



PROJECT: NEW SITE DESIGN
 SITE NAME: HARDY MIDDLE SCHOOL
 SITE NUMBER: 7WDC497A
 SITE ADDRESS: 1819 35TH ST NW
 WASHINGTON, DC 20007
 SITE TYPE: 51'-0" ROOFTOP

PLANS PREPARED FOR:

 15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:

PLANS PREPARED BY:

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ENGINEERING LICENSE:

**DRAFT
FOR REVIEW**

PROJECT:
**HARDY MIDDLE
SCHOOL**
 7WDC497A
 LOCATED AT:
 1819 35TH ST NW
 WASHINGTON, DC 20007

REVISIONS DATE

ISSUED FOR: REVIEW
 PROJECT MANAGER: JCM
 DRAWING BY: JYP
 DATE: 12/9/2022
 TITLE:

TITLE SHEET &
PROJECT DATA
 SHEET NUMBER: T-1
 JOB/FILE NUMBER: 1485.001

SITE INFORMATION

PROPERTY OWNER:
DISTRICT OF COLUMBIA

APPLICANT:
T-MOBILE NORTHEAST LLC
12050 BALTIMORE AVENUE
BELTSVILLE, MD 20705
PHONE: (240) 264-8600

LATITUDE (NAD83):
38.913800° N

LONGITUDE (NAD83):
-77.066900° W

JURISDICTION:
DISTRICT OF COLUMBIA

PARCEL NUMBER:
1297 0853

ZONING DISTRICT:
R-20

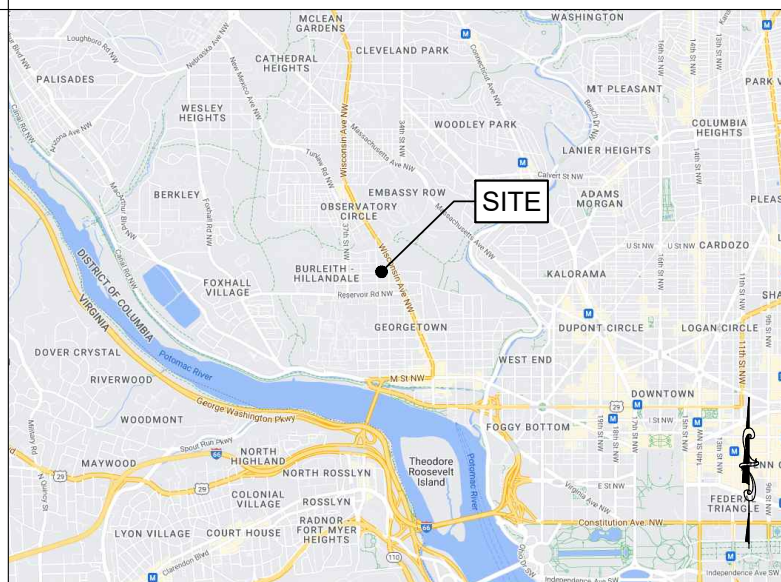
POWER COMPANY:
PEPCO
PHONE: (202) 833-7500

TELCO PROVIDER:
VERIZON
PHONE: (800) 837-4966

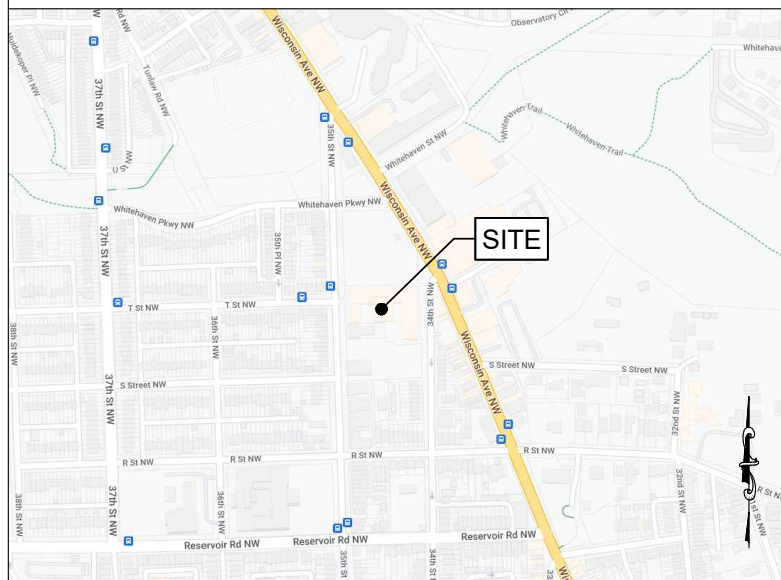
ENGINEER:
FORESITE GROUP, LLC
200 MASSACHUSETTS AVE NW
7TH FLOOR
WASHINGTON, DC 20001

CONTACT: JAMES MAROONEY, PE
PHONE: (202) 697-4808
FAX: (770) 368-1944

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

- INSTALL (3) ANTENNA SLED MOUNTS
- INSTALL (9) ANTENNAS
- INSTALL (6) HYBRID CABLES
- INSTALL (6) RRSUS
- INSTALL (1) STEEL EQUIPMENT PLATFORM
- INSTALL (1) 6160 CABINET
- INSTALL (1) B160 CABINET
- INSTALL (1) PPC/TELCO CABINET
- INSTALL (1) NATURAL GAS GENERATOR
- INSTALL 200A ELECTRICAL SERVICE FEED FROM MAIN BUILDING SERVICE

APPLICABLE CODES

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:

- 2015 INTERNATIONAL BUILDING CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- 2015 INTERNATIONAL ENERGY CONSERVATION CODE
- 2015 INTERNATIONAL FIRE CODE
- 2012 INTERNATIONAL GREEN CONSTRUCTION CODE
- 2014 NATIONAL ELECTRIC CODE (WITH LOCAL AMENDMENTS)
- ANSI/TIA/EIA-222-H
- NFPA 780 - LIGHTNING PROTECTION CODE

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1. DRAWING SCALES ARE FOR 11"X17" SHEETS UNLESS OTHERWISE NOTED.
2. EXACT ROUTING OF CABLES TO BE DETERMINED BY STRUCTURAL ANALYSIS (BY OTHERS IF REQUIRED).
3. NO WORK SHALL COMMENCE WITHOUT THE APPROVED STRUCTURAL ANALYSIS/MOUNT ANALYSIS REPORT (SIGNED AND SEALED) PREPARED BY OTHERS AND PROVIDED BY T-MOBILE UNDER SEPARATE COVER. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL REVIEW THE APPROVED STRUCTURAL ANALYSIS SUPPLIED BY T-MOBILE AND MODIFY, IF REQUIRED, ALL APPLICABLE MEMBERS AS INDICATED IN CERTIFIED STRUCTURAL REPORT PRIOR TO INSTALLATION OF ANTENNAS, CABLES, AND ALL STRUCTURE MOUNTED EQUIPMENT.
4. THE EXISTING ABOVE GROUND CONDITIONS REFLECTED ON THESE DRAWINGS ARE BASED ON GOOGLE AERIAL IMAGERY & SITE OBSERVATIONS BY FORESITE GROUP, LLC ON 07/22/2021.



Know what's below
Call before you dig

GENERAL NOTES:

- FOR THE PURPOSE OF THE CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
BUILDING OWNER – DISTRICT OF COLUMBIA
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER.
- CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, FIBER, AND GROUNDING CABLES AS SHOWN ON THE POWER & GROUNDING DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- CONTRACTOR SHALL HAVE A PRECONSTRUCTION MEETING WITH OWNER TO DISCUSS ALL ASPECTS OF THE CONSTRUCTION SCOPE OF THIS DRAWING TO ENSURE HE IS FAMILIAR AND UNDERSTANDS ALL REQUIREMENTS AND INTENT OF EACH ACTIVITY.
- THE GENERAL CONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS BEFORE STARTING WORK. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
- IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETE INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORMWORK, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL ORDINANCES, TO SAFELY EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.
- THE CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS, AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
- CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.

SITE WORK GENERAL NOTES:

- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATION OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF OWNER AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NOFILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE UNDER THE PROPOSED EQUIPMENT PAD SHALL BE COMPACTED TO 95% PROCTOR AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

STRUCTURAL STEEL NOTES:

- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE, SLUMP: 2" MIN./4" MAX. AIR ENTRAINMENT: 45 TO 6% BY VOLUME. MAXIMUM COARSE AGGREGATE SIZE SHALL BE 1".
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS 'B' AND ALL HOOKS SHALL BE STANDARD, UNLESS NOTED OTHERWISE.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

 CONCRETE CAST AGAINST EARTH.....3"
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 AND LARGER.....3"
 #5 AND SMALLER & WWF.....3"
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL.....1½"
 BEAMS AND COLUMNS.....1½"
- A CHAMFER OF 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE. IN ACCORDANCE WITH ACI 3010 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE DAMAGED WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE.
- WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
- ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94. MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE AT BETWEEN 50 DEGREES AND 90 DEGREES.
- DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOBSITE.
- FOUNDATION INSTALLER SHALL INSURE THAT ALL PROTRUDING THREADS ARE LEFT CLEAN AND FREE OF CONCRETE.
- FOUNDATION DESIGN IS BASED ON SOIL WITH 2000 PSF BEARING CAPACITY. IF EXISTING SOIL DOES NOT HAVE A MINIMUM 2000 PSF BEARING CAPACITY CONTRACTOR SHALL EXTEND PERIMETER BEAM TO REACH SOIL WITH MINIMUM 2000 PSF BEARING CAPACITY.

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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ENGINEERING LICENSE:

**DRAFT
FOR REVIEW**

PROJECT:

**HARDY MIDDLE
SCHOOL**

7WDC497A

LOCATED AT:
1819 35TH ST NW
WASHINGTON, DC 20007

REVISIONS _____ DATE _____

ISSUED FOR: _____ REVIEW

PROJECT MANAGER: _____ JCM

DRAWING BY: _____ JYP

DATE: _____ 12/9/2022

TITLE: _____

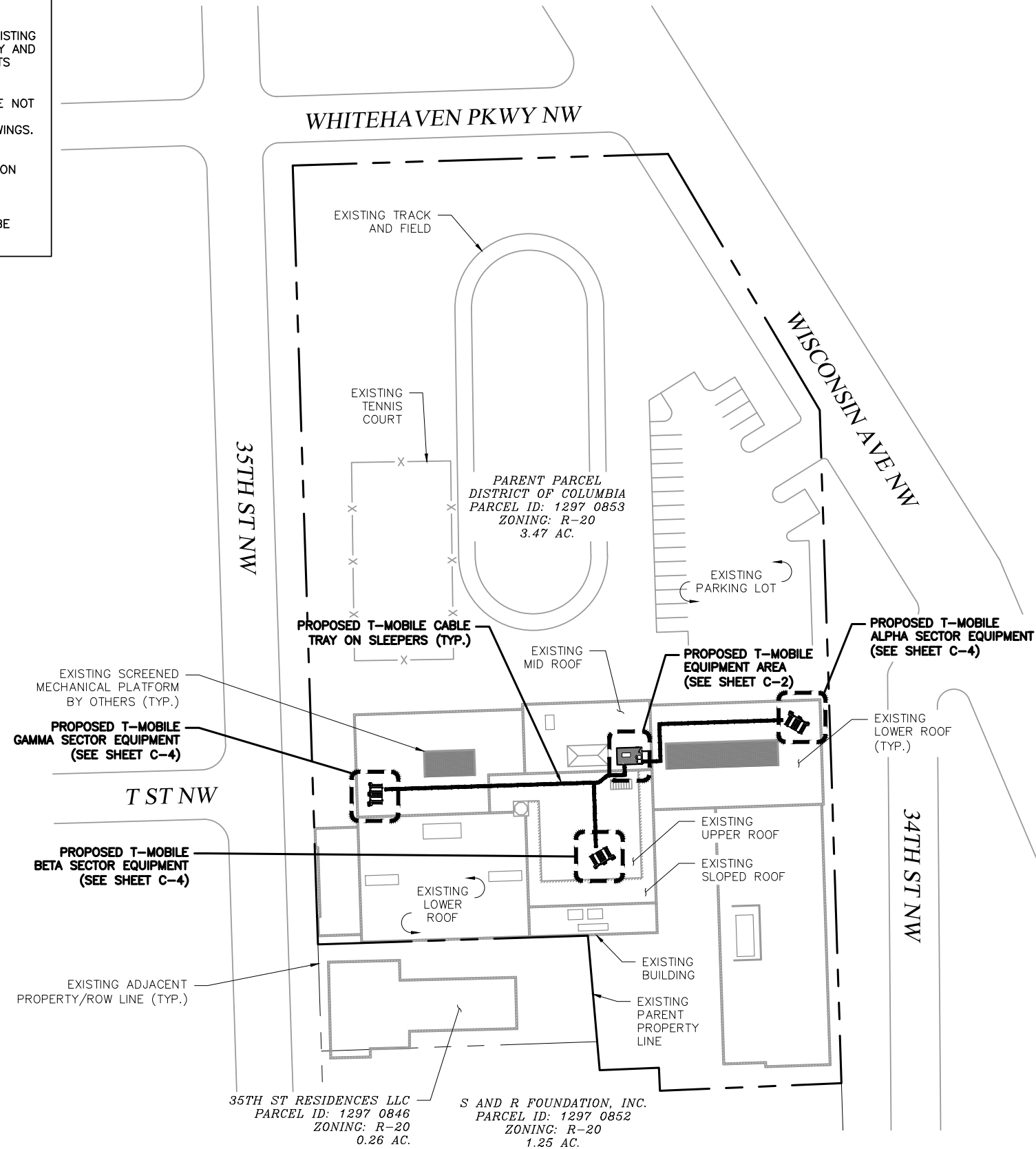
GENERAL NOTES

SHEET NUMBER: _____ T-2

JOB/FILE NUMBER: _____ 1485.001

NOTES:

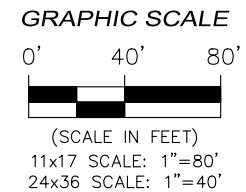
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2. THE EXISTING ABOVE GROUND CONDITIONS REFLECTED ON THESE DRAWINGS ARE BASED ON SITE OBSERVATIONS BY FORESITE GROUP ON 07/22/2021.
3. ALL EQUIPMENT LOCATED ON SITE MAY NOT BE SHOWN ON THESE DRAWINGS FOR CLARITY.



