

PROPRIETY INFORMATION:
THE INFORMATION CONTAINED IN THIS
SET OF DRAWINGS IS PROPRIETARY BY
NATURE. ANY USE OR DISCLOSURE
OTHER THAN THAT WHICH RELATES TO
VIVINT WIRELESS SERVICES IS STRICTLY
PROHIBITED.



DISCLOSURE:
CONTRACTOR TO VERIFY MATERIALS
AND DESIGN PRIOR TO INSTALL

KWIK CITY MUFFLER

CROWN CASTLE SITE ID #880534
2449 WEST 4000 SOUTH
ROY, UT 84067
LAT: 41.189556° LONG: -112.039167°

SCOPE OF WORK

VIVINT WIRELESS IS PROPOSING TO COLLOCATE ON EXISTING ONE HUNDRED THIRTY FOOT (130') MONOPOLE. VIVINT TO INSTALL TWELVE (12) ANTENNAS LOCATED AT NINETY FEET RAD (100') WITH TWELVE (12) CAT5 CABLES AND A 3X3 CONCRETE PAD.

GENERAL LOCATION MAP



VICINITY MAP



vivint.



DATE: 7/28/2014
DRAWN BY: BBH
CHECKED BY: ROCKY SCHUTJER

REVISIONS

DATE	DESCRIPTION	INT.
7-28-14	PRELIM CDs	BBH
8-04-14	REV. 1	BBH
8-07-14	REV. 2	BBH

APPROVALS

APPROVED BY	PRINT NAME	INITIALS	DATE
PROJECT MANAGER			
RF ENGINEER			
OPS MANAGER			
CONSTRUCTION			
LANDLORD			

CONTACT INFORMATION

STRUCTURE OWNER
CROWN CASTLE, USA INC
5350 NORTH 48TH STREET STE 305
CHANDLER, AZ 85226
T. 303.945.0708

SITE ACQUISITION FIRM
VIVINT WIRELESS
4931 N. 300 WEST
PROVO, UT 84604
T. 801.597.1612

PROPERTY OWNER
TODD POTTER
2449 W. 4000 SO.
ROY, UT 84067
T. 801.731.8615

A/E FIRM
RAGE DEVELOPMENT LLC
2181 HUGO AVENUE
SALT LAKE CITY, UT 84117
T. 801.860.0086

KWIK CITY MUFFLER
2449 WEST 4000 SOUTH
ROY, UT 84067
LAT: 41.189556° LONG: -112.039167°

DRAWING
TITLE:
TITLE SHEET

DRAWING NO.:
T-1

GENERAL CONSTRUCTION NOTES

1. DRAWINGS WERE PREPARED FROM STANDARDIZED DETAILS DEVELOPED AND PROVIDED BY VIVINT WIRELESS. STANDARDIZED DETAILS ARE TO BE CONFIRMED AND CORRELATED AT THE SITE BY THE CONTRACTOR. STANDARDIZED DETAILS THAT REQUIRE MODIFICATIONS DUE TO ACTUAL FIELD CONDITIONS AND REQUIREMENTS MUST BE SUBMITTED TO, AND APPROVED BY, VIVINT WIRELESS PRIOR TO START OF WORK.
2. DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAM PURPOSES ONLY. UNLESS OTHERWISE NOTED. THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS.
3. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE INSTALLATION AS DESCRIBED IN THE DRAWINGS AND AS DISCUSSED ON THE SITE WALK.
4. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF VIVINT WIRELESS VERBALLY AND IN WRITING.
5. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS.
6. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
9. GENERAL CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
10. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
11. CONTRACTOR TO SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.

12. CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
13. CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
14. CONTRACTOR TO VERIFY LOCATION OF ALL BURIED UTILITIES PRIOR TO EXCAVATION.
15. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION, UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
16. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION DAILY AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
17. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) VIVINT WIRELESS OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
18. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
19. THE CONTRACTOR SHALL PROVIDE VIVINT WIRELESS PROPER INSURANCE CERTIFICATES NAMING VIVINT WIRELESS AS ADDITIONAL INSURED, AND VIVINT WIRELESS PROOF OF LICENSE(S) AND PL & PD INSURANCE.

CODE COMPLIANCE

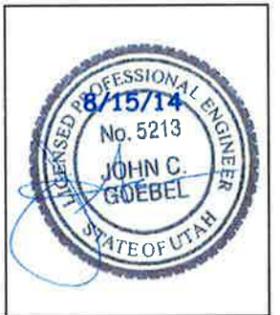
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT CONDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- A. UTAH UNIFORM BUILDING STANDARD ACT RULES
- B. 2011 NATIONAL ELECTRIC CODE (NEC)
- C. 2012 INTERNATIONAL BUILDING CODE (IBC)
- D. 2006 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 101)
- E. 2009 INTERNATIONAL MECHANICAL CODE (IMC)
- F. LOCAL BUILDING CODE
- G. CITY OR COUNTY ORDINANCES

IMPORTANT NOTICE

THE EXISTING CONDITIONS REPRESENTED HEREIN ARE BASED ON VISUAL OBSERVATIONS AND INFORMATION PROVIDED BY OTHERS. RAGE DEVELOPMENT LLC CANNOT GUARANTEE THE CORRECTNESS NOR THE COMPLETENESS OF THE EXISTING CONDITIONS SHOWN AND ASSUMES NO RESPONSIBILITY THEREOF. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AS REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

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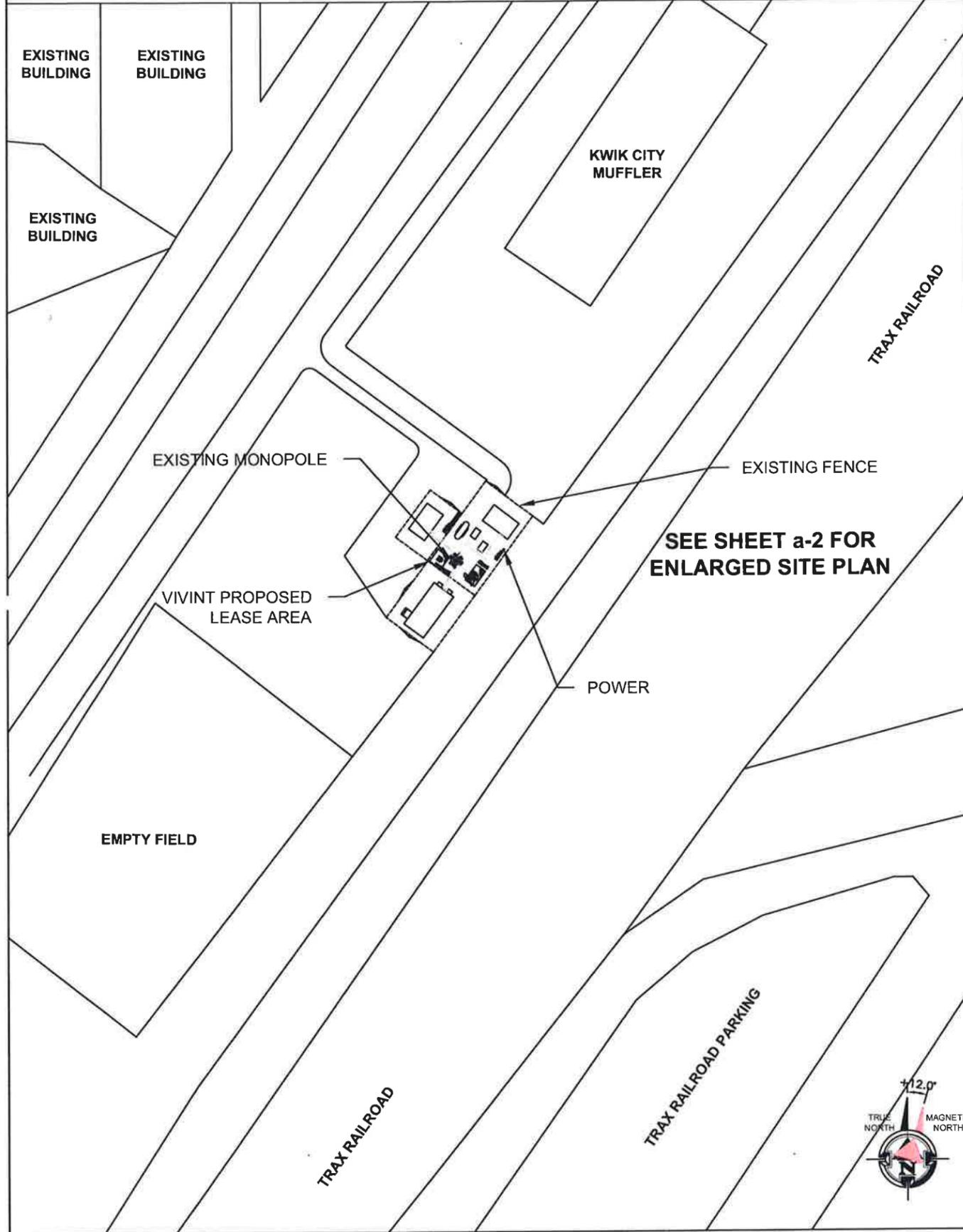
REVISIONS		
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8-07-14	REV. 2	BBH

