

PROJECT DESCRIPTION
 INSTALLATION OF ANTENNAS, MICROWAVE DISHES, COAXIAL CABLE, AND ASSOCIATED MOUNTS ON A NEW 260' SELF SUPPORT TOWER.
 INSTALLATION OF A 11'-8"x32'-0" UNMANNED EQUIPMENT SHELTER ON CONCRETE FOUNDATION.
 NEW ELECTRIC SERVICE TO SITE AND EQUIPMENT SHELTER. NO WATER SUPPLY OR SEWAGE TO/FROM THE SITE.

SITE NAME:
 DAMASCUS

SITE ADDRESS:
 26149 RIDGE ROAD
 DAMASCUS, MD 20872

SITE COORDINATES
 LATITUDE - N 39° 17' 11.21754"
 LONGITUDE - W 77° 12' 24.45434"

SITE INFORMATION

APPLICANT
 JUDY MILLER
 PSSM RADIO SYSTEM INFRASTRUCTURE PROJECT
 DEPARTMENT OF TECHNOLOGIES SERVICES
 MONTGOMERY COUNTY
 PH: (240) 773-7214

CONTACT
 RYAN GLOVER
 MOTOROLA SOLUTIONS
 PH: (443) 250-6085

PROJECT MANAGER
 PYRAMID NETWORK SERVICES, LLC
 RICH WEAVER
 PH: (240) 674-1889
 EMAIL: RWEAVER@PYRAMIDNS.COM

ARCHITECTURAL AND ENGINEERING
 MISSION 1 COMMUNICATIONS
 SCOTT HARTMAN
 6202 CONSTITUTION DRIVE, SUITE C
 FORT WAYNE, IN 46804
 PH: (260) 410-0852
 EMAIL: SHARTMAN@M1COMM.COM

CONSULTANT TEAM

MONTGOMERY COUNTY REPRESENTATIVE :	RECEIVED :
	ACCEPTED :
MOTOROLA :	RECEIVED :
	ACCEPTED :
PROPERTY OWNER:	RECEIVED :
	ACCEPTED :
RECEIVED AND ACCEPTED	



DIRECTIONS TO SITE

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10-15-19	REVISED STAMPED ZONING DRAWINGS	SAH	SAH	
0	09-27-19	STAMPED ZONING DRAWINGS	JRF	SAH	
C	09-27-19	ZONING DRAWING REVIEW	JRF	SAH	
B	09-05-19	REVISED LEASE EXHIBIT	JRF	SAH	
A	05-13-19	LEASE EXHIBIT	JRF	SAH	

CODE CLASSIFICATION	OCCY	CONSTR
IBC- INTERNATIONAL BUILDING CODE	S2	11-B
ALLOWABLE STRESSES		
UNIFORM FLOOR LIVE LOAD	300 PSF	
UNIFORM ROOF LIVE LOAD	150 PSF	
WIND LOAD (INCLUDING SLIDING AND OVERTURNING MOMENTS)	150 MPH	
ULTIMATE WIND SPEED (V-ULT)	150 MPH	
NOMINAL WIND SPEED (V-ASD)	116 MPH	
SEISMIC	CAT. 'D'	
ROOF SLOPE	1/4" PER 1'-0"	

2015 IBC CODE SECTION 1603 DESIGN LOADS

1.1 FLOOR LIVE LOAD = 300 PSF
 1.2 ROOF LIVE LOAD = 150 PSF
 1.3 ROOF SNOW LOAD WITH A GROUND SNOW LOAD OF 132 PSF
 (1) FLAT-ROOF SNOW LOAD = 100 PSF
 (2) SNOW EXPOSURE FACTOR = 1.0
 (3) SNOW IMPORTANCE FACTOR = 1.2
 (4) THERMAL FACTOR = 1.0

1.4 WIND LOAD:
 (1) BASIC WIND SPEED = 150 MPH (3 SECOND GUST)
 (2) RISK CATEGORY IV
 (3) WIND EXPOSURE = 'C'
 (4) N/A
 (5) COMPONENTS AND CLADDING = -61.7 PSF, +36.8 PSF (USD)