35TH ST RESIDENCES LLC
PARCEL ID: 1297 0846
ZONING: R-20
0.26 AC.

S AND R FOUNDATION, INC.
PARCEL ID: 1297 0852
ZONING: R-20
1.25 AC.

OVERALL SITE PLAN



PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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DRAWING BY: _____ JYP _____

DATE: _____ 12/9/2022 _____

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OVERALL SITE PLAN

SHEET NUMBER: _____ C-1 _____

JOB/FILE NUMBER: _____ 1485.001 _____

NOTES:

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PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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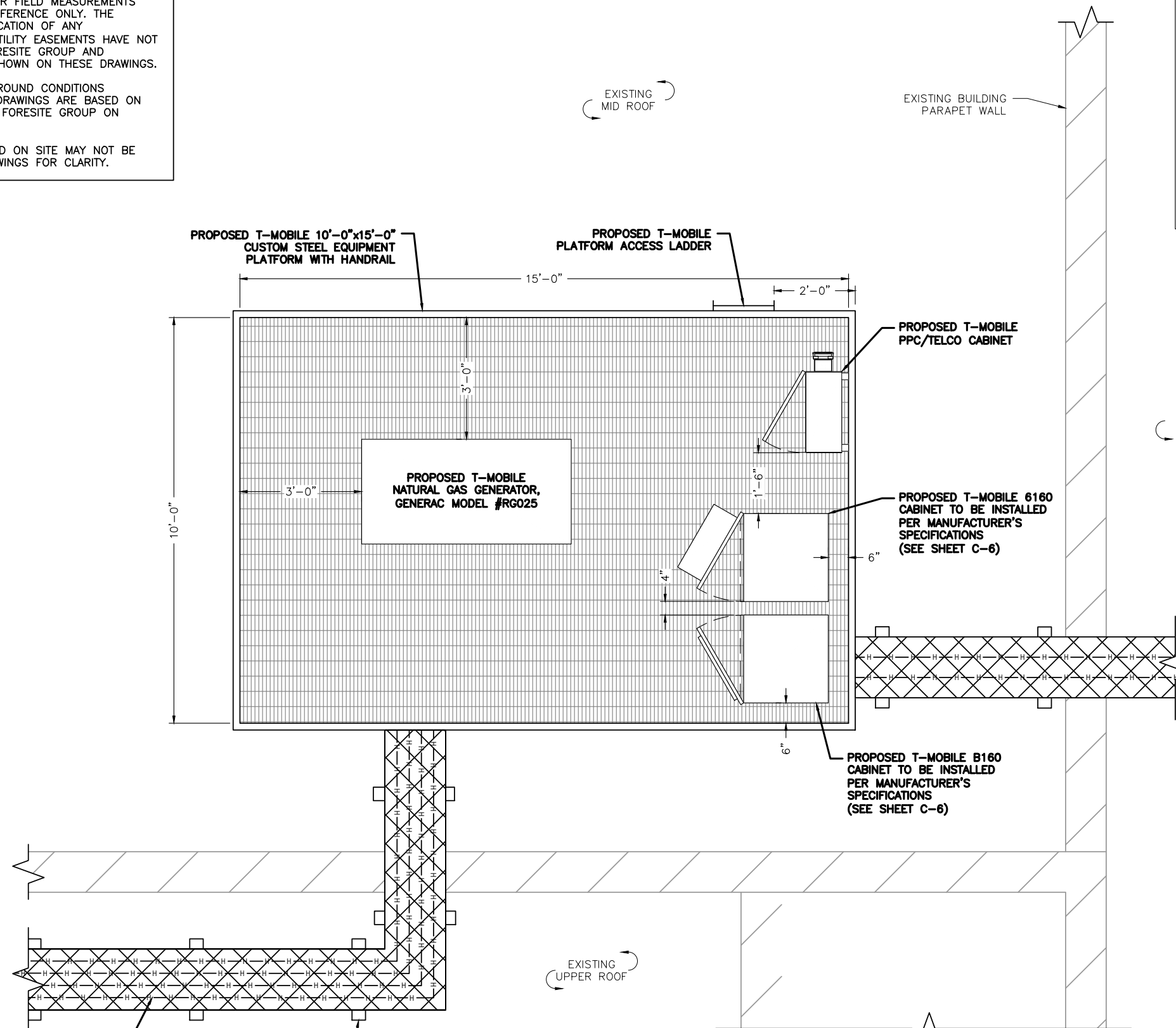
DATE: _____ 12/9/2022

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EQUIPMENT PLAN

SHEET NUMBER: _____ C-2

JOB/FILE NUMBER: _____ 1485.001



PROPOSED HYBRID CABLES TO BE ROUTED FROM PROPOSED 6160 CABINET TO T-MOBILE RAD CENTER ALONG PROPOSED CABLE TRAY (2 PER SECTOR, 6 TOTAL)

PROPOSED T-MOBILE CABLE TRAY ON SLEEPERS

EQUIPMENT PLAN

GRAPHIC SCALE



(SCALE IN FEET)

11x17 SCALE: 1"=3'

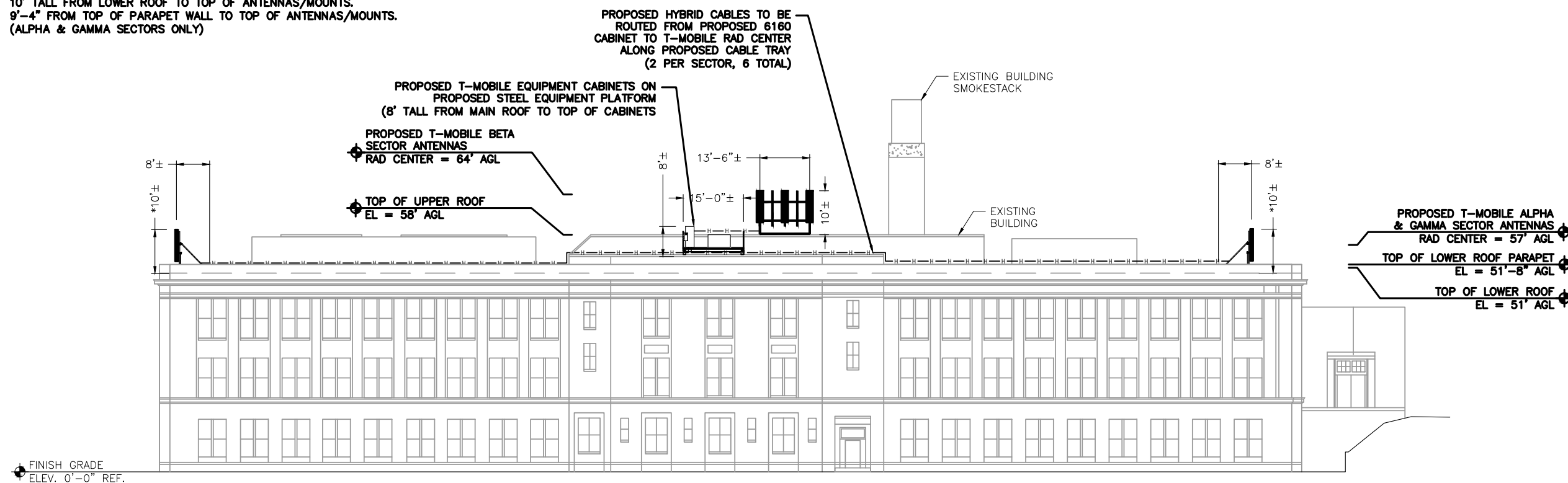
24x36 SCALE: 1"=1.5'



BUILDING NOTES:

1. THE EXISTING BUILDING, FOUNDATION, ANTENNA MOUNTS, AND ANTENNAS WERE DESIGNED BY OTHERS.
2. THE BUILDING ELEVATION SHOWN IS FOR REFERENCE ONLY.
3. ADDITIONAL EXISTING ANTENNAS AND MOUNTS NOT SHOWN FOR CLARITY.
4. BUILDING STRUCTURAL ANALYSIS SHALL BE COMPLETED BY OTHERS BEFORE ANY INSTALLATION OF EQUIPMENT OR ANY OTHER MODIFICATIONS TO THE BUILDING ARE COMPLETED. FORESITE GROUP ACCEPTS NO RESPONSIBILITY FOR THE STRUCTURAL CAPACITY OF THE BUILDING, ROOF, AND FOUNDATIONS. CONTRACTOR SHALL COORDINATE WITH AND COMPLY WITH THE PROVISIONS OF THE STRUCTURAL ANALYSIS PRIOR TO INSTALLATION OF EQUIPMENT ON BUILDING.
5. STRUCTURAL ANALYSIS OF EXISTING T-MOBILE ANTENNA MOUNTS COMPLETED BY OTHERS.
6. CONTRACTOR TO FIELD VERIFY ANTENNA MOUNT CONFIGURATION AND PROVIDE MOUNTS OR ADDITIONAL HARDWARE IF REQUIRED TO SUPPORT PROPOSED ANTENNAS. ALL ANTENNAS AND MOUNTING HARDWARE SHALL CONFORM TO DESIGN REQUIREMENTS PER BUILDING CODE AND STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
7. AZIMUTHS TAKEN FROM T-MOBILE RF SITE DESIGN DATA. BUILDING HEIGHTS AND ANTENNA HEIGHTS TAKEN FROM RECENT BUILDING SURVEY DATA. TURFING VENDOR WILL CONFIRM HEIGHT WITH T-MOBILE REGULATORY COMPLIANCE.
8. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND IDENTIFYING ANY EXISTING CONFLICTS (INCLUDING BUT NOT LIMITED TO EXISTING COAXIAL CABLES, SAFETY CLIMBS, ETC) AND DETERMINING TEMPORARY BRACING OR RELOCATION REQUIRED FOR INSTALLATION OF THE PROPOSED EQUIPMENT. THE CONTRACTOR SHALL RESTORE ALL RELOCATED ITEMS TO PREVIOUS CONDITIONS.
9. CENTERLINE OF THE ANTENNAS TO BE WITHIN THE 6" (VERTICALLY) OF THE CENTERLINE OF EACH SECTOR MOUNT, UNLESS SPECIFIED BY ENGINEER.

