



City of Aurora Public Works Department

DNG3XC021

# BUILDING PERMIT APPLICATION

Building Division • 15151 E. Alameda Parkway, Ste 2400 • Aurora, CO 80012 • 303-739-7420 • Fax: 303-739-7412

Email: [permitcounter@auroragov.org](mailto:permitcounter@auroragov.org)

Project Address <u>15301 E. Iliff Ave</u>		Unit # <u>NA</u>
Project Name: <u>Sprint 2.5 Upgrade</u>		
Contractor Company Name <u>TBD</u>	Phone	Fax
Contact Person	Phone	
Email	Fax	
Architect and/or Engineer Contact Information for correction items <u>Centerline Solutions</u>		
Architect or Engineer name <u>Jeff Noseworthy</u>	Email <u>jeffn@centerlinesolutions.com</u>	
Phone <u>303-993-3293</u>	Fax <u>NA</u>	
Owner (Required for Certificate of Occupancy) only <u>NA Sprint Telecom Site</u>		
Owner address <u>contact Darren Hunter w/questions &amp; when permit is ready</u>		
Email <u>dhunter@atecs.com 913.634.1245</u>		
Valuation / FDA: \$ <u>\$30,000</u> ✓	Materials Cost: \$ <u>\$10,000</u>	
FDA = Fee Determination Assessment. (Also known as the value of project) has no relationship to the construction costs for the building which can vary greatly. Rather, The assessment is used only to determine the appropriate level of fees to fund our code compliance activities.		
Describe The Work You Will Be Doing: <u>Telecommunication Site Modification - Addition of one antenna and RRU (remote radio unit) per sector and new equipment components installed into the existing equipment cabinet.</u>		

I declare under penalty that this application has been examined by me and that the statements made herein are made in good faith pursuant to City of Aurora tax and licensing regulations; and to the best of my knowledge and belief are true, correct and complete.

Print Name Darren Hunter Signature Darren Hunter Date 03/06/2014 7/30/14

**BOARD OF APPEALS:** Contractor's Appeals and Standards Board. Applicants have the right to have the board hear appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of the building code. Any application for appeal to the board shall be based on a claim that the true intent of the code or the rules legally adopted there under have been incorrectly interpreted, the provisions of the building code do not fully apply or an equally good or better form of construction is proposed.

Route to RANING

## THIS SPACE FOR OFFICE USE ONLY

Fee Determination Assessment: \$ 30,000.00

Change of occupancy/use: ☐ Yes ☐ No

### REVIEWS

- ☒ Structural
- ☐ Mechanical
- ☐ Plumbing
- ☒ Electrical
- ☐ Fire-Life Safety
- ☐ Building Life Safety

### INSPECTIONS

- ☒ Structural
- ☐ Mechanical
- ☐ Plumbing
- ☒ Electrical
- ☐ Life Safety
- ☐ Gate/Hazard

Intake Date: 7/30/14

Balance Due: \$ \_\_\_\_\_

**PRE APPROVAL** Initial \_\_\_\_\_ ☐ Zoning ☐ Water

Exterior changes? ☐ Yes ☐ No

Homeowner verified: ☐ Yes ☐ No

Permit Type: LT

Mid roof / Ave Bldg Height: N/A

Parent Permit RSN: 847295

Plans Examiner: JDK

Subtype: Roof Top Antenna

RSN: 920731

Plans Picked Up By: \_\_\_\_\_

Company Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_



*Atecs, Our Professional Services Division*  
**MC2, Our Construction Division**  
16360 Table Mountain Pkwy  
Golden, CO 80403  
P: 303-993-3293 / F: 303-993-3019

April 17, 2014

Ms. Danielle Huxtable  
Sprint

**RE: DN63XC021**  
**"Walgreens"**  
**Concrete Slab and Steel Frame Structural Review**

Dear Ms. Huxtable:

Centerline Solutions performed a structural review of the existing Sprint equipment concrete slab and steel frame. The existing slab and frame, by inspection, can safely support the new Sprint 2.5 Base Band Unit (100 lbs) in the existing Network Vision MMBS cabinet.

Our review assumes the concrete slab and frame were properly analyzed for the existing Network Vision equipment during the previous site upgrade.

All new equipment shall be placed as shown in the construction drawings issued by this office.

Please contact us with any questions.

Sincerely,



Ryan Guerrero, PE

14 - 869520



16360 Table Mountain Pkwy, Golden, CO 80403 / 303.993.3293

April 15, 2014

Ms. Danielle Huxtable  
Sprint

**RE: Sprint 2.5 Project  
DN63XC021  
"Walgreens"  
Antenna Mount Analysis**

Dear Ms. Huxtable:

Centerline Solutions performed a structural review of the existing antenna mount at the above referenced site. The existing antenna mounts can safely support the new Sprint 2.5 Antennas and RRU's.

All new antennas and equipment shall be placed on the building as shown in the drawings issued by this office.

Please contact us with any questions.

Sincerely,



Ryan Guerrero, PE

ATT: Calculations

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Know what's below.  
Call before you dig.

# Sprint®

TM

## 2.5 EQUIPMENT DEPLOYMENT

# WALGREENS

## DN63XC021

15301 E. ILIFF AVENUE  
AURORA, CO. 80013  
ARAPAHOE COUNTY

LONGITUDE: -104.8093900°  
LATITUDE: 39.6751900°

ROOFTOP 35'-0"  
COLORADO MARKET

PLANS PREPARED FOR:

# Sprint®

6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251

△			
△			
△			
△	7/1/14	FINAL CONST	ML
△	6/26/14	100% CONST	JN
△	4/16/14	90% CONST	ML
REV.	DATE	REVISION DESCRIPTION	BY

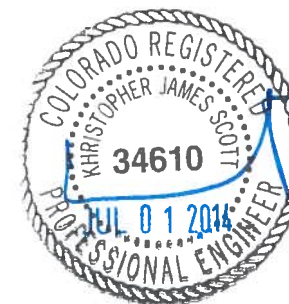
ISSUED FOR:

## CONSTRUCTION

PLANS PREPARED BY:

**CENTERLINE SOLUTIONS**  
Advancing Wireless Networks

16360 TABLE MOUNTAIN PARKWAY  
Golden, CO 80403  
303-993-3293  
WWW.CENTERLINESOLUTIONS.COM



ALL SCALES ARE SET FOR A SIZE "D" 24"X36" SHEET  
PROJECT INFORMATION

WALGREENS  
DN63XC021  
15301 E. ILIFF AVE.  
AURORA, CO 80013  
ARAPAHOE COUNTY

DRAWN BY:	CHECKED BY:	APPROVED BY:
ML	JN	KS

SHEET TITLE

## TITLE SHEET

SHEET NUMBER

# T1

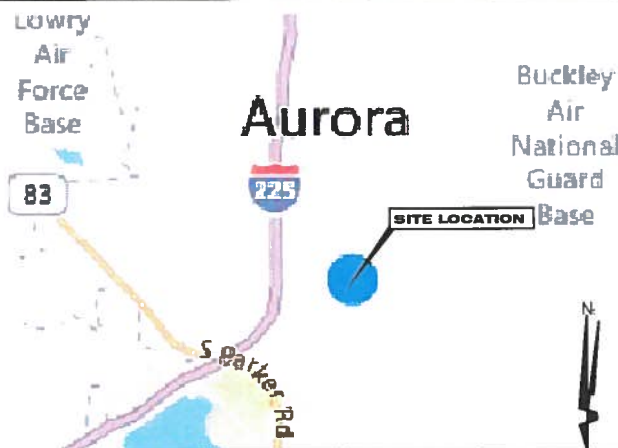
### CODE

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 CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

BUILDING/DWELLING CODE IBC 2009  
STRUCTURAL CODE IBC 2009  
MECHANICAL CODE IMC 2009  
ELECTRICAL CODE NEC 2011  
FIRE/LIFE SAFETY CODE IFC 2009

ACCESSIBILITY REQUIREMENTS:  
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2009 IBC BUILDING CODE.

### AREA MAP



### PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY

- INSTALL (3) NEW PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (3) NEW RRU'S (1 PER SECTOR)
- INSTALL (3) NEW FIBER JUNCTION CYLINDERS (1 PER SECTOR)
- INSTALL (3) NEW POWER JUNCTION CYLINDERS (1 PER SECTOR)
- INSTALL (1) NEW BBU KIT IN EXISTING MMBS CABINET

### VICINITY MAP



### SIGNATURE BLOCK

APPROVAL	SIGNATURE	DATE
SITE ACQ. MGR		
CONSTRUCTION MGR		
A&E MGR		
PLANNING CONS.		
RF MGR		
RF ENGINEER		
PROPERTY OWNER		

### DRIVING DIRECTIONS

FROM INTERSECTION OF I-25 & I-70:  
WEST ON I-70 FROM I-25 TO I-225 WHERE YOU WILL HEAD SOUTHWEST (TURN RIGHT). TAKE EXIT 5 ON TO E. ILIFF AVE AND HEAD EAST. WALGREENS WILL BE ON THE LEFT SIDE AT THE CORNER OF S. CHAMBERS RD.

### PROJECT SUMMARY

#### SITE INFORMATION:

SITE NAME: WALGREENS

SITE #: DN63XC021  
SITE ADDRESS: 15301 E. ILIFF AVE  
CITY, STATE & ZIP: AURORA, CO 80013  
COUNTY: ARAPAHOE COUNTY

#### PROPERTY/TOWER OWNER:

COMPANY: CKT-AURORA LLC  
CONTACT: NICK STUDEN JR.  
ADDRESS: 8900 GROSSMONT BLVD #3  
LA MESA, CA 91941  
PHONE: (303) 466-6794

#### SPRINT CONSTRUCTION MANAGER (CM):

COMPANY: SPRINT  
CONTACT: BRANDON WHINERY  
EMAIL: BRANDON.WHINERY@SPRINT.COM  
PHONE: (303) 505-5750

#### SPRINT PROJECT MANAGER:

COMPANY: SPRINT  
CONTACT: DANIELE L. HUXTABLE  
EMAIL: DANIELE.HUXTABLE@SPRINT.COM  
PHONE: (720) 420-6915

#### SITE ACQ. PROJECT MANAGER:

COMPANY: CENTERLINE SOLUTIONS, LLC  
CONTACT: AMANDA BERNARD  
EMAIL: ABERNARD@CENTERLINESOLUTIONS.COM  
PHONE: (404) 304-3066

#### A&E FIRM:

COMPANY: CENTERLINE SOLUTIONS, LLC  
CONTACT: JEFF NOSEWORTHY  
EMAIL: JEFFN@CENTERLINESOLUTIONS.COM  
PHONE: (303) 993-3293 X 414

### SHEET INDEX

SHEET	DESCRIPTION
T1	TITLE SHEET
SP1	SPRINT SPECIFICATIONS
SP2	SPRINT SPECIFICATIONS
A1	OVERALL SITE PLAN
A2	SITE PLAN
A3	EX. & NEW EQUIPMENT PLANS
A4	EX. & NEW ANTENNA PLANS, ANTENNA & RRU SPECS
A5	ELEVATIONS
A6	EQUIPMENT DETAILS
A7	RFDS
A8	COLOR CODING
A9	EQUIPMENT DETAILS
E1	EXISTING AC & DC POWER DISTRIBUTION
E2	GROUNDING DETAILS