1.5 EARTHQUAKE DESIGN DATA FOR CONCRETE SHELTERS
 (1) SEISMIC IMPORTANCE FACTOR = 1.5 & RISK CATEGORY IV
 (2) MAPPED SPECTRAL RESPONSE ACCELERATIONS, SS = 1.85
 (3) SITE CLASS = 'D'
 (4) SPECTRAL RESPONSE COEFFICIENTS SDS = 1.24
 (5) SEISMIC DESIGN CATEGORY = D
 (6) BASIC SEISMIC-FORCE RESISTING SYSTEM = (BEARING WALL SYSTEM W/ INTERMEDIATE PRECAST CONCRETE SHEAR WALLS)
 (7) SEISMIC RESPONSE COEFFICIENT, CS = .465 FOR ie=1.5
 (8) RESPONSE MODIFICATION FACTOR, R = 4.0
 (9) ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE

IBC CODE REFERENCE - PER TABLE 721.1(2) - 3.6" MIN. LW CONCRETE WALL MATERIAL IS SOLID CONCRETE ITEM #4-1.1 - LIGHTWEIGHT CONCRETE 3.6" MINIMUM 2 HOUR FIRE RATING.
 DOOR HAS A MANUFACTURER FIRE RATING OF 3 HOURS & LEVEL 4 BULLET RESISTANT

