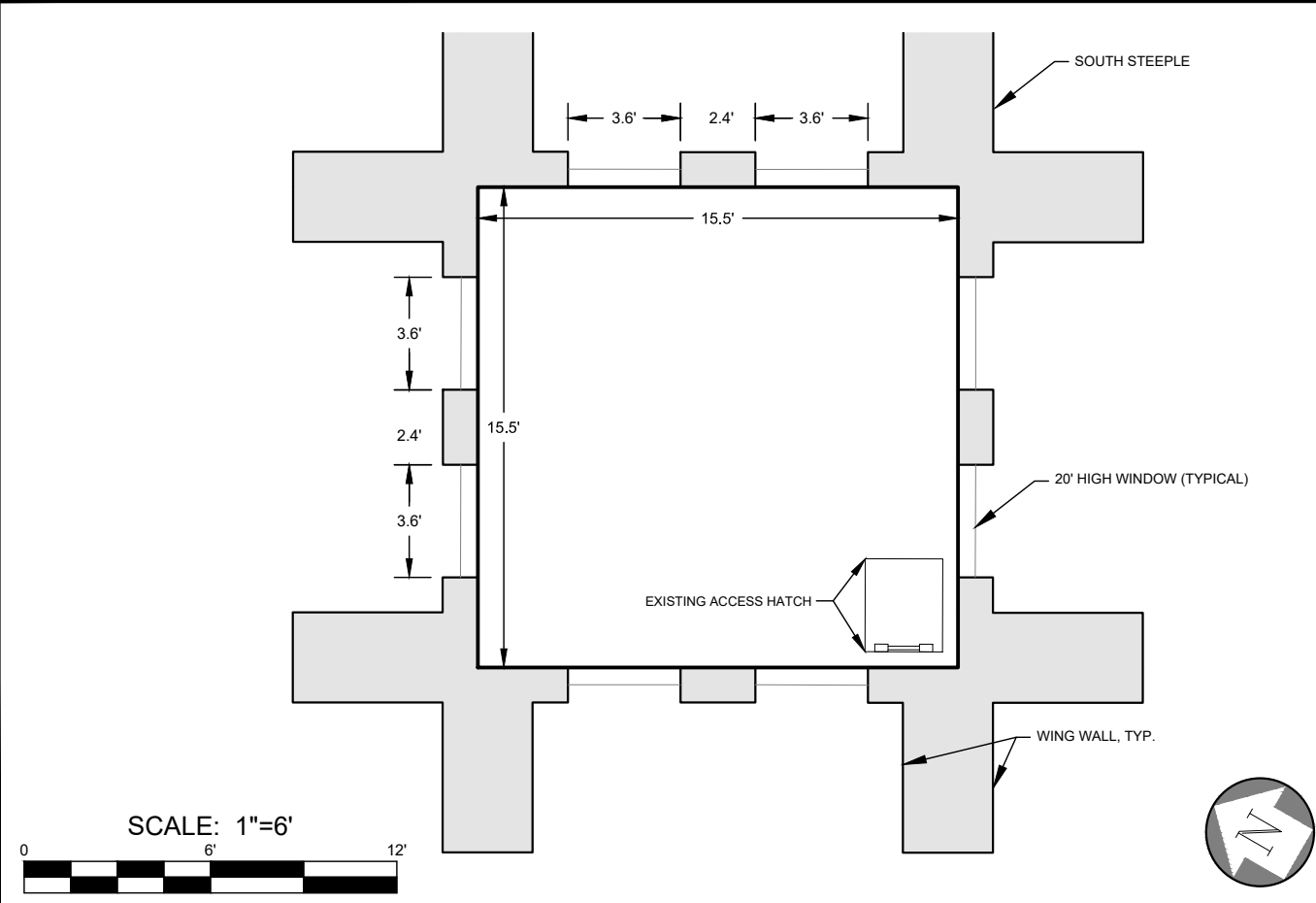
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3rd FL. SOUTH STEEPLE - OLD EQUIPMENT ROOM DEMO PLAN 1"=3' **1**



2ND FLOOR SOUTH STEEPLE CEILING VIEW 1"=6' **2**



5th FLOOR SOUTH STEEPLE - ANTENNA ROOM 1"=6' **3**



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Sheet Title: **FLOOR PLANS**

Sheet Number: **C-2.1**

NOTE: ANTENNA AND RADIO LAYOUT AS OBSERVED DURING SITE VISIT DOES NOT MATCH RFDS PROVIDED BY T-MOBILE. FIELD VISIT DATA SHOWN HEREON.

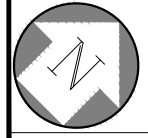
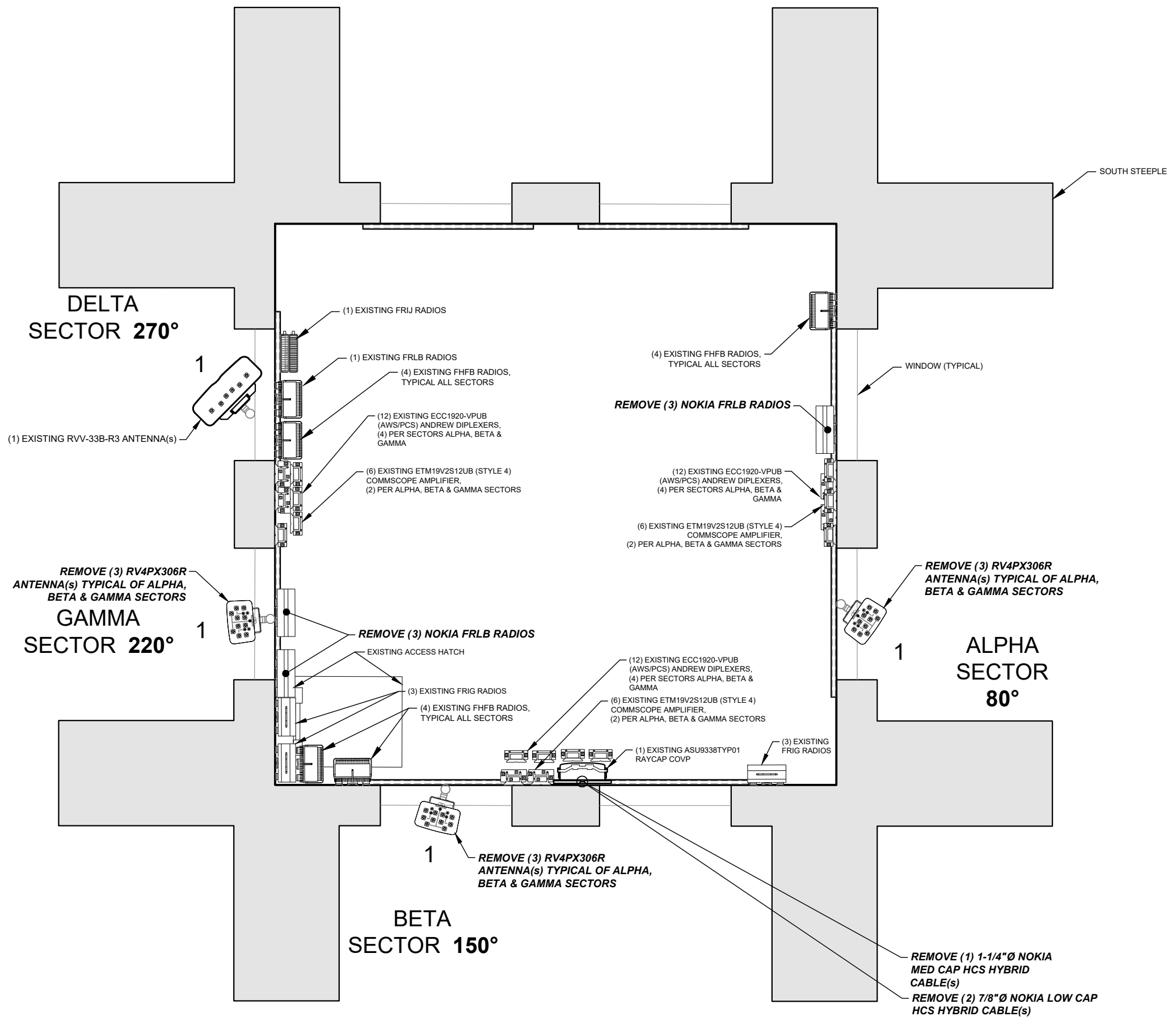
T-Mobile
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Sheet Title: EXISTING ANTENNA PLAN

Sheet Number: C-3

ANTENNA SCHEDULE							
SECTOR	ALPHA		BETA		GAMMA		DELTA
ANTENNA POSITION	A-1	A-2	B-1	B-2	C-1	C-2	D-1
AZIMUTH	80°	80°	150°	150°	220°	220°	270°
RAD CENTER (AGL)	110'	110'	110'	110'	110'	110'	110'
MODEL	TMBXX-6517-R2M	FFHH-65C-R3	TMBXX-6517-R2M	FFHH-65C-R3	TMBXX-6517-R2M	FFHH-65C-R3	RVV-33B-R3
FEEDER LENGTH	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"

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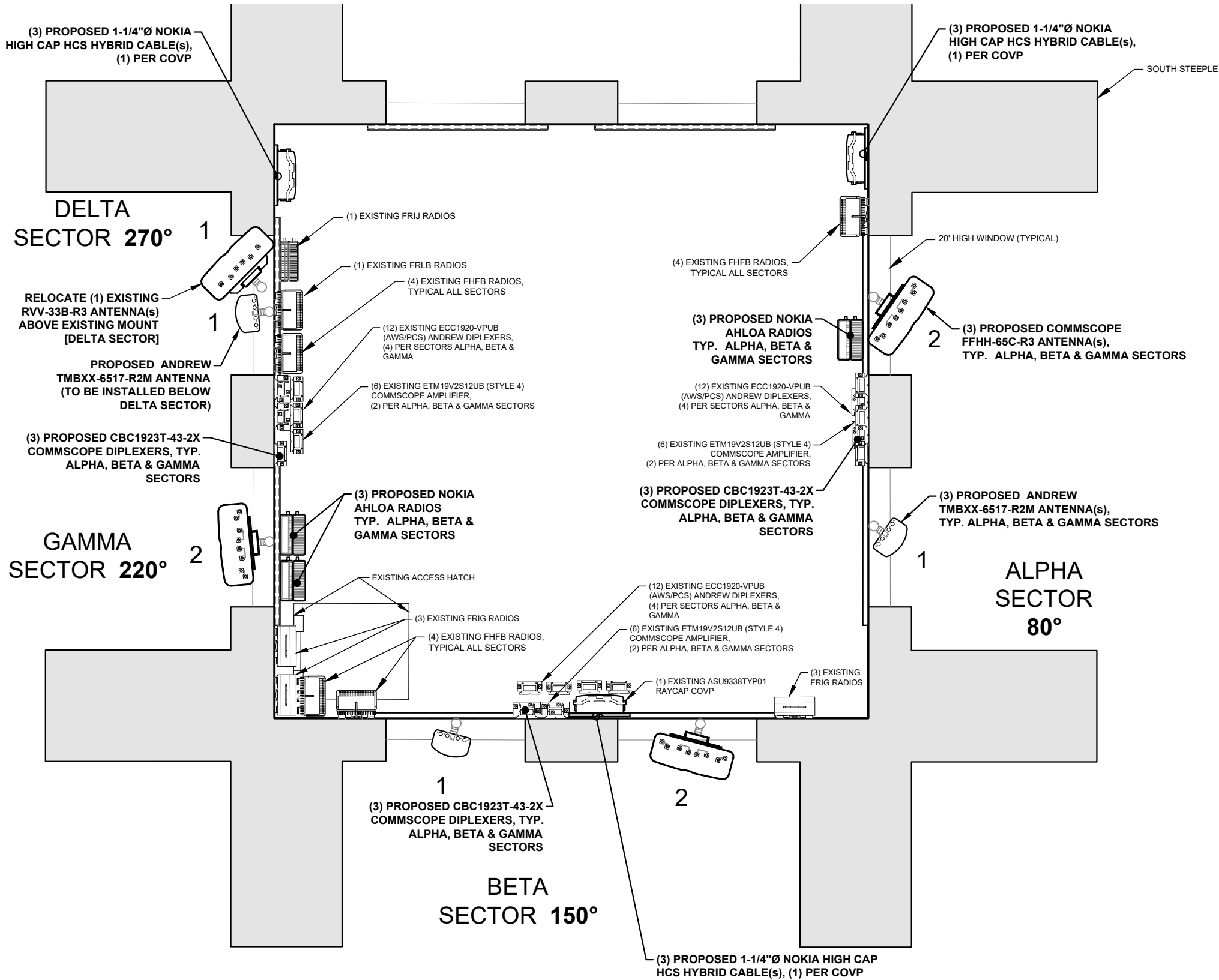
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- APPURTENANCE LIST EXISTING**
- (1) COMMSCOPE RVV-33B-R3 ANTENNA(s) [72"l x 25.2"w x 9.3"d 94.8lb(s)]
 - (1) NOKIA FRIE RADIOS (@PLATFORM) [5.2"l x 19.3"w x 22"d 55.1lb(s)]
 - (1) NOKIA FXFB RADIOS (@PLATFORM) [5.2"l x 19.3"w x 22"d 55.1lb(s)]
 - (3) NOKIA FRIG RADIOS (@SECTOR) [18.9"l x 15.2"w x 6"d 57.32lb(s)]
 - (4) NOKIA FHFB RADIOS (@SECTOR) [34.3"l x 12.6"w x 7.8"d 52.9lb(s)]
 - (1) NOKIA FRIJ RADIOS (@) [23.1"l x 12.6"w x 5.8"d 44.1lb(s)]
 - (6) ETM19V2S12UB (STYLE 4) COMMSCOPE AMPLIFIER (@SECTOR) [10"l x 8"w x 2.2"d 11lb(s)]
 - (1) ASU9338TYP01 RAYCAP COVP (@PLATFORM) [20.38"l x 18.86"w x 5.83"d 19lb(s)]
 - (1) ASU9338TYP01 RAYCAP COVP (@SECTOR) [20.38"l x 18.86"w x 5.83"d 19lb(s)]
 - (12) ECC1920-VPUB (AWS/PCS) ANDREW DIPLEXERS (@SECTOR) [7.6"l x 7.3"w x 2.6"d 7.9lb(s)]
 - (6) ECC1920-VPUB (AWS/PCS) ANDREW DIPLEXERS (@PLATFORM) [7.6"l x 7.3"w x 2.6"d 7.9lb(s)]
 - (6) 7/8"Ø [1.03" OD] ANDREW LDF5-50A COAX CABLE(s)
- REMOVING**
- (3) COMMSCOPE RV4PX306R ANTENNA(s) [63"l x 13.9"w x 8.2"d 52.9lb(s)]
 - (3) NOKIA FRLB RADIOS (@) [15.75"l x 15.75"w x 5.9"d 59.52lb(s)]
 - (1) 1-1/4"Ø [1-1/4"OD] NOKIA MED CAP HCS HYBRID CABLE(s)
 - (2) 7/8"Ø [7/8"OD] NOKIA LOW CAP HCS HYBRID CABLE(s)
- INSTALLING**
- (3) ANDREW TMBXX-6517-R2M ANTENNA(s) [82.9"l x 11.9"w x 6.3"d 44.4lb(s)]
 - (3) COMMSCOPE FFHH-65C-R3 ANTENNA(s) [95.9"l x 25.2"w x 9.3"d 127.6lb(s)]
 - (3) NOKIA AHLOA RADIOS (@SECTOR) [22.1"l x 12.2"w x 7.5"d 83.9lb(s)]
 - (3) CBC1923T-43-2X COMMSCOPE DIPLEXERS (@SECTOR) [4.6"l x 8.3"w x 3.7"d 9.5lb(s)]
 - (2) ASU9338TYP01 RAYCAP COVP (@SECTOR) [20.38"l x 18.86"w x 5.83"d 19lb(s)]
 - (3) 1-5/8"Ø [1-5/8"OD] NOKIA HIGH CAP HCS HYBRID CABLE(s)



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Sheet Title: **PROPOSED ANTENNA PLAN**

Sheet Number: **C-4**

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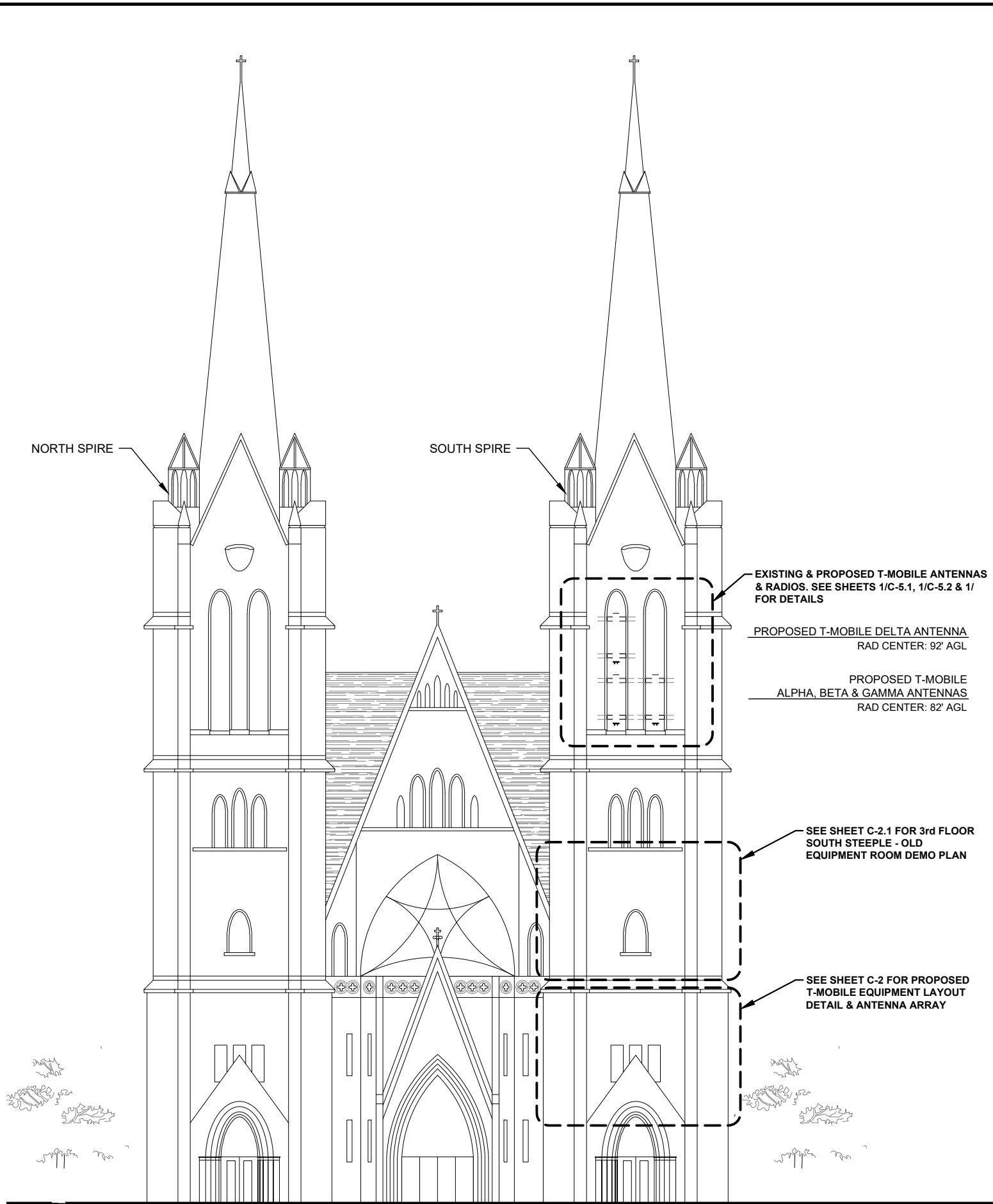
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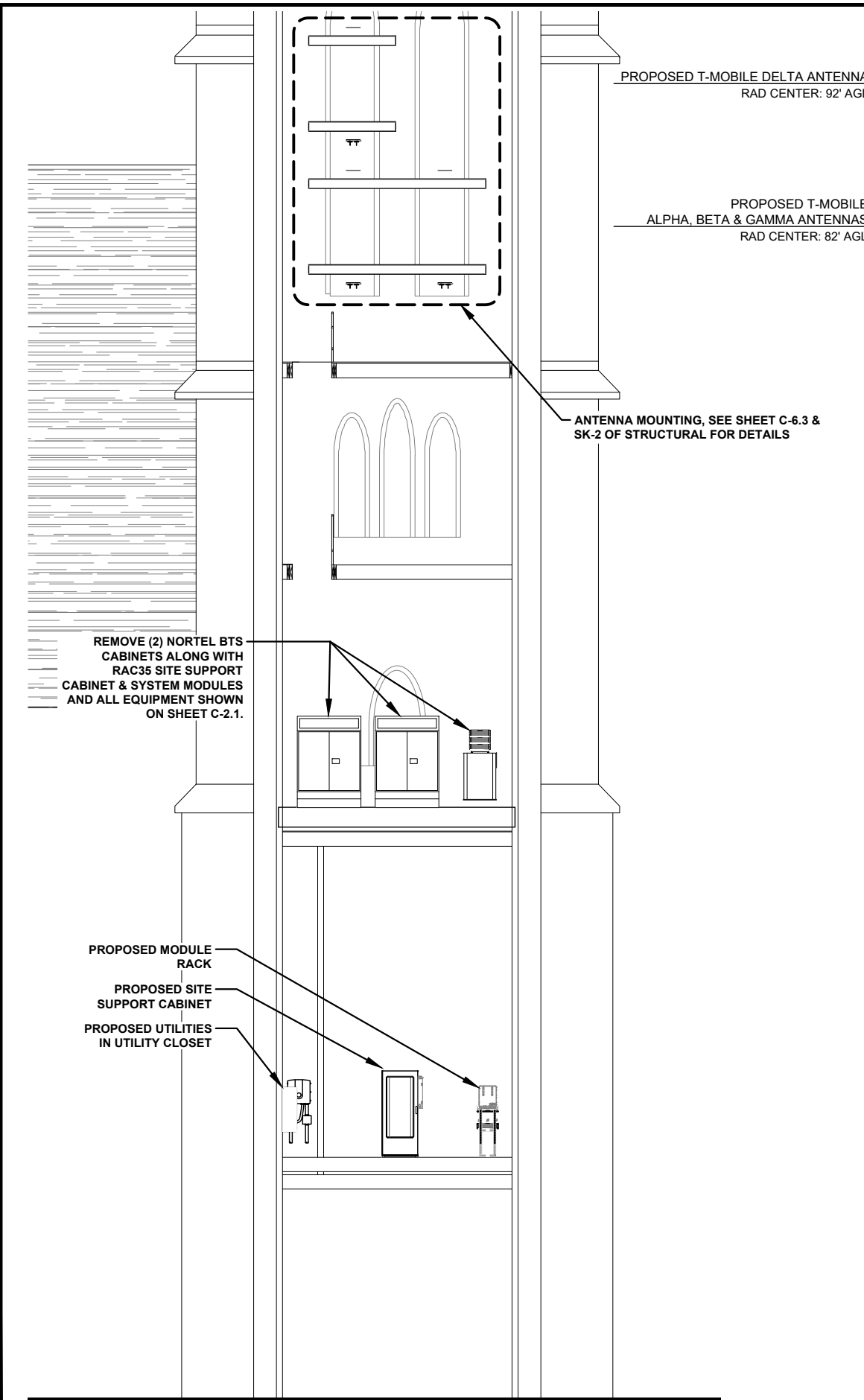
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Sheet Title: **ELEVATION VIEW**

Sheet Number: **C-5**



WEST ELEVATION VIEW N.T.S.