KWIK CITY MUFFLER
 2449 WEST 4000 SOUTH
 ROY, UT 84067
 LAT: 41.189556° LONG: -112.039167°

DRAWING TITLE:
 GENERAL NOTES

DRAWING NO.:
N-1

SITE PLAN



AERIAL PHOTO



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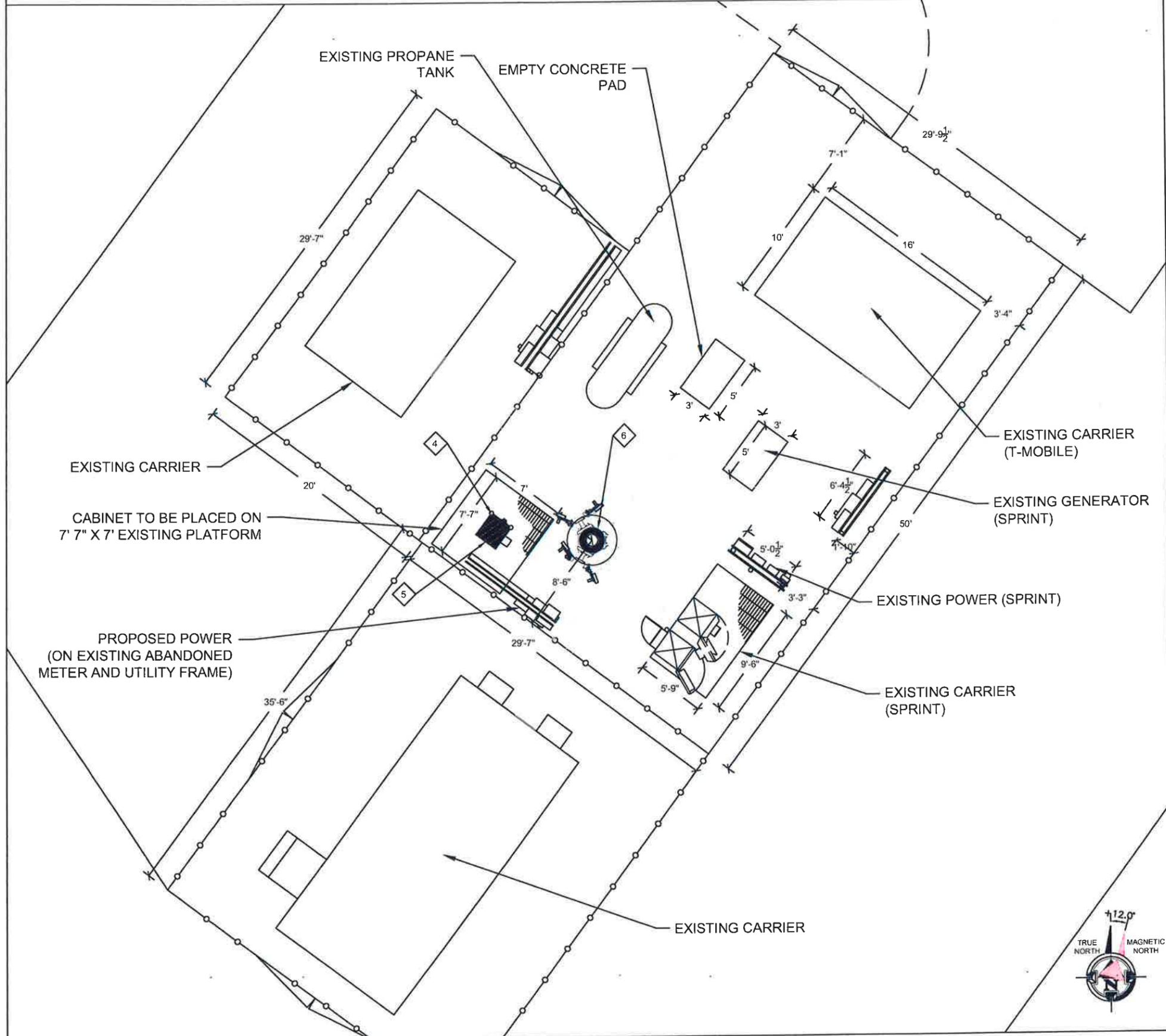
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8-07-14	REV. 2	BBH

KWIK CITY MUFFLER
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DRAWING TITLE:
 SITE PLAN

DRAWING NO.:
A-1

PROPOSED EQUIPMENT SITE PLAN



KEY NOTES

- 1 VIVINT WIRELESS LEASE AREA
- 2 EXISTING FENCE LINE
- 3 4 ODU-AP-S & SECTOR ANTENNAS LOCATED AT 90° RAD
- 4 4 NEW CAT5 CABLES - USE EXISTING CONDUIT
- 5 47" H x 25" W x 25 D" OOD-30DXC-B1AC1 OUTDOOR RACK MOUNT ENCLOSURE
- 6 EXISTING 130' MONOPOLE
- 7 EXISTING ANTENNAS

SITE NOTES

Blank area for site notes.