***PROPOSED SLED MOUNT WITH ANTENNAS CONFIGURATION IS 10' TALL FROM LOWER ROOF TO TOP OF ANTENNAS/MOUNTS. 9'-4" FROM TOP OF PARAPET WALL TO TOP OF ANTENNAS/MOUNTS. (ALPHA & GAMMA SECTORS ONLY)**



BUILDING ELEVATION (NORTH)
NOT TO SCALE

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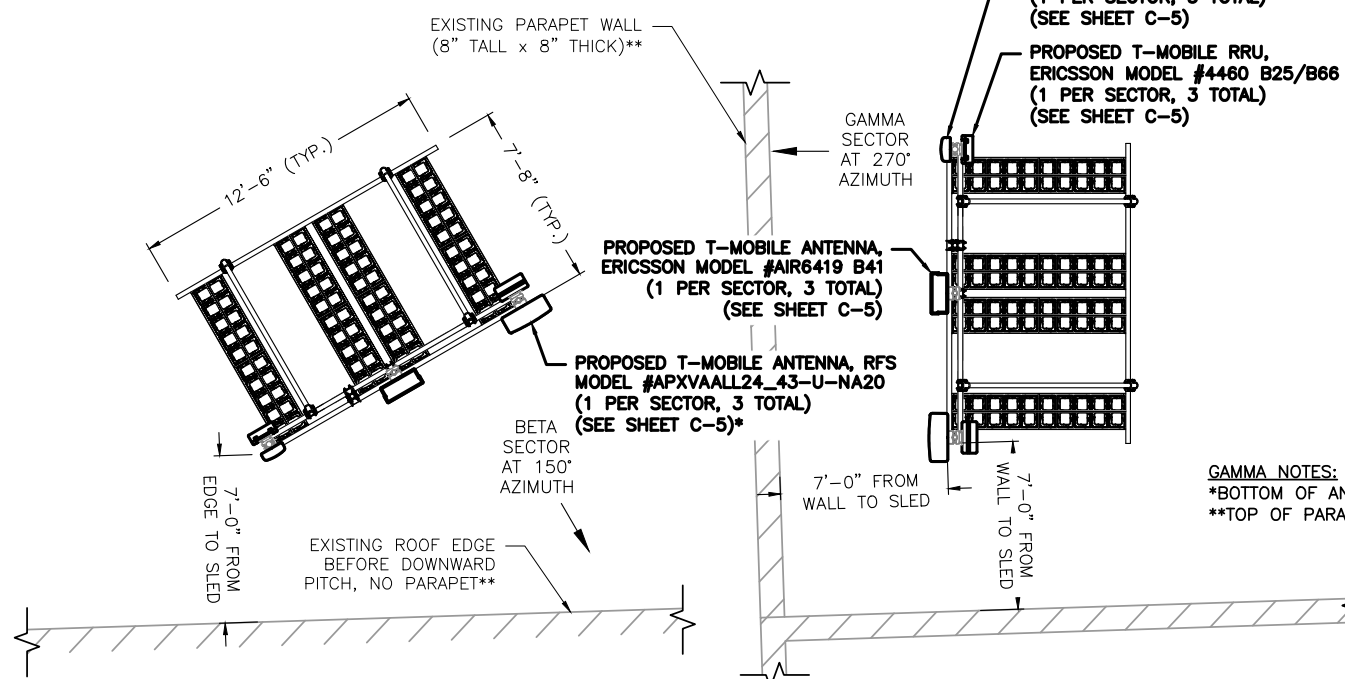
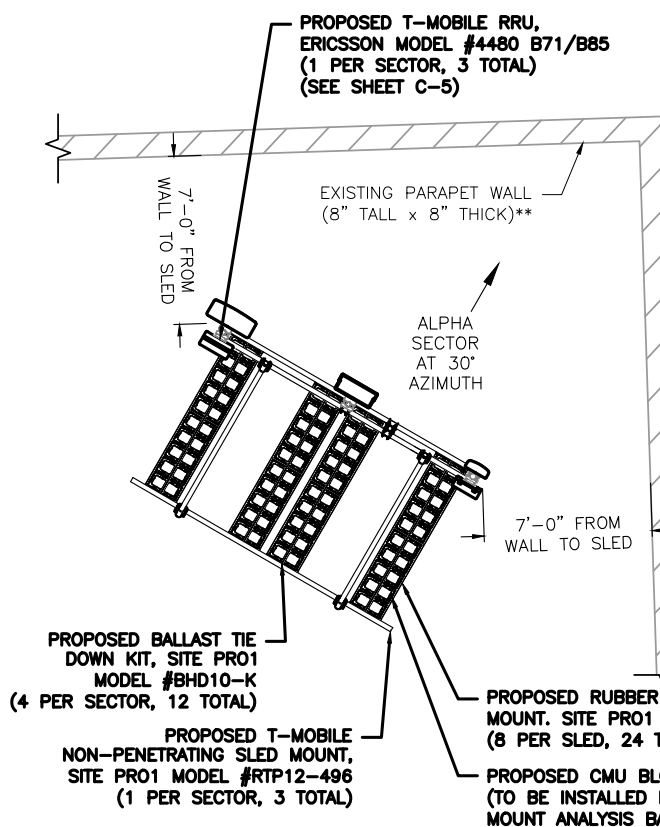
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BUILDING ELEVATION
SHEET NUMBER: C-3
JOB/FILE NUMBER: 1485.001

ALPHA NOTES:
 *BOTTOM OF ANTENNAS - 53'± AGL
 **TOP OF PARAPET WALL - 51'-8"± AGL

BETA NOTES:
 *BOTTOM OF ANTENNAS - 60'± AGL
 **TOP OF UPPER ROOF - 58'± AGL



PROPOSED ANTENNA ORIENTATION
 NOT TO SCALE

GAMMA NOTES:
 *BOTTOM OF ANTENNAS - 53'± AGL
 **TOP OF PARAPET WALL - 51'-8"± AGL

SECTOR	POSITION	ANTENNA AZIMUTH	RAD CENTER	ANTENNA MAKE/MODEL	ANTENNA QUANTITY	ELEC. TILT	MECH. TILT	TMA/RRU MAKE/MODEL	RRU QUANTITY	COAX/CABLE	COAX/CABLE QUANTITY
ALPHA	A1	30°	57'	RFS APXVAALL24_43-U-NA20	1	6°	--	ERICSSON RRUS 4480 B71/B85	1	6/24 HYBRID (180 FT)	1
	A2		57'	ERICSSON AIR6419 B41	1	3°	--	--	--	--	--
	A3		57'	COMMSCOPE VV-65A-R1	1	4°	--	ERICSSON RRUS 4460 B25/B66	1	6/24 HYBRID (180 FT)	1
BETA	B1	150°	64'	RFS APXVAALL24_43-U-NA20	1	6°	--	ERICSSON RRUS 4480 B71/B85	1	6/24 HYBRID (180 FT)	1
	B2		64'	ERICSSON AIR6419 B41	1	3°	--	--	--	--	--
	B3		64'	COMMSCOPE VV-65A-R1	1	4°	--	ERICSSON RRUS 4460 B25/B66	1	6/24 HYBRID (180 FT)	1
GAMMA	G1	270°	57'	RFS APXVAALL24_43-U-NA20	1	6°	--	ERICSSON RRUS 4480 B71/B85	1	6/24 HYBRID (180 FT)	1
	G2		57'	ERICSSON AIR6419 B41	1	3°	--	--	--	--	--
	G3		57'	COMMSCOPE VV-65A-R1	1	4°	--	ERICSSON RRUS 4460 B25/B66	1	6/24 HYBRID (180 FT)	1
TOTAL					9				6		6

EQUIPMENT SCHEDULE
 NOT TO SCALE

EQUIPMENT SCHEDULES ARE BASED ON RFDS: 7WDC497A_COVERAGE STRATEGY_1_DRAFT_2021-09-02
 DATED: 09/02/2021

*PRIOR TO CONSTRUCTION, CONTRACTOR TO VERIFY THE CURRENT T-MOBILE RFDS MATCHES THE RFDS REFERENCED IN THESE PLANS. IF NECESSARY, CONTRACTOR TO REFERENCE THE MOST CURRENT T-MOBILE RFDS FOR EQUIPMENT SPECS, CABLE QUANTITY/SIZE, ETC., AND NOTIFY ENGINEER OF ANY DEVIATIONS.

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



DRAWING NOTICE:

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ENGINEERING LICENSE:

DRAFT FOR REVIEW

PROJECT:

HARDY MIDDLE SCHOOL

7WDC497A

LOCATED AT:
 1819 35TH ST NW
 WASHINGTON, DC 20007

REVISIONS DATE

ISSUED FOR: REVIEW

PROJECT MANAGER: JCM

DRAWING BY: JYP

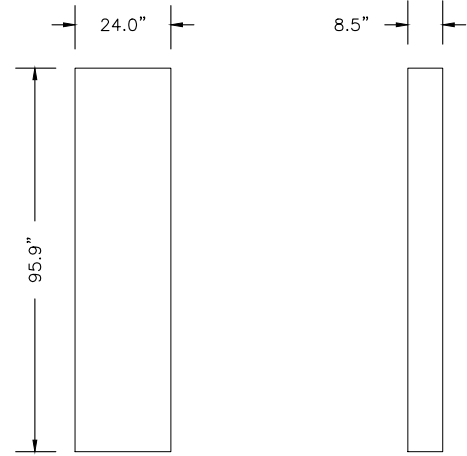
DATE: 12/9/2022

TITLE:

ANTENNA ORIENTATION & EQUIPMENT SCHEDULE

SHEET NUMBER: C-4

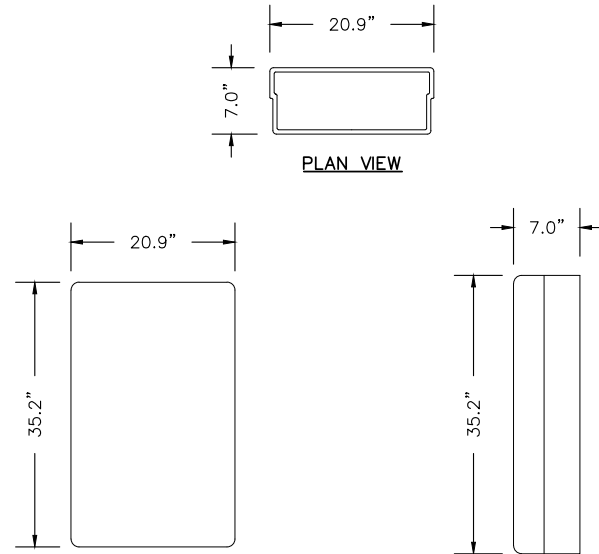
JOB/FILE NUMBER: 1485.001



FRONT VIEW **SIDE VIEW**

MANUFACTURER: RFS
 MODEL#: APXVAALL24_43-U-NA20
 DIMENSIONS (WxDxH): 24"x8.5"x95.9"
 WEIGHT (W/ MOUNTING HARDWARE): 149.9 LBS

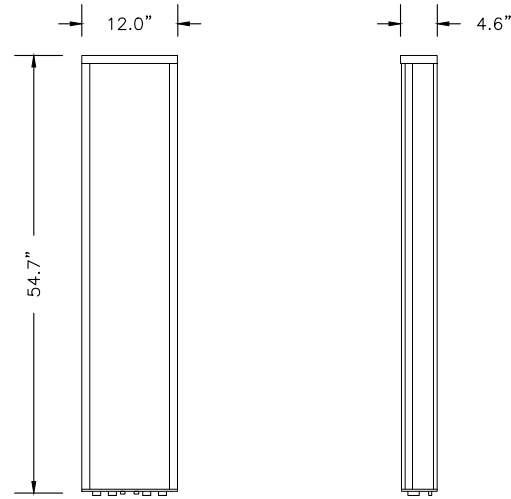
ANTENNA DETAIL
 NOT TO SCALE



FRONT VIEW **SIDE VIEW**

MANUFACTURER: ERICSSON
 MODEL#: AIR 6419 B41
 DIMENSIONS (WxDxH): 20.9"x7.0"x35.2"
 WEIGHT: 83 LBS

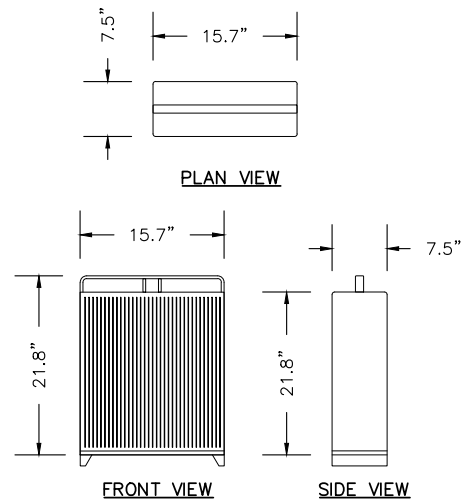
ANTENNA DETAIL
 NOT TO SCALE



FRONT VIEW **SIDE VIEW**

MANUFACTURER: COMMSCOPE
 MODEL#: VV-65A-R1
 DIMENSIONS (WxDxH): 12"x4.6"x54.7"
 WEIGHT: 24.7 LBS

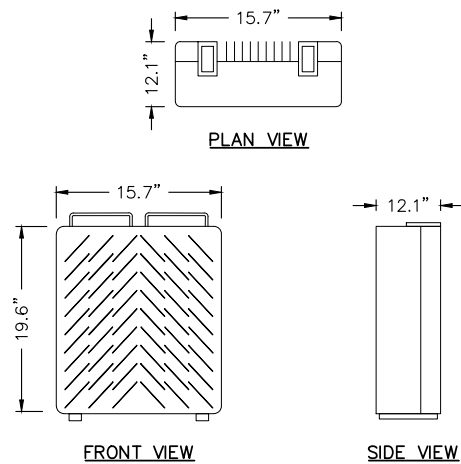
ANTENNA DETAIL
 NOT TO SCALE



FRONT VIEW **SIDE VIEW**

MANUFACTURER: ERICSSON
 MODEL#: 4480 B71/B85
 RRU WEIGHT: 84 LBS
 DIMENSIONS (WxDxH): 15.7"x7.5"x21.8"