INTERIOR SOUTH SPIRE ELEVATION N.T.S.

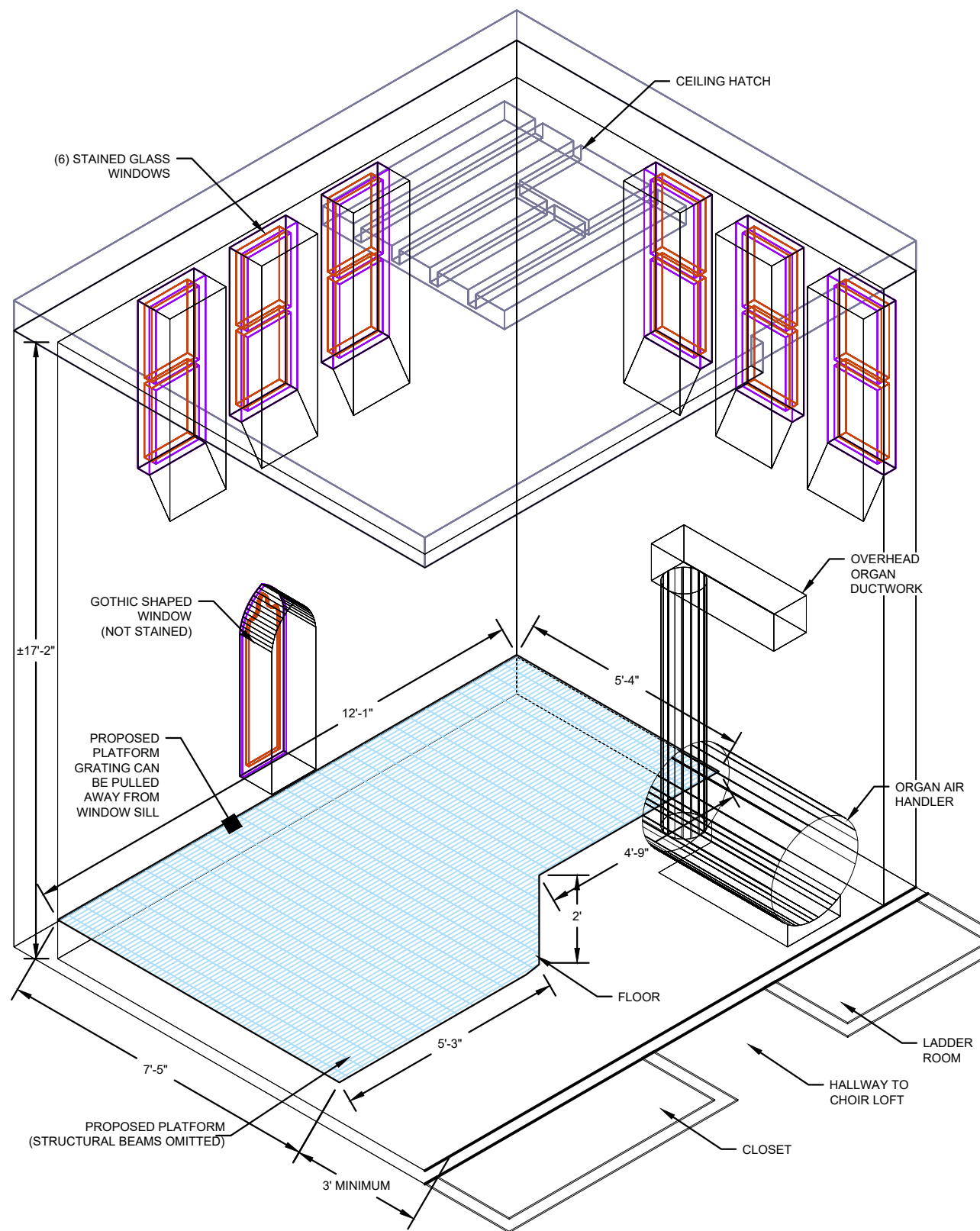
NOTE: SOME EQUIPMENT OMITTED FROM ELEVATION VIEW FOR CLARITY

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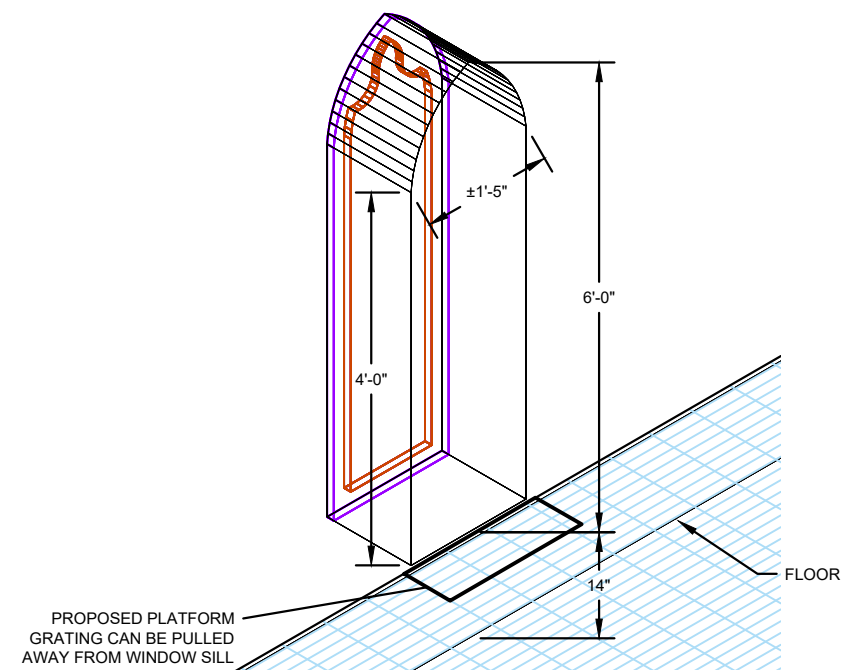
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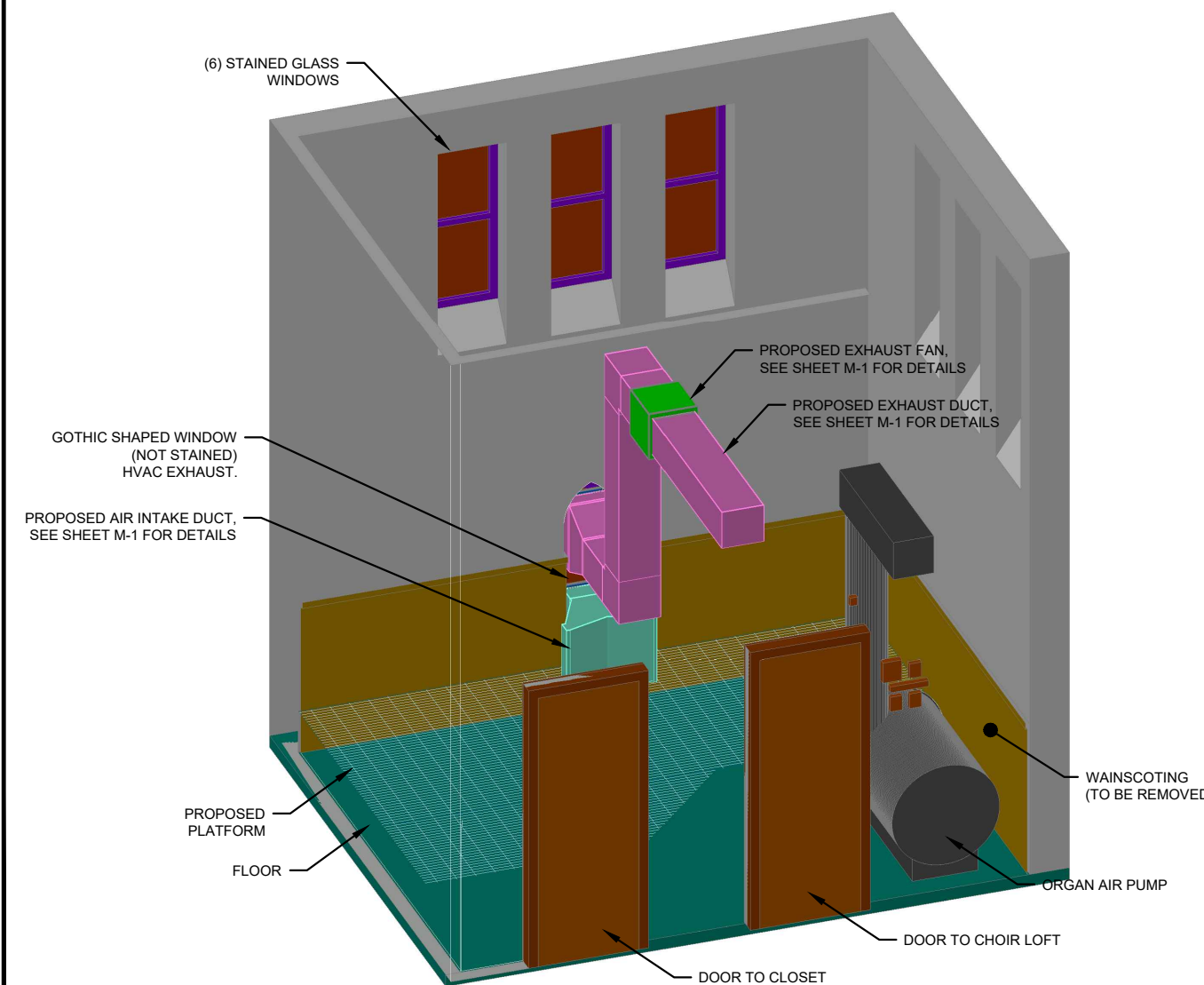
WIREFRAME VIEW N.T.S.

1



WINDOW DETAIL N.T.S.

2



ISOMETRIC VIEW N.T.S.

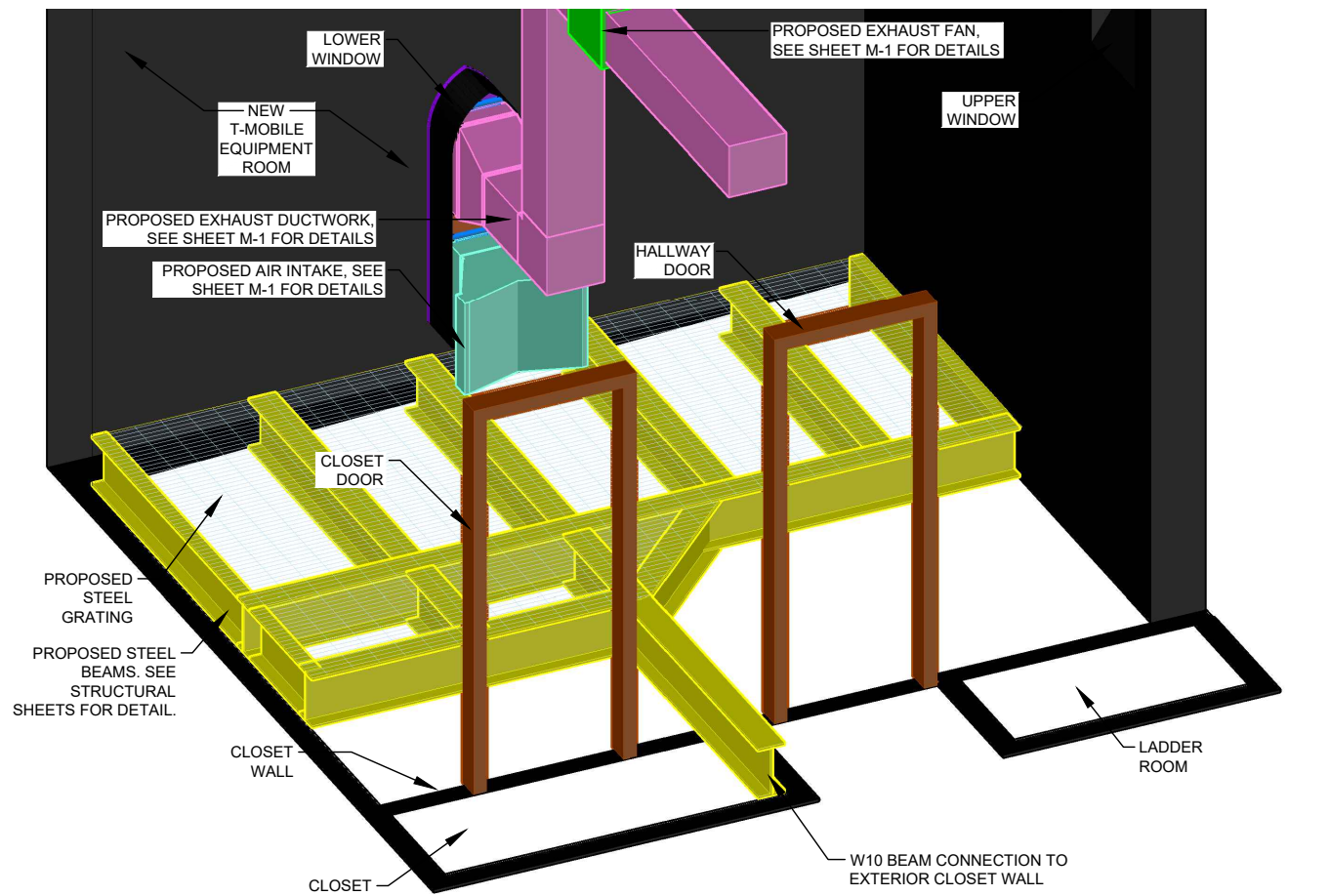
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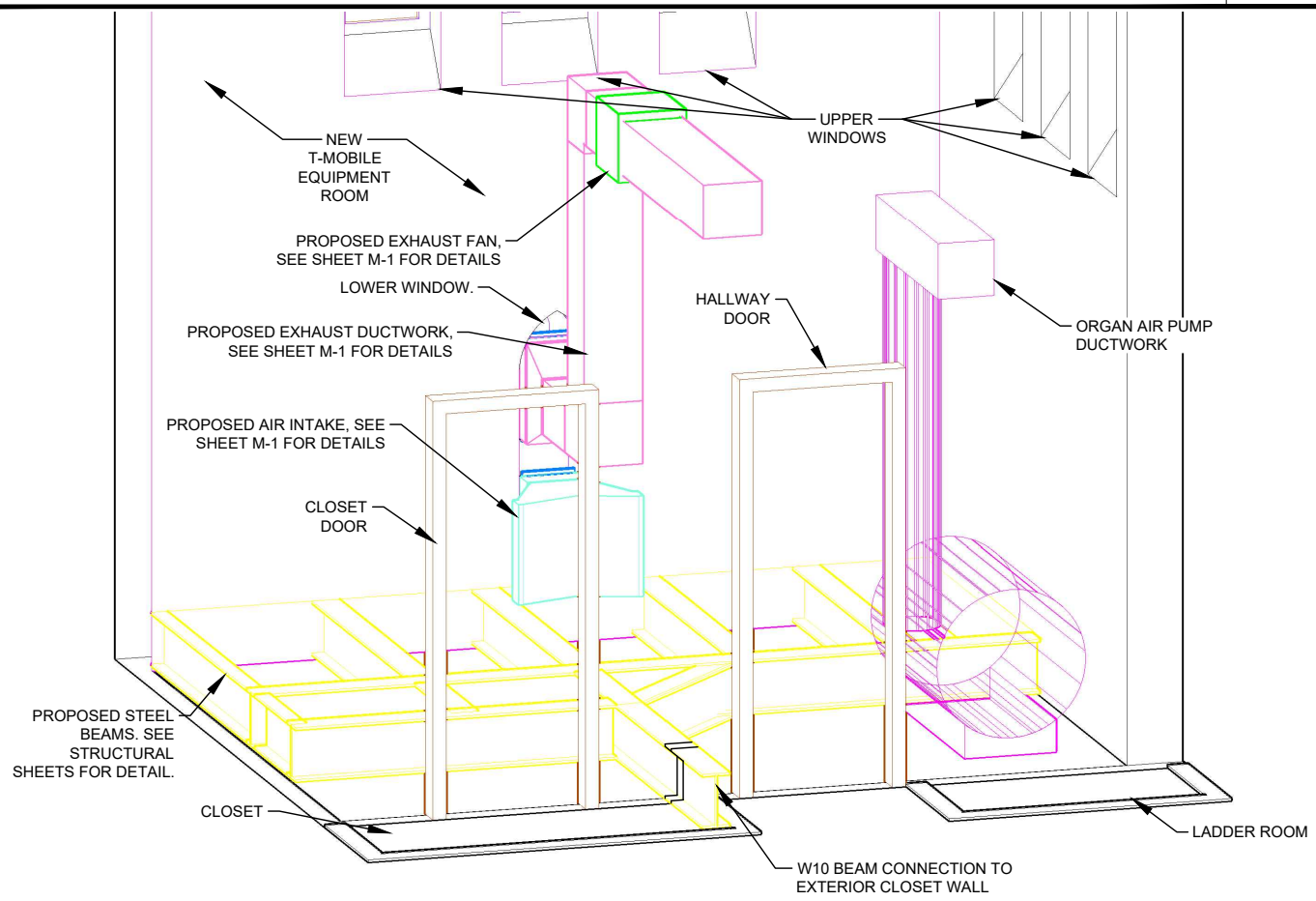
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Sheet Title: **PICTORIAL VIEWS**