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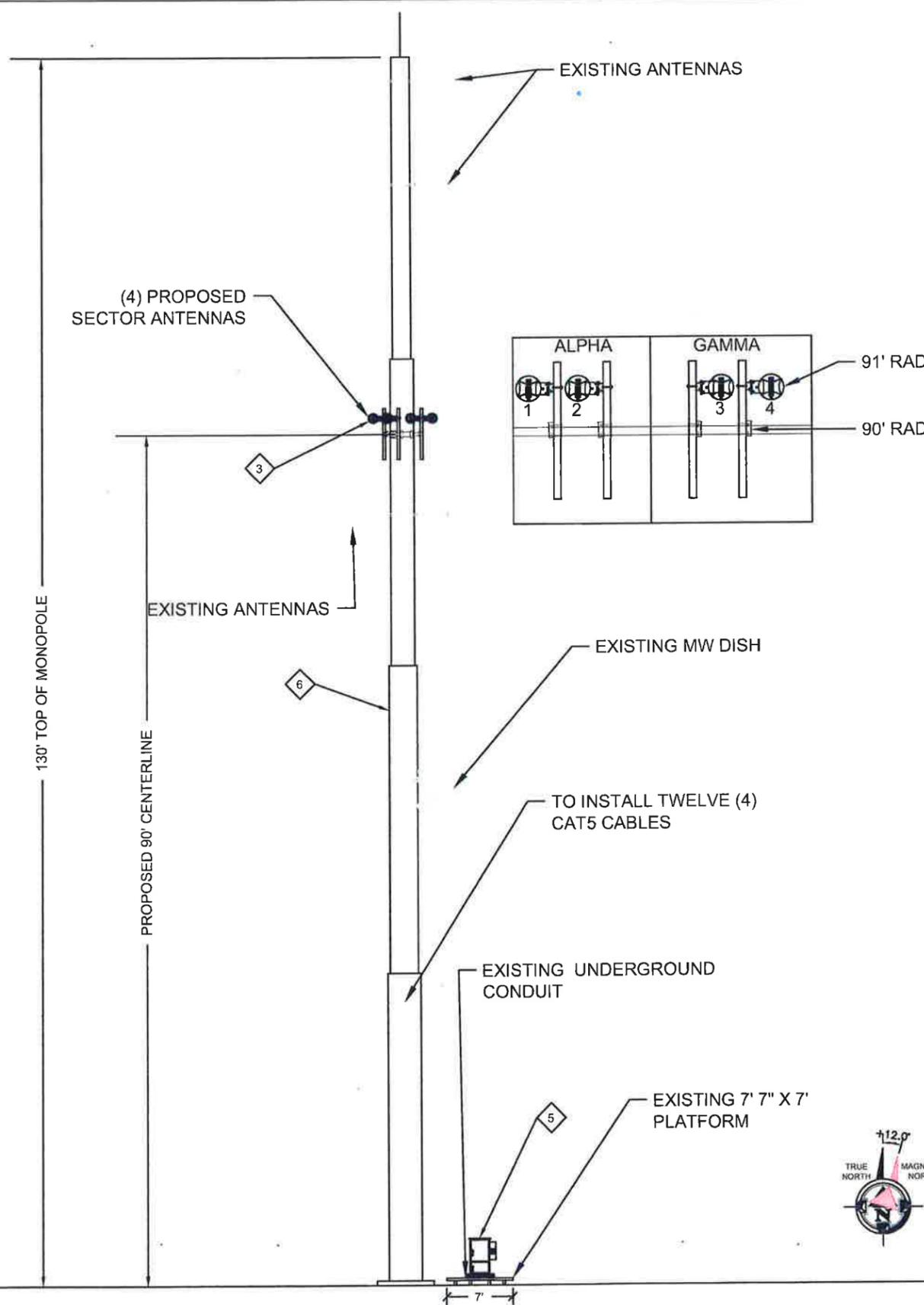
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DATE	DESCRIPTION	INT.
7-28-14	PRELIM CDs	BBH
8-04-14	REV. 1	BBH
8-07-14	REV. 2	BBH
9-04-14	REV. 3	BBH

KWIK CITY MUFFLER
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 LAT: 41.189556° LONG: -112.039167°

DRAWING TITLE:
 EQUIPMENT SITE PLAN

DRAWING NO.:
A-2

TOWER ELEVATION

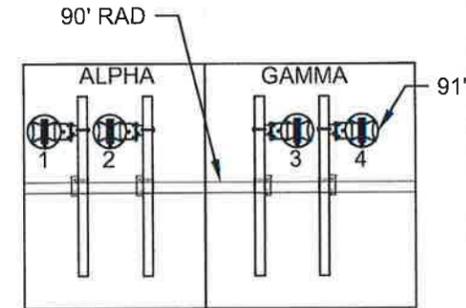


KEY NOTES

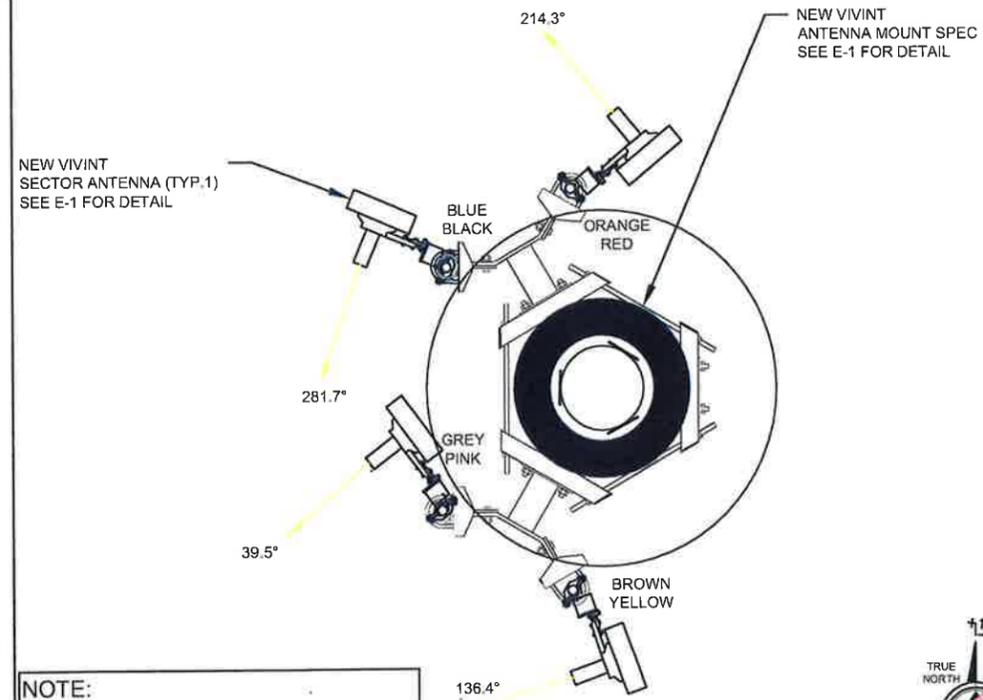
- 1 VIVINT WIRELESS LEASE AREA
- 2 EXISTING FENCE LINE
- 3 4 ODU-AP-S & SECTOR ANTENNAS LOCATED AT 90' RAD
- 4 4 NEW CAT5 CABLES - USE EXISTING CONDUIT
- 5 47" H x 25" W x 25 D" OOD-30DXC-B1AC1 OUTDOOR RACK MOUNT ENCLOSURE
- 6 EXISTING 130' MONOPOLE
- 7 EXISTING ANTENNAS

NOTES

Antenna	Azimuth	Frequency	Polarization	Centerline
1	214.3	29142	V	91
2	281.7	29114	V	91
3	39.5	29114	H	91
4	136.4	29170	V	91