### PROJECT TEAM



6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251  
TEL: (913) 624-8000

CITY OF AURORA  
BUILDING DIVISION  
APPROVED AS NOTED  
DATE 8/7/14



16360 TABLE MOUNTAIN PARKWAY  
Golden, CO 80403  
303-993-3293  
WWW.CENTERLINESOLUTIONS.COM

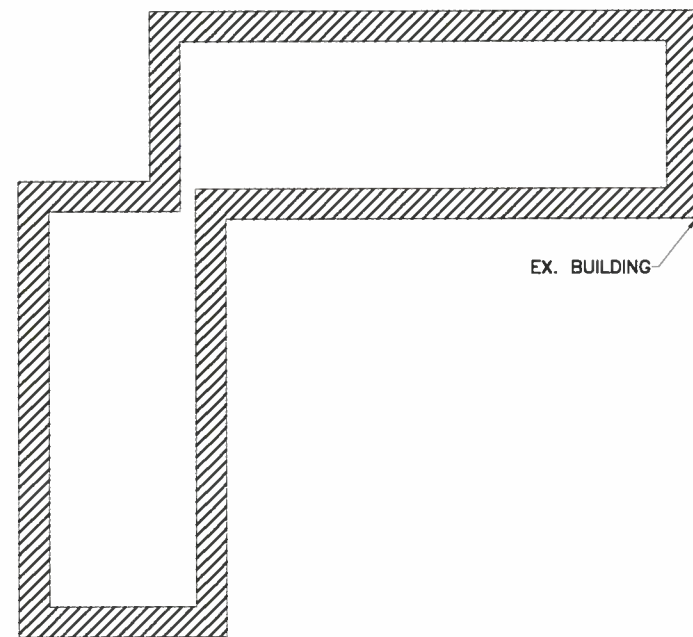
14-869520



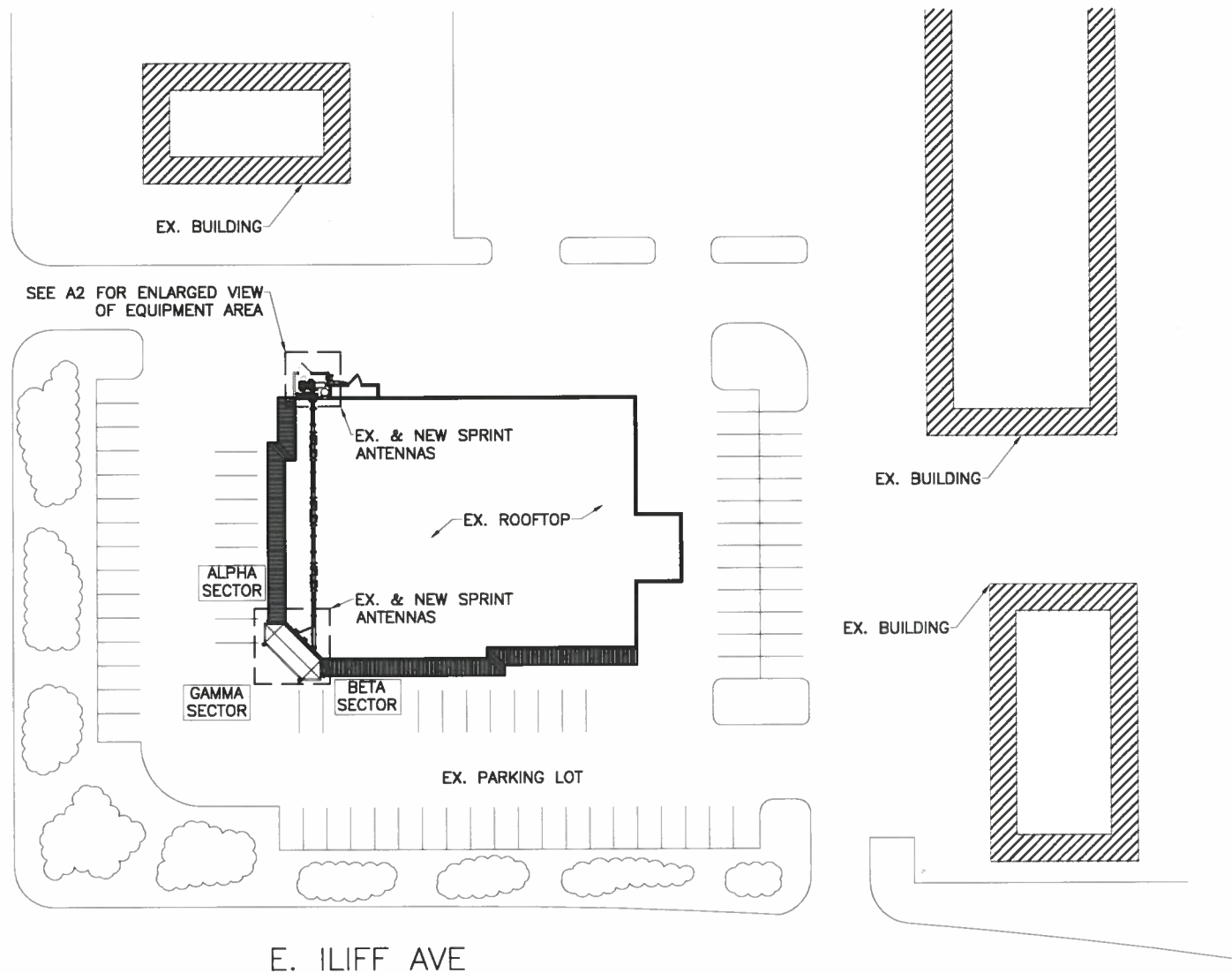
14-869520



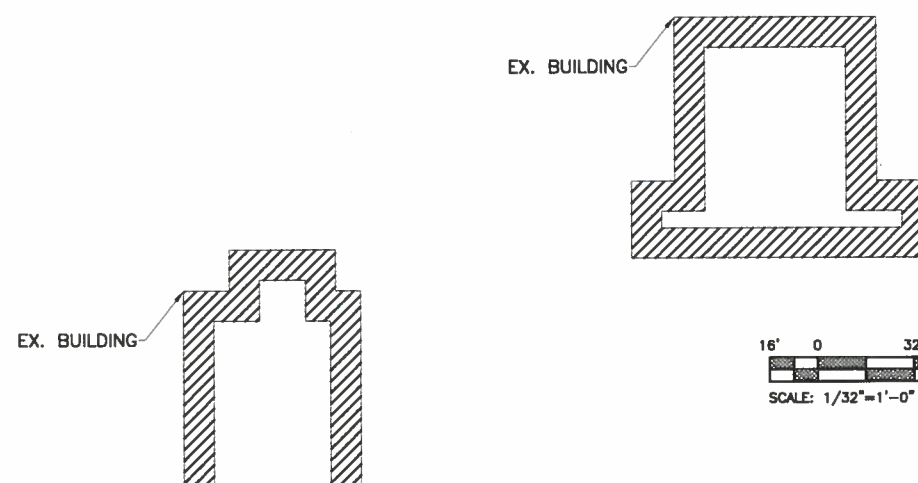
# SP2



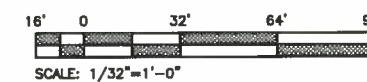
S. CHAMBERS RD



E. ILIFF AVE



This sheet of drawings has not been reviewed for code compliance.