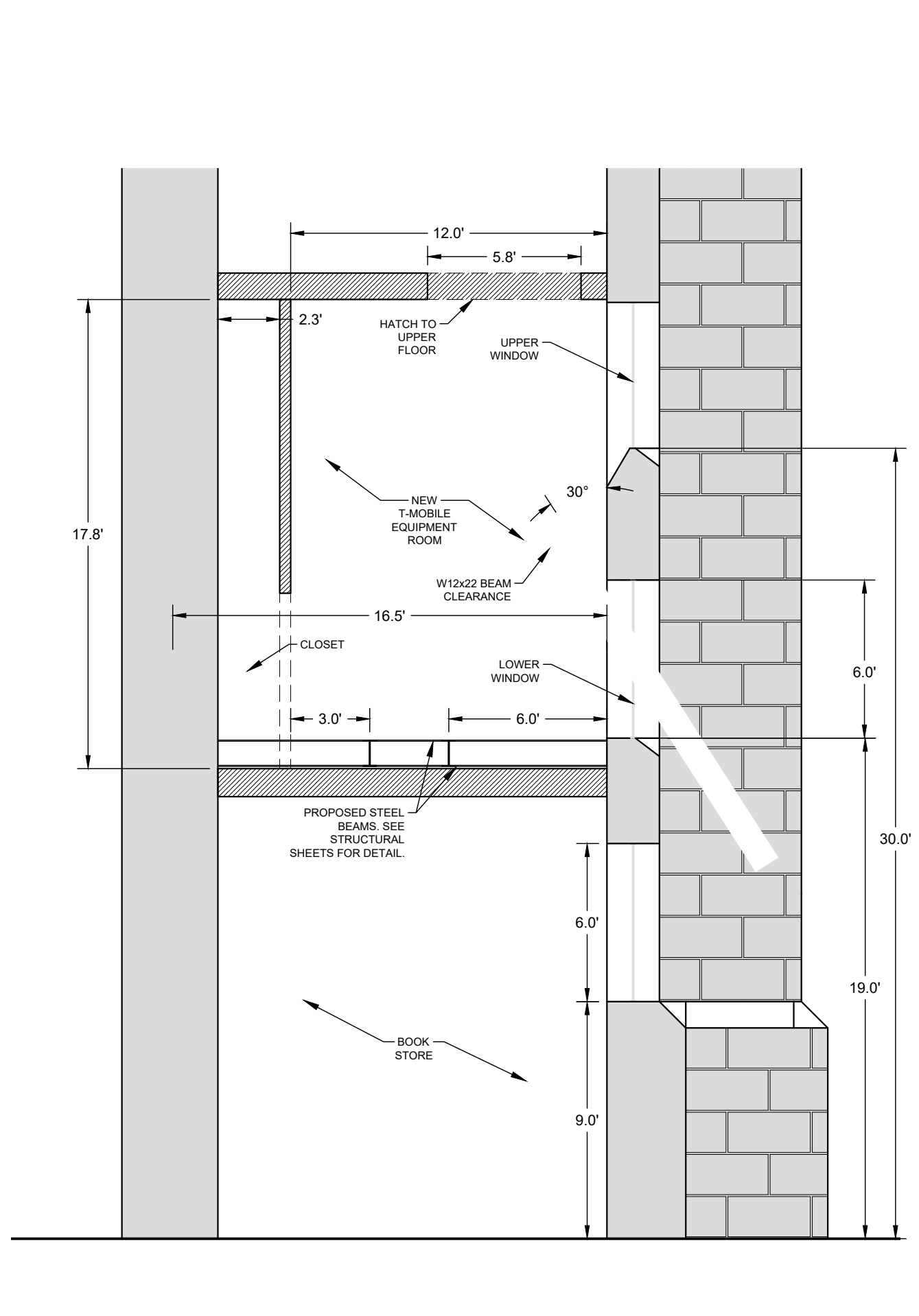
Sheet Number: **C-5.1**



PLATFORM DETAIL N.T.S. **1**



PLATFORM PICTORIAL N.T.S. **2**



CROSS-SECTION DETAIL A-A 1"=5' **3**

T-Mobile
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2018 RELOCATION

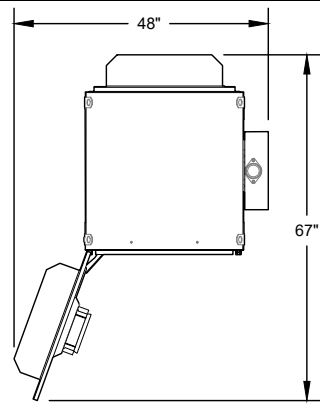
NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



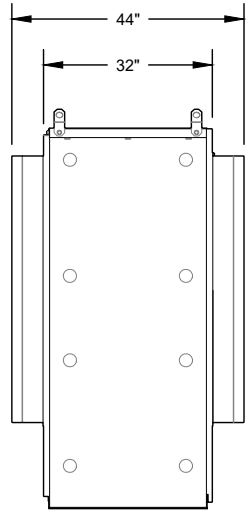
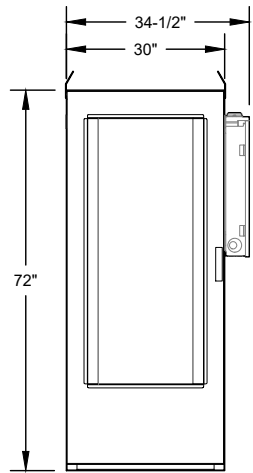
SITE #: DE04229B
 SITE NAME: SWEETEST HEART OF MARY
 SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

Sheet Title: PICTORIAL VIEWS

Sheet Number: C-5.2



PROPERTY	VALUE	PROPERTY
HEIGHT	72 in (876 mm)	BASIC CABINET: ENCLOSURE, DC POWER PLANT W/OUT LIFTING BRACKETS
WIDTH	30 in 762 mm	BASIC CABINET: ENCLOSURE, DC POWER PLANT
WIDTH W/AC LOAD CENTER	34-1/2 in 835 mm	BASIC CABINET: ENCLOSURE, DC POWER PLANT W/ AC SIDE MOUNTED LOAD CENTER
DEPTH	32 in 813 mm	BASIC CABINET: ENCLOSURE, DC POWERPLANT
DEPTH WITH SHROUNDS	44 in 1118 mm	BASIC CABINET: ENCLOSURE, W/ FRONT AND REAR DAC SHROUNDS



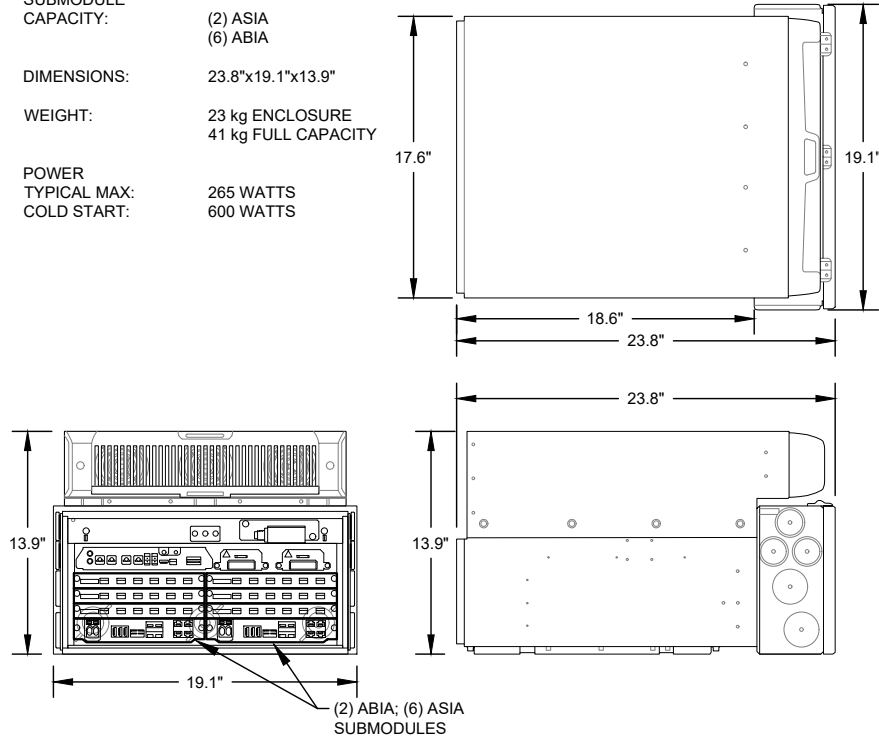
MANUFACTURER: NOKIA
 MODEL: AMOB SUBRACK

SUBMODULE CAPACITY: (2) ASIA (6) ABIA

DIMENSIONS: 23.8"x19.1"x13.9"

WEIGHT: 23 kg ENCLOSURE 41 kg FULL CAPACITY

POWER TYPICAL MAX: 265 WATTS
 COLD START: 600 WATTS

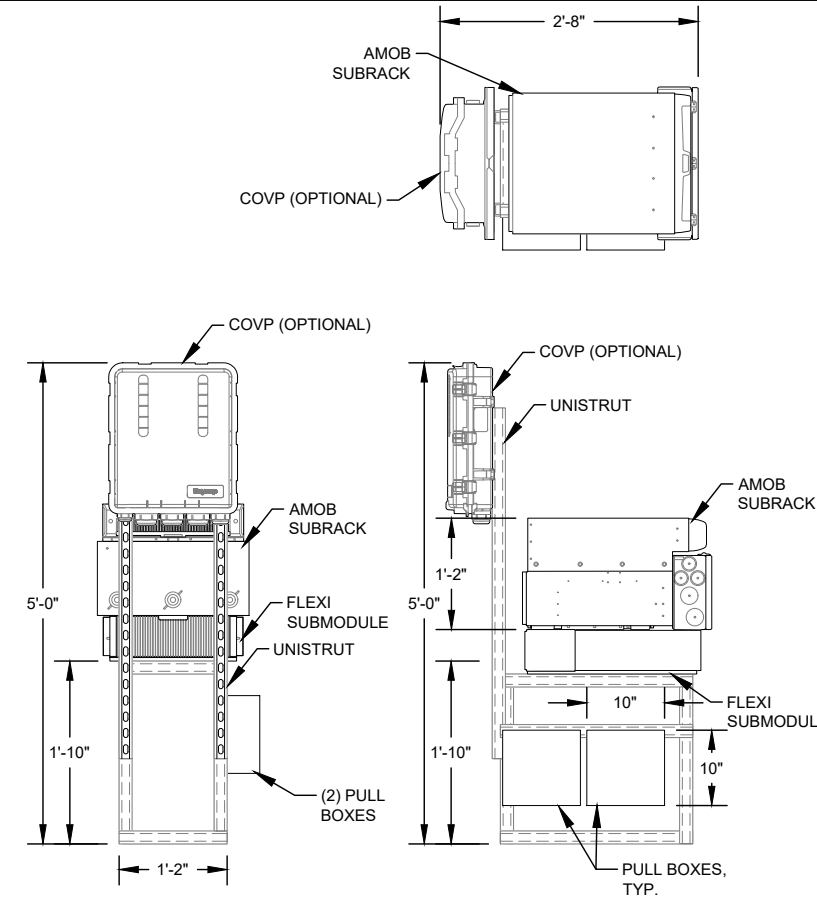


PURCELL SSC (MERV 13) N.T.S.

1

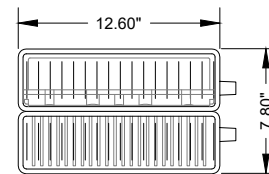
AMOB AIRSCALE SUBRACK N.T.S.

2



UNISTRUT CHAIR N.T.S.

3

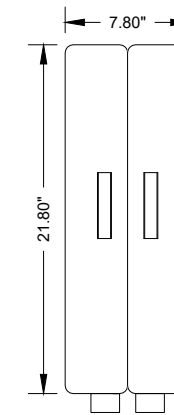
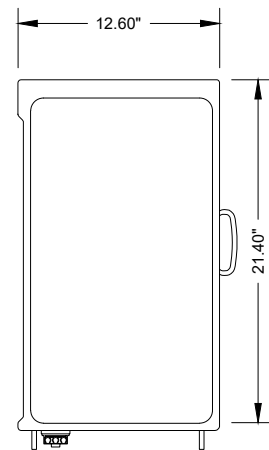


MANUFACTURER: NOKIA
 MODEL: AHLOA
 FREQUENCY: 600 MHz

DIMENSIONS w/ SOLAR SHIELD: 22.1" x 12.2" x 7.5"

WEIGHT w/ BRACKET & SOLAR SHIELD: 83.9 lbs

CONNECTORS: (2) OPTICAL (1) DIN FEMALE (DC POWER)



AHLOA RADIO UNIT N.T.S.

5

INTENTIONALLY OMITTED N.T.S.

4

T-Mobile
 28505 SCHOOLCRAFT RD, BLDG#6
 LIVONIA, MICHIGAN 48150
 Phone: 734.367.7200
 Fax: 734.367.7242
 CONTACT: KEN KALOUSEK
 (734) 444-0181

LANDTECH PROJECT NUMBER: 18323064

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

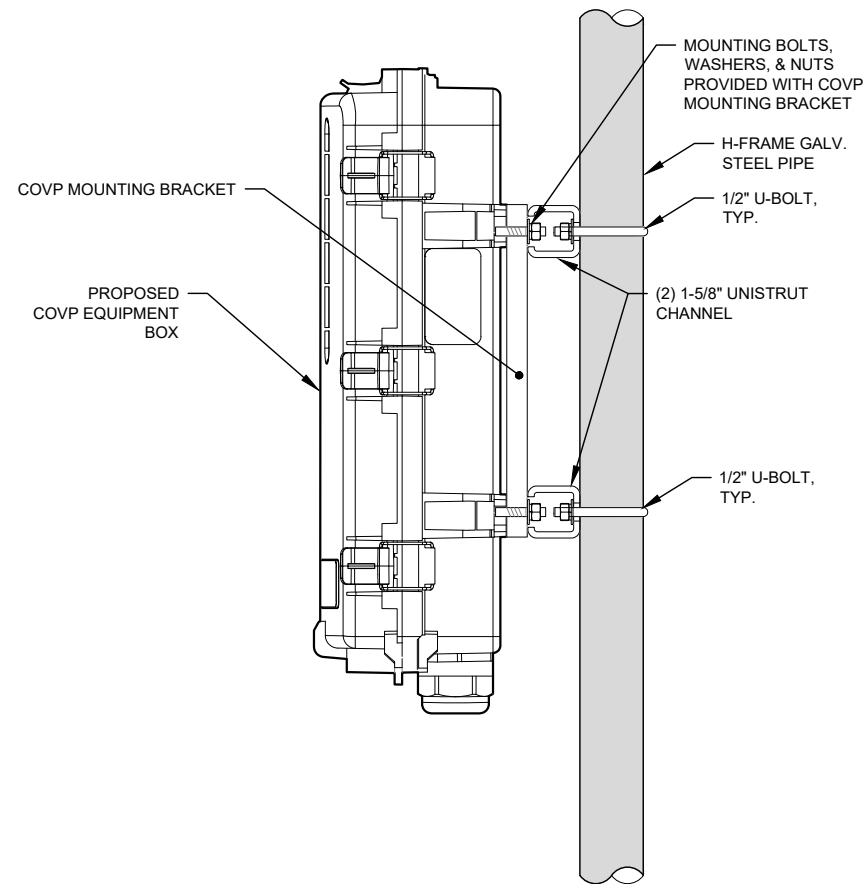
NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



SITE #: DE04229B
 SITE NAME: SWEETEST HEART OF MARY
 SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

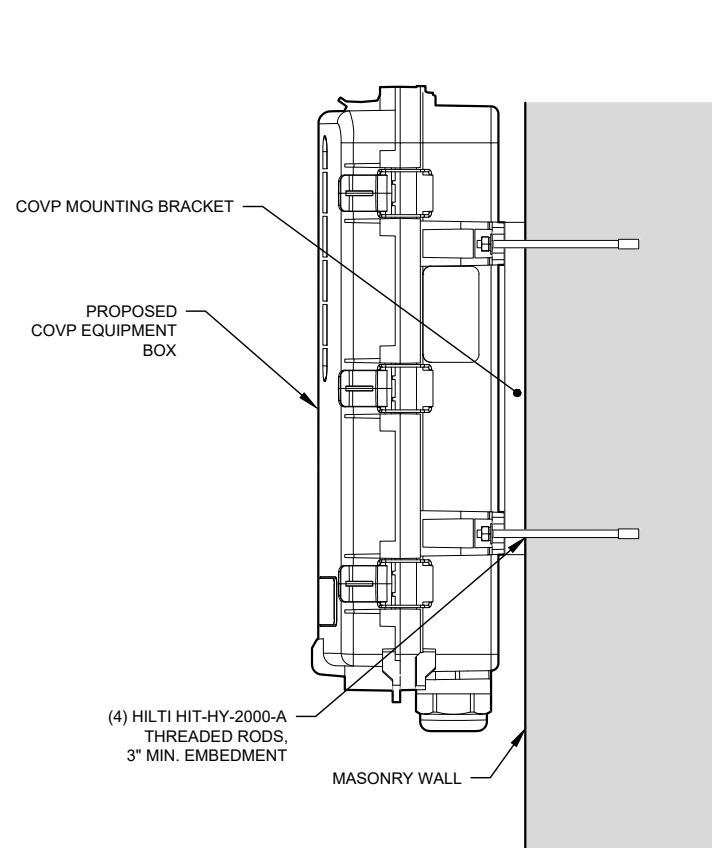
Sheet Title: EQUIPMENT DETAILS

Sheet Number: C-6



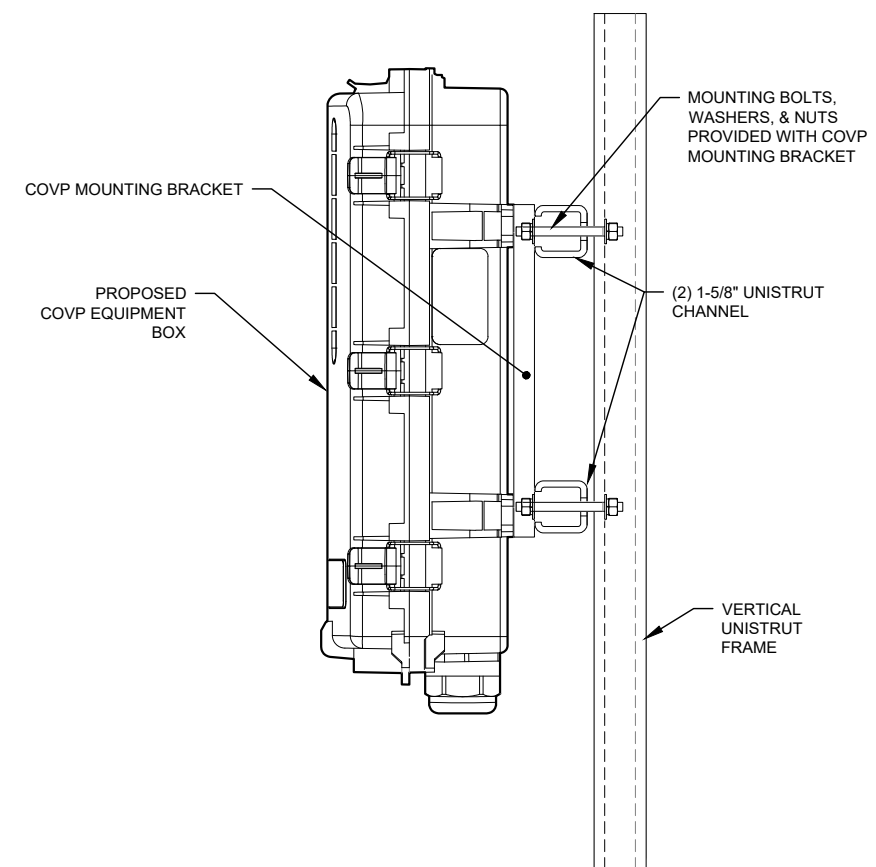
COVP MOUNTING DETAIL N.T.S.

1



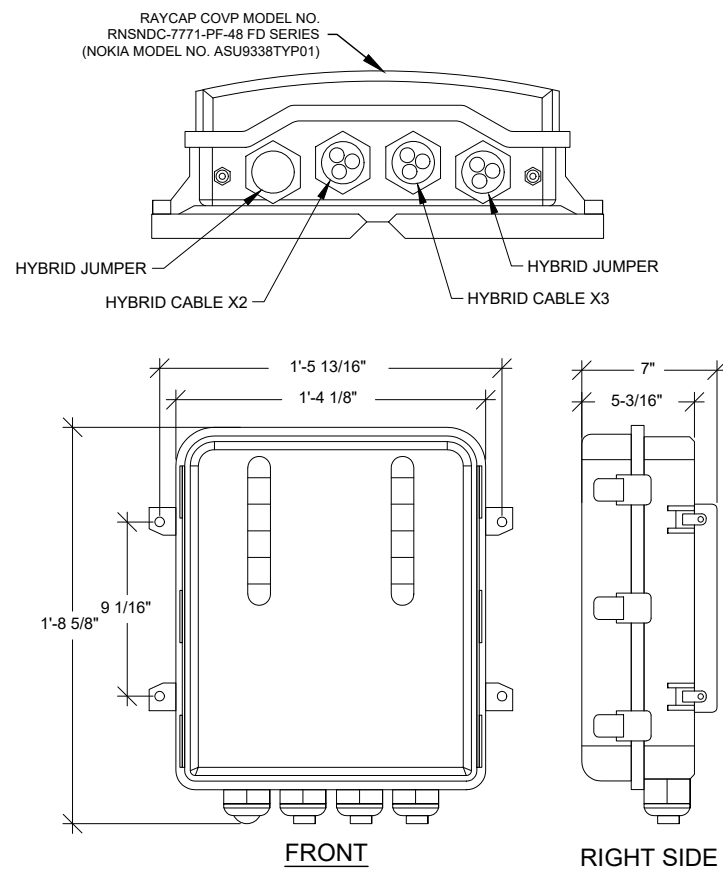
COVP MOUNTING DETAIL N.T.S.