PROPOSED ANTENNA LAYOUT



NOTE:
FINAL RRU & ANTENNA LOCATION
PENDING STRUCTURAL REVIEW
AND RF APPROVAL

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RAGE



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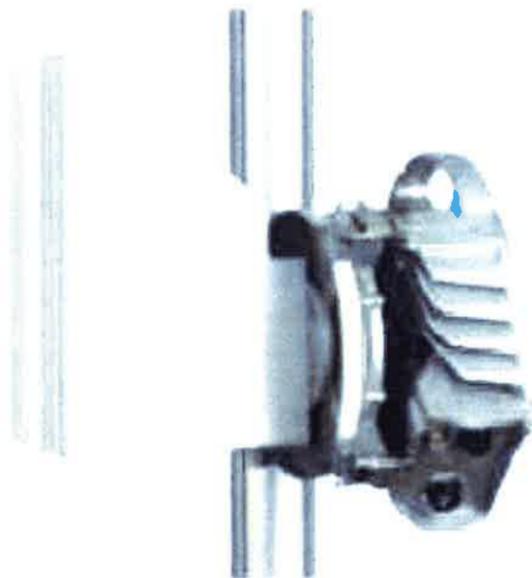
DATE	DESCRIPTION	INT.
7-28-14	PRELIM CDS	BBH
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8-07-14	REV. 2	BBH
9-04-14	REV. 3	BBH

KWIK CITY MUFFLER
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DRAWING TITLE:
TOWER ELEVATION PLAN

DRAWING NO.:
A-3

ANTENNA DETAIL 1



ODU-S AP-S & SECTOR ANTENNA

ANTENNA DETAIL 2

ANTENNA SPEC SHEETS

2.1 - 2.3 GHz LTE-LTE Advanced Specifications (typical)

Model Number	Diameter (ft)	Gain (dBi)			Beamwidth Degrees (3dB)	X Pol Loss (dB)	F.P. Ratio (dB)	VSWR Max (13.5 dB)
		Low	Mid	High				
Plane Polarized								
HPLP1 23	1.80	13.7	16.1	15.5	2.7	30	62	+4.1 15.5
HPLP1 4 23	1.40	16.8	17.2	17.8	2.1	30	64	+4.1 15.5
HPD 23	2.60	17.2	18.1	18.7	1.7	30	65	+4.1 15.5
HPD 23	3.90	17.2	18.1	18.7	1.7	30	71	+4.1 15.5
HPD 23	4.120	18	18.5	19.2	1.2	30	72	+4.1 15.5
Dual Polarized								
HPDP1 23	1.80	13.7	13.9	13.4	2.7	30	62	+4.1 15.5
HPDP1 4 23	1.40	16.8	17.0	17.4	2.1	30	64	+4.1 15.5
HPDD 23	2.60	17.2	18.1	18.5	1.7	30	65	+4.1 15.5
HPDD 23	3.90	17.2	18.1	18.7	1.7	30	71	+4.1 15.5
HPDD 23	4.120	18.1	18.5	19.2	1.2	30	72	+4.1 15.5

Remote Terminal (RT-S)

Antenna Gain (beamwidth horizontal x vertical)	0.3m dish: 26.8 dBi (6' x 6') 0.6m dish: 33.7 dBi (3' x 3')	0.3m dish: 35.3 dBi (2.5' x 2.5') 0.6m dish: 40.7 dBi (1.4' x 1.4')	0.3m dish: 35.8 dBi (2.2' x 2.2') 0.6m dish: 41.8 dBi (1.3' x 1.3')
Network interfaces	1 x 10/100/1000BaseT (VLAN capable)		
Alignment Interface	Single BNC connector for use with a standard Voltmeter		
Power Consumption per RT	30W typical	35W typical	
Power Input Requirement	-48V DC, (Optional 100-240V AC converter ****)		
RT Throughput	Up to 350Mbps Gross, 300Mbps Ethernet (28MHz channel)		
RT outdoor unit weights and dimensions (max. wt.)	309x289x110mm (HxWxD), 4.8kg	309x289x100mm (HxWxD), 4.0kg	

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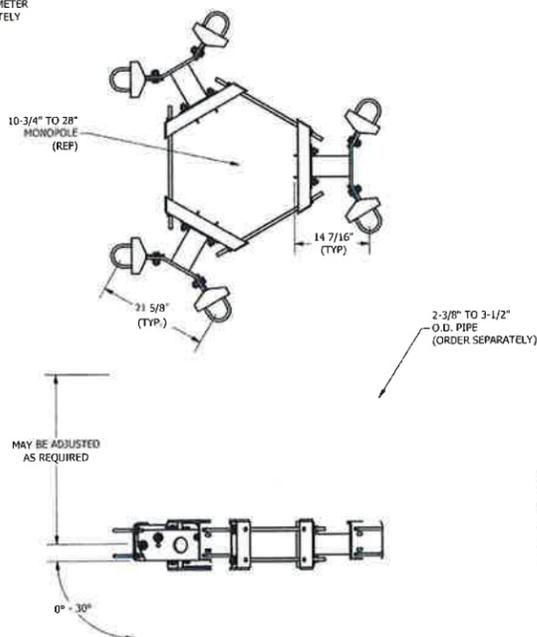
EQUIPMENT ENCLOSURE



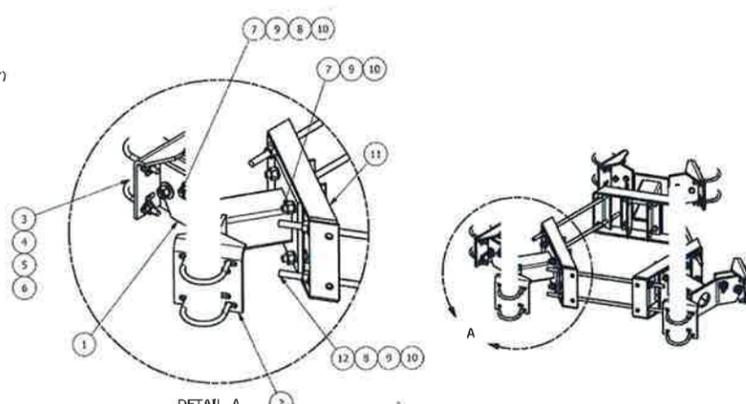
OOD-30DXC-B1AC1
47"H x 25.5"W x 25"D OUTDOOR ENCLOSURE

ANTENNA MOUNT SPECS

NOTE:
FOR POLE SIZES
28" TO 42" DIAMETER
ORDER SEPARATELY
PART # "LP-42"



ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-210717	STANDOFF BRACKET WELDMENT		28.58	85.74
2	6	X-ATB	PIPE ATTACHMENT BRACKET		10.68	64.10
3	12	X-UB1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.77	9.27
3	12	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.70	8.40
3	12	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	7.56
4	24	G12FW	1/2" HDG USS FLATWASHER		0.03	0.82
5	24	G12LW	1/2" HDG LOCKWASHER		0.01	0.33
6	24	G12HUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.72
7	24	G5802	5/8" x 2" HDG HEX BOLT GRS		0.27	6.52
8	23	G58FW	5/8" HDG USS FLATWASHER		0.07	1.62
9	35	G58LW	5/8" HDG LOCKWASHER		0.03	0.91
10	35	G58HUT	5/8" HDG HEAVY 2H HEX NUT		0.13	4.55
11	3	X-UGLM	MINI RING MOUNT WELDMENT		21.67	65.00
12	6	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	12.51
12	6	G58R-14	5/8" x 14" THREADED ROD (HDG.)		1.32	7.32
					TOTAL WT. #	276.40