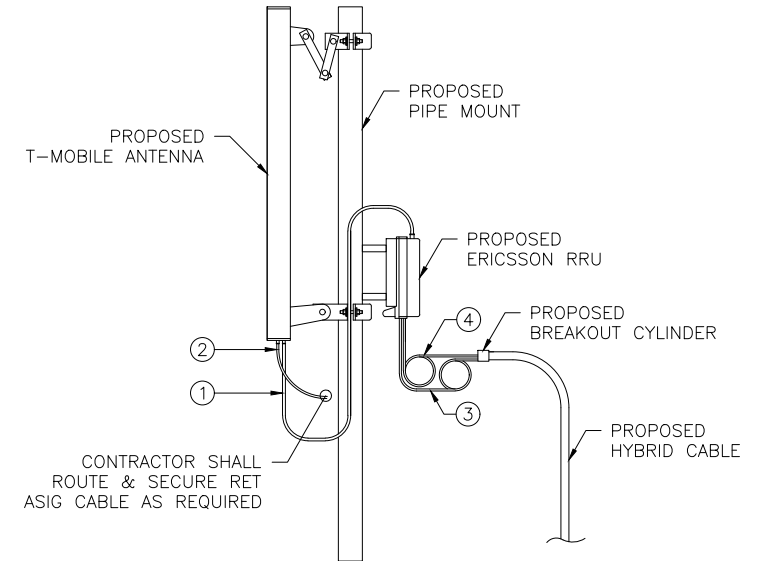
RRU DETAIL
 NOT TO SCALE



FRONT VIEW **SIDE VIEW**

MANUFACTURER: ERICSSON
 MODEL#: 4460 B25/B66
 DIMENSIONS (WxDxH): 15.7"x12.1"x19.6"
 WEIGHT: 109 LBS

RRU DETAIL
 NOT TO SCALE



ANTENNA MOUNTING DETAIL
 NOT TO SCALE

- LEGEND:**
- ① 1/2" RF JUMPERS
 - ② RET
 - ③ ETHERNET/FIBER CABLE
 - ④ DC POWER CABLE

PLANS PREPARED FOR:

15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:

PLANS PREPARED BY:

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PROJECT:

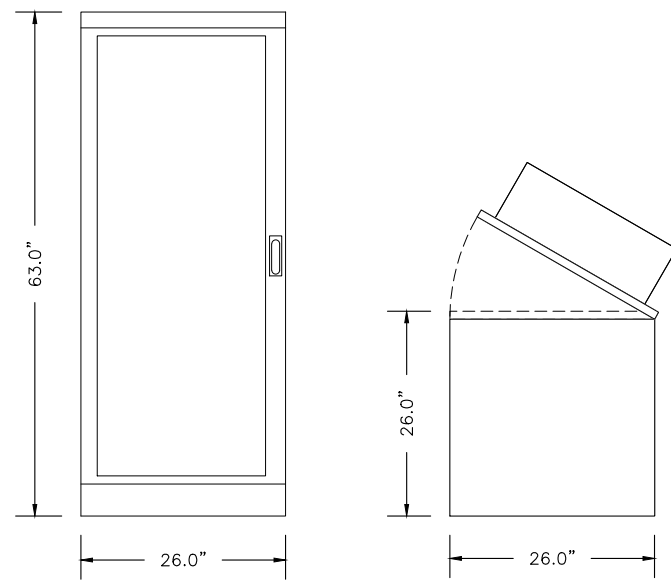
**HARDY MIDDLE
 SCHOOL**

7WDC497A

LOCATED AT:
 1819 35TH ST NW
 WASHINGTON, DC 20007

REVISIONS	DATE

ISSUED FOR:	REVIEW
PROJECT MANAGER:	JCM
DRAWING BY:	JYP
DATE:	12/9/2022
TITLE:	



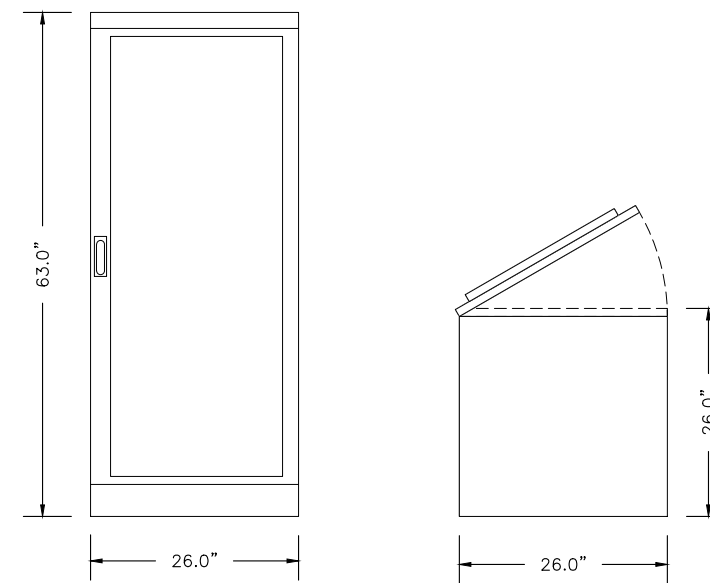
FRONT VIEW

PLAN VIEW

MANUFACTURER: ERICSSON
 MODEL#: 6160
 DIMENSIONS (HxWxD): 63.0"x26.0"x26.0"
 WEIGHT: 1500 lbs (MAX)

6160 CABINET DETAIL

NOT TO SCALE



FRONT VIEW

PLAN VIEW

MANUFACTURER: ERICSSON
 MODEL#: B160
 DIMENSIONS (WxDxH): 26.0"x26.0"x63.0"
 WEIGHT: 2000 lbs (MAX)

B160 CABINET DETAIL

NOT TO SCALE

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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ENGINEERING LICENSE:

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 FOR REVIEW**

PROJECT:

**HARDY MIDDLE
 SCHOOL**

7WDC497A

LOCATED AT:
 1819 35TH ST NW
 WASHINGTON, DC 20007

REVISIONS DATE

ISSUED FOR: REVIEW

PROJECT MANAGER: JCM

DRAWING BY: JYP

DATE: 12/9/2022

TITLE:

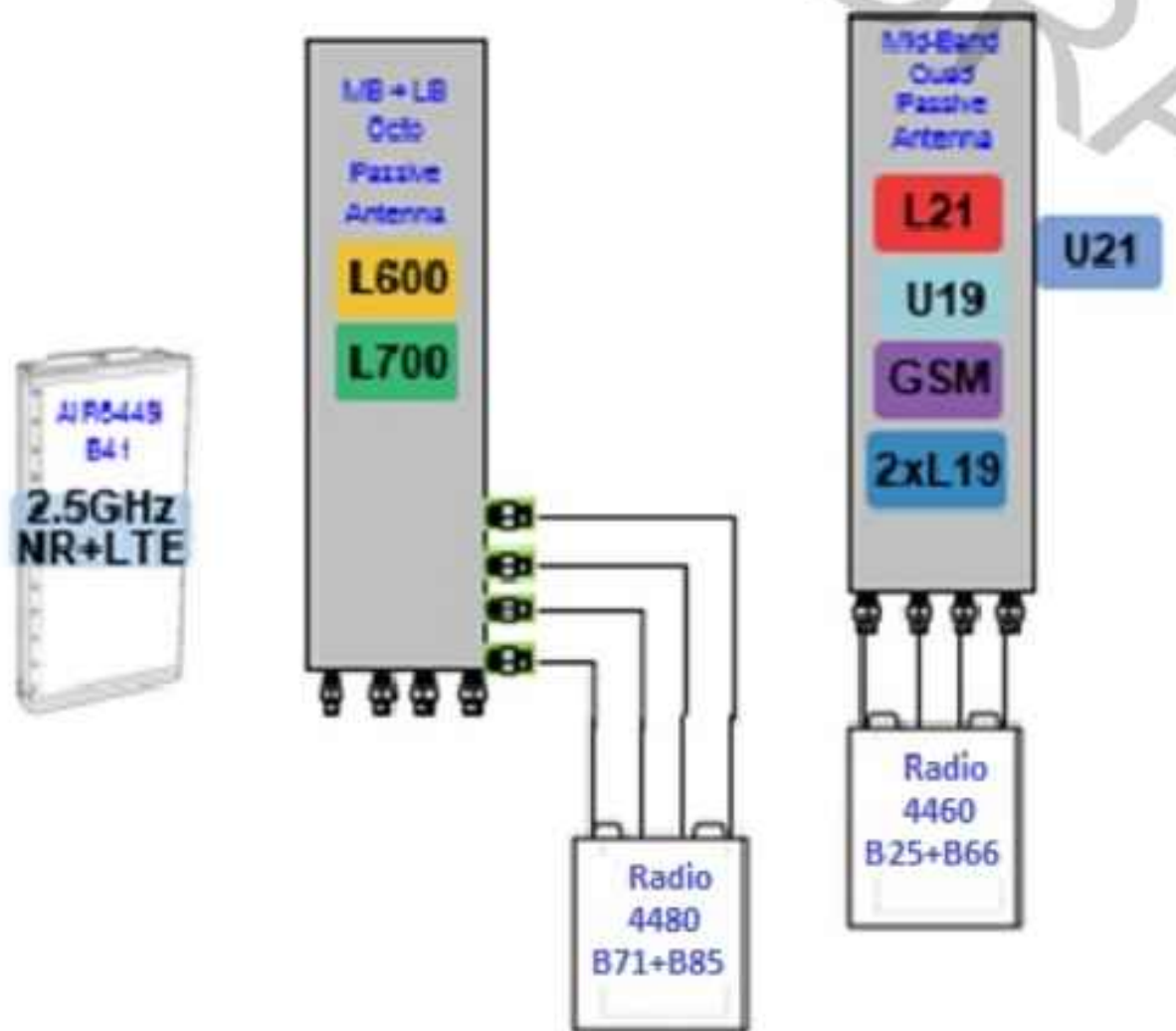
**EQUIPMENT &
 MOUNTING DETAILS**

SHEET NUMBER: C-6

JOB/FILE NUMBER: 1485.001

ANTENNA DIAGRAMS ARE BASED ON RFDS: 7WDC497A_COVERAGE STRATEGY_1_DRAFT_2021-09-02
 DATED: 09/02/2021
 * DIAGRAM TYPICAL FOR ALL SECTORS

67E 5A998E



ANTENNA PLUMBING DIAGRAM
 NOT TO SCALE

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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 FOR REVIEW**

PROJECT:

HARDY MIDDLE SCHOOL

7WDC497A

LOCATED AT:
 1819 35TH ST NW
 WASHINGTON, DC 20007

REVISIONS DATE

ISSUED FOR: REVIEW

PROJECT MANAGER: JCM

DRAWING BY: JYP

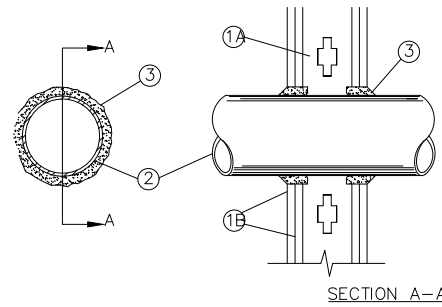
DATE: 12/9/2022

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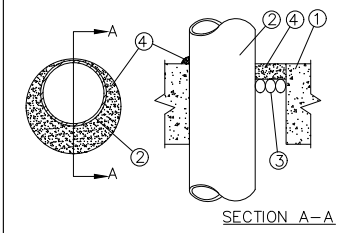
ANTENNA
 PLUMBING DIAGRAM

SHEET NUMBER: C-7

JOB/FILE NUMBER: 1485.001



System No. W-L-1001
 June 15, 2005
 F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3)
 T Ratings - 0, 1, 2, 3, and 4 Hr (See Item 3)
 L Rating At Ambient - less than 1 CFM/sq ft
 L Rating At 400 F - less than 1 CFM/sq ft



SYSTEM NO. C-AJ-1044
 JUNE 15, 2005
 F RATINGS - 2, 3, AND 4 HR (SEE ITEMS 2A AND 4)
 T RATING - 0 HR
 L RATING AT AMBIENT - 2 CFM/SQ FT
 L RATING AT 400 F - LESS THAN 1 CFM/SQ FT
 W RATING - CLASS I (SEE ITEM 4)

1. WALL ASSEMBLY – THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

- A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92 MM) WIDE BY 1-3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC.
- B. GYPSUM BOARD* – NOM 1/2 OR 5/8 IN. (13 OR 16 MM) THICK, 4 FT. (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN. (660 MM).
- 2. THROUGH PENETRANT – ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (0 MM) (POINT CONTACT) TO MAX 2 IN. (51 MM). PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
 - A. STEEL PIPE – NOM 24 IN. (610 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
 - B. IRON PIPE – NOM 24 IN. (610 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
 - C. CONDUIT – NOM 6 IN. (152 MM) DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING
 - D. COPPER TUBING – NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING
 - E. COPPER PIPE – NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
 - F. THROUGH PENETRATING PRODUCT* – FLEXIBLE METAL PIPING – THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

- 1. NOM 2 IN. (51 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

OMEGA FLEX INC

- 2. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

TITFLEX CORP
 A BUNDY CO

- 3. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

WARD MFG INC

3. FILL,VOID OR CAVITY MATERIAL* – CAULK OR SEALANT – MIN 5/8, 1-1/4,1-7/8 AND 2-1/2 IN. (16, 32, 48 AND 64 MM) THICKNESS OF CAULK FOR 1, 2, 3 AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL.
 THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE.
 THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

+WHEN COPPER PIPE IS USED, T RATING IS 0 HR.