2



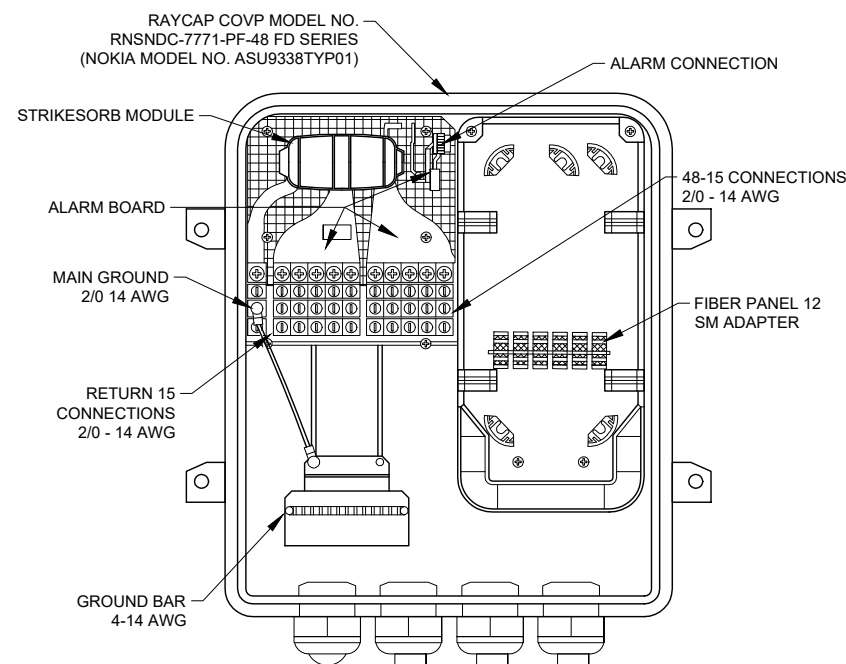
COVP MOUNTING DETAIL N.T.S.

3



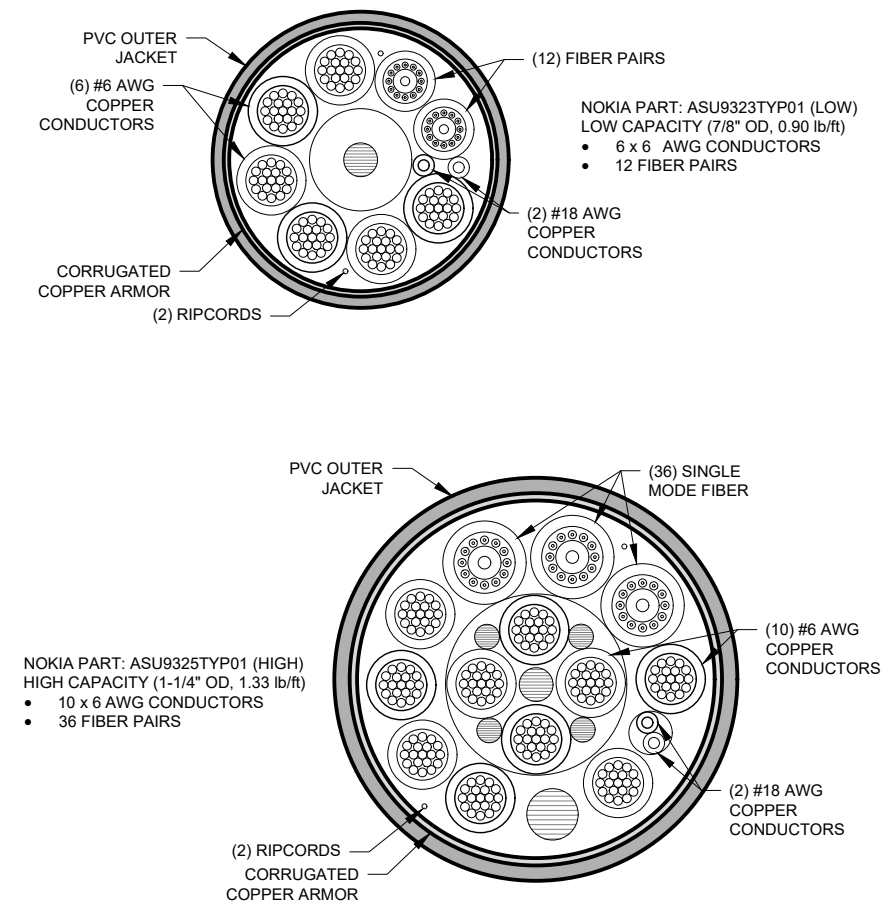
COVP DETAILS N.T.S.

4



COVP WIRING DIAGRAM N.T.S.

5



HYBRID CABLE SECTION N.T.S.

6

T-Mobile
 28505 SCHOOLCRAFT RD, BLDG#6
 LIVONIA, MICHIGAN 48150
 Phone: 734.367.7200
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 (734) 444-0181

LANDTECH PROJECT NUMBER: **18323064**

REV.	DATE	DESCRIPTION	BY
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2018 RELOCATION

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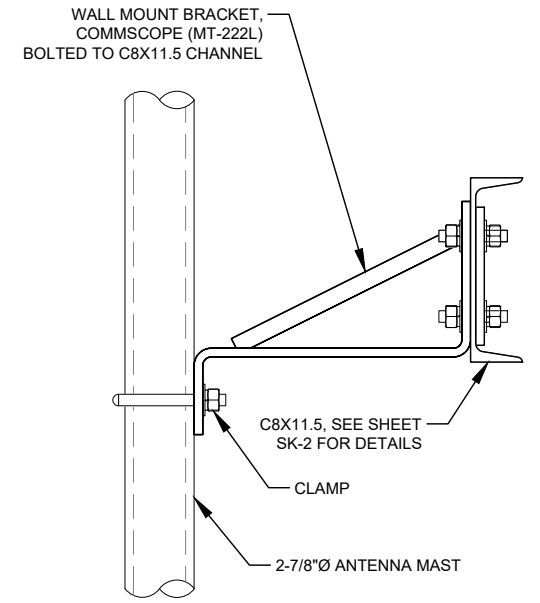


SITE #: **DE04229B**
 SITE NAME: **SWEETEST HEART OF MARY**
 SITE ADDRESS: **4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207**

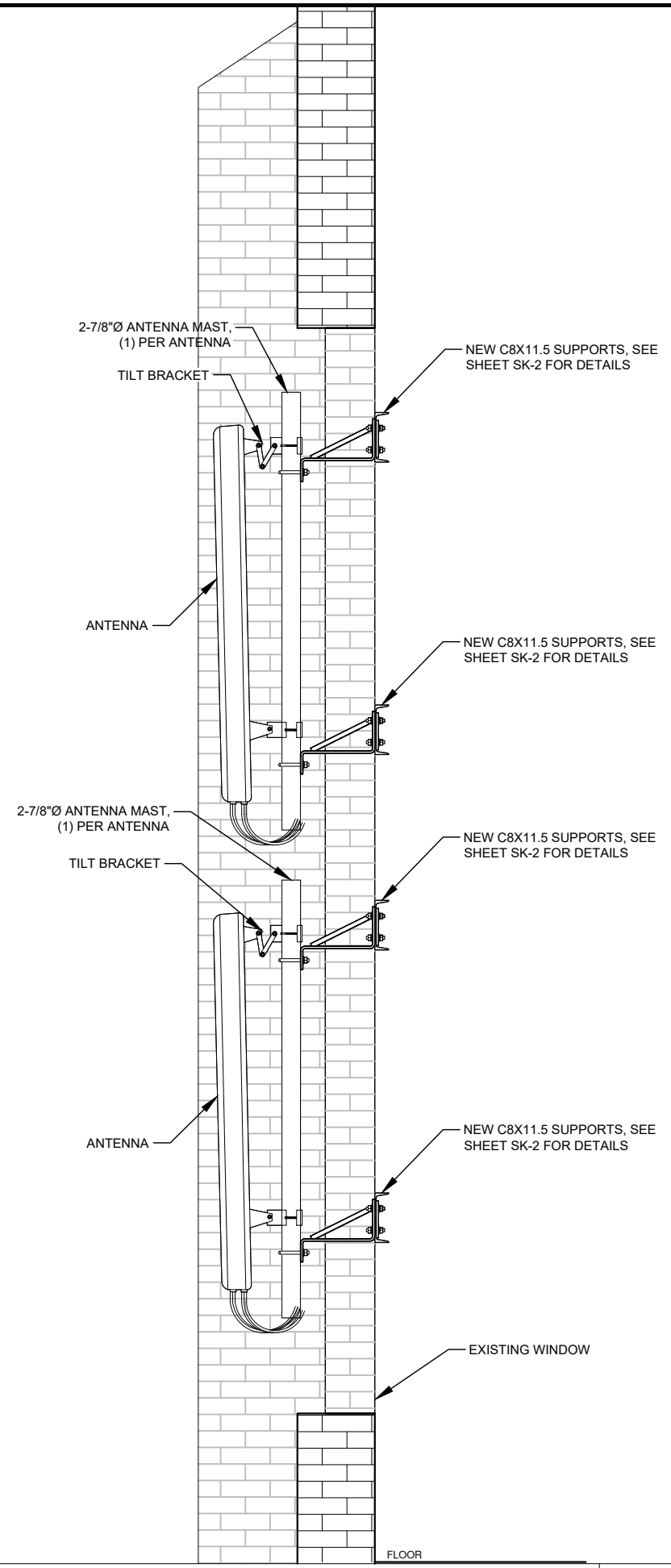
Sheet Title: **EQUIPMENT DETAILS**

Sheet Number: **C-6.1**

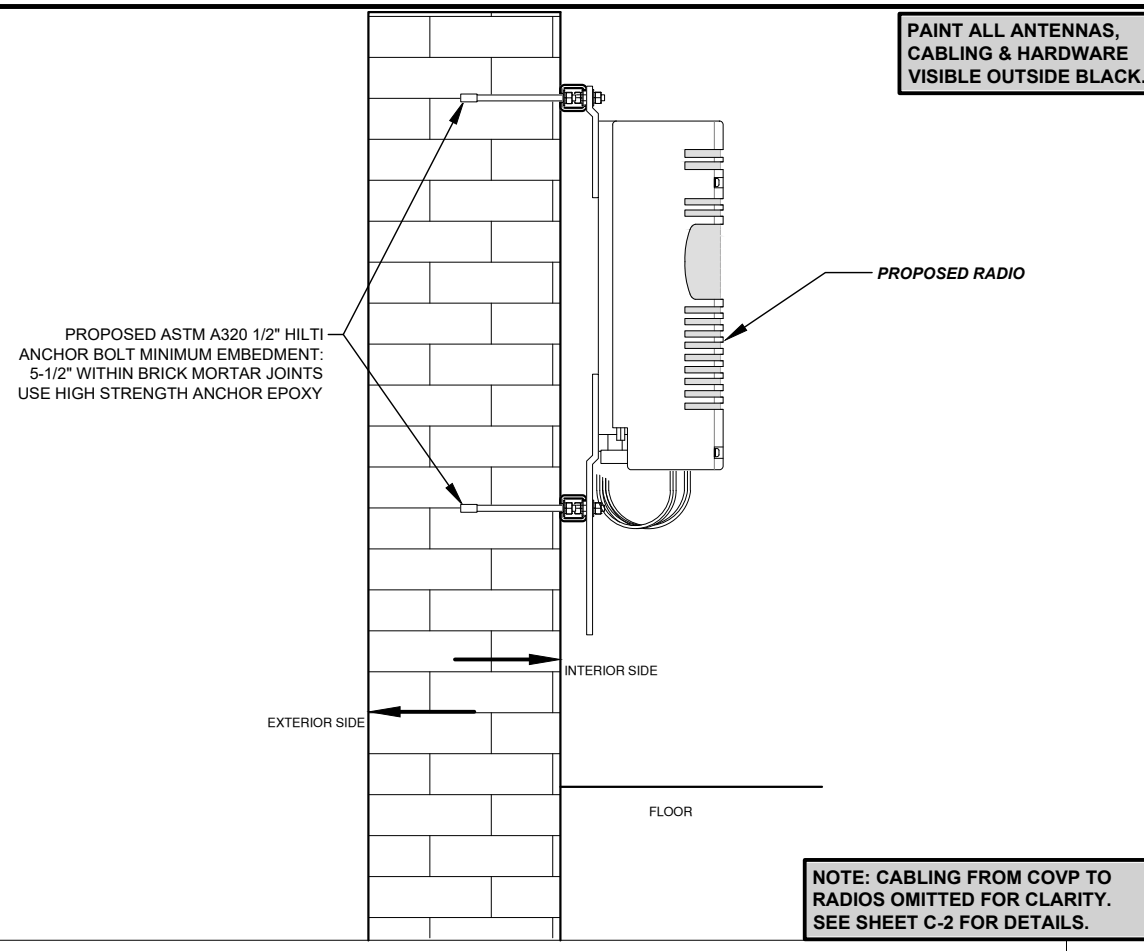
PAIN ALL ANTENNAS,
CABLING & HARDWARE
VISIBLE OUTSIDE BLACK.



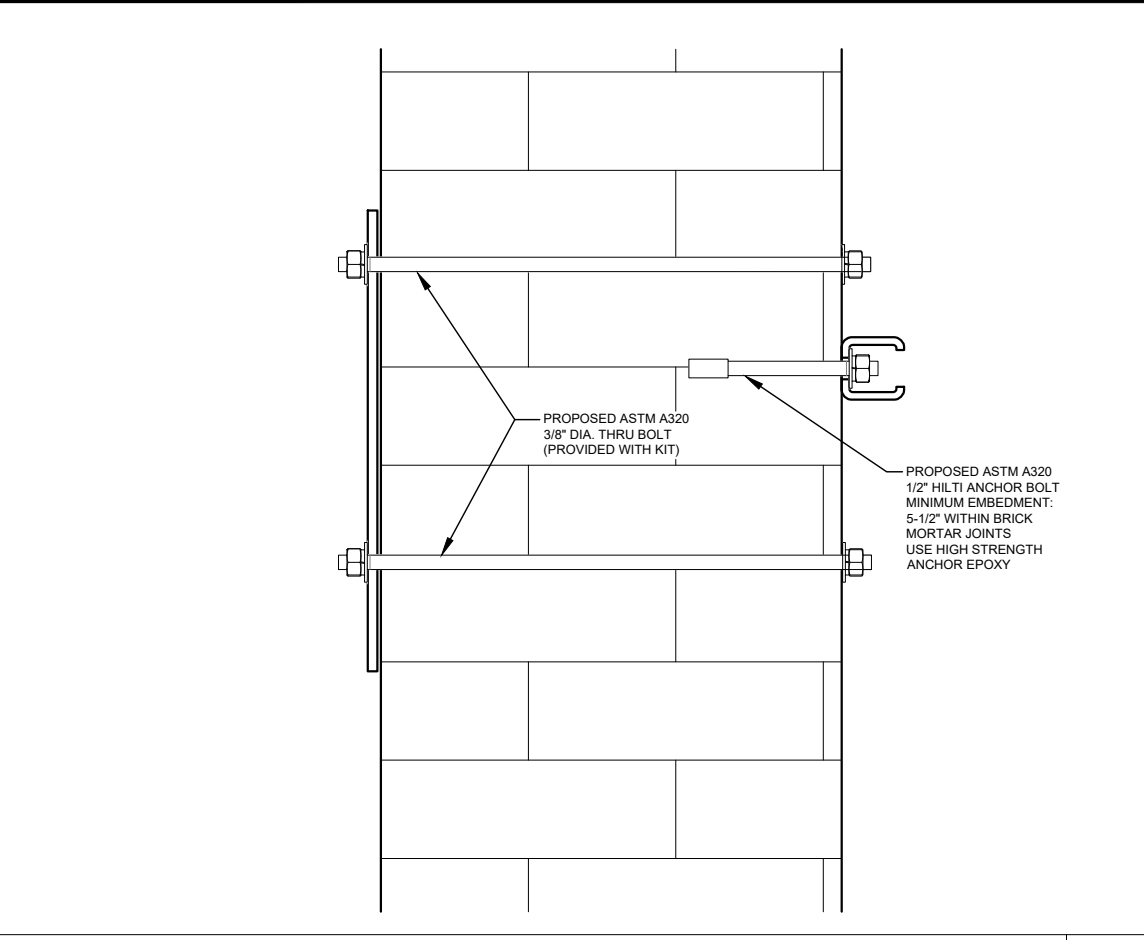
TYP. MAST BRACKET



ANTENNA MOUNT N.T.S. **1**



HYBRID CABLE ELEV. N.T.S. **2**



MORTOR JOINT DETAIL N.T.S. **3**

PAIN ALL ANTENNAS,
CABLING & HARDWARE
VISIBLE OUTSIDE BLACK.

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LANDTECH PROJECT NUMBER: **18323064**

REV.	DATE	DESCRIPTION	BY
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2018 RELOCATION

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TO GRAPHIC SCALES ON REPRODUCTIONS.

NOTE: CABLING FROM COVP TO
RADIOS OMITTED FOR CLARITY.
SEE SHEET C-2 FOR DETAILS.



SITE #: **DE04229B**
SITE NAME:
SWEETEST HEART OF MARY
SITE ADDRESS:
**4440 E. CANFIELD D/B/A 4440 RUSSELL ST.
DETROIT, MICHIGAN 48207**

Sheet Title:
MOUNTING DETAILS

Sheet Number:
C-6.3

LANDTECH PROJECT NUMBER: **18323064**

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

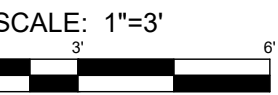
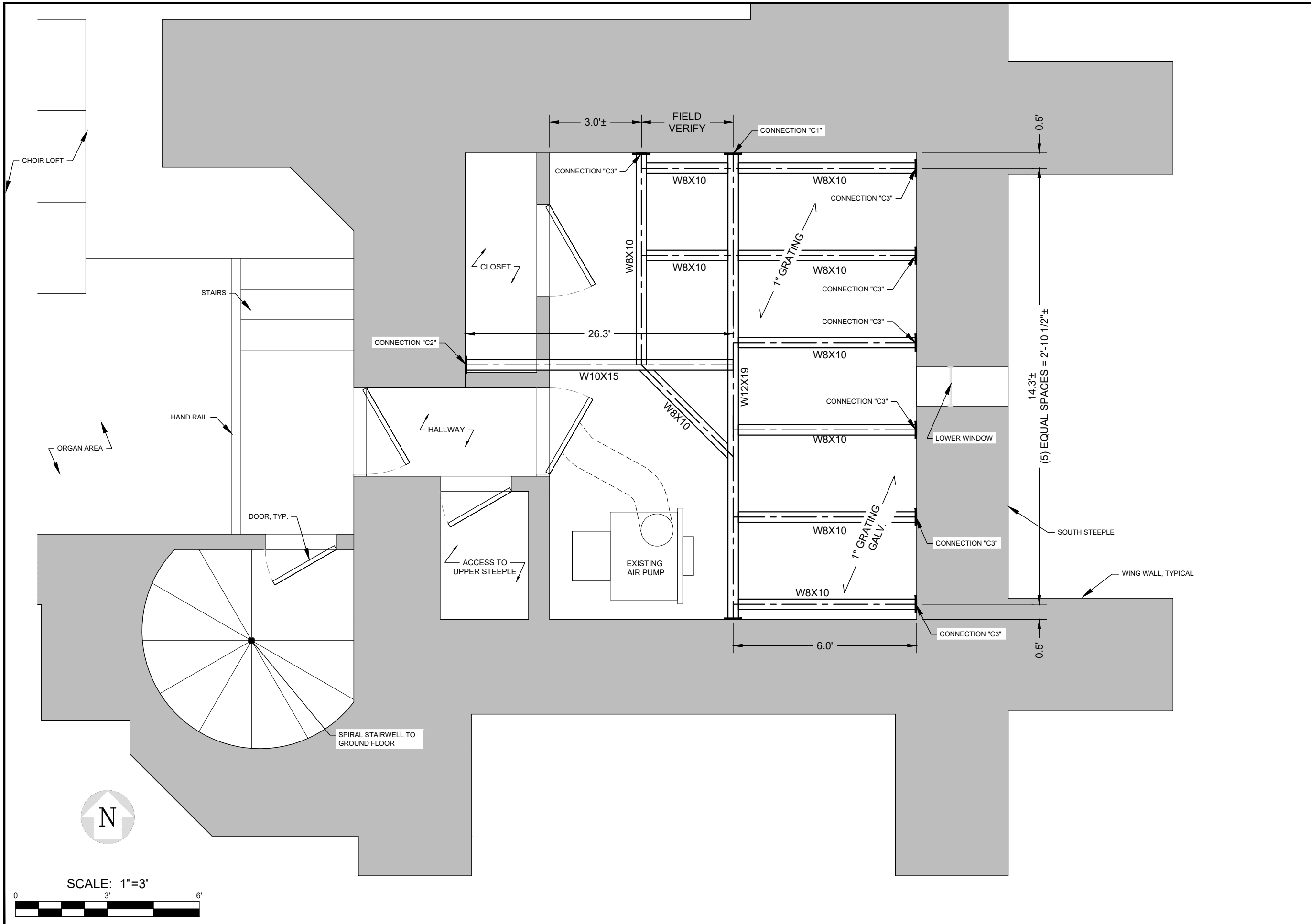
NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