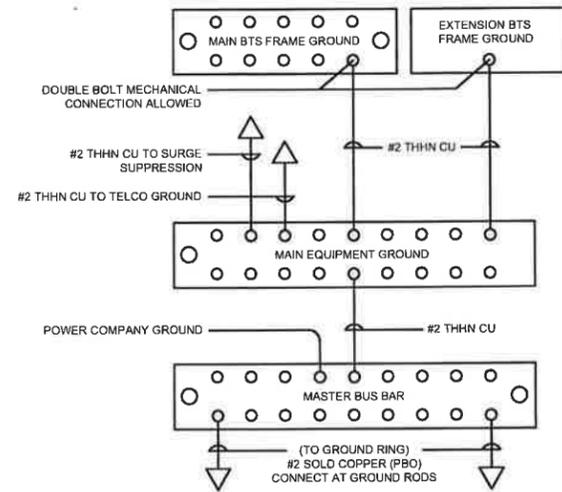
KWIK CITY MUFFLER
2449 WEST 4000 SOUTH
ROY, UT 84067
LAT: 41.189556° LONG: -112.039167°

DRAWING TITLE:
EQUIPMENT DETAIL

DRAWING NO.:
E-1

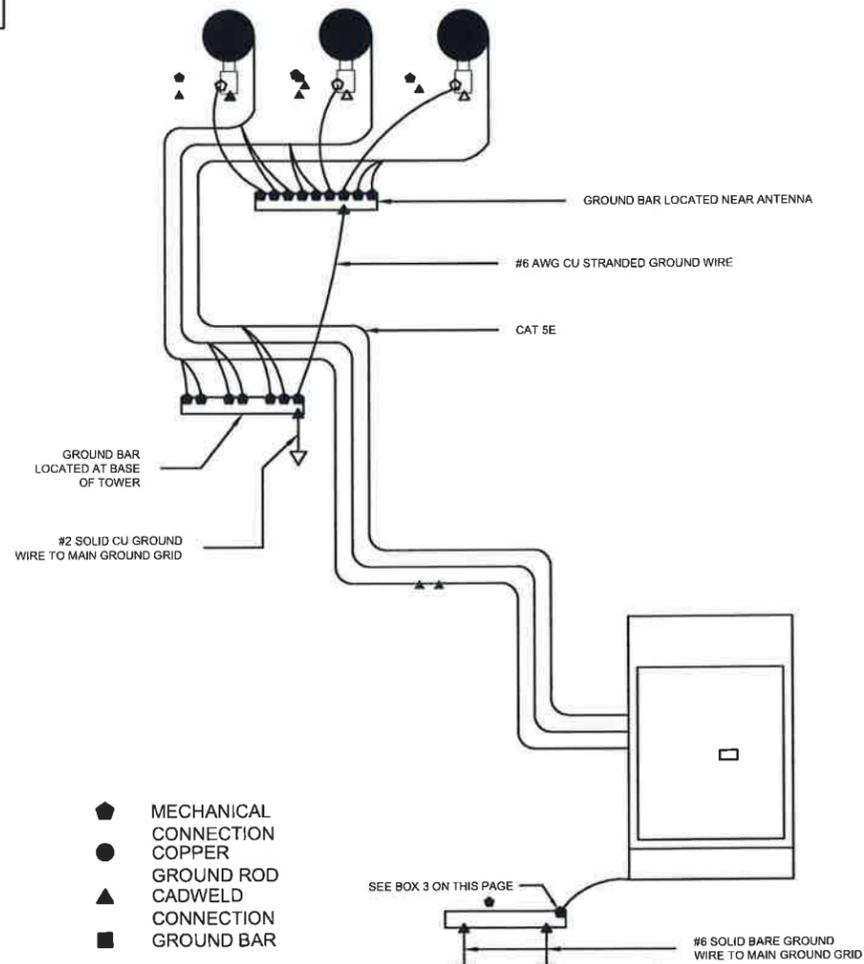
TYPICAL GROUNDING DETAIL

1



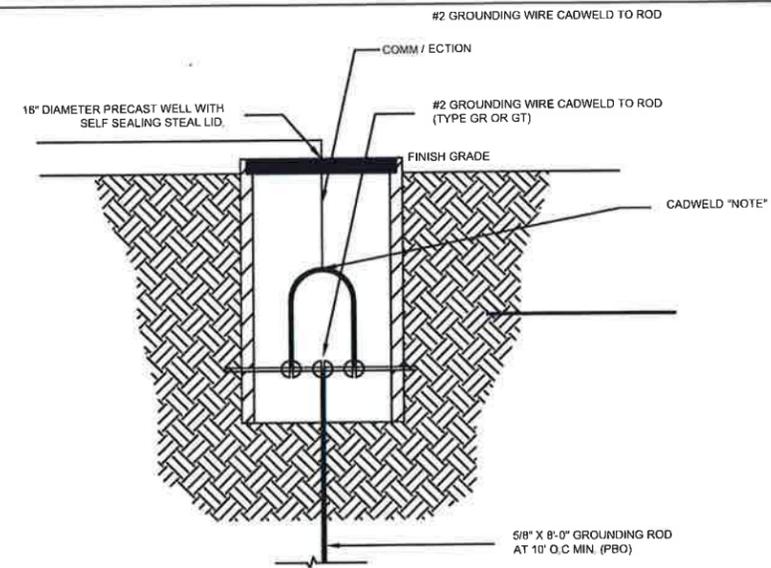
GROUNDING SCHEMATIC

2



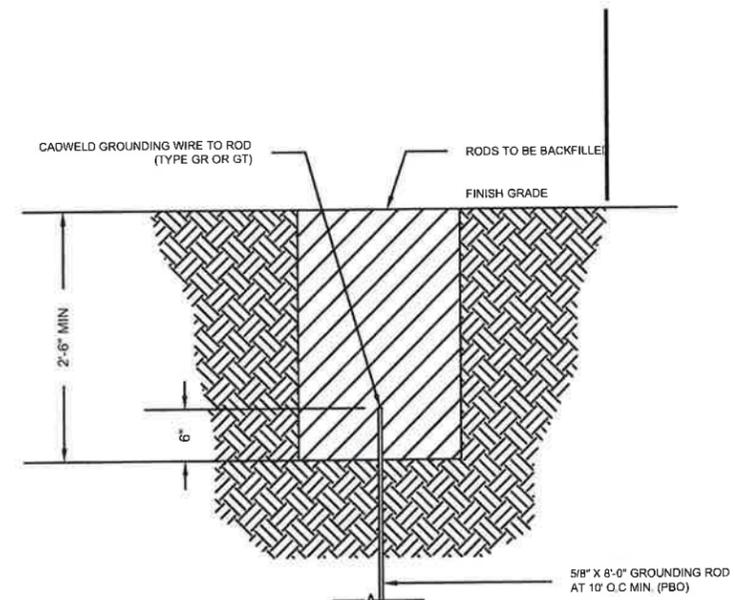
ANTENNA GROUNDING DIAGRAM

3



INSPECTION WELL DETAIL

4



GROUNDING ROD DETAIL

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DRAWING TITLE:
 POWER, TELEPHONE, GROUNDING