14 - 869520

PLANS PREPARED FOR:

**Sprint**

6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251

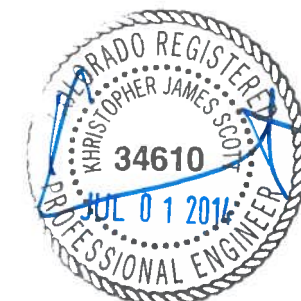
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△	7/1/14	FINAL CONST	ML
△	6/26/14	100% CONST	JN
△	4/16/14	90% CONST	ML
REV.	DATE	REVISION DESCRIPTION	BY

ISSUED FOR  
**CONSTRUCTION**

PLANS PREPARED BY:

**CENTERLINE SOLUTIONS**  
Advancing Wireless Networks

16360 TABLE MOUNTAIN PARKWAY  
Golden, CO 80403  
303-993-3293  
WWW.CENTERLINESOLUTIONS.COM



ALL SCALES ARE SET FOR A SIZE "D" 24"X36" SHEET  
PROJECT INFORMATION

WALGREENS  
DN63XC021  
15301 E. ILIFF AVE.  
AURORA, CO 80013  
ARAPAHOE COUNTY

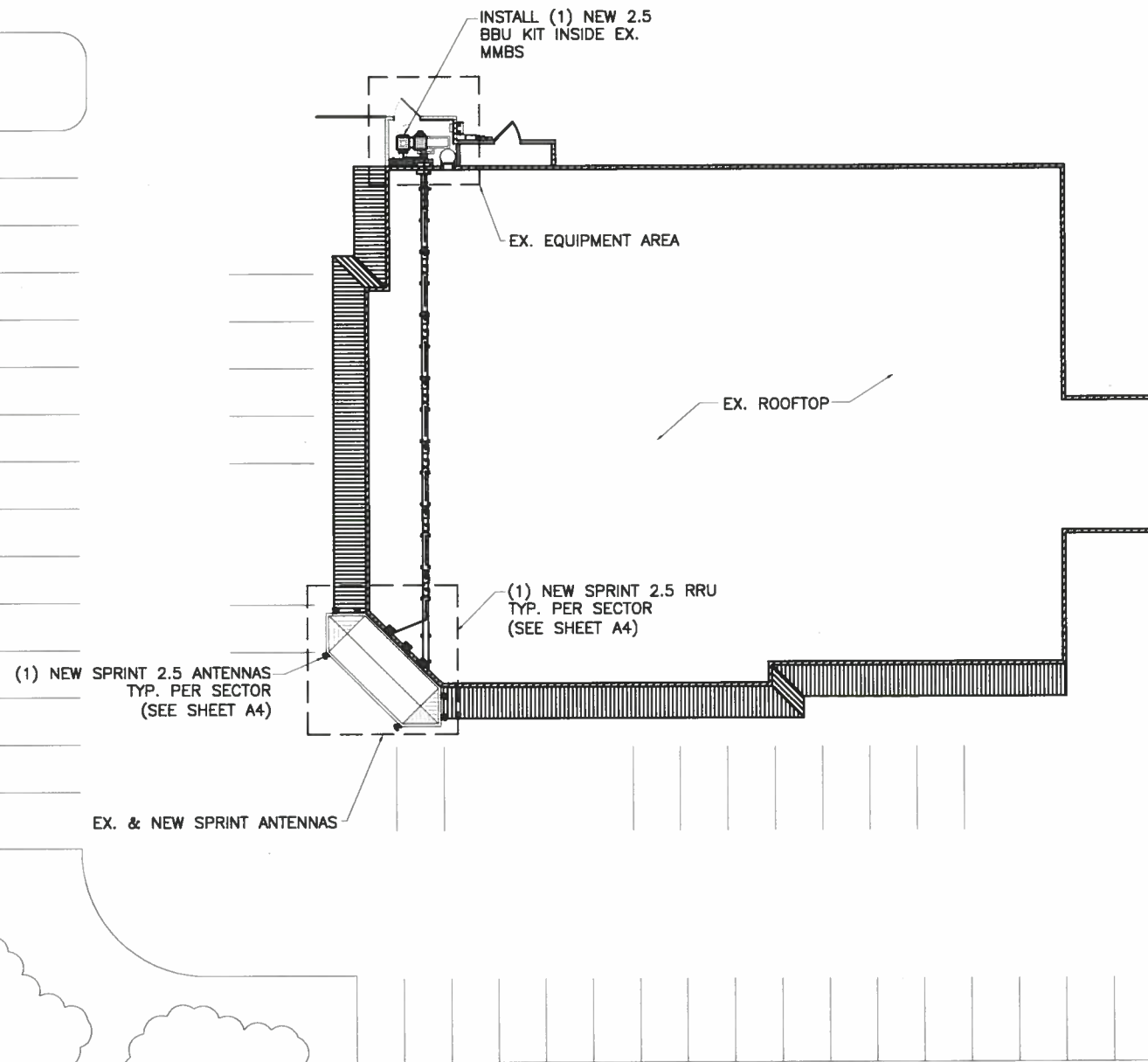
DRAWN BY:	CHECKED BY:	APPROVED BY:
ML	JN	KS

SHEET TITLE  
**OVERALL SITE PLAN**

SHEET NUMBER  
**A1**

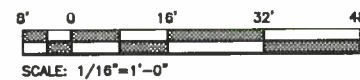


S. CHAMBERS RD



E. ILIFF AVE

This sheet of drawings has not been reviewed for code compliance.