SITE #: DE04229B
 SITE NAME: SWEETEST HEART OF MARY
 SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

Sheet Title: **PLATFORM STRUCTURAL PLAN**

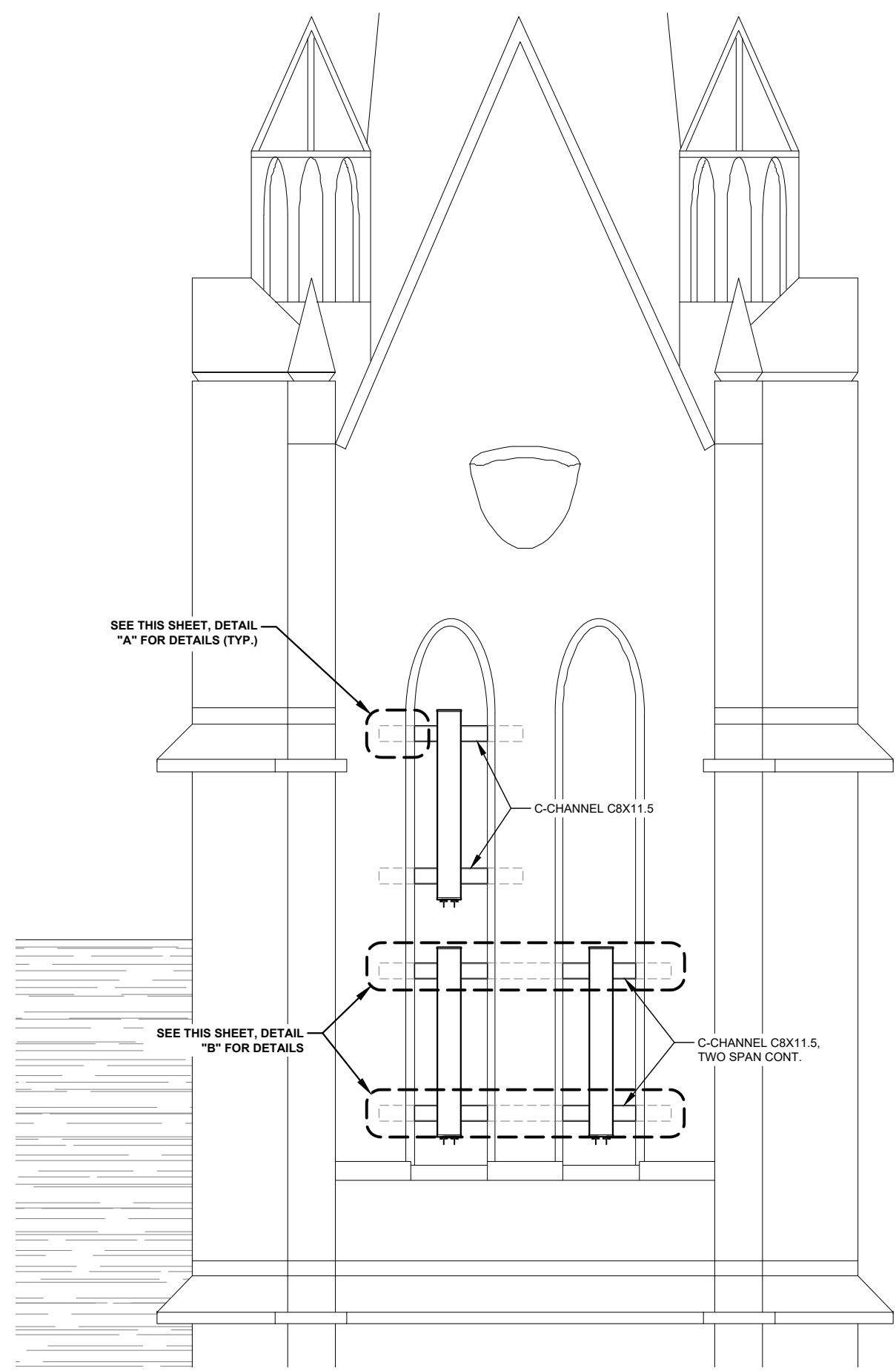
Sheet Number: **SK-1**



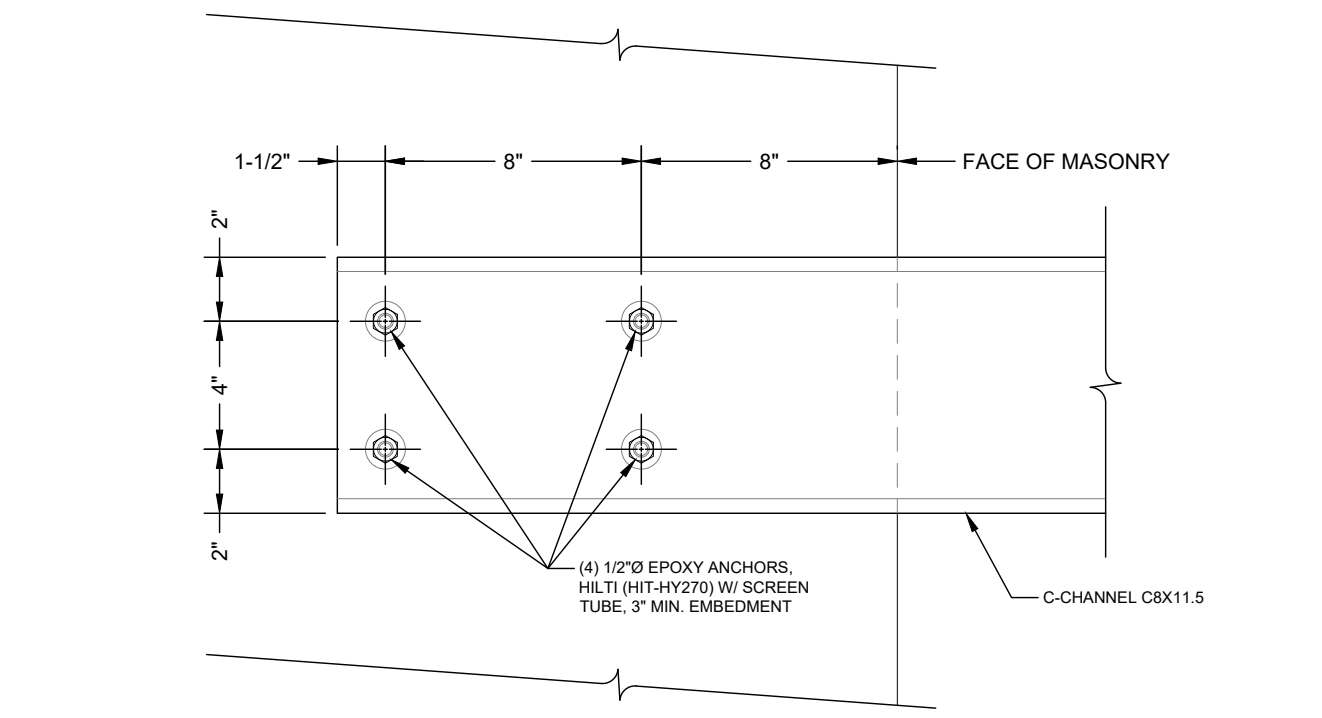
REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

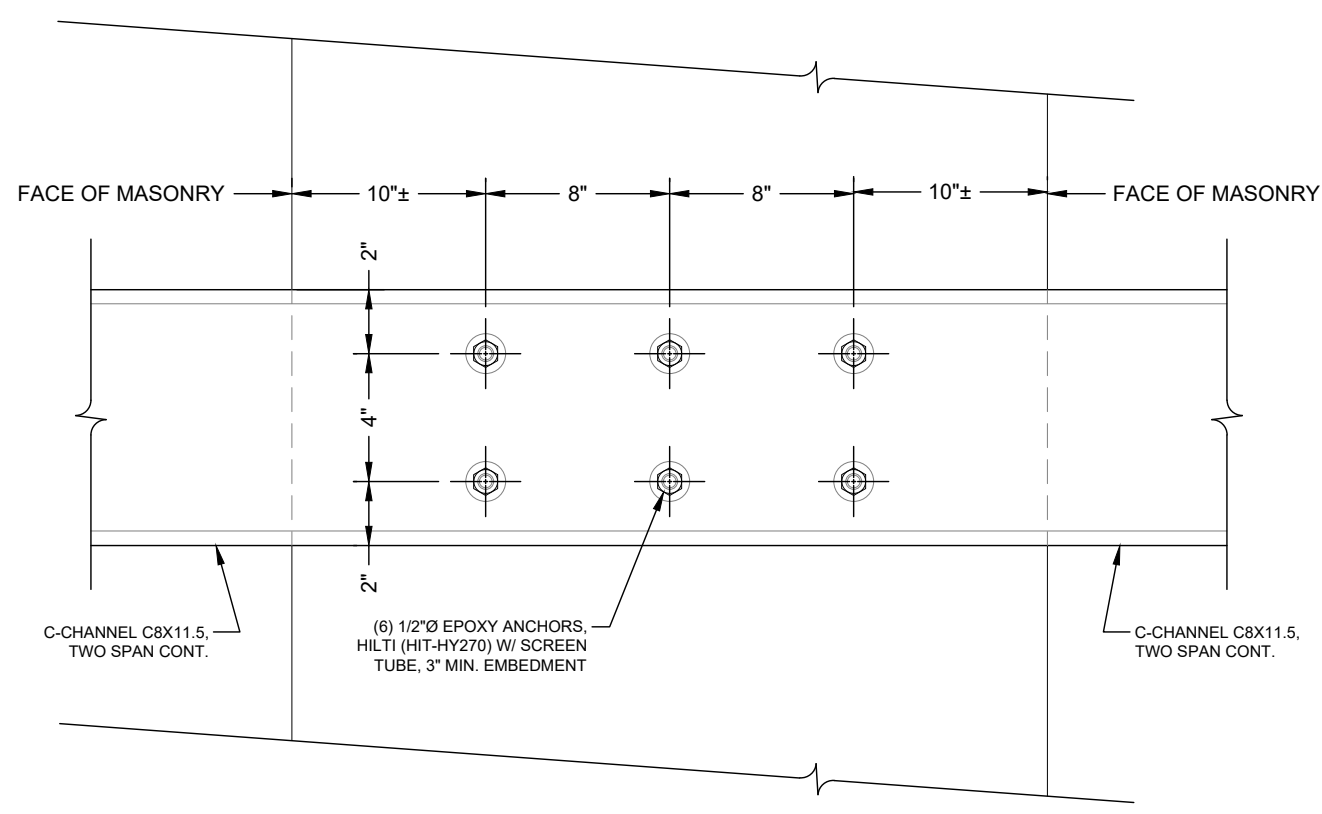
NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



PLATFORM DETAILS N.T.S. **1**



DETAIL "A" N.T.S. **2**



DETAIL "B" N.T.S. **3**

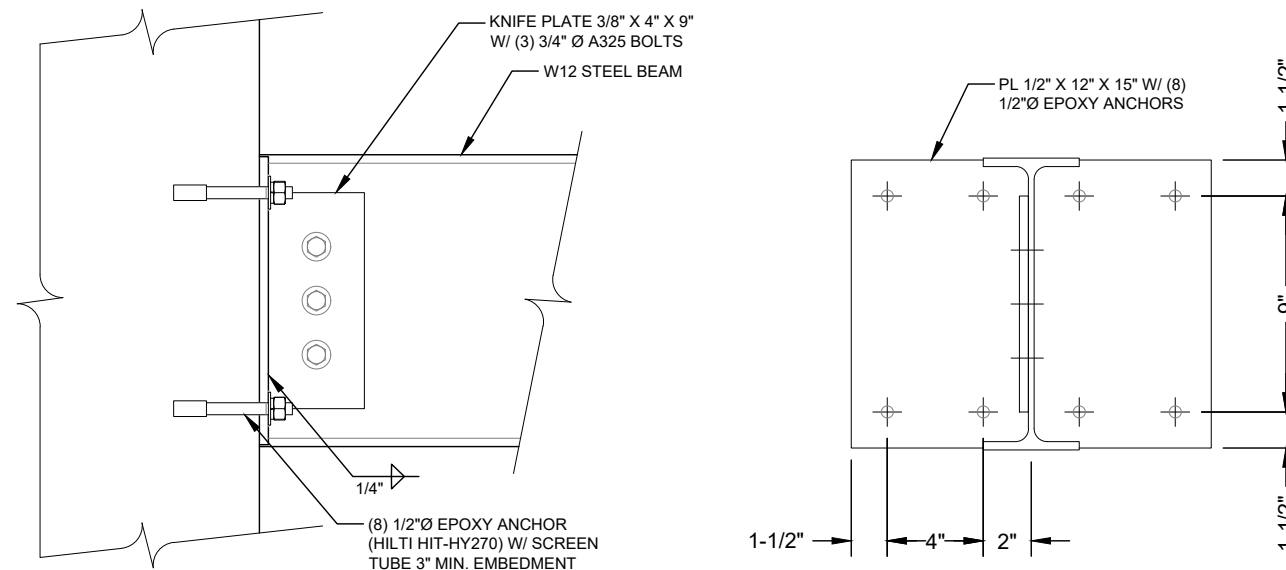


SITE #: DE04229B
SITE NAME: SWEETEST HEART OF MARY
SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

Sheet Title: **ANTENNA STRUCTURAL DETAIL**

Sheet Number: **SK-2**

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

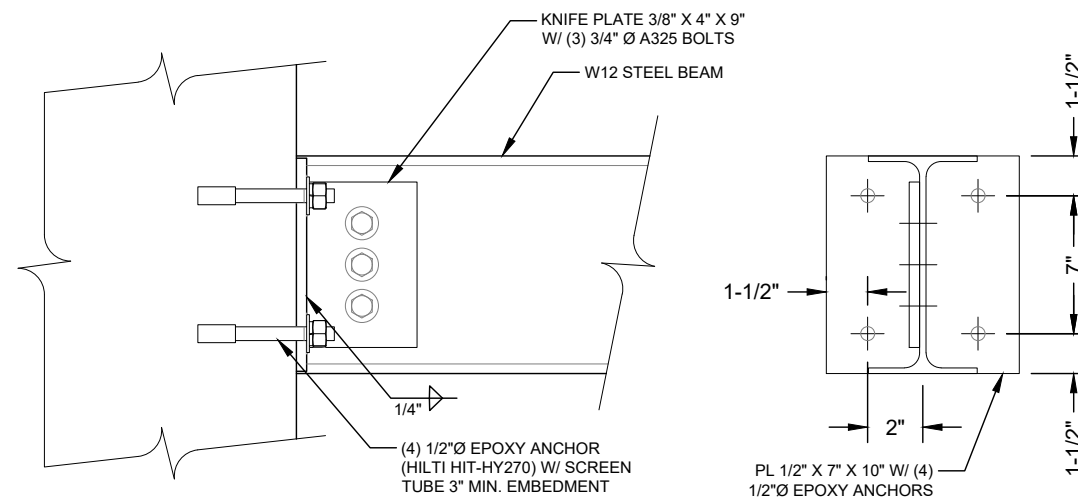


CONNECTION "C1" N.T.S

1

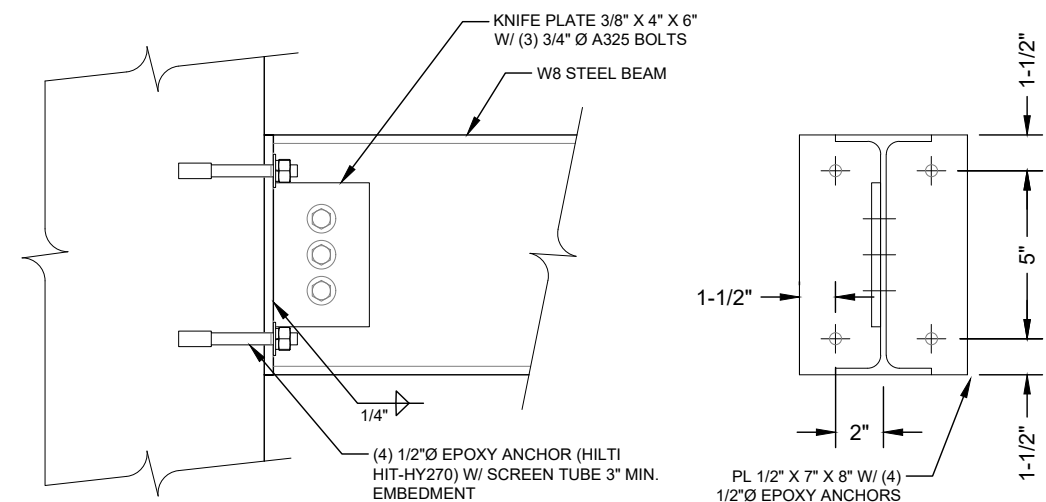
2018 RELOCATION

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CONNECTION "C2" N.T.S

2



CONNECTION "C3" N.T.S

3



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SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

Sheet Title: PLATFORM STRUCTURAL DETAIL

Sheet Number: SK-3

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

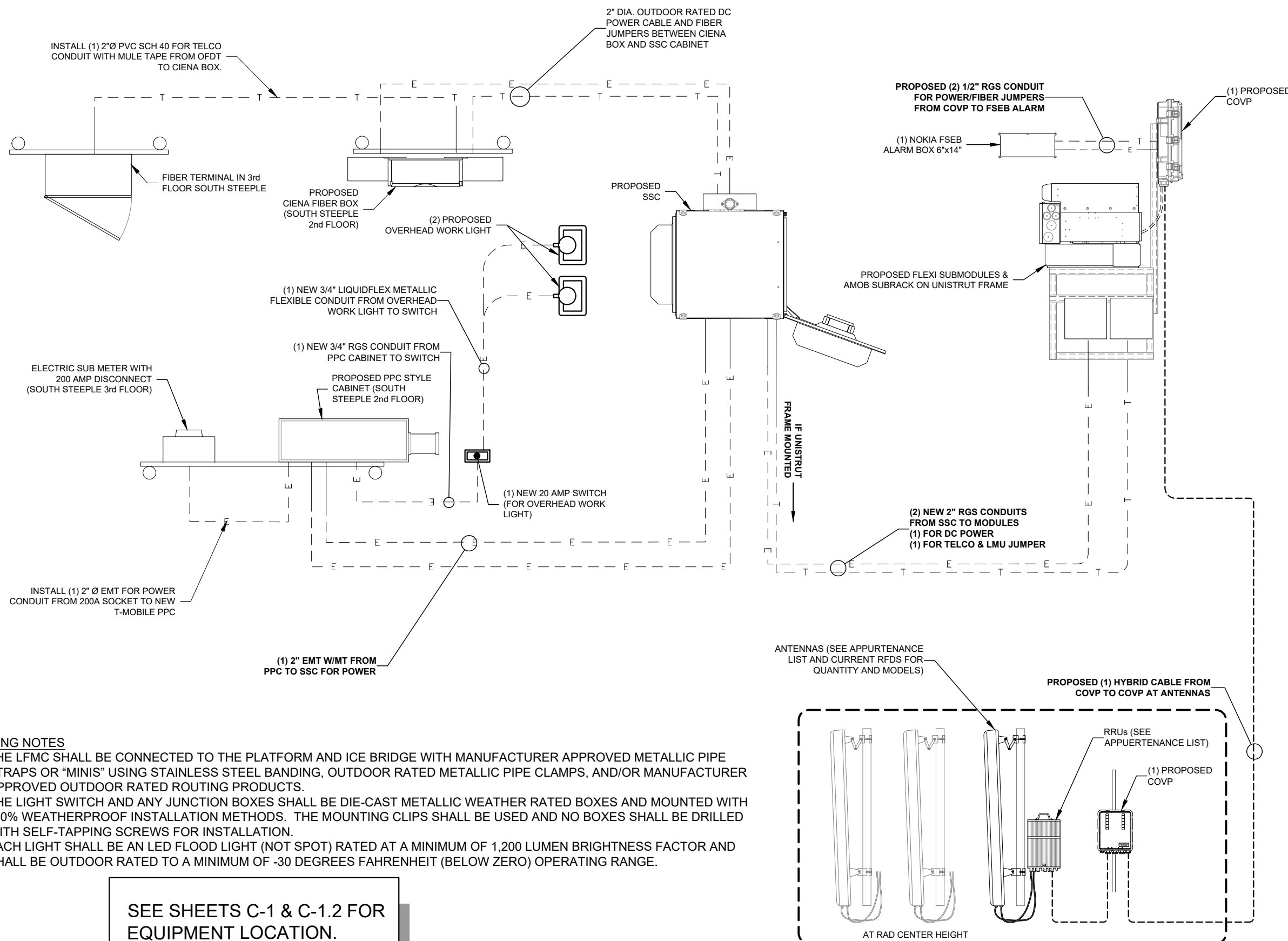
NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



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SITE NAME: SWEETEST HEART OF MARY
SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

Sheet Title: CONDUIT CABLE SCHEMATIC

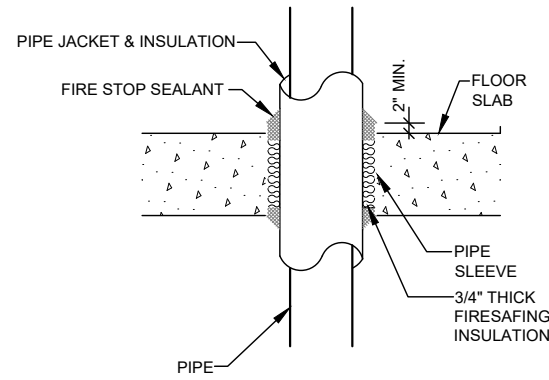
Sheet Number: E-1



LIGHTING NOTES

- THE LFMC SHALL BE CONNECTED TO THE PLATFORM AND ICE BRIDGE WITH MANUFACTURER APPROVED METALLIC PIPE STRAPS OR "MINIS" USING STAINLESS STEEL BANDING, OUTDOOR RATED METALLIC PIPE CLAMPS, AND/OR MANUFACTURER APPROVED OUTDOOR RATED ROUTING PRODUCTS.
- THE LIGHT SWITCH AND ANY JUNCTION BOXES SHALL BE DIE-CAST METALLIC WEATHER RATED BOXES AND MOUNTED WITH 100% WEATHERPROOF INSTALLATION METHODS. THE MOUNTING CLIPS SHALL BE USED AND NO BOXES SHALL BE DRILLED WITH SELF-TAPPING SCREWS FOR INSTALLATION.
- EACH LIGHT SHALL BE AN LED FLOOD LIGHT (NOT SPOT) RATED AT A MINIMUM OF 1,200 LUMEN BRIGHTNESS FACTOR AND SHALL BE OUTDOOR RATED TO A MINIMUM OF -30 DEGREES FAHRENHEIT (BELOW ZERO) OPERATING RANGE.