3M COMPANY – CP 25WB+ CAULK OR FB-3000 WT SEALANT,

*BEARING THE UL CLASSIFICATION MARKING

CONDUIT PENETRATIONS THROUGH GYPSUM ASSEMBLY (UL #W-L-1001)

1. FLOOR OR WALL ASSEMBLY – LIGHTWEIGHT OR NORMAL WEIGHT (100–150 PCF OR 1600–2400 KG/M3) CONCRETE. EXCEPT AS NOTED IN TABLE UNDER ITEM 4, MIN THICKNESS OF SOLID CONCRETE FLOOR OR WALL ASSEMBLY IS 4-1/2 IN. (114 MM). FLOOR MAY ALSO BE CONSTRUCTED OF ANY MIN 6 IN. (152 MM) THICK UL CLASSIFIED HOLLOW CORE PRECAST CONCRETE UNITS*. WHEN FLOOR IS CONSTRUCTED OF HOLLOW CORE PRECAST CONCRETE UNITS, PACKING MATERIAL (ITEM 3) AND CAULK FILL MATERIAL (ITEM 4) TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF FLOOR, FLUSH WITH FLOOR SURFACE. WALL ASSEMBLY MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS IN SOLID LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE. FLOOR IS 32 IN. (813 MM). MAX DIAM OF OPENING IN FLOOR CONSTRUCTED OF HOLLOW-CORE PRECAST CONCRETE UNITS IS 7 IN. (178 MM).

SEE CONCRETE BLOCKS (CAZT) AND PRECAST CONCRETE UNITS (CFTV) CATEGORIES IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE (OPTIONAL, NOT SHOWN) – MAX 15 IN. (381 MM) ID (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. (51 MM) ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. MAX 16 IN. (406 MM) ID (OR SMALLER) MIN 0.028 (0.71 MM) WALL THICKNESS (OR HEAVIER) GALVANIZED STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 1/2 IN. (13 MM) BEYOND EITHER SURFACE OF FLOOR OR WALL.

2. THROUGH PENETRANTS – ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. MAX ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND EDGE OF THROUGH OPENING OR SLEEVE IS DEPENDENT ON THE PARAMETERS SHOWN IN ITEM 4. MIN ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF THROUGH OPENING IS 0 IN. (0 MM) (POINT CONTACT). PIPE CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

- A. STEEL PIPE – NOM 30 IN. (762 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- B. IRON PIPE – NOM 30 IN. (762 MM) DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
- C. CONDUIT – NOM 6 IN. (152 MM) DIAM (OR SMALLER) RIGID STEEL CONDUIT.
- D. CONDUIT – NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
- E. COPPER – TUBING NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE.
- F. COPPER PIPE – NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. PACKING MATERIAL – POLYETHYLENE BACKER ROD OR NOM 1 IN. (25 MM) THICKNESS OF TIGHTLY-PACKED MINERAL WOOL BATT OR GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM 4).

4. FILL,VOID OR CAVITY MATERIAL* – CAULK OR SEALANT – APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED CAULK THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL, FLUSH WITH WALL SURFACE. AT POINT CONTACT LOCATION BETWEEN PENETRANT AND SLEEVE OR BETWEEN PENETRANT AND CONCRETE, A MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK SHALL BE APPLIED AT TOP SURFACE OF FLOOR AND AT BOTH SURFACES OF WALL. THE HOURLY F RATINGS AND THE MIN REQUIRED CAULK THICKNESSES ARE DEPENDENT UPON A NUMBER OF PARAMETERS, AS SHOWN IN THE FOLLOWING TABLE:

- (A)MIN 2 IN. (51 MM) THICKNESS OF MINERAL WOOL BATT INSULATION REQUIRED IN ANNULAR SPACE.
- (B)MIN 1 IN. (25 MM) THICKNESS OF MINERAL WOOL BATT INSULATION REQUIRED IN ANNULAR SPACE ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. MIN 1 IN. (25 MM) THICKNESS OF CAULK TO BE INSTALLED FLUSH WITH EACH SURFACE OF FLOOR OR WALL ASSEMBLY.

3M COMPANY – CP 25WB+ CAULK OR FB-3000 WT SEALANT. (NOTE: W RATING APPLIES ONLY WHEN FB-3000 WT SEALANT IS USED.)

*BEARING THE UL CLASSIFICATION MARKING

CONDUIT PENETRATIONS THROUGH CONCRETE ASSEMBLY (UL #C-AJ-1044)

PLANS PREPARED FOR:

 15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:

PLANS PREPARED BY:

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ENGINEERING LICENSE:

DRAFT FOR REVIEW

PROJECT:
HARDY MIDDLE SCHOOL
7WDC497A
 LOCATED AT:
 1819 35TH ST NW
 WASHINGTON, DC 20007

REVISIONS	DATE

ISSUED FOR: REVIEW
 PROJECT MANAGER: JCM
 DRAWING BY: JYP
 DATE: 12/9/2022
 TITLE:

BUILDING PENETRATION DETAILS
SHEET NUMBER: C-8
JOB/FILE NUMBER: 1485.001

ELECTRICAL SPECIFICATIONS
SECTION 26000

PART 1 GENERAL

1.1 CODES AND REQUIREMENTS

- A. All electrical work shall comply with the requirements of the applicable edition of the National Electrical Code, Local Building Code and as specified herein whichever is more strict.
- B. The contractor shall comply with the requirements of the General Conditions, Supplemental General Conditions of the project specifications, all Contract Documents, and any base building specifications and building criteria included in this project.
- C. Visit the premises before submitting bid as no extras will be allowed for lack of knowledge of existing conditions.
- D. Drawings are diagrammatic in nature. Take all dimensions from Architectural drawings, certified equipment drawings, and from the structure itself before fabricating any work.
- E. The drawings indicate the location, type and sizes of various utilities within the site where known. Any relocation or remodeling required must be approved by the Architect before proceeding. Investigate all utilities such as electric and telephone and make arrangements with the proper authority to pay for any charges associated with connecting those utilities. Pay for all permits, fees, inspections etc.
- F. Good workmanship and appearance are considered equal to proper operation.
- G. Provide all core drilling, channeling, cutting, patching, trenching and backfill as required for installation of electrical equipment. Seal holes, fireproofing where necessary, and refinish all repair work to original condition where damaged by electrical work.
- H. Make provisions for safe delivery and secure storage of all materials.

1.2 WARRANTY

The electrical contractor shall provide for the owner a one-year (from the date of final acceptance) warranty of all electrical equipment and systems provided under this contract except for incandescent or fluorescent lamps. All defective equipment or materials which appear during the warranty period shall be replaced or repaired by the electrical contractor in a timely fashion.

PART 2 PRODUCTS

2.1 EQUIPMENT

- A. The contractor shall provide all equipment and accessories necessary whether specifically stated or not to make the required electrical systems complete and operational.
- B. All equipment provided shall be new except as otherwise stated on the drawings. All equipment provided shall be U.L. listed when such standards exist for the type of equipment furnished and acceptable for installation by the Local Building Authority.

2.2 CONDUCTORS

- A. Minimum size #12 AWG except for control circuits which may be #14 or signal circuits which shall be as indicated. All conductors shall be copper except where noted. Increase conductor size as necessary to limit branch circuit voltage drop to 3% and feeder voltage drop to 2%.
- B. Splices for #8 and smaller conductors - wire or wing nuts.
- C. Feeders and other wiring No. 4 AWG and larger, type THWN.
- D. Other wiring No. 6 and smaller, type THWN.
- E. Wiring in high temperature areas shall be rated 105° C and be a type accepted by local code.
- F. Color Coding: Wiring for control systems to be installed in conjunction with mechanical and miscellaneous equipment shall be color coded in accordance with the wiring diagrams furnished with the equipment. Branch circuit wiring, including circuits to motors, and all feeders shall be coded by line or phase as follows:

120/208 Volts	277/480 Volts
A = Black	A = Brown
B = Red	B = Orange
C = Blue	C = Yellow
Neutral = White	Neutral = Gray
Ground = Green	Ground = Green w/yellow stripes
Switch Travelers = Pink	Switch Travelers = Purple

2.3 OUTLETS

- A. 4" square or octagonal, zinc coated sheet steel boxes.
- B. Provide 3/8" no-bolt fixture studs.
- C. Provide covers set to come flush with finish walls.
- D. Utility or sectional switch boxes only where permitted.

2.4 DEVICES

- A. All device colors shall be selected by architect.
 - 1. Specification grade receptacles, equal to Hubbell 5262 series.
 - 2. A.C. quiet operating type switches equal to Hubbell 122* series, rated 20A, 277V.
- B. Device plates shall be nylon, color to match devices.
- C. Mount devices in accordance with the following schedule except where otherwise noted on the drawings:
 - 1. Convenience Receptacles - Long Axis Vertical 1'6" A.F.F.*
 - 2. Light Switches - Latch Side of Door 4'0" A.F.F.
 - 3. Telephone/Data Outlets 1'6" A.F.F.*

2.5 LIGHTING FIXTURES

- A. Provide all new lighting fixtures complete with lamps, drivers, reflectors, plaster frames, louvers, stem hangers, etc., and as described on the drawings.
- B. Exit lights shall conform with local code requirements.
- C. Mount all fixtures at position and height to clear ducts, etc.
- D. Mount all outlets at position and height to clear ducts, etc. minimum unpenetrated thickness shall be 0.035 inch.

2.6 BRANCH CIRCUIT PANELBOARDS AND SWITCHBOARDS

- A. Provide dead-front, circuit breaker type panels, with the size and number of branches indicated. Breakers shall be thermal magnetic type employing quick-make and quick-break mechanisms for manual operation as well as automatic operation. Automatic tripping shall be indicated by the breaker handle assuming a distinctive position from the manual "on" and "off". Multiple breakers shall have a common trip. The handles will not be permitted.
- B. Panelboards having branch circuit breaker sizes 15A to 100A shall be equal to:
 - 1. ABB/General Electric "AL" or "AQ" for 120/240V or 208/120V systems.
 - 2. ABB/General Electric "AE" for 480/277V systems.
- C. Panelboards having more than two (2) branch circuit breakers rated in excess of 100A shall be equal to ABB/General Electric "AD" or Spectra Series.
- D. All busses shall be copper.
- E. All spaces shall be fully equipped.
- F. Panelboards shall have a grounding lug for the equipment grounding system.
- G. Circuit breakers shall have a minimum interrupting capacity as follows:
 - 120/208 volts: 22,000 amperes.
 - In addition, upstream fuses shall be selected to provide a series rating of 100,000 amperes with downstream circuit breakers.
- H. Panelboards shall be a minimum twenty inches (20") wide (box).

2.7 SAFETY AND DISCONNECT SWITCHES

- A. Provide enclosed, fusible or non-fusible safety switches where indicated and herein specified. Safety switches shall bear the UL label and each enclosure shall be the NEMA type suitable for the surrounding area and conditions (Ex. Nema 1 - Indoor, Nema 3R - Outdoor). Switches shall be minimum heavy duty, horsepower rated, and shall have quick-make and quick-break mechanisms. Switches used on motor circuits shall have adequate horsepower ratings for the motors served.
 - 1. Safety switches employed as motor disconnect devices for two (2) or more loads shall be of the fusible type for rejection type fuses.
 - 2. Heavy duty industrial type safety switches shall be used for 480 volt application and shall be horsepower rated with quick-make, quick-break mechanisms and interlocked covers.
 - 3. Switches shall be as manufactured by ABB/General Electric, Eaton/Cutler-Hammer, Siemens or Square-D or as accepted, and all switches provided shall be by the same manufacturer.

2.8 FUSES

- A. Fuses shall be as manufactured by Bussmann unless noted otherwise on the drawings.
- B. Fuses for application at under 600 volts, and rated at 600 amps or less, shall be as follows:
 - 1. For all fuses in the main service, equipment, except for motor circuits, provide current limiting, 200,000 rms amperes symmetrical interrupting capacity, rejection type, Bussmann Limitron or as accepted.
 - 2. For all other fuses, provide rejection type with 200,000 rms amperes symmetrical interrupting capacity, Bussmann "Fusetron", or as accepted.
- C. Control Fuses shall be Bussmann one-time nonrenewable fuses.