DRAWING NO.:
E-3

TYPICAL GROUNDING SYSTEM NOTES

1. TOWER RADIAL GROUND:
#2 SOLID COPPER WIRE CADWELDED (OR FASTENER APPROVED BY PROJECT MANAGER) TO TOWER BASE. EXTEND WIRE 30' MINIMUM IN SWEEPING CONFIGURATION AT A MINIMUM DEPTH OF 24". ALL GROUND RODS TO BE 8' COPPER OR COPPER CLAD. FIRST GROUND RODS FROM TOWER ARE TO BE PLACED 10' EQUAL DISTANCE (BETWEEN ROD CENTERS) AND A MINIMUM OF EVERY 10' ALONG TOTAL LENGTH. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
2. TOWER EQUIPMENT RING GROUND INTERCONNECT:
ONLY ONE CONNECTION OF THIS TYPE FOR EACH TOWER. SAME CONSTRUCTION AS NOTE 1 ABOVE EXCEPT THE TERMINATION AT THE GROUNDING RING MUST BE THREE-WAY CONNECTED. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
3. EQUIPMENT BUILDING RING GROUND:
ALWAYS OBSERVE THE TURN DIRECTIONS SHOWN WHEN PLACING BENDS OR CONNECTIONS. USE #2 SOLID COPPER WIRE PLACED WITHIN 3' (+/- 6") FROM EDGE OF BUILDING CONCRETE FOUNDATION AT A MINIMUM DEPTH OF 24". ALL CONNECTIONS TO GROUND RING ARE TO BE CADWELDED. ALL GROUND RODS TO BE 10' COPPER OR COPPER CLAD AND PLACED 10' EQUAL DISTANCE (BETWEEN ROD CENTERS) AND A MINIMUM OF EVERY 10' ALONG TOTAL LENGTH. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
4. SINGLE POINT GROUND BAR (COAX BULKHEAD):
ALWAYS OBSERVE THE DIRECTIONS SHOWN WHEN PLACING BENDS OR CONNECTIONS TO GROUND RING. USE TWO #2 SOLID COPPER WIRE OR TWO 3" COPPER RIBBONS ATTACHED ON OPPOSITE ENDS OF BAR OR BULKHEAD EXTENDING DIRECTLY TO GROUND. ALL WIRE CONNECTIONS TO GROUND RING ARE TO BE CADWELDED. RIBBONS MAY BE ATTACHED TO GROUND RING WITH A "LISTED" PRESSURE CONNECTION WITH APPROVAL OF CONSTRUCTION MANAGER. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
5. EQUIPMENT SHELTER INNER BONDING RING:
#2 SOLID COPPER WIRE CADWELDED (TO INNER BONDING RING AT A LOCATION EITHER ABOVE THE SOIL LINE OR JUST INSIDE INTERIOR OF BUILDING. ALWAYS USE PVC (NONMETALLIC) SLEEVES WHEN ENTERING THE STRUCTURE. THIS TYPE OF BOND IS REQUIRED AT EACH OUTSIDE CORNER AND AT DISTANCES NOT TO EXCEED 50' ALONG ANY STRAIGHT WALL. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
6. FENCE EQUALIZATION BOND:
#2 SOLID COPPER WIRE CADWELDED TO BUILDING RING GROUND AND ATTACHED TO EACH INSIDE OR OUTSIDE CORNER FENCE POST AND/OR GATE POST WITH A "LISTED" WIRE CLAMP. PLACE AT A MINIMUM 12" DEPTH (SEE NOTE 11 BELOW FOR CROSSING CLEARANCES). IF METALLIC POST IS NOT SET IN CEMENT, PLACE AN ADDITIONAL 8' GROUND ROD AT POST LOCATION.
7. GATE EQUALIZATION BOND:
#2 SOLID COPPER WIRE CADWELDED TO FENCE EQUALIZATION WIRE AND ATTACHED TO EACH GATE POST WITH A "LISTED" WIRE CLAMP. IF METALLIC POST IS NOT SET IN CEMENT, PLACE AN ADDITIONAL 10' GROUND ROD AT EACH POST LOCATION.
8. POWER / TELEPHONE TRENCH:
UTILITIES CAN EITHER BE PLACED IN SAME TRENCH (NESC RANDOM SEPARATION) OR IN SEPARATE TRENCH AT A 36" DEPTH. ALWAYS PLACE THESE FACILITIES BELOW WHILE MAINTAINING A 36" HORIZONTAL SEPARATION AND A 12" VERTICAL SEPARATION FROM ANY RADIAL OR RING GROUND SYSTEMS IN, ON, OR ADJACENT TO THE RADIO SITE.
9. POWER / TELEPHONE ENTRANCE:
THE BUILDING RING GROUND MEETS OR EXCEEDS THE NEC ARTICLE 250 UTILITY PROTECTION GROUND. THEREFORE, INFORM LOCAL INSPECTOR THAT ADDITIONAL GROUND RODS ARE NOT REQUIRED. ALL UTILITY GROUNDS MAY BE ATTACHED TO THE #2 SOLID COPPER WIRE DETAILED IN NOTE 10 BELOW. IF LOCAL POWER COMPANY CODES REQUIRE AN ADDITIONAL GROUND ROD, BOND THE TWO FACILITIES TOGETHER AT THIS LOCATION.
10. UTILITY GROUNDING ELECTRODE BOND:
USE #6 SOLID BARE WIRE PLACED WITHIN 3' OF UTILITY ENTRANCE AT DEMARCATION CABINET ENTRY PORT. ALL CONNECTIONS TO GROUND RING ARE TO BE CADWELDED. CONNECTION TO DEMARCATION CABINET ENTRY PORT TO BE WITH A "LISTED" CONNECTION. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
11. RADIAL GROUND / FENCE BOND CROSSINGS:
WHEREVER PRACTICAL, TO REDUCE MAGNETIC COUPLING, THESE FACILITIES MUST CROSS AT A 90 DEGREE ANGLE WHILE MAINTAINING 18" VERTICAL SEPARATION.
12. COAX GROUNDING KITS:
USE INDIVIDUAL "LISTED" GROUNDING KITS FOR EACH COAX CABLE. BOND TO TOWER BONDING BUSS BAR WITH #2 THHN SOLID COPPER WIRE WITH 2 HOLE CRIMPED CONNECTIONS.
13. GROUNDING BUSS BAR KIT:
THE GROUNDING BUSS BAR AND ATTACHMENT KIT MUST BE DIRECTLY BOLTED TO THE TOWER STRUCTURE WITHOUT ELECTRICAL INSULATORS.
14. ICE BRIDGE BONDING:
THE ICE BRIDGE SHOULD NOT BE BONDED TO THE TOWER STRUCTURE. IT SHOULD ONLY BE BONDED AT ONE END TO THE ENTRANCE BULKHEAD (SINGLE POINT GROUND BAR). USE #2 THHN SOLID COPPER WIRE WITH 2 HOLE CRIMPED CONNECTIONS.
15. RADIO BAY TO COAX BULKHEAD BOND:
THIS IS THE ONLY CABINET TO GROUND BOND WIRE ATTACHED TO THE RADIO BAY. USE #2 THHN SOLID COPPER WIRE WITH 2 HOLE CRIMPED CONNECTIONS OR A 3" COPPER STRAP.
16. RADIO BAY ISOLATION KIT:
CONTACT RADIO EQUIPMENT SUPPLIER FOR SPECIFICATION AND INSTALLATION PROCEDURES.