SHELTER CODE SPECIFICATIONS



DAMASCUS

26149 RIDGE ROAD
 DAMASCUS, MD 20872
 MONTGOMERY COUNTY

DRAWING INDEX

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- C-1 OVERALL SITE PLAN
- C-1.2 EXISTING SITE PLAN
- C-2 INTERMEDIATE SITE PLAN
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- C-4 TOWER ELEVATION AND ANTENNA INFORMATION

REGISTRATION EXPIRES: 03/14/2020

10.15.19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED AND PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 48984, EXPIRATION DATE 03/14/20

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PYRAMID Network Services, LLC

MOTOROLA SOLUTIONS



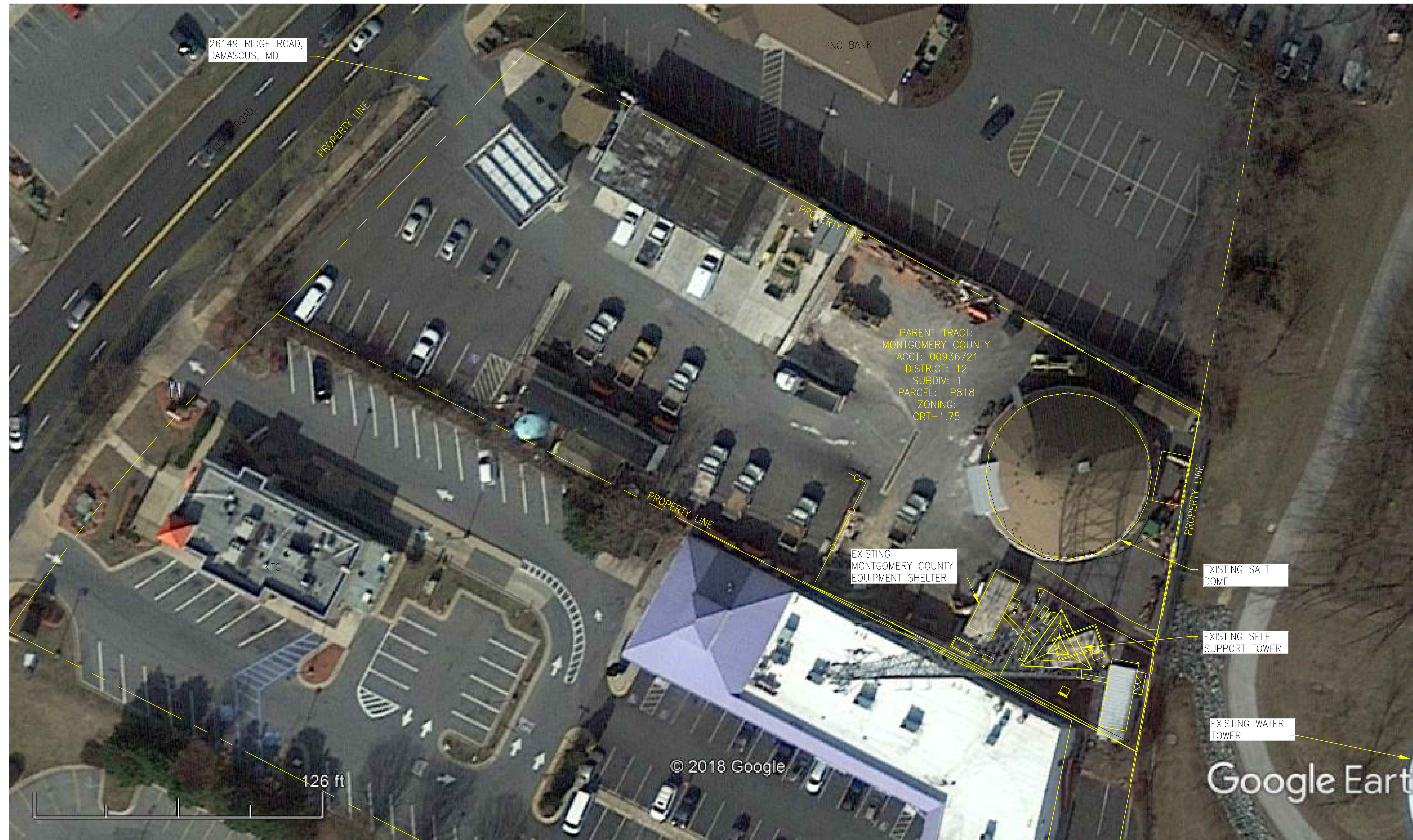
PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX

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T-1
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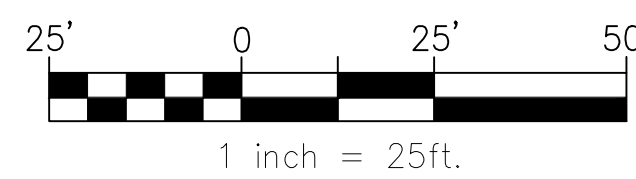
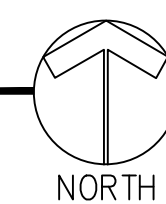
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GENERAL NOTES:

1. PROPERTY OFFSETS ARE APPROXIMATE. FINAL LOCATION OF COMPOUND TO BE DEVELOPED FROM TOWER Q
2. THE LOCATION, SIZE & TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS & SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION & ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES & THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS & SERVICES SHALL BE RESORTED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
3. ALL NEW CONSTRUCTION ACTIVITIES & MODIFICATIONS SHALL COMPLY WITH MOTOROLA R-56 STANDARDS, MOST CURRENT REVISION.

1 Overall Site Plan



ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



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REGISTRATION EXPIRES: 03/14/2020

Gregory J. Smith
10.15.19

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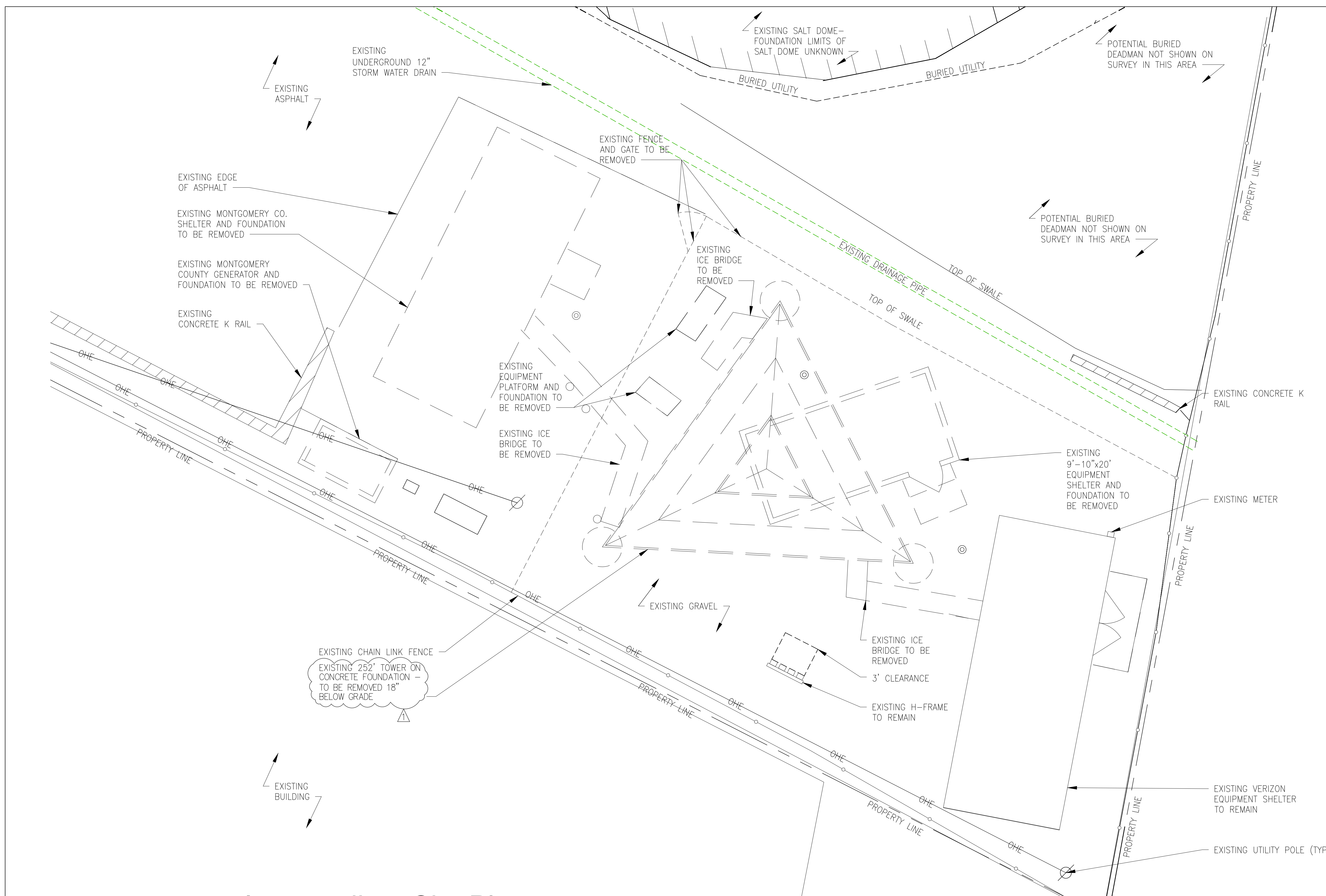
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OVERALL SITE PLAN
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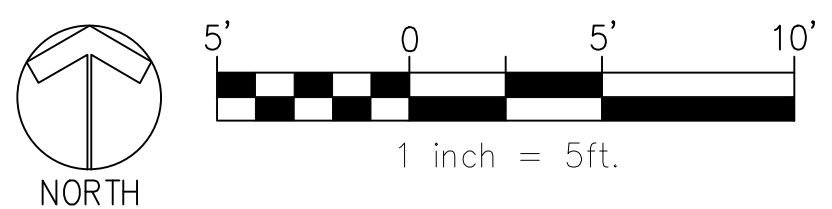
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1 Intermediate Site Plan