2.9 DRY TYPE TRANSFORMERS (IF APPLICABLE)

- A. Transformers shall be as manufactured by ABB/General Electric, Eaton/Cutler-Hammer, Hevi Duty, Siemens, Square-D or equal.
- B. Dry Type Transformers: ANSI/NEMA ST 20; factory-assembled, air cooled dry type transformers; ratings as shown on the Drawings.
- C. Insulation system and average winding temperature rise for rated KVA as follows:

Rating	Class	Rise (degree C)
1 - 15	185	115
16 - 500	220	115
- D. Case temperature shall not exceed 35 degrees C rise above ambient at its warmest point.
- E. Winding Taps, Transformers Less than 15 KVA: Two 5% below rated voltage, full capacity taps on primary winding.
- F. Winding Taps, Transformers 15 KVA and Larger: ANSI/NEMA ST 20.
- G. Sound Level: ANSI/NEMA ST 20.
- H. Basic Impulse Level: 10 KV for transformers less than 300 KVA, 30 KV for transformers 300 KVA and larger.
 - 1. Ground core and coil assembly to enclosure by means of a visible flexible copper grounding strap.
- J. Mounting: Transformers 75 KVA and less shall be suitable for wall, floor or trapeze mounting; transformers larger than 75 KVA shall be suitable for floor or trapeze mounting.
- K. Coil Conductors: Continuous winding with terminations brazed or welded.
- L. Enclosure: ANSI/NEMA ST 20; Type 1 for indoor application, Type 3R for outdoor or wet location application. Provide lifting eyes or brackets.
- M. Isolate core and coil from enclosure using vibration-absorbing mounts.
- N. Nameplates: Include transformer connection data and overload capacity based on rated allowable temperature rise.

PART 3 EXECUTION

3.1 CONDUIT/RACEWAYS

- A. All conductors shall be enclosed by conduit sized in accordance with Chapter 9 of the National Electrical Code. Minimum 1/2" except for factory furnished lighting fixture flexible conduit may be 3/8". Follow the following schedule unless otherwise specified in the drawings. Exception: armored cable assemblies such as MC type cable may be used where allowed by NEC.
 - 1. Rigid metal conduit (RMC) and intermediate metal conduit (IMC) shall be utilized for above and below grade applications in accordance with articles 344 AND 342 of the National Electrical Code. All couplings shall be threaded.
 - 2. Rigid nonmetallic conduit (PVC) Schedule 40 shall be permitted for below grade or concrete cast in place applications above grade. All elbow transitions to above grade or stub-out of floor slab shall be asphalt coated rigid conduit. Provide equipment grounding conductor for all runs of rigid nonmetallic conduit.
 - 3. Electrical metallic tubing (EMT) shall be utilized for all dry, above grade or above floor applications in accordance with article 358 of the National Electrical Code. Couplings shall be steel, set screw type or compression type, with screws set to maximum depth or nut made up wrench-tight respectively.
 - 4. Flexible metal conduit shall be utilized for all connections to vibrating equipment such as motors (minimum of 2'-0" - maximum of 6'-0"), connection to lay-in type light fixtures or in remodel areas specifically noted for "fishing" in existing walls or non-accessible ceilings.
 - 5. Surface metallic raceways shall be used only in areas specifically noted and of size and type specified on the drawings.
- B. All exposed conduit (including conduit installed in ceiling plenums) shall be routed parallel or perpendicular with the building walls. Support conduit and cables as required by the National Electrical Code.
- C. Provide expansion type fittings for all conduits which cross expansion joints.

3.2 GROUNDING

- A. Service equipment, conduit systems, supports, cabinets, equipment, transformers, fixtures, the grounded circuit conductor, etc. shall be properly grounded in accordance with the latest issue of the National Electrical Code. Provide all bonding jumpers, wire, grounding bushings, clamps, etc as required for complete grounding. Route ground conductors to provide the shortest and most direct path to the ground electrode system. Ground connections shall have clean contact surfaces, tinned and sweated white baling. Install all ground conductors in conduit. Make readily accessible connections to a continuous, metallic, underground cold water piping system at the point where it enters the building. If this is not practicable, connect to a cold water pipe and provide a meter jumper. Make connections to the water pipe that grounds the conduit enclosing the conductor as well as the conductor. Bond the service equipment to a separate grounding electrode per Code requirements. Provide intersystem bonding termination where required.

3.3 PANELBOARDS AND SWITCHBOARDS

- A. Install enclosure such that the highest breaker operating handle is no more than six-foot, seven-inches (6'-7") from the finished floor or grade.
- B. Field check all panelboard loading and reconnect circuits as required to provide balanced phase and line loads.
- C. Fill out circuit directory card. Note spare circuits in pencil.
- D. Install switchboards on concrete pads. Attach to pad with a minimum of four anchors.

3.4 MECHANICAL EQUIPMENT WIRING AND CONNECTIONS

- A. Mechanical equipment motors and controls furnished with mechanical equipment.
- B. Provide feeder circuits to mechanical equipment and make all connections.
- C. Provide safety switches and/or thermal overload switches as required.
- D. Provide all power (line voltage) wiring for mechanical equipment and make all connections except for temperature control equipment, which will be wired by mechanical contractor.
- E. Furnish, set in place, and wire, except as indicated, all heating, ventilating, air conditioning, plumbing, fire protection, motors and controls in accordance with the following schedule. Carefully coordinate with work performed under the Mechanical Division of these specifications.
- F. Heater units in all motor starters shall be sized for approximately one hundred fifteen percent (115%) of full load motor current. Check and coordinate all thermal protective devices with the equipment they protect.
 - 1. Provide for each motor, one-half (1/2) horsepower and below, a horsepower rated disconnect switch and thermal overload protection unless integrally provided with the motor. Thermal overload switches for single phase motors shall be Allen-Bradley Bulletin 600 or acceptable. Size heater units for approximately one hundred fifteen percent (115%) of full load motor current.
 - 2. Miscellaneous Equipment: Where outlets are indicated for miscellaneous equipment requiring electric power or control, provide wire, conduit, etc., and make all connections, unless otherwise indicated. Refer to the Mechanical Specifications and Plans covering sprinkler systems, motor interlocks, switching, etc. Provide wiring, conduit, outlets and provide final electrical connections to all equipment.

3.6 NOT USED.

3.7 TELEPHONE/DATA SYSTEM

- A. Provide conduits and outlets as indicated. Provide #14 AWG pull wire for all empty conduit.
- B. Outlets shall consist of 4" square box with plaster ring and cover plate with configurable knockouts for RJ11, RJ45, coax, etc. Plates shall match finish of other cover plates. Wiring and jacks shall be provided by others.

3.8 SPECIAL SYSTEMS

- Provide all special systems as specified on the drawings including all required accessories to make the system complete and operational. All special systems shall be installed and connected in accordance with the manufacturer's specifications. Provide instructional demonstration for the owner prior to final acceptance.

3.10 GFCI OUTLETS IN OTHER THAN DWELLING UNITS

- All single-phase receptacles rated 150V to ground or less, 50A or less and three-phase receptacles rated 150V to ground or less, 100A or less installed in areas listed in NEC Article 210.8(B) shall have GFCI protection for personnel.

3.11 ADJUSTABLE OVERCURRENT PROTECTIVE DEVICES

- Where new circuit breakers with field adjustable settings are supplied or significant changes are made to existing distribution equipment equipped with adjustable settings, a coordination study shall be conducted to determine the proper trip and delay values. The Contractor, equipment supplier or licensed third party may conduct the study. All data required for the study shall be provided to the study preparer by the Contractor and/or equipment supplier.

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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ENGINEERING LICENSE:

**DRAFT
FOR REVIEW**

PROJECT:

**HARDY MIDDLE
SCHOOL**

7WDC497A

LOCATED AT:
1819 35TH ST NW
WASHINGTON, DC 20007

REVISIONS DATE

ISSUED FOR: REVIEW

PROJECT MANAGER: JCM

DRAWING BY: JYP

DATE: 12/9/2022

TITLE:

**ELECTRICAL
SPECIFICATIONS**

SHEET NUMBER: E-1

JOB/FILE NUMBER: 1485.001

END OF SECTION

ELECTRICAL NOTES:

1. ALL EXISTING ELECTRICAL LOADING TO BE VERIFIED BY CONTRACTOR.
2. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES
3. ELECTRICAL GROUNDING SHALL COMPLY WITH ARTICLE 250 OF NATIONAL ELECTRICAL CODE. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS.
4. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
5. ALL WIRES SHALL BE AWG MIN #12 THHN COPPER UNLESS NOTED.
6. NOT USED.
7. LABEL ALL SERVICE EQUIPMENT IN ELECTRICAL ROOMS AND ON EXTERIOR WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT.
8. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
9. NOT USED.
10. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT BENDS DO NOT EXCEED 360° AND AT A MINIMUM OF EVERY 100 FEET.
11. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO T-MOBILE REPRESENTATIVE.
12. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
13. REDLINED AS-BUILTS ARE TO BE DELIVERED TO T-MOBILE REPRESENTATIVE.
14. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
15. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.
16. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY T-MOBILE REPRESENTATIVE.
17. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
18. PROJECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
19. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY.
20. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.
21. NOT USED.
22. NOT USED.
23. ALL WIRING MUST BE TYPE THHN/THWN RATED AT 90° C.

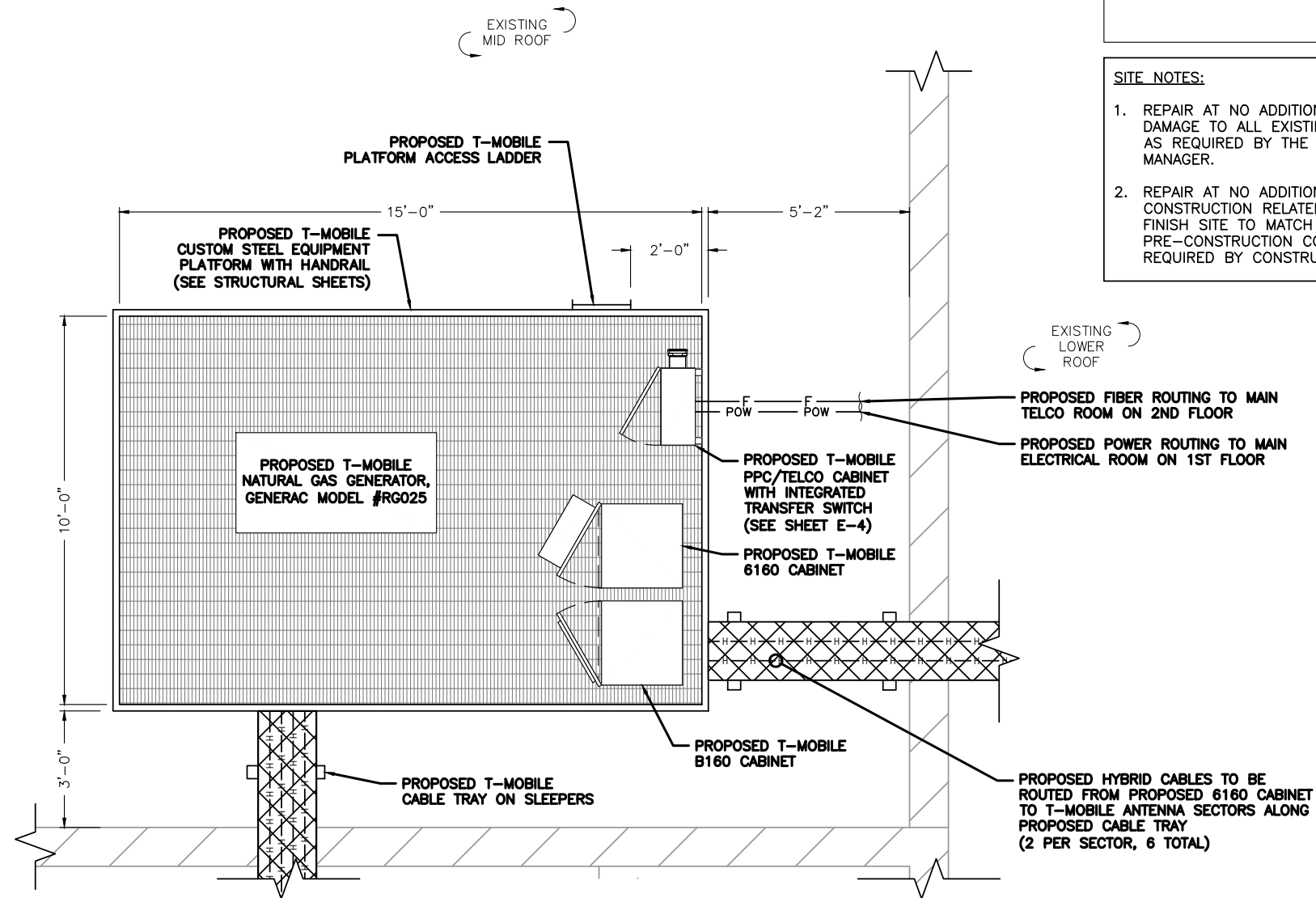
INTERIOR CONDUITS SHALL BE EMT AND EXTERIOR (ROOFTOP) CONDUITS SHALL BE RGS UNLESS NOTED OTHERWISE. USE RGS FOR ELBOWS AND RISERS.