6

1. PERFORM DETAILED VERIFICATION OF WORK PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND COMMENCING CONSTRUCTION. NOTIFY VIVINT WIRELESS OF ANY DISCREPANCIES.
2. PRIOR TO BEGINNING WORK, COORDINATE ALL POWER AND TELCO WORK WITH THE LOCAL UTILITY COMPANY AS IT MAY APPLY TO THIS SITE. ALL WORK TO COMPLY WITH THE RULES AND REGULATIONS OF THE UTILITIES INVOLVED.
3. RUN TELEPHONE FROM EXISTING PEDESTAL OR TELEPHONE BOARD TO PPC LOCATION. CONTRACTOR SHALL FIELD VERIFY EXACT ROUTING OF POWER AND TELCO. FOLLOW ALL APPLICABLE LOCAL CODES AND UTILITY REQUIREMENTS.
4. FABRICATION AND INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM SHALL BE DONE IN A FIRST CLASS WORKMANSHIP BY QUALIFIED PERSONNEL EXPERIENCED IN SUCH WORK.
5. PROVIDE 2" CONDUIT EQUIPPED WITH ONE PULL STRING AND ONE 1" INNERDUCT. ALL TELEPHONE CONDUITS AND TELEPHONE WIRING MUST MAINTAIN A MINIMUM SEPARATION DISTANCE OF 18" AWAY FROM ALL A/C POWER CONDUITS AND WIRING.
6. CONTRACTOR TO PROVIDE 1" CONDUIT FOR POWER ROUTING TO CABINET.
7. ALL ELECTRICAL WORK SHALL CONFORM TO THE EDITION OF THE NEC ACCEPTED BY THE LOCAL JURISDICTION AND TO THE APPLICABLE LOCAL CODES AND REGULATIONS.
8. SCHEDULE THE WORK IN AN ORDERLY MANNER SO AS NOT TO IMPEDE PROGRESS OF THE PROJECT.
9. CONTRACTOR TO VERIFY AZIMUTHS WITH FINAL RF DATA SHEET FROM RF ENGINEER.

ELECTRICAL/TELEPHONE/SITE NOTES

vivint.



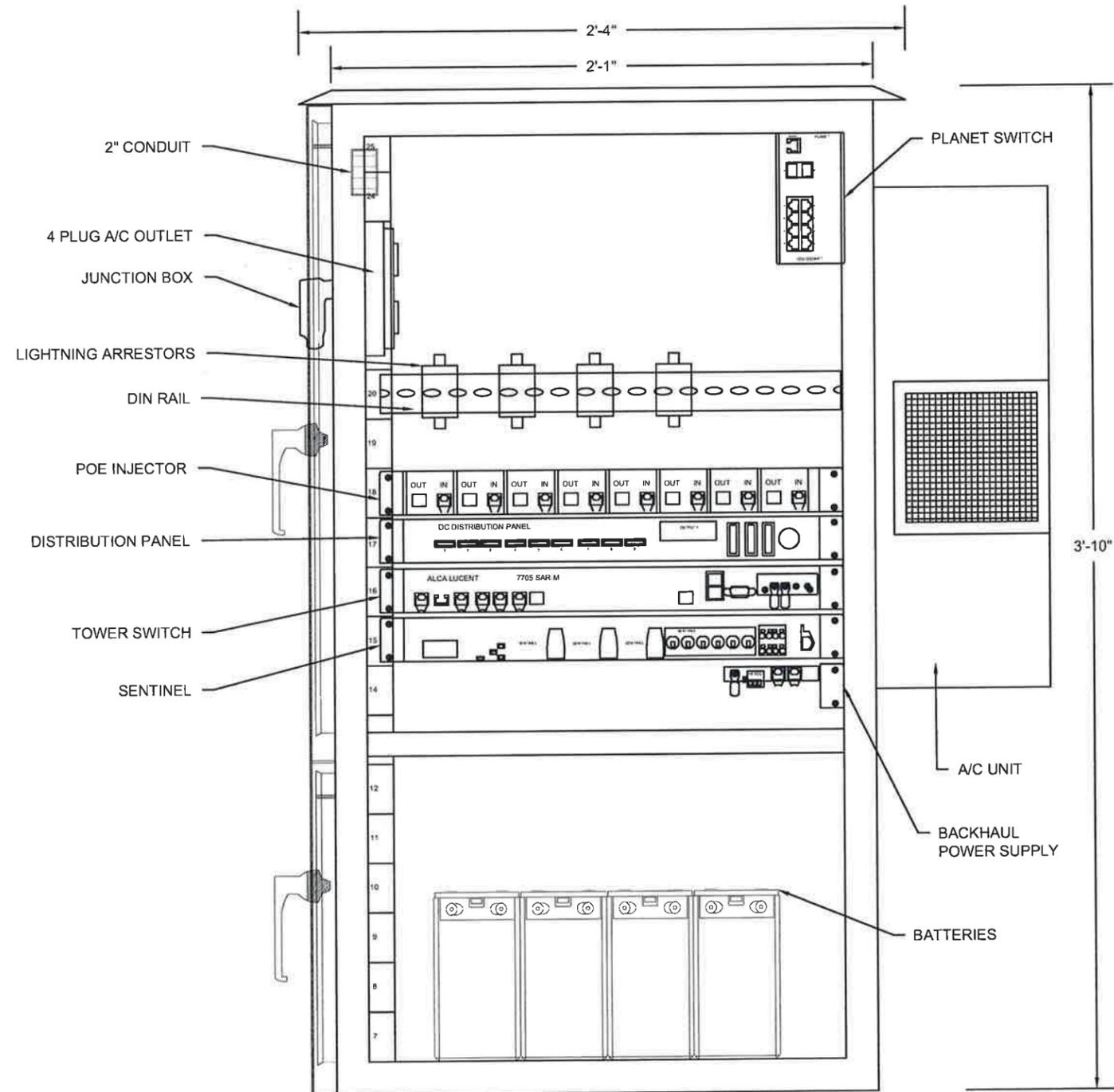
DATE: 7/28/2014
DRAWN BY: BBH
CHECKED BY: ROCKY SCHUTJER

REVISIONS		
DATE	DESCRIPTION	INT.
7-28-14	PRELIM CDs	BBH
8-04-14	REV. 1	BBH
8-07-14	REV. 2	BBH

KWIK CITY MUFFLER
2449 WEST 4000 SOUTH
ROY, UT 84067
LAT: 41.189556° LONG: -112.039167°

DRAWING TITLE: SITE NOTES	DRAWING NO.: E-4
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CABINET DETAIL



vivint.



8/15/14
No. 5213
JOHN C. GOEBEL
STATE OF UTAH



DATE: 7/28/2014
DRAWN BY: BBH
CHECKED BY: ROCKY SCHUTJER

REVISIONS		
DATE	DESCRIPTION	INT.
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8-04-14	REV. 1	BBH
8-07-14	REV. 2	BBH