REGISTRATION EXPIRES: 03/14/2020

Gregory J. Sibley
10.15.19

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INTERMEDIATE SITE PLAN

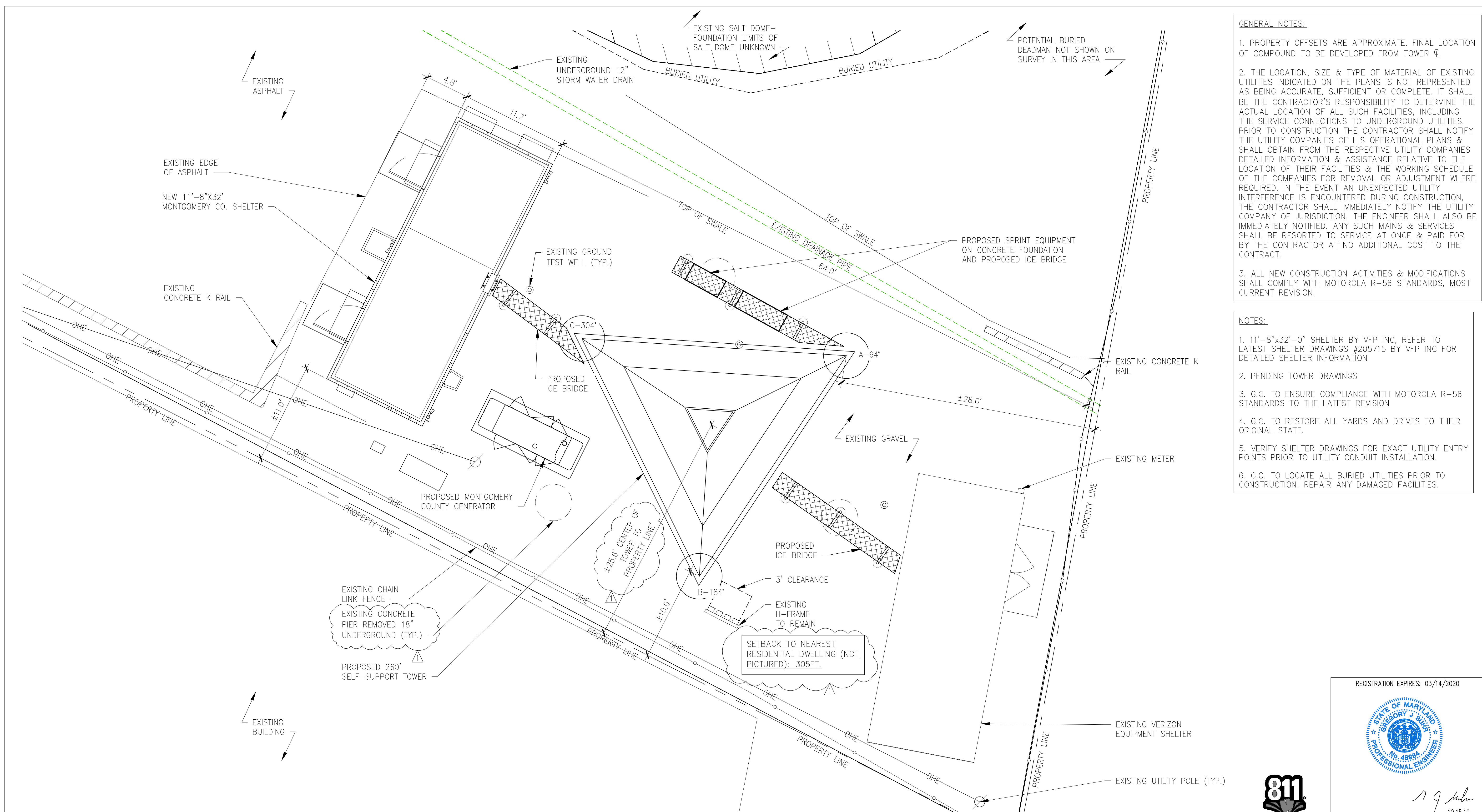
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NOTES:

1. 11'-8"x32'-0" SHELTER BY VFP INC, REFER TO LATEST SHELTER DRAWINGS #205715 BY VFP INC FOR DETAILED SHELTER INFORMATION
2. PENDING TOWER DRAWINGS
3. G.C. TO ENSURE COMPLIANCE WITH MOTOROLA R-56 STANDARDS TO THE LATEST REVISION
4. G.C. TO RESTORE ALL YARDS AND DRIVES TO THEIR ORIGINAL STATE.
5. VERIFY SHELTER DRAWINGS FOR EXACT UTILITY ENTRY POINTS PRIOR TO UTILITY CONDUIT INSTALLATION.
6. G.C. TO LOCATE ALL BURIED UTILITIES PRIOR TO CONSTRUCTION. REPAIR ANY DAMAGED FACILITIES.