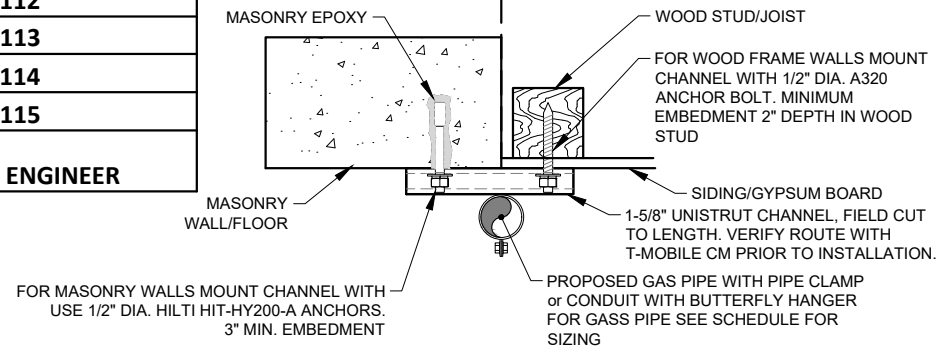
SEE SHEETS C-1 & C-1.2 FOR EQUIPMENT LOCATION.



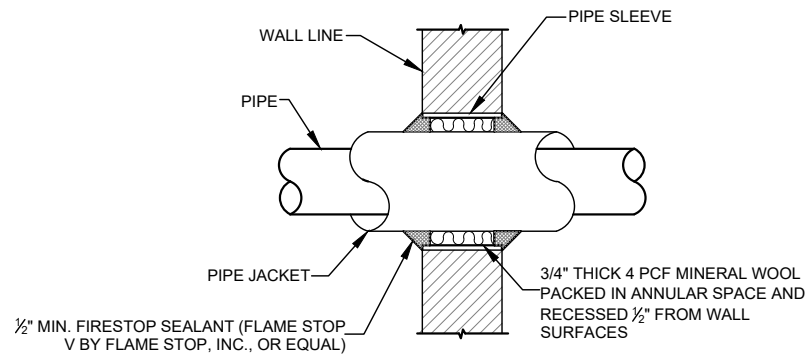
FLOOR PENETRATION DETAIL N.T.S. **1**

RIGID STEEL CLAMP SIZING SCHEDULE	
PIPE SIZE	UNISTRUT RIGID STEEL CONDUIT CLAMP P/N
3/4"	P1112
1"	P1113
1-1/4"	P1114
1-1/2"	P1115
2" AND GREATER	CONTACT ENGINEER

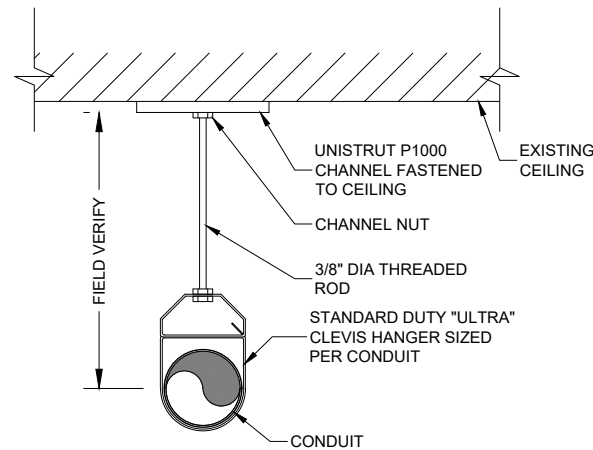
MASONRY WOOD FRAMED



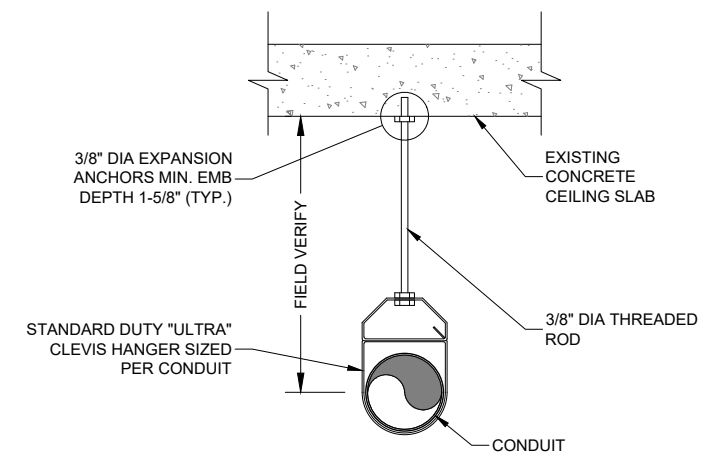
CEILING/WALL CONDUIT HANGER DETAIL N.T.S. **2**



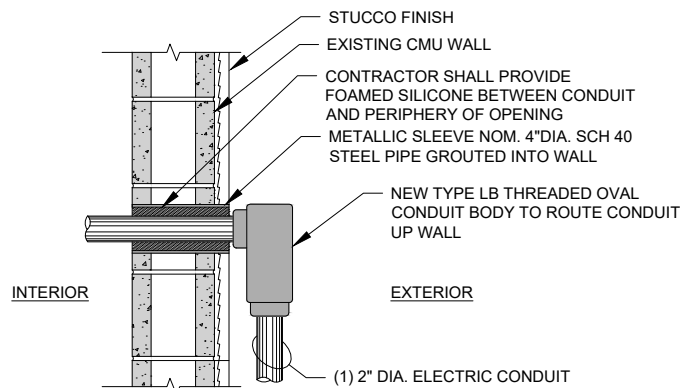
WALL PENETRATION DETAIL N.T.S. **3**



CEILING HANGER DETAIL N.T.S. **4**

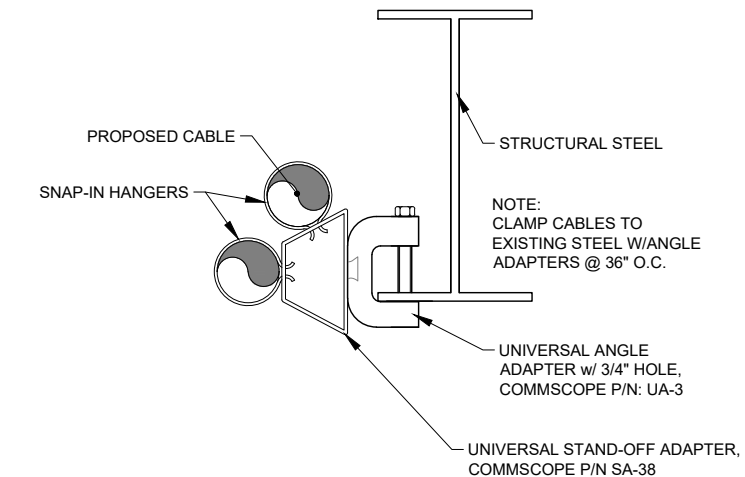


CEILING HANGER DETAIL N.T.S. **5**



CONDUIT WALL PENETRATION DETAIL N.T.S. **6**

INTENTIONALLY OMITTED N.T.S. **7**



CABLE HANGER DETAIL N.T.S. **8**

T-Mobile
 28505 SCHOOLCRAFT RD, BLDG#6
 LIVONIA, MICHIGAN 48150
 Phone: 734.367.7200
 Fax: 734.367.7242
 CONTACT: KEN KALOUSEK
 (734) 444-0181

LANDTECH PROJECT NUMBER: **18323064**

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

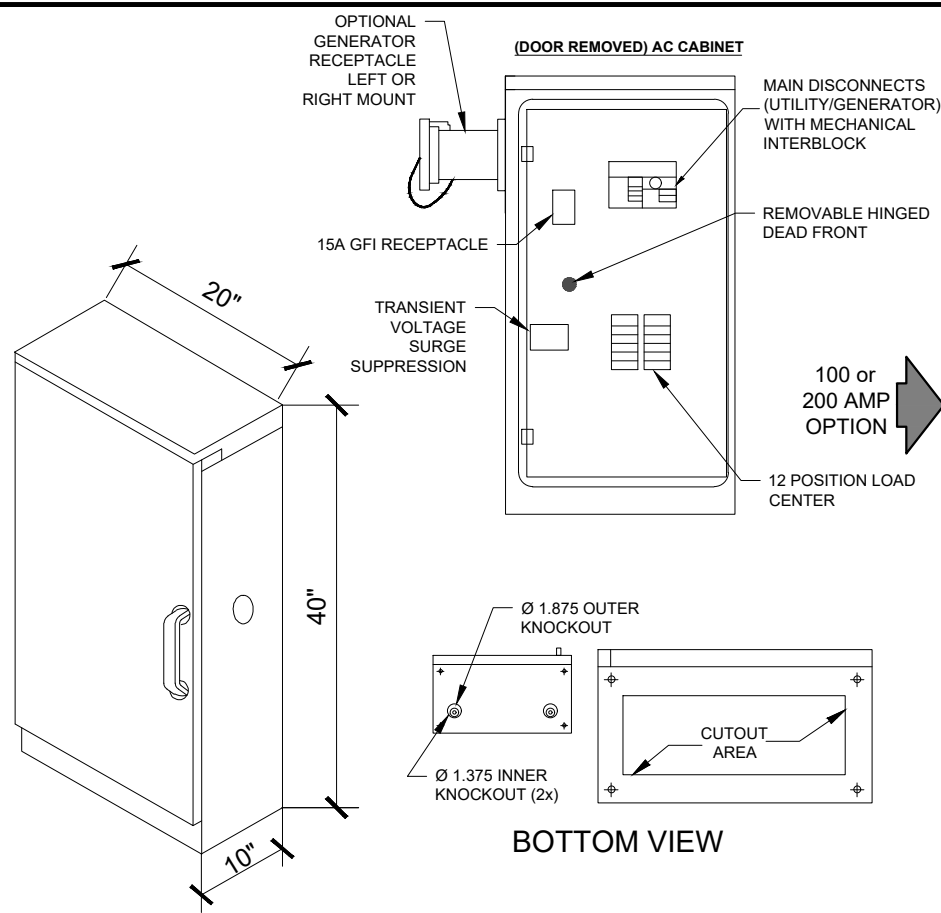
NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



SITE #: **DE04229B**
 SITE NAME: **SWEETEST HEART OF MARY**
 SITE ADDRESS: **4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207**

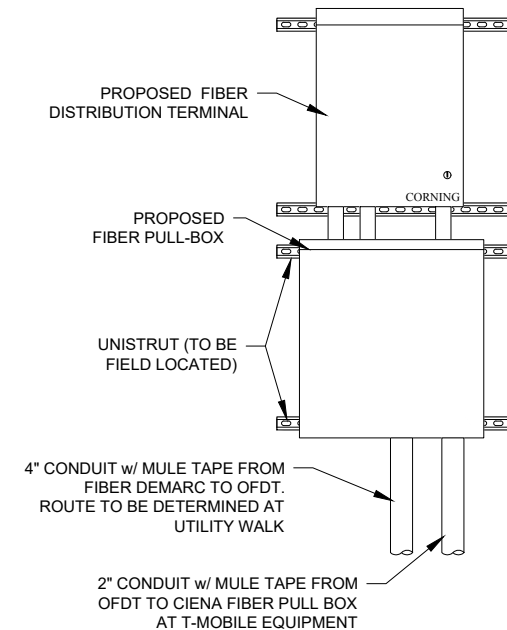
Sheet Title: **CABLE DETAILS**

Sheet Number: **E-1.1**



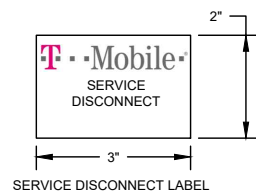
Specifications – CAC Model	
Enclosure	AC Cabinet
Cabinet Dimensions	39.00" H x 20.00" W x 10.00" D
Weight Approx.	75 lbs.
External Material	0.1" thick aluminum
Mounting	Wall or pad-mount (with optional pad-mounting base)
Cabinet Enclosure Type	One AC Power TVSS cabinet (NEMA 3R type enclosure)
Weather Protection	Rain/drip hood, rain tested per UL 891
Electrical	
Operating Voltage	120/240 VAC, single phase, 3 wire and ground
Service	100 Amp or 200 Amp. utility/standby
Disconnect	Slide bar mechanical interlock
AIC Rating	10kAIC, 22kAIC, 65kAIC
Load	Center 200 Amp, 24 position
	1-30 Amp double pole (AC TVSS)
	1-15 Amp single pole (GFI receptacles)
Bonding Jumper	Optional N-G bonding jumper
Standby Power Receptacle	Appleton AR20044RS Standard (100A or 200A), 10kAIC
TVSS with Indicator Lights	Metal Oxide Varistors (MOV) (160kA/Phase)
	Remote alarm contacts
Grounding	
Security (padlockable)	3-point door closure with 1/4 turn handle, SS hinge
Safety Compliance	UL 891, dead front switchboards
Options	10,000 or 22,000, 65,000 AIC series rated
	Pad-mounting base (8" thick)
	Various generator receptacles

POWER PEDESTAL CABINET N.T.S. **1**



FIBER DEMARCATION DETAIL N.T.S. **2**

1. FROM TAP BOX: THE TWO (2) FOUR-INCH (4") CONDUIT WILL RETURN TO THE LOCATION DETERMINED BY "DTE" AND EXTEND OUT OF THE FINISHED GRADE 12" AND 36" RESPECTIVELY (SEE DETAIL). BOTH CONDUITS SHALL BE INSTALLED WITH PULL-STRINGS AND WATERPROOF CAPS.



2. CABINET AND CONDUCTORS FURNISHED & INSTALLED BY CUSTOMER, 350 KCMIL SERVICE CONDUCTORS FURNISHED & INSTALLED BY UTILITY.

3. EQUIPMENT ASSEMBLY DRAWINGS AND RISER DIAGRAMS MUST BE SUBMITTED TO A UTILITY PLANNER FOR ACCEPTANCE PRIOR TO INSTALLATION.

4. CABINETS AND CONDUITS SHOWN SHALL CONTAIN ONLY UNMETERED LINE CONDUCTORS. CABINET SHALL BE SEALABLE WITH ACCEPTABLE SEALING HASP.

5. TRANSMISSION TOWER SERVICES WILL UTILIZE A STANDARD 200 AMP SERVICE W/ CONTINUOUS CONDUIT TO THE SOURCE.

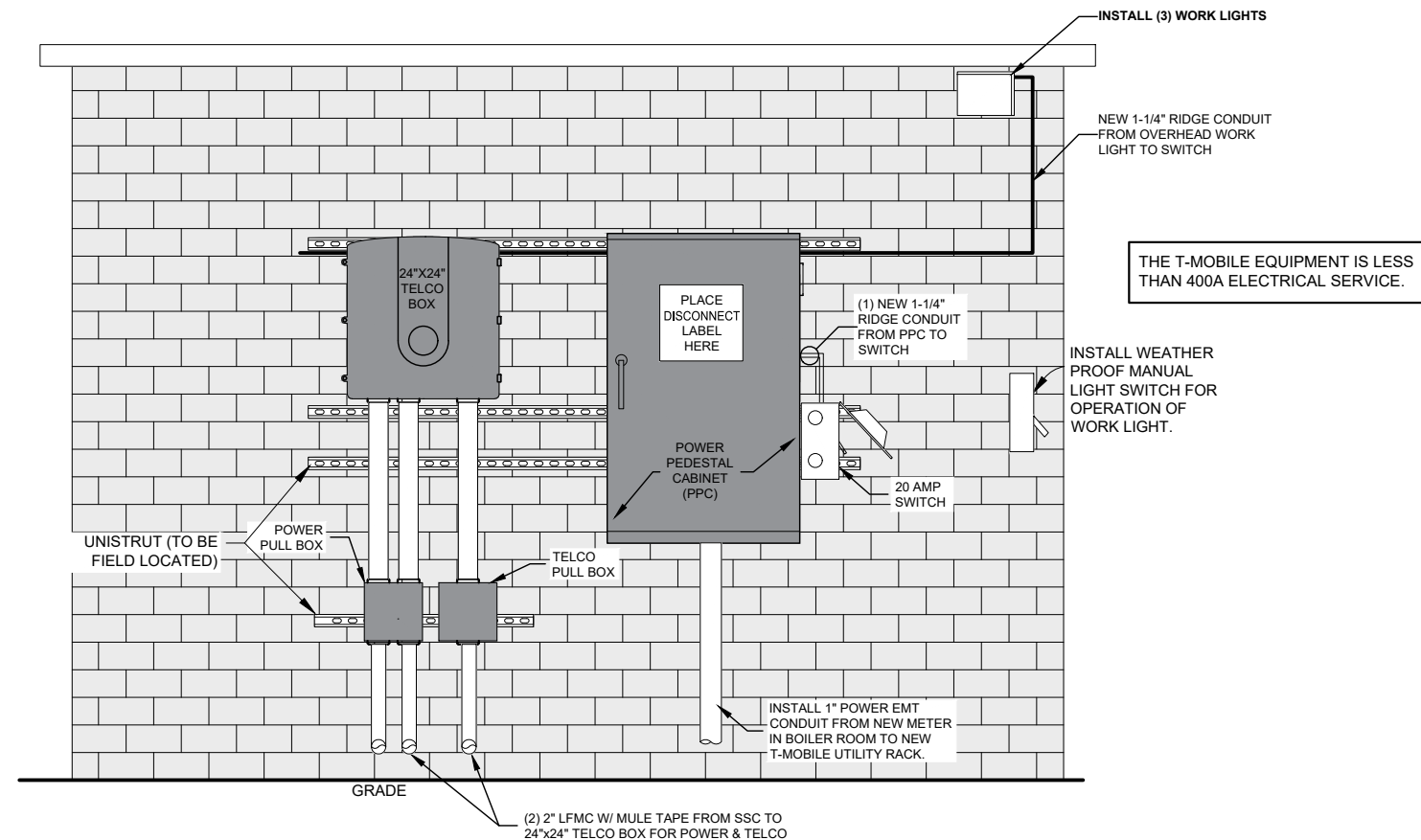
6. SUBSTATION CELLULAR SERVICES WILL BE A SINGLE 200-AMP SERVICE OR BUILT TO THIS SPECIFICATION. NO SERVICE SHALL BE TAKEN OUT OF THE SUBSTATION HOUSE SERVICE.

7. ALL CONDUIT AND NIPPLE ENTRIES TO CABINET AND METER BOXES WILL BE MADE WITH WEATHERPROOF HUBS, CONNECTORS OR LOCKNUTS LISTED FOR THE APPLICATIONS. NON-METALLIC BUSHINGS.