LEGEND:

- (M) KILOWATT HOUR METER
- (CB) CIRCUIT BREAKER
- (E) ABOVE-GROUND POWER WIRING
- (T) ABOVE-GROUND TELCO WIRING
- (G) GROUND WIRE
- (F) PROPOSED FIBER COAX
- (EP) ELECTRICAL PANEL
- (T) TRANSFORMER

ABBREVIATIONS:

A	AMPERE
AF	AMPERE FRAME
AGB	ANTENNA GROUND BAR
C	CONDUIT
G	GROUND
JBWP	JUNCTION BOX WATER PROOF
KWH	KILOWATT HOUR
MGB	MASTER GROUND BAR
MCB	MAIN CIRCUIT BREAKER
PVC	POLYVINYL CHLORIDE
P	POLE
RMC	RIGID METAL CONDUIT
SN	SOLID NEUTRAL
V	VOLT
W	WIRE
Ø	PHASE



PROPOSED ELECTRICAL PLAN

SITE NOTES:

1. REPAIR AT NO ADDITIONAL EXPENSE DAMAGE TO ALL EXISTING SITE ELEMENTS AS REQUIRED BY THE CONSTRUCTION MANAGER.
2. REPAIR AT NO ADDITIONAL EXPENSE ANY CONSTRUCTION RELATED DAMAGE TO SITE. FINISH SITE TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS OR AS REQUIRED BY CONSTRUCTION MANAGER.

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:



PLANS PREPARED BY:



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PROJECT:
HARDY MIDDLE SCHOOL

7WDC497A

LOCATED AT:
1819 35TH ST NW
WASHINGTON, DC 20007

REVISIONS _____ DATE _____

ISSUED FOR: _____ REVIEW _____

PROJECT MANAGER: _____ JCM

DRAWING BY: _____ JYP

DATE: _____ 12/9/2022

TITLE: _____

GRAPHIC SCALE



(SCALE IN FEET)

11x17 SCALE: 1"=4'

24x36 SCALE: 1"=2'

ELECTRICAL PLAN

SHEET NUMBER: _____ E-2

JOB/FILE NUMBER: _____ 1485.001

**ELECTRICAL ONE-LINE
DIAGRAM TO BE COMPLETED
AFTER PRELIMINARY
DRAWINGS APPROVAL**

PLANS PREPARED FOR:



15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:



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LOCATED AT:
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DATE: _____ 12/9/2022 _____

TITLE: _____

**ELECTRICAL RISER
DIAGRAM**

SHEET NUMBER: _____ E-3 _____

JOB/FILE NUMBER: _____ 1485.001 _____

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 NORTON, MA 02766

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PROJECT:
HARDY MIDDLE SCHOOL

 7WDC497A

 LOCATED AT:
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REVISIONS	DATE

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PROJECT MANAGER:	JCM
DRAWING BY:	JYP
DATE:	12/9/2022
TITLE:	

PANEL SCHEDULE
 SHEET NUMBER: E-4
 JOB/FILE NUMBER: 1485.001

TAG: PPC			In Protected Power Cabinet (*Surge Suppressor is built into bottom of cabinet.)					ENTRY: BOTTOM		AIC: 10,000	
MAINS: 200A MCB								FEED THRU LUGS: NONE		SPD: YES	
SERVICE: 120/208V,1PH,3W								TRIM: NEMA 3R			
CKT	C/B	LOAD	kVA	PHASE	PHASE	kVA	LOAD	C/B	CKT		
1	150/2	6160 Cabinet (*Note: 4 positions may be needed due to breaker physical size)	10.4	10.9		0.5	Generator Battery Charger	20/1	2		
3			10.4		11.4	1.0	Generator Block Heater	20/1	4		
5				0.0				Spare	20/1	6	
7						0.0		Spare	20/1	8	
9	20/1	GFI Receptacle	0.2	0.2			Space	-	10		
11	20/1	Light on Platform	0.2		0.2		Space	-	12		
13	30/2	Spare		0.0			Space	-	14		
15					0.0		Space	-	16		
17	20/1	Spare		0.0			Space	-	18		
CONNECTED KVA TOTAL:			21.2	11.1		11.6	1.5	CONNECTED AMPS TOTAL:	109.04		
DEMAND KVA TOTAL:			22.7					DEMAND AMPS TOTAL:	109.04		

PANEL SCHEDULE

LEGEND

- ▲ PROPOSED MECHANICAL CONNECTION
- PROPOSED EXOTHERMIC WELD
- ▨ EXISTING GROUND BAR
- PROPOSED GROUNDING CONDUCTOR

PLANS PREPARED FOR:
T-Mobile
 15 COMMERCE WAY, SUITE B
 NORTON, MA 02766

PROJECT MANAGER:


PLANS PREPARED BY:


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PROJECT:
HARDY MIDDLE SCHOOL

7WDC497A

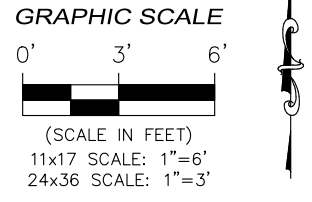
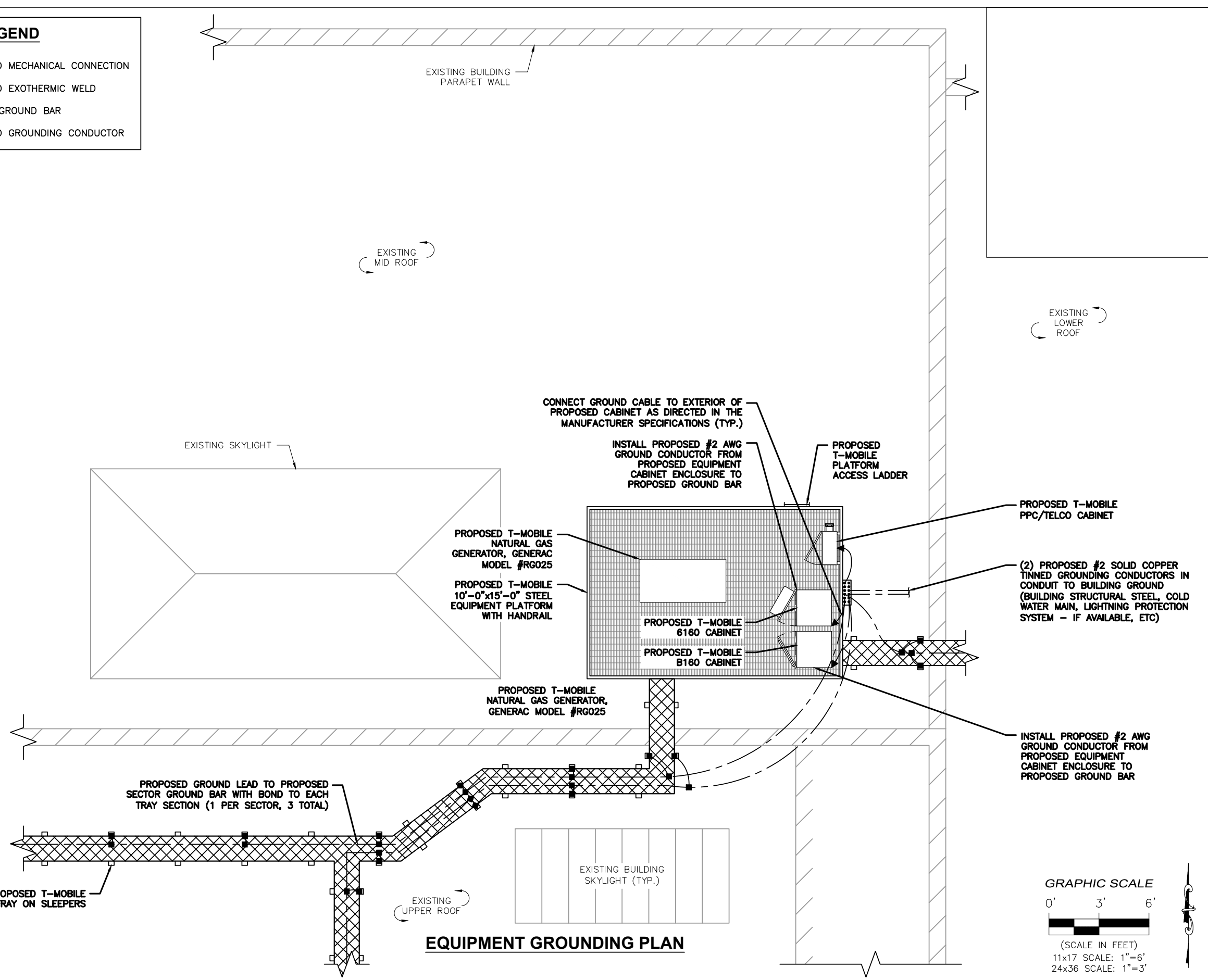
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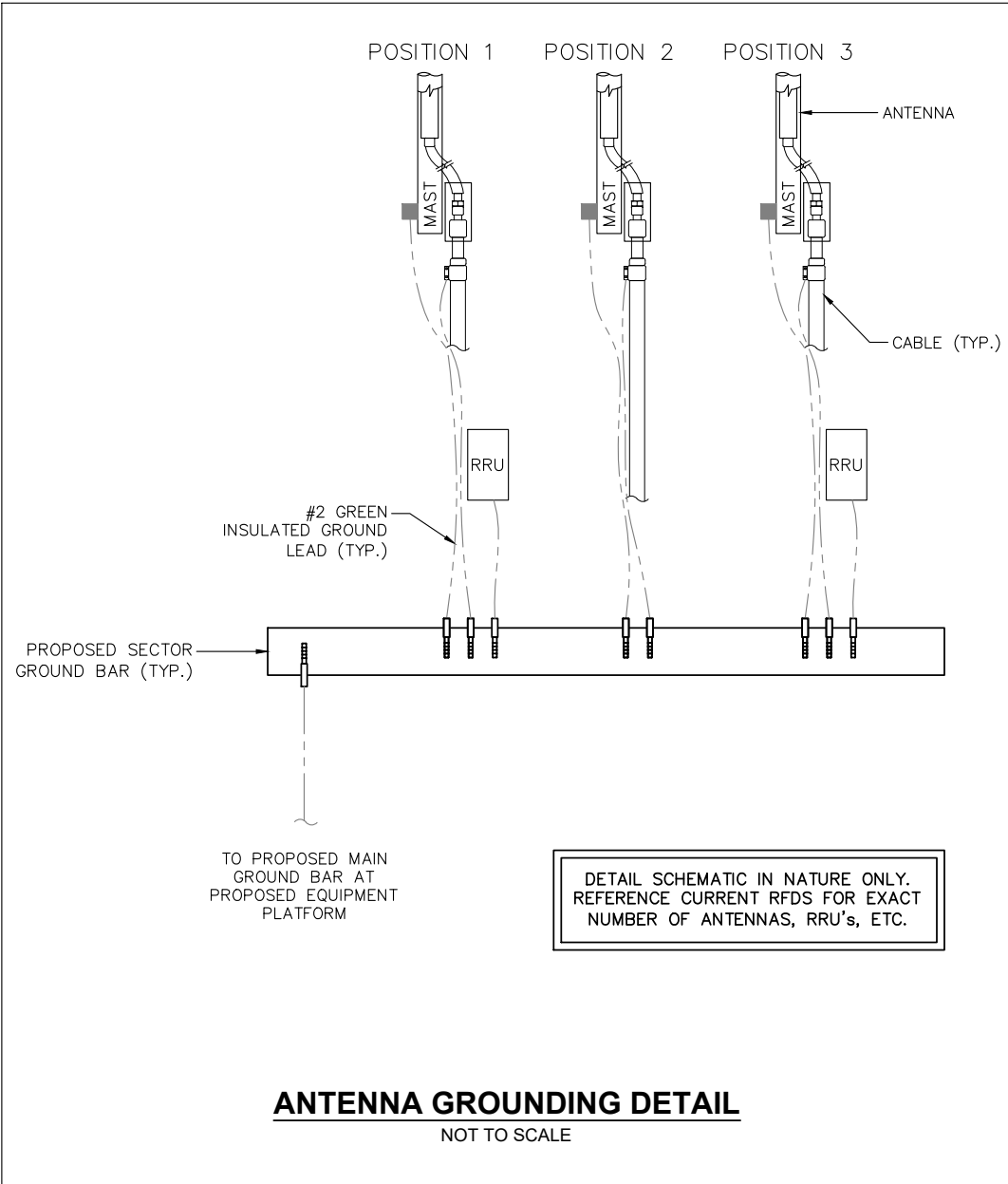
ISSUED FOR:	REVIEW
PROJECT MANAGER:	JCM
DRAWING BY:	JYP
DATE:	12/9/2022
TITLE:	