KWIK CITY MUFFLER
2449 WEST 4000 SOUTH
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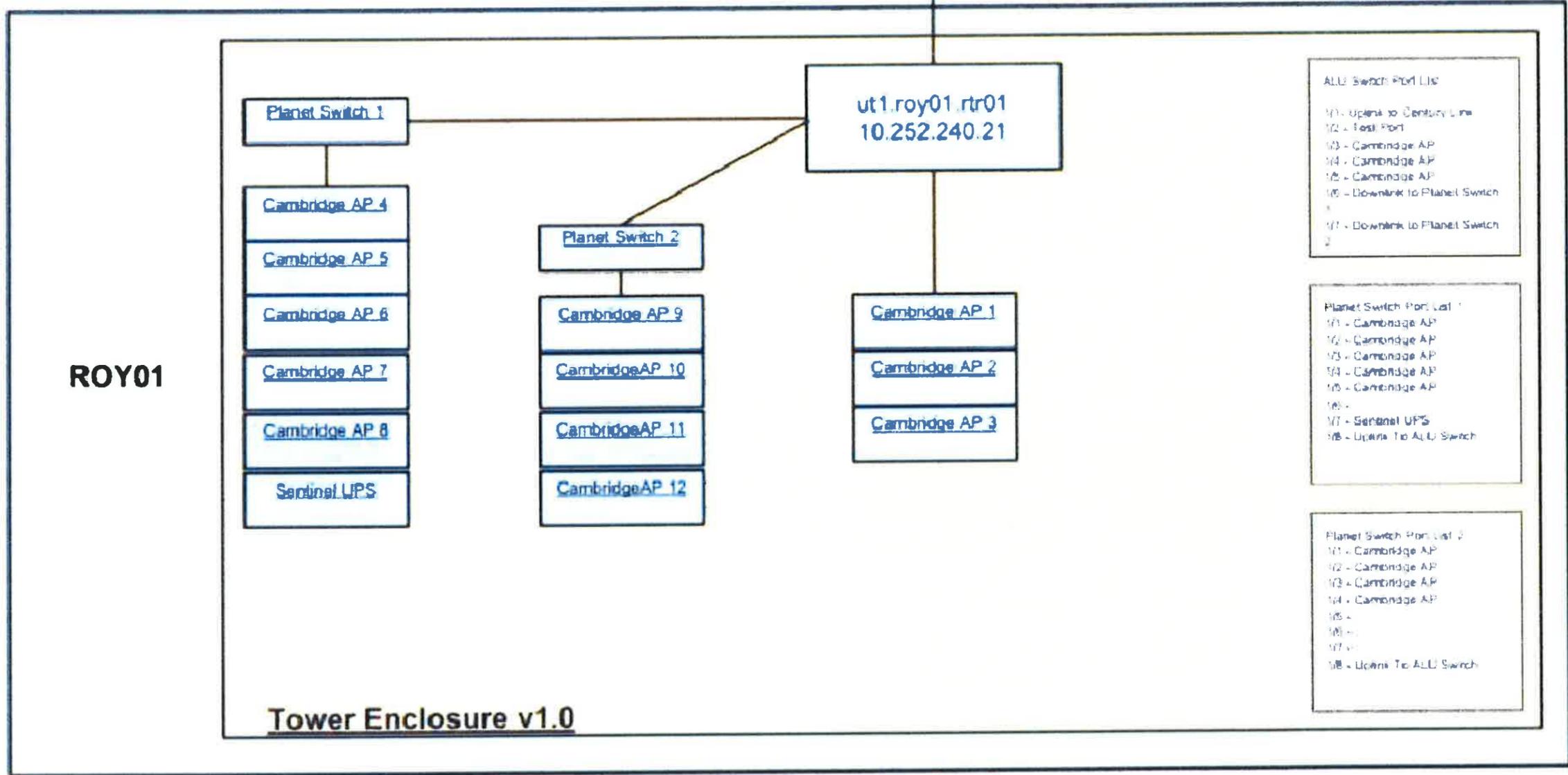
DRAWING TITLE:
CABINET DETAIL

DRAWING NO.:
E-5

IP DIAGRAM

Century
Link/Delong

Circuit Information:
Provider: Century Link
Contact Info:
Fiber Type: Singlemode
Dups Necessary: 1 Go Up Dual
Fiber



ALL Switch Port List
 10 - Uplink to Century Link
 12 - Fast Port
 13 - Cambridge AP
 14 - Cambridge AP
 15 - Cambridge AP
 16 - Downlink to Planet Switch 1
 17 - Downlink to Planet Switch 2

Planet Switch Port List 1
 11 - Cambridge AP
 12 - Cambridge AP
 13 - Cambridge AP
 14 - Cambridge AP
 15 - Cambridge AP
 16 -
 17 - Sentinel UPS
 18 - Uplink To ALL Switch

Planet Switch Port List 2
 11 - Cambridge AP
 12 - Cambridge AP
 13 - Cambridge AP
 14 - Cambridge AP
 15 -
 16 -
 17 -
 18 - Uplink To ALL Switch

ROY01

Tower Enclosure v1.0

vivint.



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 DRAWN BY: BBH
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REVISIONS		
DATE	DESCRIPTION	INT.
7-28-14	PRELIM CDs	BBH
8-04-14	REV. 1	BBH
8-07-14	REV. 2	BBH

KWIK CITY MUFFLER
 2449 WEST 4000 SOUTH
 ROY, UT 84067
 LAT: 41.189556° LONG: -112.039167°

DRAWING
TITLE:
IP DIAGRAM

DRAWING NO.:
E-6

BILL OF MATERIALS

Part Description	Vendor or MFG	Vendor/MFG#	Vivint Sku/Part #	Quantity
Access Points				
Cambridge AP - Horiz / 48V			Inventory #	4
Cambridge AP - Vert / 48V			Inventory #	4
Raspberry Pi (Starter Kit - Model B)			5-RASPBPI	1
Raspberry Pi Power Supply				
Back-Hauls				
Cabinets				
Outdoor Enclosure w/ single batt box OOD-30DXC-B1				1
Outdoor Enclosure w/fan/heater 30x24x10		DDB Unlimited	OSVP-302410	1
Battery Box		Tessco	486477	1
4 Square Outlet		Tessco	369684	1
Enclosure Combination Locks		Local		1
Battery Backup System Sentinel 48V 1500		Tessco	358313	1
DC Remote Power Control ICT180-12BRCP (+48V)		Tessco	532220	1
40ah Battery	Northstar	*in Shaun's (old) office		4
Cable & Cable accessories				
Patch Cable 1'			5-CBL-CAT5-1BK	5
Patch Cable 3'			5-CBL-CAT5-3BK	5
Patch Cable 7'			5-CBL-CAT5-7BK	2
5-CBL-SHLD-CAT5E (CAT5E shielded cable, outdoor use, 1000 feet)			5-CBL-SHLD-CAT5E	9
RJ45 connectors (shielded) - Bag of 50				1
Grounding				
Universal Groundbar (4"x12") w/ shelter hardware		Tessco	449419	1
5-CLMP-GNDBAR (Ground Rod Clamp, Rod Dia 5/8 In) - 6' -		Vivint Inventory PN	5-CLMP-GNDBAR	1
8"x8"x6" J-Box		Local		2
12"x12"x6" J-Box		Local		2
Routing and Switching				
Fiber Terminus Switch (more than 1Gbps)	Alcatel-Lucent	7210 SAS-M		1
Fiber Terminus Switch Alcatel-Lucent 7705 SAR-M				1
Alcatel				1
Mounts				
Site Pro Antenna Mount		Site Pro *Rosenberger	UWS6-NP and include LP-42	1
Confab 36x36 precast Air-conditioner pad		Confab	http://www.confab-precast.com/cat_air.cfm	1
Consumables				
Copper Ground Wire 6AWG (500' roll)		Vivint inventory	KLU70BAG2R	1
Other				
Surge Protection / Surge Arrestor	Citel	??		8
Meter Box				1
Subscriber Modules				
2 ½ inch metal conduit				100
rigid pipe 3 inch to hang conduit and meter box				2
rubber mats for non pen mounts				4

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 2449 WEST 4000 SOUTH
 ROY, UT 84067
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DRAWING TITLE: BILL OF MATERIALS	DRAWING NO.: E-7
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