8. FOR INACCESSIBLE LOCATIONS CONSULT WITH METER ENGINEERING FOR POSSIBLE ERT METER INSTALLATION.

9. ONLY ONE SERVICE ALLOWED PER LUG. ALL GROUNDING AND BONDING MUST COMPLY WITH NEC 250 REQUIRED.

- THE LFMC SHALL BE CONNECTED TO THE ICE BRIDGE WITH MANUFACTURER APPROVED METALLIC PIPE STRAPS OR "MINIS" USING STAINLESS STEEL BANDING, OUTDOOR RATED METALLIC PIPE CLAMPS, AND/OR MANUFACTURER APPROVED OUTDOOR RATED ROUTING PRODUCTS.
- THE LIGHT SWITCH AND ANY JUNCTION BOXES SHALL BE DIE-CAST METALLIC WEATHER RATED BOXES AND MOUNTED WITH 100% WEATHERPROOF INSTALLATION METHODS. THE MOUNTING CLIPS SHALL BE USED AND NO BOXES SHALL BE DRILLED WITH SELF-TAPPING SCREWS FOR INSTALLATION.
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UTILITY EQUIPMENT N.T.S. **3**

T-Mobile
 28505 SCHOOLCRAFT RD, BLDG#6
 LIVONIA, MICHIGAN 48150
 Phone: 734.367.7200
 Fax: 734.367.7242
 CONTACT: KEN KALOUSEK
 (734) 444-0181

LANDTECH PROJECT NUMBER: 18323064

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

NOTE: THESE DRAWINGS ARE TO SCALE WHEN PLOTTED ON 11"x17" SHEETS. REFER TO GRAPHIC SCALES ON REPRODUCTIONS.



SITE #: DE04229B
 SITE NAME: SWEETEST HEART OF MARY
 SITE ADDRESS: 4440 E. CANFIELD D/B/A 4440 RUSSELL ST. DETROIT, MICHIGAN 48207

Sheet Title: **ELECTRIC DETAILS**

Sheet Number: **E-1.2**

LANDTECH PROJECT NUMBER: **18323064**

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	C.JL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

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ONE LINE DIAGRAM FORTHCOMING



SITE #: DE04229B
 SITE NAME:
 SWEETEST HEART OF
 MARY
 SITE ADDRESS:
 4440 E. CANFIELD D/B/A 4440 RUSSELL ST.
 DETROIT, MICHIGAN 48207

Sheet Title:
 ONE-LINE DIAGRAM

Sheet Number:
 E-2

LANDTECH PROJECT NUMBER: 18323064

REV.	DATE	DESCRIPTION	BY
A	09/18/18	PRELIMINARY RELEASE	CJL
B	11/02/18	HVAC & STRUCTURAL ADD	CDR

2018 RELOCATION

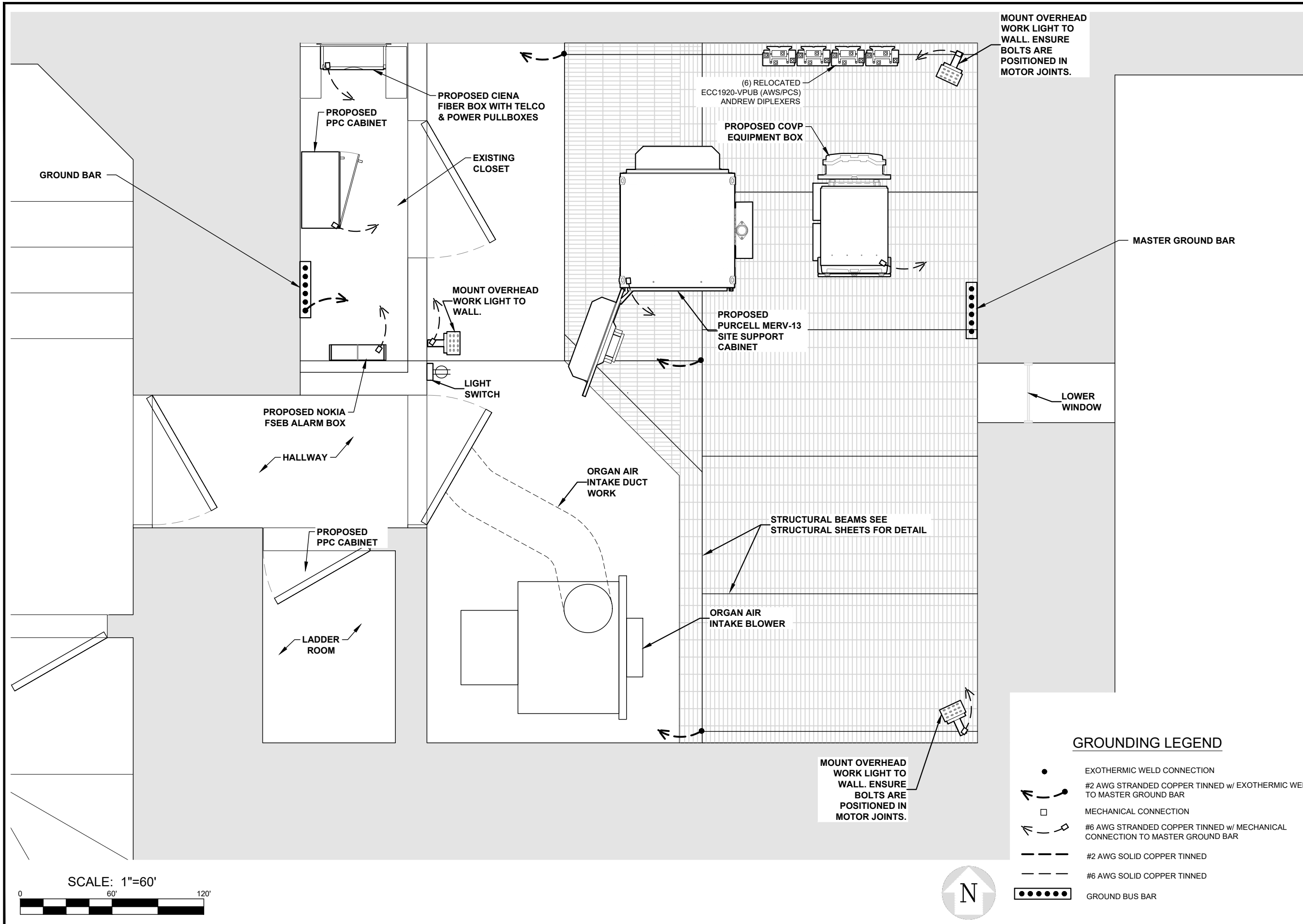
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Sheet Title: **GROUNDING PLAN**

Sheet Number: **E-3**



GROUNDING LEGEND

- EXOTHERMIC WELD CONNECTION
- #2 AWG STRANDED COPPER TINNED w/ EXOTHERMIC WELD TO MASTER GROUND BAR
- MECHANICAL CONNECTION
- #6 AWG STRANDED COPPER TINNED w/ MECHANICAL CONNECTION TO MASTER GROUND BAR
- #2 AWG SOLID COPPER TINNED
- #6 AWG SOLID COPPER TINNED
- GROUND BUS BAR

SCALE: 1"=60'



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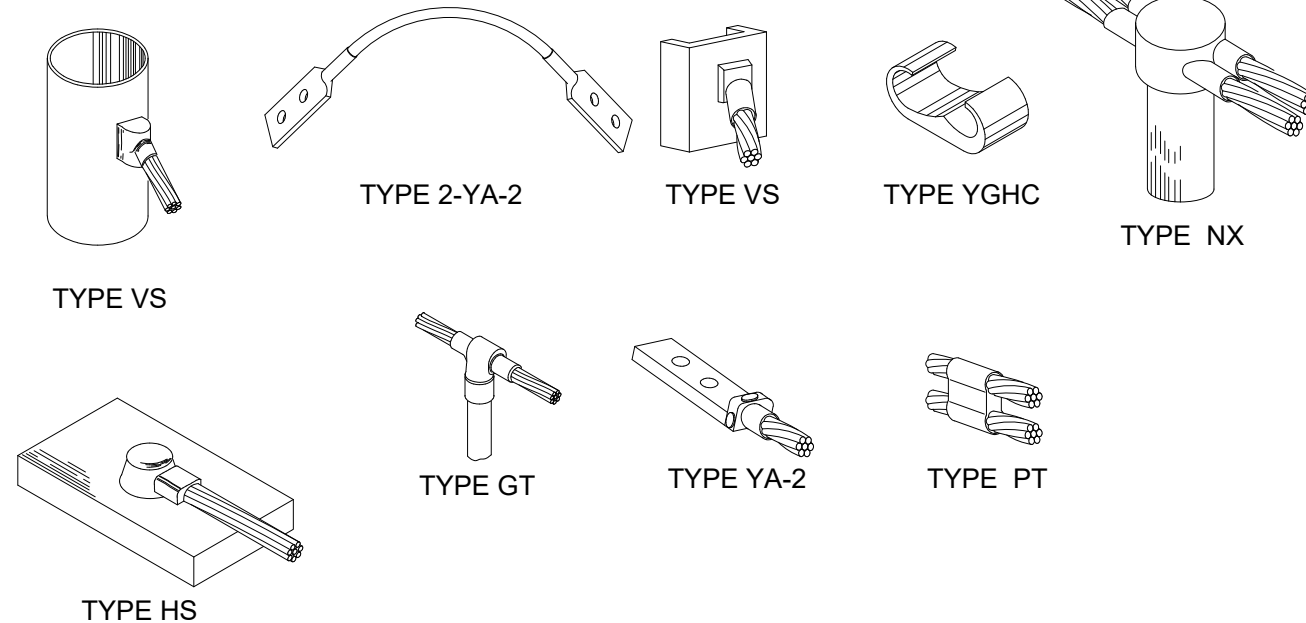
IMPORTANT GROUNDING / CABLE NOTES:

1. T-MOBILE IS ELIMINATING THE HOME RUN GROUND WIRE FROM TOP BUSS BAR AND THE BOTTOM BUSS BAR ON TOWER SITES. ROOFTOPS ARE STILL REQUIRED TO HAVE SECTORIZED GROUND AND #2 INSULATED GROUND WIRE. FROM SECTOR GROUNDS TO MAIN BUSS BARS AND BUILDING STEEL. 4 GROUND BARS, 3 ISOLATED ONE FOR EACH SECTOR, ONE AS COLLECTION POINT MOUNTED WITHOUT CHERRIES.
2. REMOVE INSULATORS (CHERRIES) FROM THE BUSS BARS AND GROUND TO TOWER, TOP AND BOTTOM ON TOWER SITES ONLY.
3. ALL EXPOSED GROUNDS TO BE DRESSED WITH SEAL TIGHT. (ONLY AT GRADE)
4. THE DISTANCE BETWEEN BUTTERFLIES AND CABLE STAND OFFS IS 36".
5. THE DISTANCE BETWEEN CONVENTIONAL AND/OR SNAP-HANGERS ON 1/2" JUMPERS SHALL BE NO MORE THAN 3 FEET AT THE TOP AND 2 FEET ON THE BOTTOM JUMPERS PER MANUFACTURER'S RECOMMENDATION.
6. NO HYBRID CABLES SHOULD TOUCH METAL OR STEEL. THE USE OF STANDOFF BRACKETS ARE REQUIRED. USE OF GROMMETS AS SUPPLIED BY T-MOBILE. (EXCEPT 1-5/8" SNAP-IN FOR CABLE MANAGEMENT)
7. HYBRID AND JUMPER LINES SHOULD BE DRESSED IN ON THE SIDE OR BOTTOM OF SECTOR FRAMES / MONOPOLES. NEVER ON TOP WERE SOMEONE WOULD WALK.
8. PARALLEL #2 TINNED PATH RUNS, WIDTH, DEPTH, BACKFILL, COMPACTION SPECS.
9. ALL MECHANICAL GROUND CONNECTIONS NEED TO BE SCRAPPED IF PAINTED TO BARE METAL AND NO-OX APPLIED ON ALL CONNECTIONS ABOVE GROUND.
10. GROUND BARS NEED TO BE COPPER.
11. GROUNDING HARDWARE NEEDS TO BE STAINLESS STEEL.

GROUNDING / CABLE NOTES

1

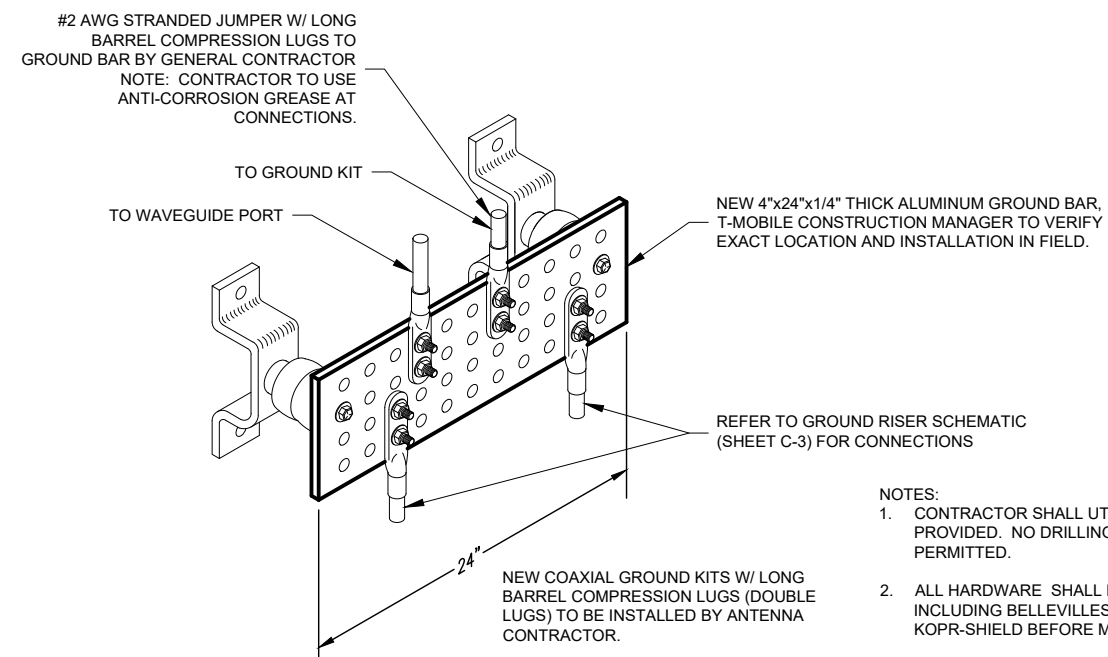
NOTE:
 CADWELD "TYPES" SHOWN ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED FOR THIS PROJECT.



CADWELD CONNECTION TYPES

N.T.S.

2



- NOTES:
1. CONTRACTOR SHALL UTILIZE LUGGED HOLES PROVIDED. NO DRILLING OF THE BAR WILL BE PERMITTED.
 2. ALL HARDWARE SHALL BE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
 3. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.

GROUNDING BAR DETAIL

N.T.S.

3



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Sheet Title:
GROUNDING DETAILS

Sheet Number:
E-3.1

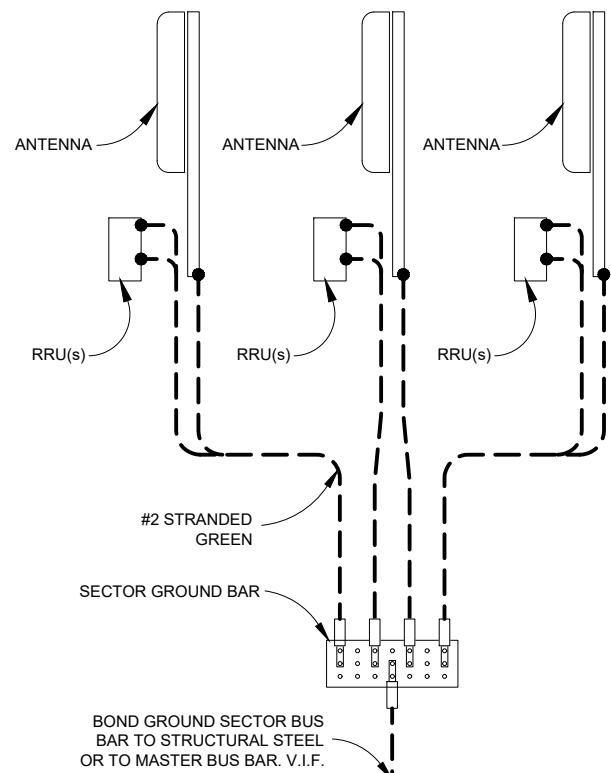
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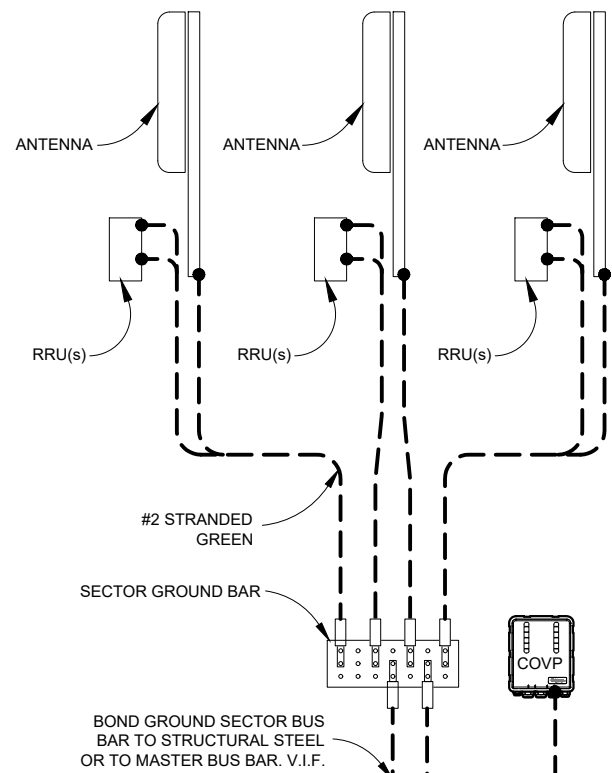
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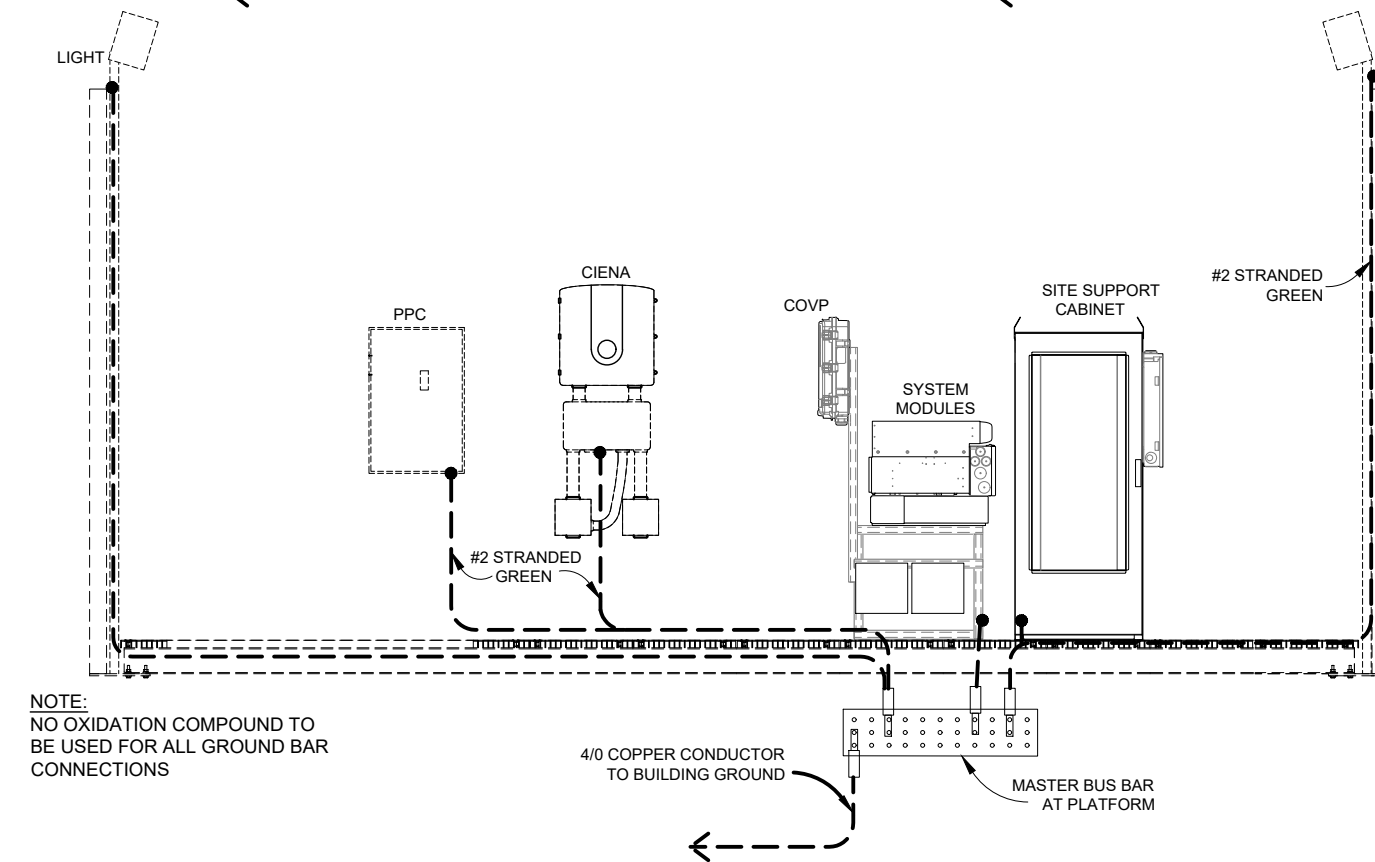
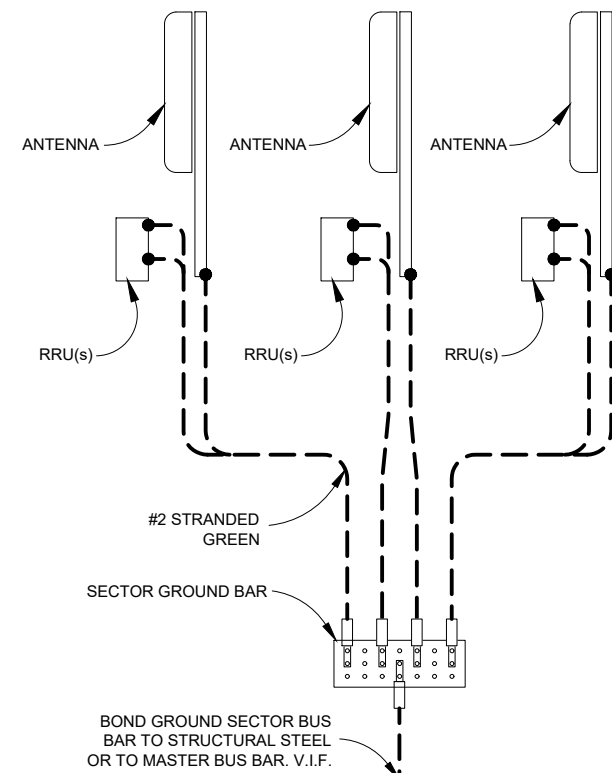
SECTOR A