14 - 869520

**Sprint**

6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251

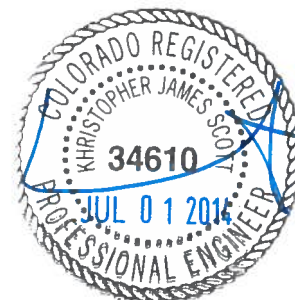
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△	6/26/14	100% CONST	JN
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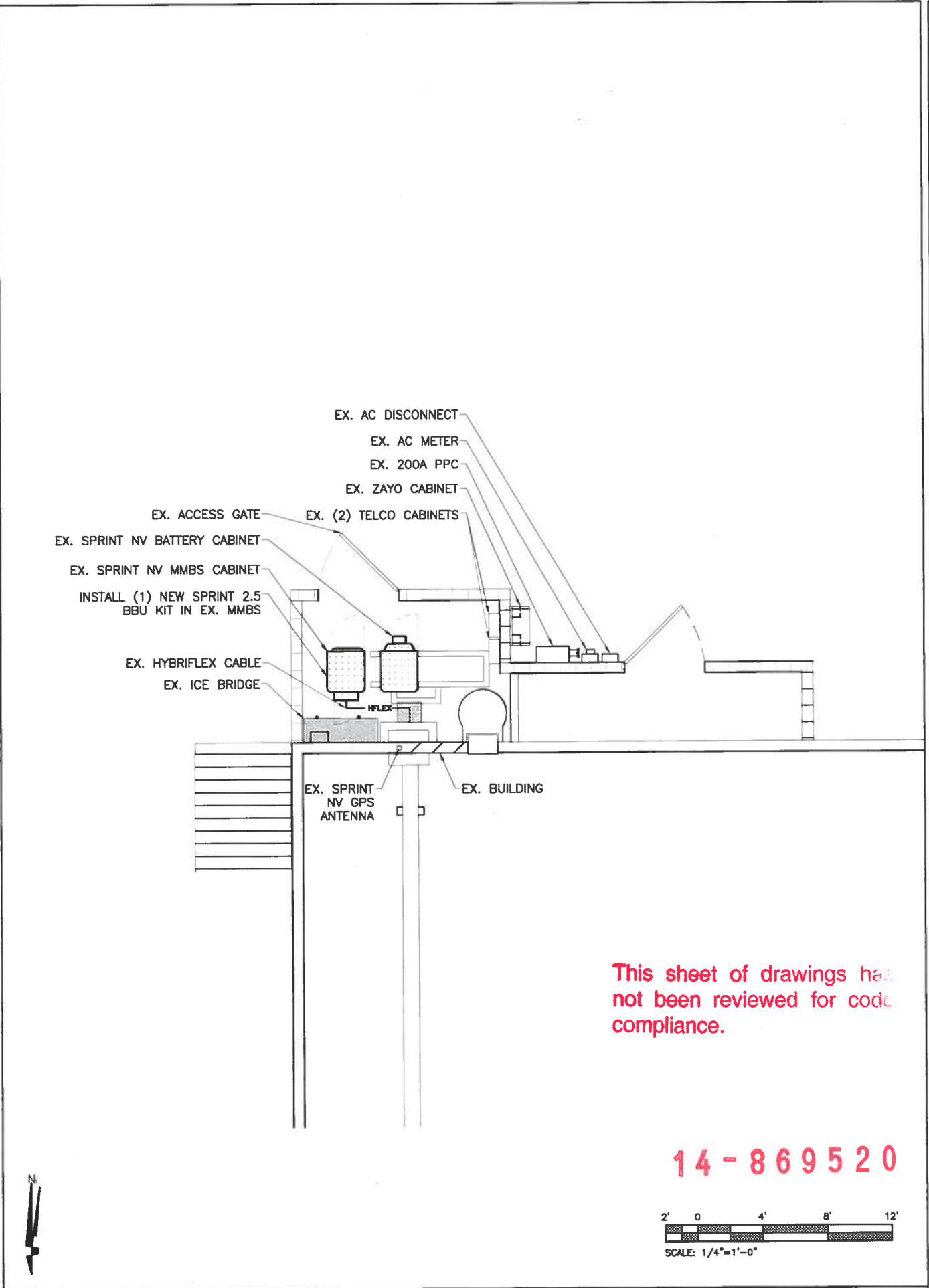
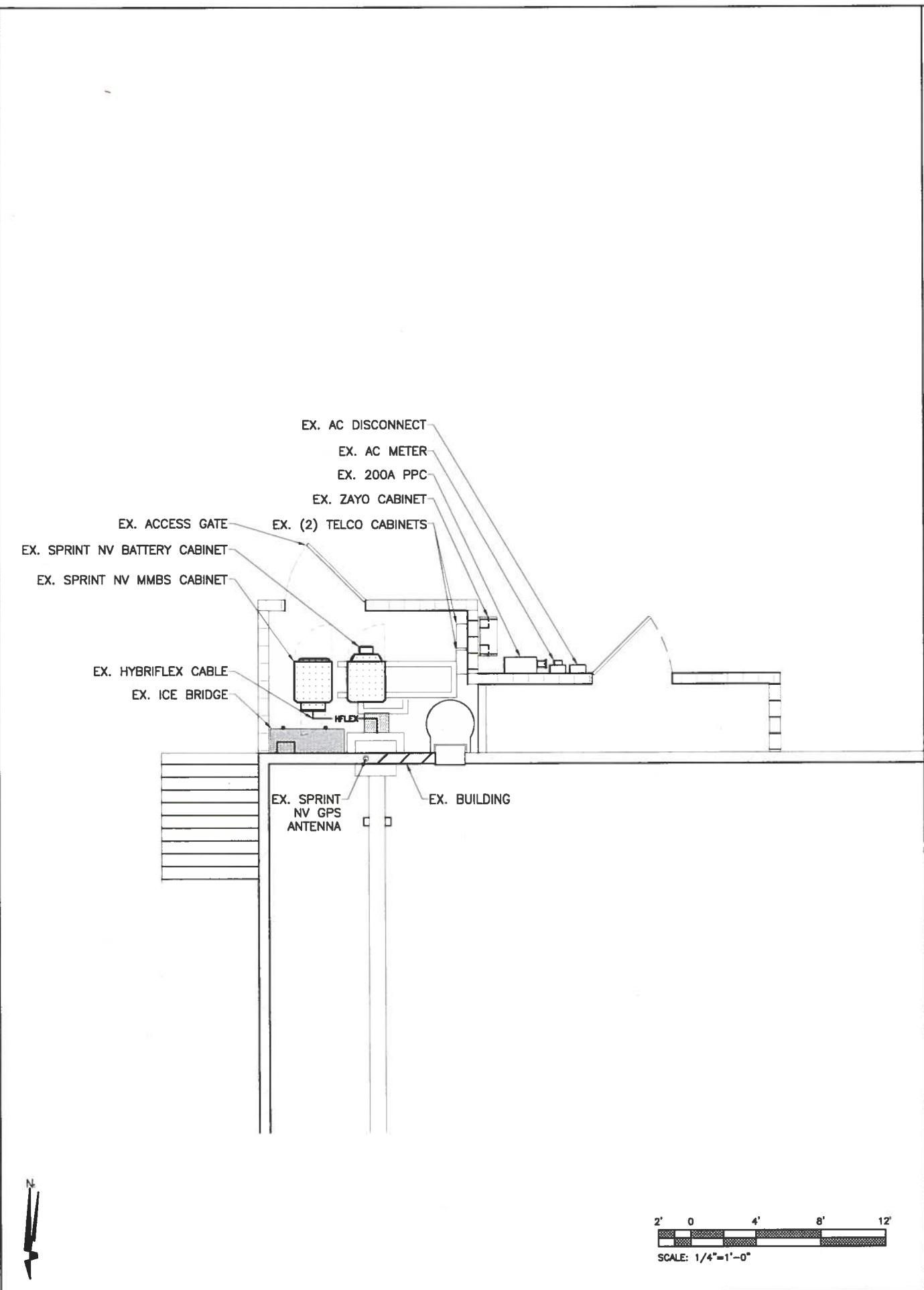
**WALGREENS**  
DN63XC021  
15301 E. ILIFF AVE.  
AURORA, CO 80013  
ARAPAHOE COUNTY

DRAWN BY ML	CHECKED BY JN	APPROVED BY KS
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SHEET TITLE  
**SITE PLAN**