1 Overall Site Plan

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G. J. Sibley
10.15.19

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MONTGOMERY CO. POST CUTOVER SITE PLAN WITH NEW TOWER

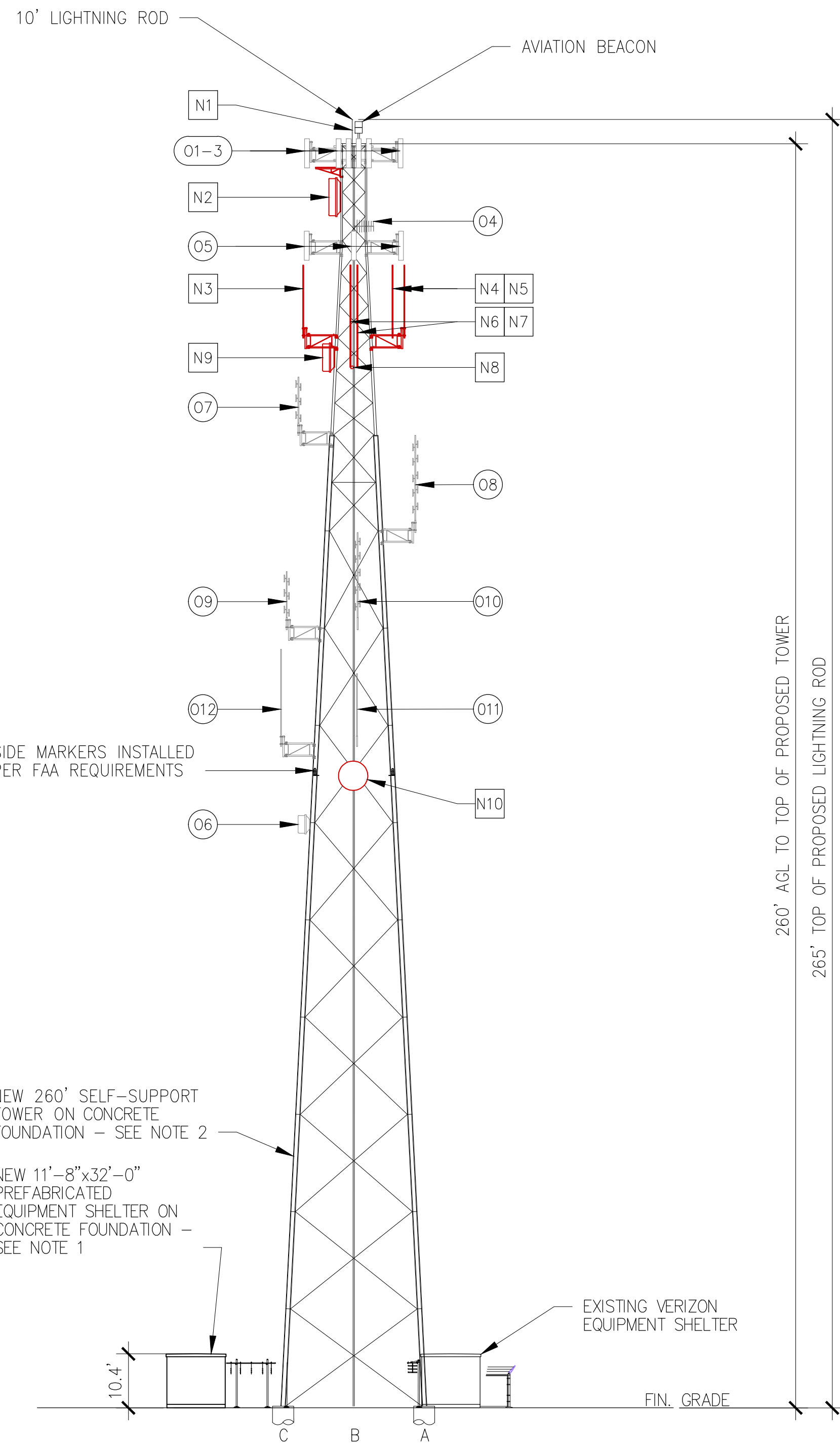
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1 Tower Elevation
SCALE : 1 inch = 40 ft

Damascus- 260' TOWER
LAT: 39° 17' 11.21754"
LONG: 77° 12' 24.45434"