SECTOR B



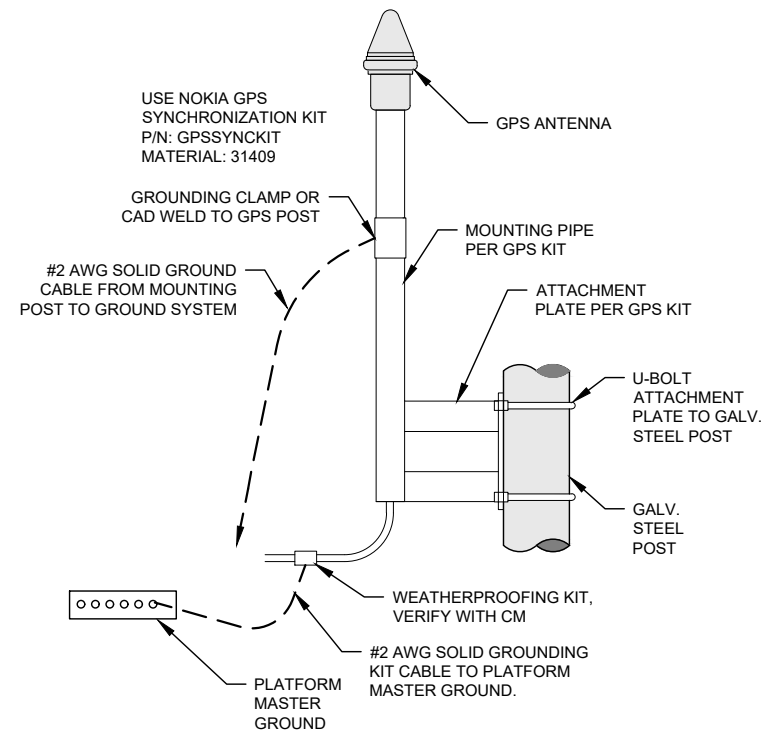
SECTOR C



NOTE:
 NO OXIDATION COMPOUND TO BE USED FOR ALL GROUND BAR CONNECTIONS

● = MECHANICAL CONNECTION
 ■ = CAD WELD CONNECTION

SEE GPS ANTENNA DETAIL THIS SHEET



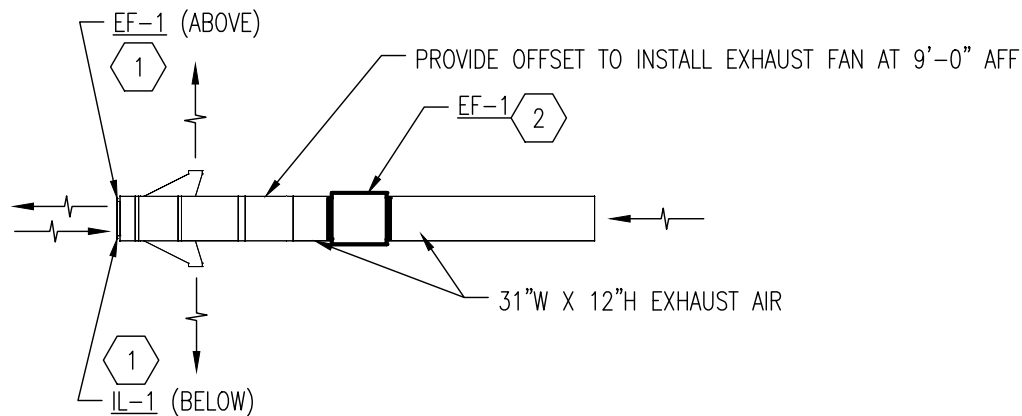
GPS ANTENNA DETAIL



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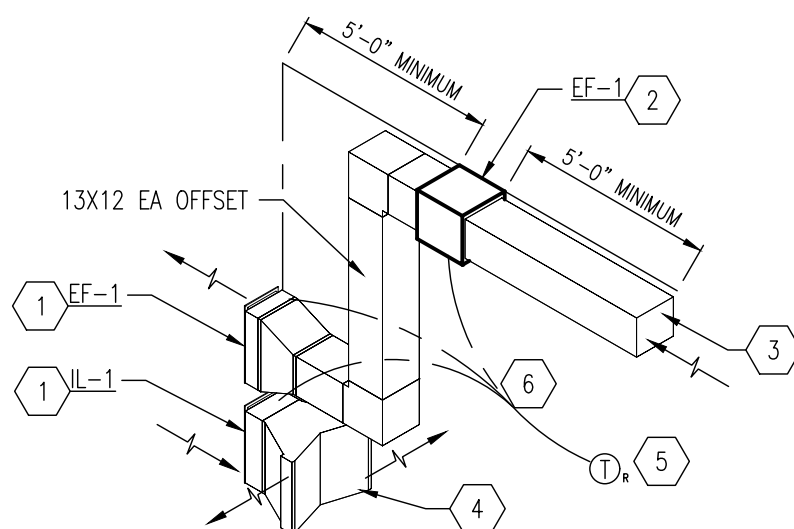
Sheet Title:
GROUNDING SCHEMATIC

Sheet Number:
E-3.2



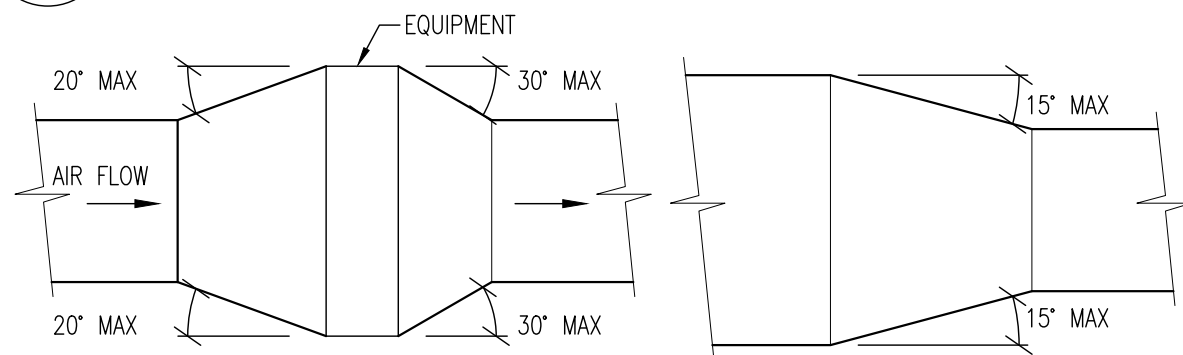
1 **FLOOR PLAN - HVAC**

M-1 SCALE: NOT TO SCALE



2 **ISOMETRIC DETAIL - HVAC**

M-1 SCALE: NOT TO SCALE



DUCT TRANSITION W/EQUIPMENT

DUCT TRANSITION

NOTES:

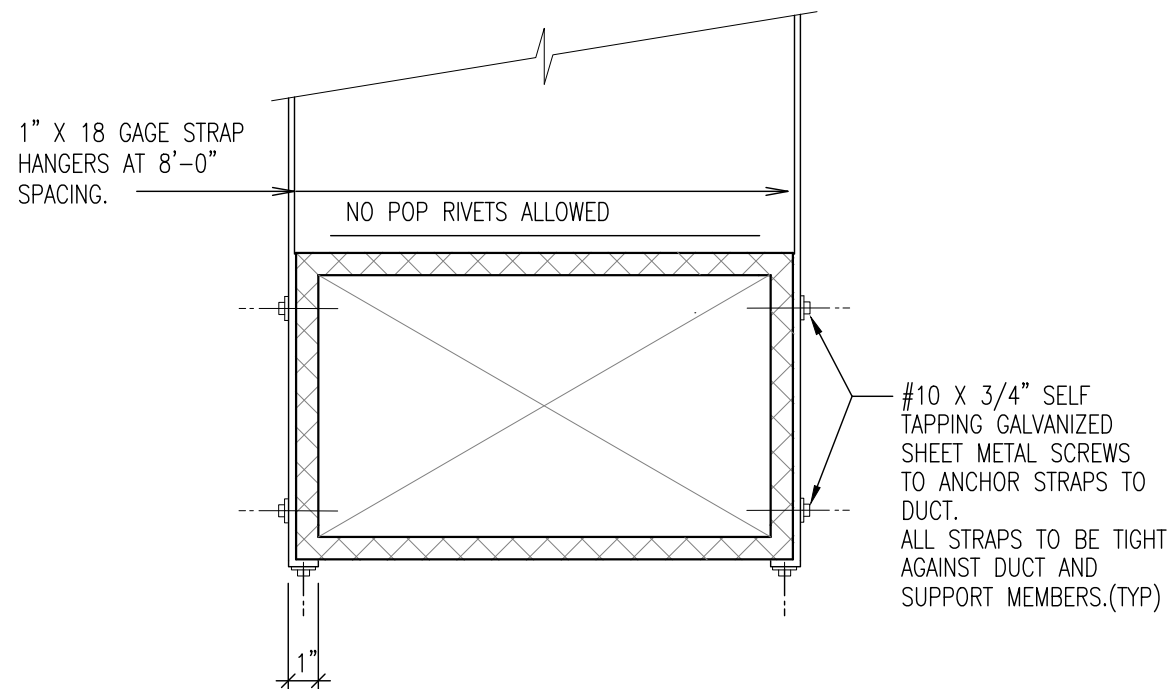
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

3 **TYPICAL DUCT TRANSITION DETAIL**

M-1 SCALE: NOT TO SCALE

HVAC KEY NOTES

1. PROVIDE INTAKE OR EXHAUST LOUVER WITH FACTORY OPTIONS/FINISH AS SCHEDULED.
2. PROVIDE EXHAUST FAN WITH FACTORY OPTIONS AS SCHEDULED. INSTALL AT 9'-0" ABOVE FINISH FLOOR.
3. EXTEND 13" WIDE X 12" HIGH EXHAUST DUCT 10'-0" INTO THE ROOM AND TERMINATE WITH GALVANIZED 16-GAUGE 1x1 WIRE MESH GRILLE ON END.
4. PROVIDE A FIELD FABRICATED FITTING TO TRANSITION FROM THE INTAKE LOUVER TO TWO 22x4 OPENINGS TO DIRECT AIR INTO THE SPACE AT A 90° ANGLE.
5. PROVIDE A 120V REVERSE ACTING THERMOSTAT, INSTALL AT 4'-0" ABOVE FINISH FLOOR BETWEEN THE TWO DOORS.
6. INTERLOCK THE EXHAUST FAN WITH THE NORMALLY CLOSED INTAKE AND NORMALLY CLOSED EXHAUST LOUVER TO OPEN WHEN THE EXHAUST FAN IS ON.



4 **TYPICAL DUCT STRAP HANGER DETAIL**

M-1 SCALE: NOT TO SCALE

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Sheet Title:
HVAC DETAILS

Sheet Number:
M-1

SECTION 23 0000 - HVAC

THE REQUIREMENTS OF THE "GENERAL CONDITIONS" AND "DIVISION 1" SECTIONS OF THE SPECIFICATIONS SHALL APPLY TO THIS SECTION OF THE SPECIFICATIONS.

PART 1 – GENERAL

1.01 SUMMARY

- A. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL HVAC SYSTEM AS SHOWN ON THE DRAWINGS INCLUDING EQUIPMENT, MATERIAL, LABOR, DUCTWORK, PIPING, DIFFUSERS, GRILLES AND REQUIRED ELECTRICAL. THE CONTRACTOR SHALL PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS TO THE OWNER FOR ALL EQUIPMENT. ALL COMPRESSORS SHALL BE PROVIDED WITH A FIVE (5) YEAR EXTENDED WRITTEN WARRANTY ON PARTS AND, WHERE APPLICABLE, ALL GAS FIRED HEAT EXCHANGERS SHALL BE PROVIDED WITH AN EXTENDED TEN (10) YEAR PARTS WARRANTY. THE CONTRACTOR SHALL PROVIDE AN UNCONDITIONAL WARRANTY OF ONE YEAR FOR ALL OTHER ASSOCIATED EQUIPMENT AND DEVICES.
- B. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE LOCAL BUILDING, MECHANICAL, AND ENERGY CODES ASHRAE, SMACNA, AND ALL OTHER APPLICABLE STATE AND FEDERAL CODES.
- C. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THE EXECUTION OF THIS WORK.
- D. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL DISPLAY A UL LABEL WHERE APPLICABLE.
- E. ALL INTERIOR INSULATION MATERIALS, JACKETS, COVERINGS, SEALS AND MASTICS SHALL HAVE A FLAME SPREAD INDEX OF 25 OR LESS AND SMOKE DEVELOPED INDEX OF 50 OR LESS PER ASTM E84 (NFPA 255).

1.02 SUBMITTALS

- A. PRODUCT DATA: INCLUDE MANUFACTURER'S TECHNICAL DATA FOR EACH MODEL INDICATED, INCLUDING RATED CAPACITIES, DIMENSIONS, REQUIRED CLEARANCES, CHARACTERISTICS, FURNISHED SPECIALTIES, ACCESSORIES, AND OPERATION AND MAINTENANCE DATA.

1.03 QUALITY ASSURANCE

- A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.

PART 2 – PRODUCTS

2.01 DUCTWORK AND SPECIALTIES

- A. ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL OF GAUGES AND JOINT TYPES AS SPECIFIED IN THE SMACNA MANUAL FOR THE APPLICABLE SIZES. VOLUME DAMPERS SHALL BE MANUAL LOCKING, BLADE-TYPE, TWO GAUGES HEAVIER THAN DUCT. DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS FOR TWO-INCH STATIC PRESSURE. ALL DUCTWORK SHALL BE SEALED WITH MASTIC. ACCESS DOORS SHALL BE PROVIDED IN DUCTWORK AT FIRE DAMPERS OR OTHER CONTROL DEVICES AS REQUIRED FOR MAINTENANCE. DOUBLE-THICKNESS TURNING VANES SHALL BE PROVIDED AT ALL RECTANGULAR ELBOWS. FLEXIBLE CONNECTIONS TO AIR HANDLING UNITS SHALL BE PROVIDED.

2.02 INSULATION

- A. ALL DUCTWORK SHALL BE WRAPPED WITH INSULATION WITH A MINIMUM R VALUE OF R-3.5.

2.03 EXHAUST FAN

- A. EXHAUST FAN TO BE SUPPLIED AS INDICATED ON THE DRAWINGS.
- B. FAN SPEED CONTROLLER INSTALLATION LOCATION SHALL BE COORDINATED WITH ELECTRICAL CONTRACTOR AND BE INSTALLED AT OR BY THE FAN FOR ADJUSTMENT BY BALANCE CONTRACTOR.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. INSTALL UNITS LEVEL AND PLUMB, MAINTAINING MANUFACTURER'S RECOMMENDED CLEARANCES. INSTALL ACCORDING TO ARI GUIDELINE B.
- B. ALL DUCTWORK AND EXHAUST FANS SHALL BE SUPPORTED PROPERLY FROM THE TOP CHORD OF ROOF JOISTS. NO DUCTWORK OR DEVICES SHALL BE ATTACHED DIRECTLY TO ROOF DECK.
- C. THE HVAC SYSTEM SHALL OPERATE WITHOUT OBJECTIONABLE VIBRATION, PULSATION, OR RATTLE. MOTORS SHALL BE MOUNTED ON RUBBER VIBRATION ISOLATORS OR THE COMPLETE UNIT SHALL BE ISOLATED FROM THE BUILDING WITH ISOLATION PADS. ALL DAMPERS, GRILLES, AND ACCESSORIES SHALL HAVE NO MOVEMENT UNDER OPERATING CONDITIONS AND SHALL OPERATE WITHOUT NOISE. ALL DUCTWORK INSTALLED EXTERNAL TO THE BUILDING SHALL BE COMPLETELY WEATHERPROOF AND INSULATED.

3.04 CONNECTIONS

- A. ELECTRICAL SYSTEM CONNECTIONS: COMPLY WITH APPLICABLE REQUIREMENTS IN DIVISION 16 SECTIONS FOR POWER WIRING, SWITCHES, AND MOTOR CONTROLS.
- B. GROUND EQUIPMENT ACCORDING TO DIVISION 16 SECTIONS "GROUNDING AND BONDING".
- C. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A AND UL 486B.

3.05 TESTING ADJUSTING AND BALANCING

- A. TEST, ADJUST, AND BALANCE THE EXHAUST AIR SYSTEMS.:
- B. MAKE ADJUSTMENTS AND RE-TEST SYSTEM TO ACHIEVE THE REQUIRED FLOW WITHIN 10% OF SPECIFIED FLOW FOR AIR SYSTEMS.
- C. WHEN DEFICIENCIES ARE IDENTIFIED, RE-TEST AND ADJUST FLOWS AFTER CORRECTIVE MEASURES ARE TAKEN.
- D. PERMANENTLY IDENTIFY POSITION OF SPEED CONTROLLER AND DAMPERS FOR FUTURE REFERENCE.

END OF SECTION 23 0000



28505 SCHOOLCRAFT RD, BLDG#6
LIVONIA, MICHIGAN 48150
Phone: 734.367.7200
Fax: 734.367.7242
CONTACT: KEN KALOUSEK
(734) 444-0181

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Sheet Title:
HVAC GENERAL NOTES

Sheet Number:
M-1.1

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Sheet Title: EXHAUST FAN & LOUVER SCHEDULE

Sheet Number: M-1.2

EXHAUST FAN SCHEDULE

TAG	BASIS OF DESIGN		FLOW RATE (CFM)	E.S.P.	FAN SPEED (RPM)	DRIVE TYPE	BLADE TYPE	WEIGHT (LBS)	SONES	ELECTRICAL DATA		DISCONNECT DATA		NOTES
	MANUFACTURER	MODEL								HP	VOLTAGE	M.T.C.	E.T.C.	
EF-1	GREENHECK	SQ-95-G	530	0.25	1,300	DIRECT	BACKWARDS INCLINED	49	6.4	1 / 15	115 / 1 / 60	√		①②③

- ① SUSPEND FROM STRUCTURE WITH UNISTRUT AND HANGING SPRING ISOLATORS
- ② PROVIDE WITH 120V REVERSE-ACTING THERMOSTAT, COORDINATE SET POINT WITH OWNER
- ③ INTERLOCK WITH LOUVERS, COORDINATE WITH LOUVER SCHEDULE AND FLOOR PLAN

LOUVER SCHEDULE

TAG	BASIS OF DESIGN		SERVICE	FLOW RATE (CFM)	LOUVER WIDTH	LOUVER HEIGHT	LOUVER DEPTH	FREE AREA (FT ²)	VELOCITY (FPM)	ELECTRIC ACUTATOR		DISCONNECT DATA		NOTES
	MANUFACTURER	MODEL								TYPE	VOLTAGE	M.T.C.	E.T.C.	
IL-1	GREENHECK	EAD-635	INTAKE LOUVER	530	13"	22"	6"	0.8	782	NORMALLY CLOSED	115 / 1 / 60	√		①②③
EL-1	GREENHECK	EAD-635	INTAKE LOUVER	530	13"	22"	6"	0.8	782	NORMALLY CLOSED	115 / 1 / 60	√		①②③

- ① PROVIDE WITH FACTORY GREENHECK 70% KYNAR 500 / HYLAR 5000 IN SIERRA TAN (COLOR CODE GF118)
- ② PROVIDE WITH FACTORY INSECT SCREEN
- ③ INTERLOCK TO OPEN WHEN THE EXHAUST FAN IS RUNNING