SHEET NUMBER  
**A2**





6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251

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△	7/1/14	FINAL CONST	ML
△	6/26/14	100% CONST	JN
△	4/16/14	90% CONST	ML
REV	DATE	REVISION DESCRIPTION	BY

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**CONSTRUCTION**

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PROJECT INFORMATION

**WALGREENS**  
DN63XC021  
15301 E. ILIFF AVE.  
AURORA, CO 80013  
ARAPAHOE COUNTY

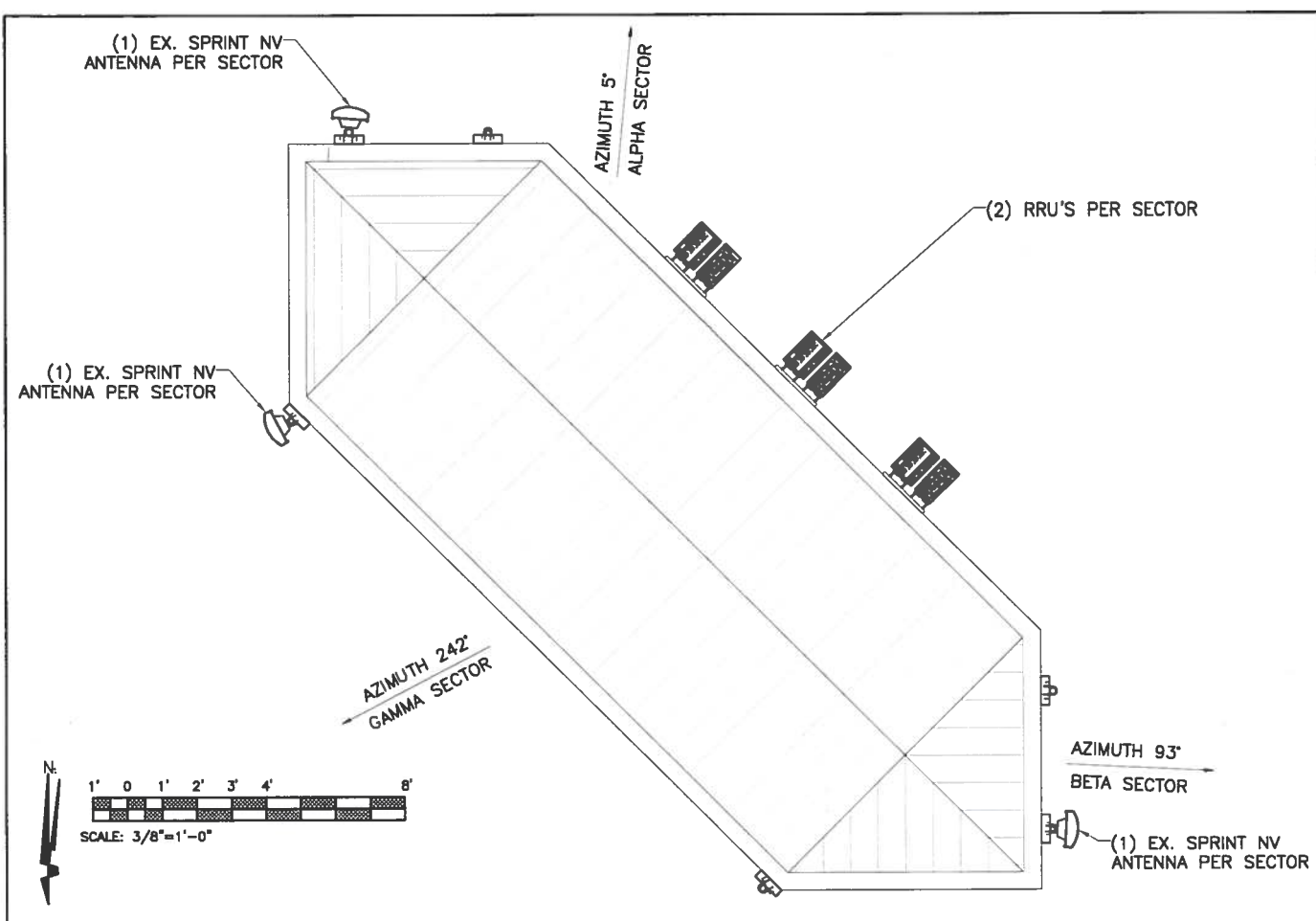
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ML	JN	KS