Antenna/Appurtenance Location Chart

■ D = REMOVED ■ O = BY OTHERS
■ N = NEW ■ F = FUTURE

ANTENNA INFORMATION											FEEDLINE INFORMATION				
ANTENNA ID	CARRIER	MANUFACTURER	MODEL	TYPE	LENGTH	BOTTOM ELEV	CENTER RAD	TOP ELEV.	AZIMUTH/LEG	QTY.	TYPE	MANUFACTURER	MODEL	SIZE	QTY.
N1	MONTGOMERY COUNTY	N/A	LIGHTNING ROD	LR	10.0'	255.0'	260.0'	265.0'	LEGA	1	-	-	-	-	-
O1	VERIZON	N/A	PANEL ANTENNAS	PANEL	6.0'	255.0'	258.0'	261.0'	FACE AB	4	COAX	TBD	TBD	TBD	4
O2									FACE BC	4					
O3									FACE AC	4					
O4	WSSC	N/A	YAGI	YAGI	10.0'	243.0'	248.0'	253.0'	LEG B	1	COAX	N/A	N/A	7/8"	1
N2	MONTGOMERY COUNTY	TBD	TBD	ICE SHIELD	8.0'	255.0'	-	-	248.82°	1	ELLIPTICAL	COMMSCOPE	EWP63	2"	1
O5	-	N/A	PANEL ANTENNAS	PANEL	6.0'	236.0'	239.0'	242.0'	A,B,C	3	COAX	TBD	TBD	TBD	3
N3	MONTGOMERY COUNTY	SINCLAIR	SC479-HF1LDF(D00-E5749)	TX1	15.0'	220.0'	227.5'	235.0'	C	1	COAX	COMMSCOPE	AVA6-50	1-1/4"	3
N4				TX2	15.0'				A	1					
N5				TX3	15.0'				A	1					
N6	MONTGOMERY COUNTY	SINCLAIR	SC412-HF2LDF(D02-E5608)	RX1	21.0'	214.0'	224.5'	235.0'	B	2	COX	COMMSCOPE	AVA5-50	7/8"	2
N7				RX2	21.0'										
N8	MONTGOMERY COUNTY	N/A	TTA	TTA	TBD	214.0'	-	-	-	1	COAX	COMMSCOPE	LDF4-50	1/2"	1
N9	MONTGOMERY COUNTY	COMMSCOPE	PAR6-59	MW	6.0'	213.0'	216.0'	219.0'	248.82°	1	ELLIPTICAL	COMMSCOPE	EWP63	2"	1
O7	MC PARK POLICE	N/A	DIPOLE	DIPOLE	12.0'	200.0'	206.0'	212.0'	C	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
O8	TBD	N/A	DIPOLE	DIPOLE	20.0'	180.0'	190.0'	200.0'	A	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
O9	TBD	N/A	DIPOLE	DIPOLE	12.0'	160.0'	166.0'	172.0'	C	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
O10	TBD	N/A	DIPOLE	DIPOLE	20.0'	160.0'	170.0'	180.0'	B	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
O11	TBD	N/A	WHIP	WHIP	15.0'	136.0'	143.5'	151.0'	B	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
O12	TBD	N/A	WHIP	WHIP	20.0'	136.0'	146.0'	156.0'	C	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
N10	MONTGOMERY COUNTY	COMMSCOPE	PAR6-59	MW	6.0'	127.0'	130.0'	133.0'	235.68°	1	ELLIPTICAL	COMMSCOPE	EWP63	2"	1
O6	TBD	N/A	MW	MW	4.0'	118.0'	120.0'	122.0'	300°	1	TBD	TBD	TBD	TBD	1

PER DAMASCUS TOWER MAP V05 08-27-19
REFER TO TOWER MANUFACTURER DRAWINGS FOR BEACON AND OBSTRUCTION LIGHTING HEIGHTS

GENERAL NOTES:

- 11'-8"x32'-0" SHELTER BY VFP INC, REFER TO LATEST SHELTER DRAWINGS BY VFP INC FOR DETAILED SHELTER INFORMATION
- PENDING TOWER DRAWINGS
- ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP & BOTTOM OF THE TOWER(BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER). ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 75 FEET.
- THE CONTRACTOR SHALL CONDUCT A TDR SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION & STIMULUS RESPONSE MEASUREMENTS. RESULTS TO BE SUBMITTED TO MOTOROLA.
- DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
- ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA. JUST BEFORE ENTERING THE SHELTER AS WELL AS INSIDE THE SHELTER, BEFORE CONNECTING TO THE SURGE SUPPRESSORS. SEE EQUIPMENT & COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.

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TOWER ELEVATION AND ANTENNA INFORMATION

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Montgomery County Planning Department
Maryland-National Capital Park and Planning Commission

Re: Montgomery County Department of Technology Services
Radio Communications Services
Public Safety System Modernization Project

Site: Damascus
26149 Ridge Rd
39°17'11.21754"N 77°12'24.45434"W

Please accept the enclosed application and materials in support of Montgomery County Radio Communications Services' proposal to construct a new tower facility at the location described above.

RCS, part of the Montgomery County Department of Technology Services, operates communications networks for the use of Montgomery County emergency services, including police, fire, and medical first responders. RCS is tasked with ensuring that these emergency responders have effective and reliable radio coverage throughout the County coverage area.