EQUIPMENT GROUNDING PLAN

SHEET NUMBER: **E-5**
 JOB/FILE NUMBER: **1485.001**

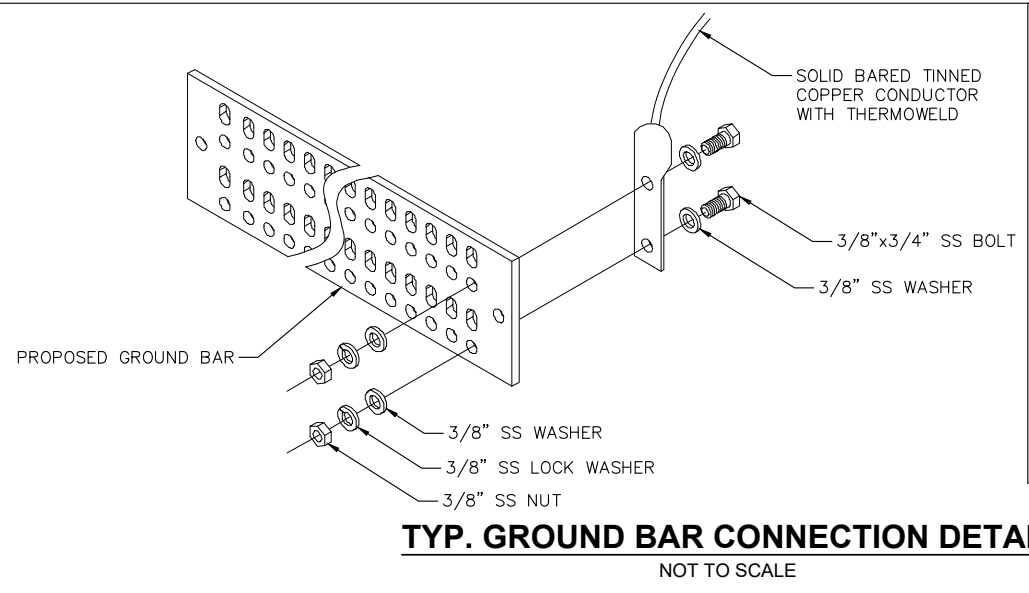


EQUIPMENT GROUNDING PLAN



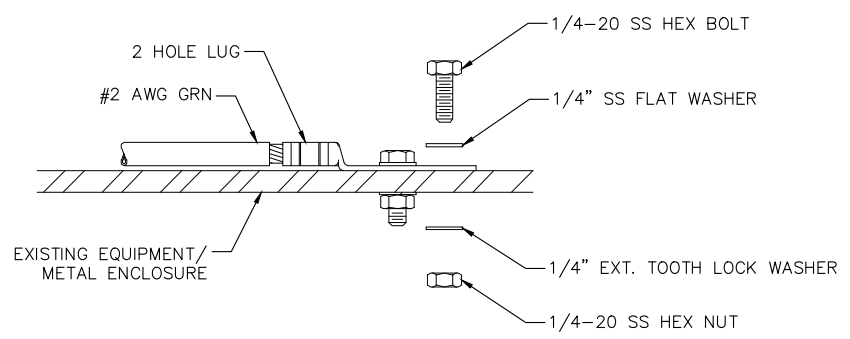
ANTENNA GROUNDING DETAIL

NOT TO SCALE



TYP. GROUND BAR CONNECTION DETAIL

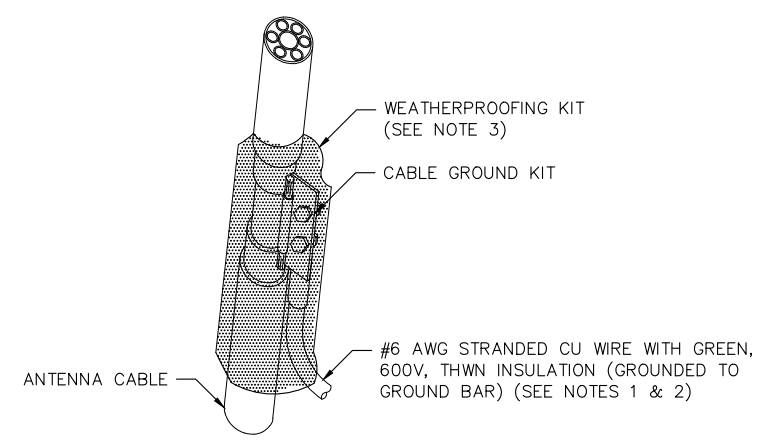
NOT TO SCALE



GROUND CONNECTION DETAIL

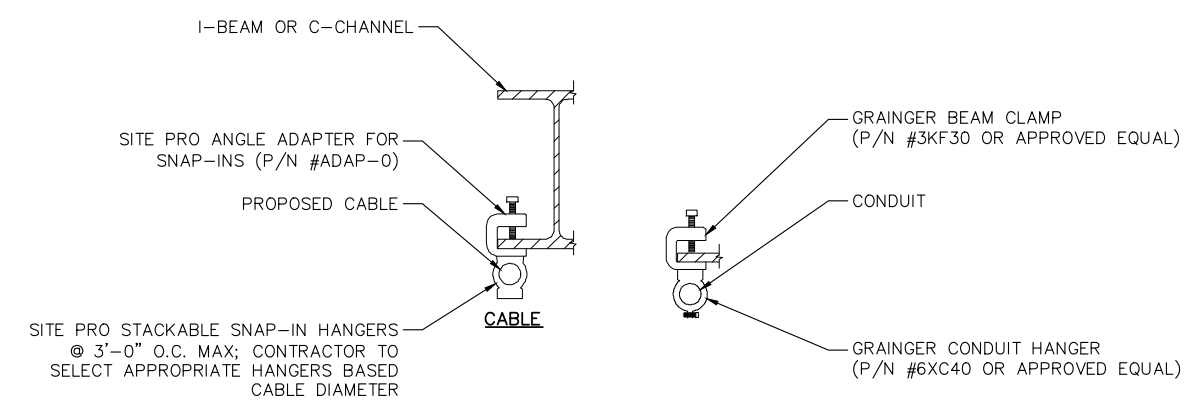
NOT TO SCALE

- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 - WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.



CONNECTION OF GROUND KIT TO ANTENNA CABLE

NOT TO SCALE



TYP. CONDUIT SUPPORT DETAILS

NOT TO SCALE

PLANS PREPARED FOR:

T-Mobile

15 COMMERCE WAY, SUITE B
NORTON, MA 02766

PROJECT MANAGER:

SITE LINK

PLANS PREPARED BY:

FORESITE group

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ENGINEERING LICENSE:

DRAFT FOR REVIEW

PROJECT:

HARDY MIDDLE SCHOOL

7WDC497A

LOCATED AT:
1819 35TH ST NW
WASHINGTON, DC 20007

REVISIONS	DATE

ISSUED FOR: _____ REVIEW

PROJECT MANAGER: JCM

DRAWING BY: JYP

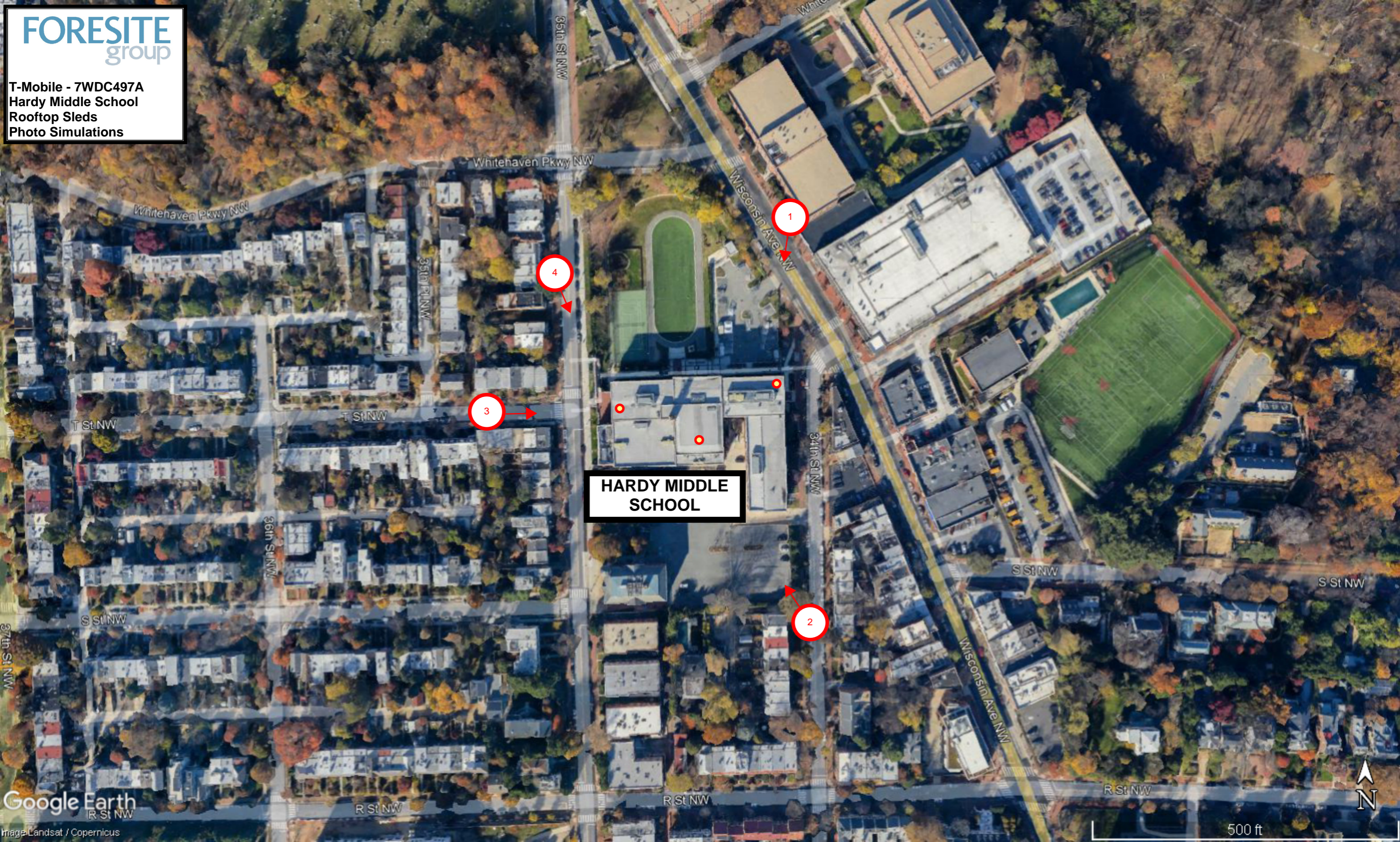
DATE: 12/9/2022

TITLE: _____

ANTENNA GROUNDING DETAILS

SHEET NUMBER: E-6

JOB/FILE NUMBER: 1485.001



**HARDY MIDDLE
SCHOOL**

3

4

1

2



EXISTING



**PROPOSED ALPHA
SECTOR ANTENNAS
ON SLED MOUNT**

WxDxH: 12'-6"x8'-6"x10'



FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Sleds
View 1 - Looking South
Wisconsin Ave NW

EXISTING



**PROPOSED BETA
SECTOR ANTENNAS
ON SLED MOUNT**

WxDxH: 12'-6"x8'-6"x10'

FORESITE
group

*T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Sleds
View 2 - Looking Northwest
34th St NW*

EXISTING



**PROPOSED GAMMA
SECTOR ANTENNAS
ON SLED MOUNT**

WxDxH: 12'-6"x8'-6"x10'



FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Sleds
View 3 - Looking East
T St NW

EXISTING



**PROPOSED GAMMA
SECTOR ANTENNAS
ON SLED MOUNT**
WxDxH: 12'-6"x8'-6"x10'



FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Sleds
View 4 - Looking Southeast
35th St NW

EXISTING



**PROPOSED ALPHA
SECTOR ANTENNAS
IN CANNISTERS**

WxDxH: 12'-6"x8'-6"x10'



FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Cannisters
View 1 - Looking South
Wisconsin Ave NW

EXISTING



**PROPOSED BETA
SECTOR ANTENNAS
IN CANNISTERS**

WxDxH: 12'-6"x8'-6"x10'

FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Cannisters
View 2 - Looking Northwest
34th St NW

EXISTING



**PROPOSED GAMMA
SECTOR ANTENNAS
IN CANNISTERS**

WxDxH: 12'-6"x8'-6"x10'



FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Cannisters
View 3 - Looking East
T St NW

EXISTING



**PROPOSED GAMMA
SECTOR ANTENNAS
IN CANNISTERS**

WxDxH: 12'-6"x8'-6"x10'



FORESITE
group

T-Mobile - 7WDC497A
Hardy Middle School
Rooftop Cannisters
View 4 - Looking Southeast
35th St NW