SHEET TITLE

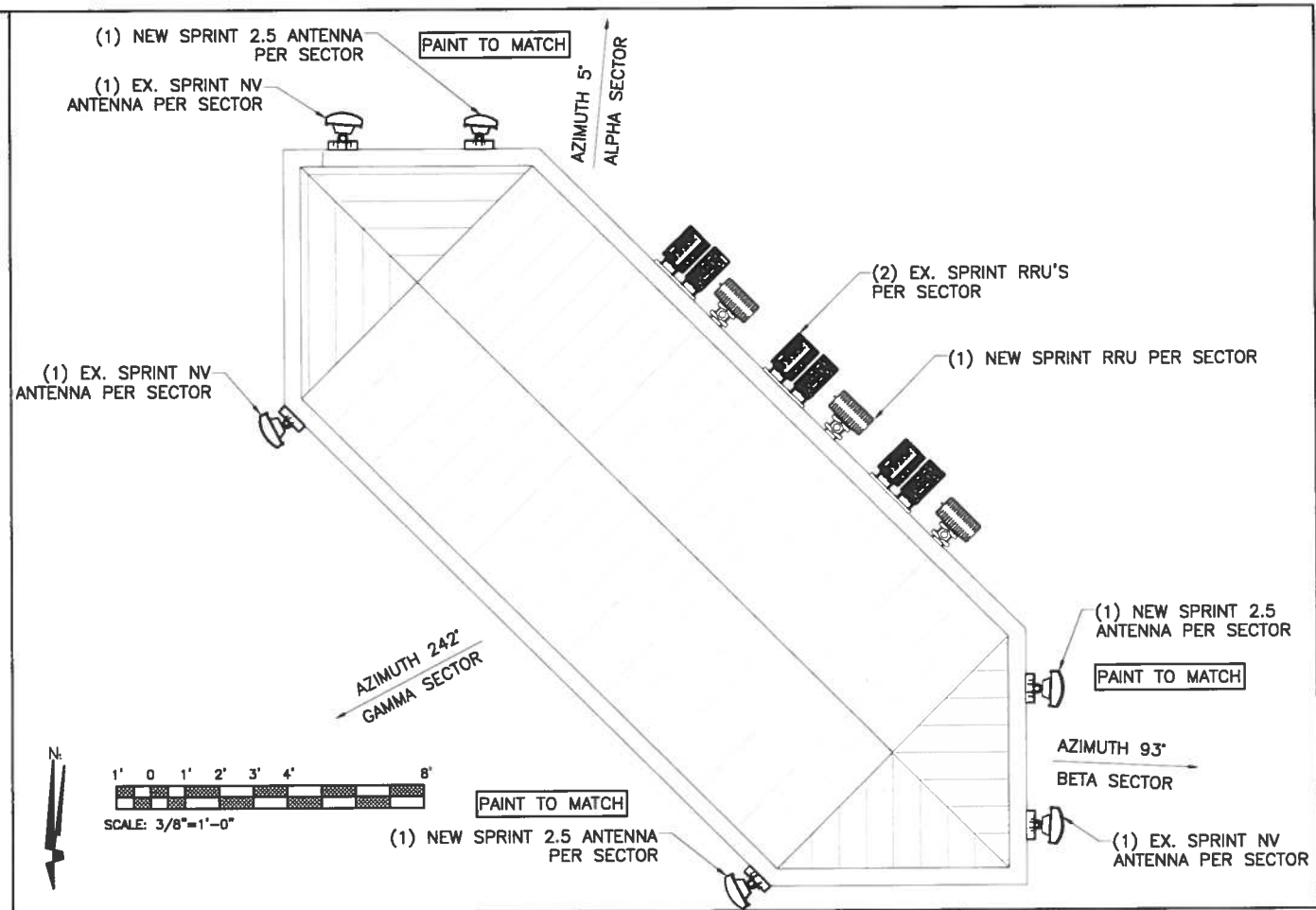
**EXISTING & NEW EQUIPMENT PLANS**

SHEET NUMBER

**A3**

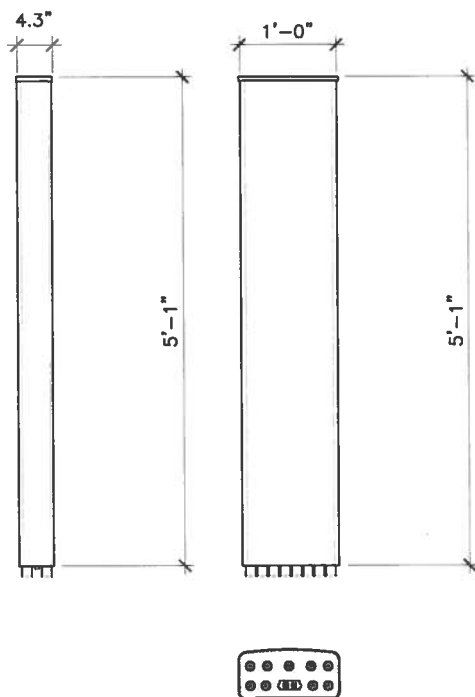


1 EXISTING ANTENNA PLAN SCALE: 3/8"=1'-0"



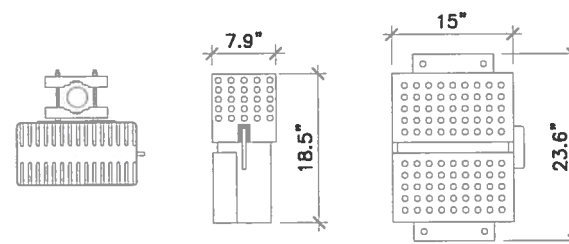
2 NEW ANTENNA PLAN SCALE: 3/8"=1'-0"

KMW-ET-X-WM-18-65-8P  
 ANTENNA WEIGHT: 36.4 LBS  
 BRACKET WEIGHT: 11.6 LBS  
 FREQUENCY RANGE: 2496-2690 MHZ



3 2.5 ANTENNA SPEC SCALE: 1"=1'-0"

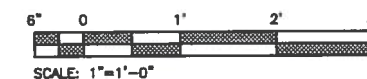
SAMSUNG - RRH-V3  
 RRH WEIGHT: 59.5 LBS  
 RRH BRACKET WEIGHT: 12.32 LBS  
 FREQUENCY RANGE: 2500 MHZ



4 RRU SPEC & PORT LAYOUT SCALE: 1"=1'-0"

*John*  
 CITY OF AURORA  
 BUILDING DIVISION  
 APPROVED AS NOTED  
 DATE 8/1/14

14-869520



PLANS PREPARED FOR:

**Sprint**

6100 SPRINT PARKWAY  
 OVERLAND PARK, KS 66251

△			
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△	7/1/14	FINAL CONST	ML
△	6/26/14	100% CONST	JN
△	4/16/14	90% CONST	ML
REV.	DATE	REVISION DESCRIPTION	BY

ISSUED FOR  
**CONSTRUCTION**

PLANS PREPARED BY:

**CENTERLINE SOLUTIONS**  
 Advancing Wireless Networks

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 Golden, CO 80403  
 303-993-3293  
 WWW.CENTERLINESOLUTIONS.COM