When the 800 MHz radio system was first deployed in Montgomery County, technical barriers limited the number of base stations that could be developed. The current system fails to provide adequate radio coverage in several areas in the County, particularly as the County continues to modernize and urbanize. New technologies currently being implemented, however, will allow the development of additional sites to expand radio coverage.

These new base stations are sited and designed to provide complete and effective coverage according to a "95/95" coverage mandate: 95% coverage reliability in 95% of the County service area. Coverage reliability is calculated according to expected loss "zones" throughout the County. The County service area includes all areas within the border of Montgomery County, Maryland, including waterways, and all areas within three miles of the County border. New base stations must be sited within the existing network framework to provide optimum coverage and reliability.

Effective public safety radio serves the public health, safety, and welfare of Montgomery County residents. Where no existing site can provide adequate radio coverage, there are significant consequences for emergency response personnel. A lack of radio service can increase response time, the number of personnel required to effectively respond to an emergency situation, and the amount of time it takes to resolve an incident.

RCS is proposing to replace an existing 252' self-support tower at the location described above to fill coverage gaps left by the existing legacy system. The existing 252' tower at the site is not structurally

sufficient to support upgraded RCS antennas, and the existing equipment shelter must be replaced to accommodate new support equipment. Therefore, RCS is proposing to replace the existing tower with a new 260' self-support tower, and a new 11'-8"x32' equipment shelter within the existing compound area.

If you have any questions or concerns, or need any further information regarding this application, please free to contact me.

Sincerely,

Tessia Knight
Network Building + Consulting

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Statements of Compliance

This submission complies with the requirements of the Montgomery County Mandatory Referral submission guidelines as follows.

- 1) The proposed facility is an unmanned communications facility. There will be no regular occupation of the compound or associated shelter. Routine maintenance will not exceed 2 visits per month. As such:
 - a. The facility operates 24 hours a day, 7 days a week, as a radio communications base station.
 - b. The facility conforms in all respects to the General Plan. As an unmanned radio site for county public safety use, it has no notable effect on long or short term land development. The build-out plan for the Montgomery County Public Safety Radio Communications System is designed to accommodate and support the Wedges and Corridors concept.
 - c. As an unmanned facility outside the right of way, the facility has no impact on pedestrian and bicycle traffic. The facility's use as a public safety radio base station will promote pedestrian and cyclist safety in the area.
 - d. No new roadway is proposed.
 - e. A Historic Work Permit will be acquired if the National Environmental Policy Act determines an effect on County-designated historic properties. No effect is expected.
 - f. There is no phasing plan; the construction will begin once all applicable approvals and permits are obtained.
 - g. The subject property is owned by Montgomery County in fee simple.
 - h. The project is funded by County funds specifically designated for the project.
 - i. No impact is expected on public parkland or lands owned by M-NCPPC, as the project is proposed on private property. The facility's use as a public safety radio base station will promote safe enjoyment of parkland in the area.
 - j. LEED certification is not applicable to this type of facility.
- 2) The general location map is included in the enclosed drawings.
- 3) The site plan is included in the enclosed drawings.
- 4) Utilities and affected rights of way are included in the enclosed drawings.
- 5) Site ingress and egress are shown in the enclosed drawings, including the proposed site access driveway.
- 6) We are requesting an exemption from the NRI requirement due to the nature of this project and the limited land disturbance proposed.
- 7) The subject property is not in a Special Protection Area.
- 8) We are requesting that due to the nature of this project that planning approves an exemption from the Forest Conservation Plan requirement.
- 9) Topographic contours are shown in the enclosed drawings.
- 10) This project falls below the threshold of land disturbance that requires a stormwater concept plan.
- 11) No exterior lighting is proposed aside from that required by the Federal Aviation Administration, subject to an Air Hazard Navigation Report.
- 12) The proposed facility is part of the Public Safety System Modernization Project. An area map showing the location of all affected radio communications sites is included.
- 13) The proposed facility complies with the Montgomery County Noise Ordinance, Section 31(b) of the Montgomery County Code, and is consistent with the Montgomery County Department of Park

and Planning Noise Guidelines. The site will not produce noise in excess of that allowed by the ordinance or guidelines.

14) All relevant architectural diagrams are included in the enclosed drawings.

15) No traffic impact is expected. The facility is unmanned and unoccupied, and routine maintenance visits are expected to be limited to one visit twice per month.