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 PROJECT INFORMATION

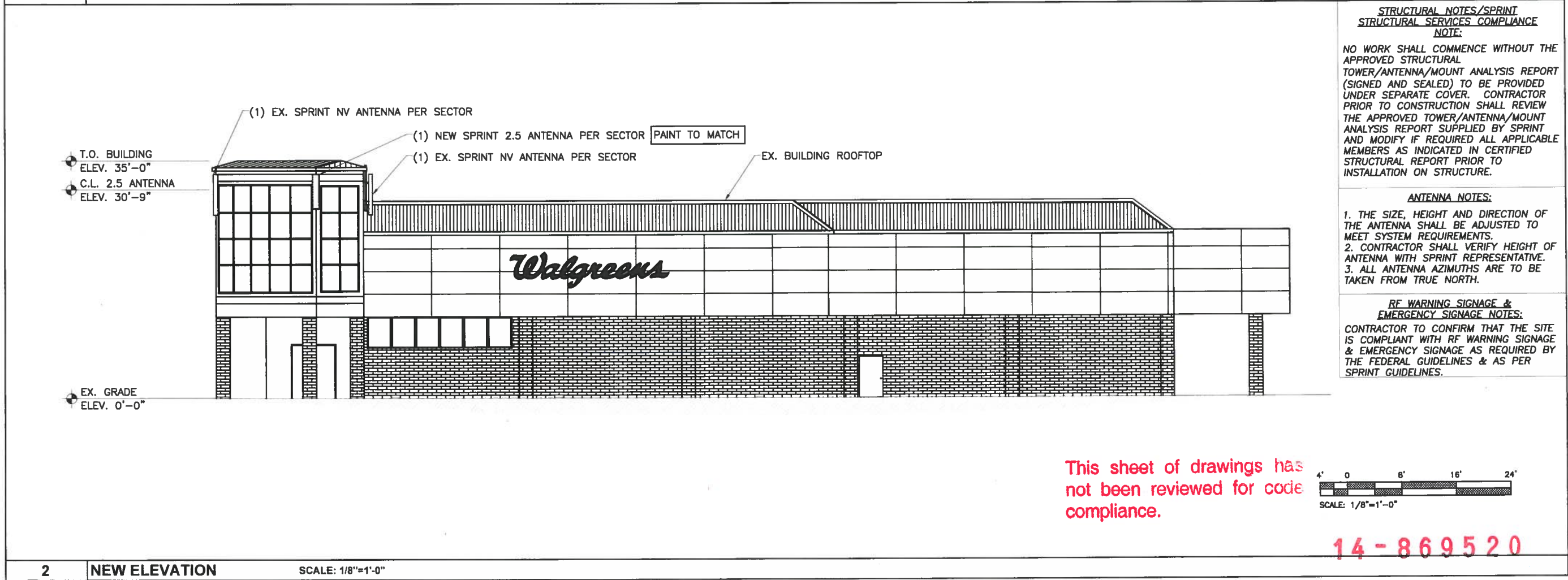
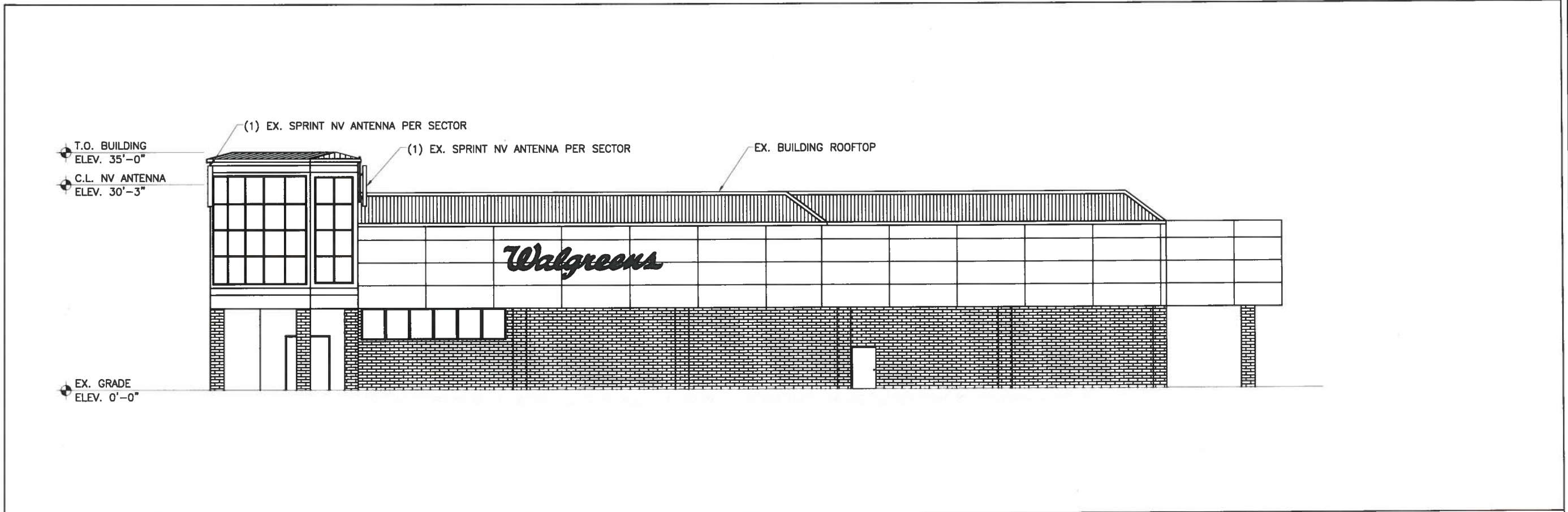
WALGREENS  
 DN63XC021  
 15301 E. ILIFF AVE.  
 AURORA, CO 80013  
 ARAPAHOE COUNTY

DRAWN BY:	CHECKED BY:	APPROVED BY:
ML	JN	KS

SHEET TITLE  
**EX. & NEW ANTENNA  
 PLANS, ANTENNA  
 & RRU SPECS**

SHEET NUMBER  
**A4**





PLANS PREPARED FOR

Sprint

6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251

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△			
△	7/1/14	FINAL CONST	ML
△	6/26/14	100% CONST	JN
△	4/16/14	90% CONST	ML
REV.	DATE	REVISION DESCRIPTION	BY

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Advancing Wireless Networks

16360 TABLE MOUNTAIN PARKWAY  
Golden, CO 80403  
303-993-3293  
WWW.CENTERLINESOLUTIONS.COM

COLORADO REGISTERED  
CHRISTOPHER JAMES SUTHER  
34610  
JUL 01 2014  
PROFESSIONAL ENGINEER

ALL SCALES ARE SET FOR A SIZE "D" 24"x36" SHEET  
PROJECT INFORMATION

WALGREENS  
DN63XC021  
15301 E. ILIFF AVE.  
AURORA, CO 80013  
ARAPAHOE COUNTY

DRAWN BY

CHECKED BY

APPROVED BY

ML

JN

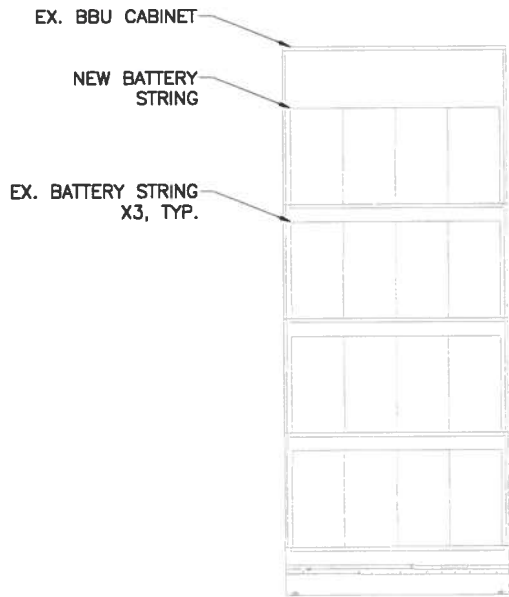
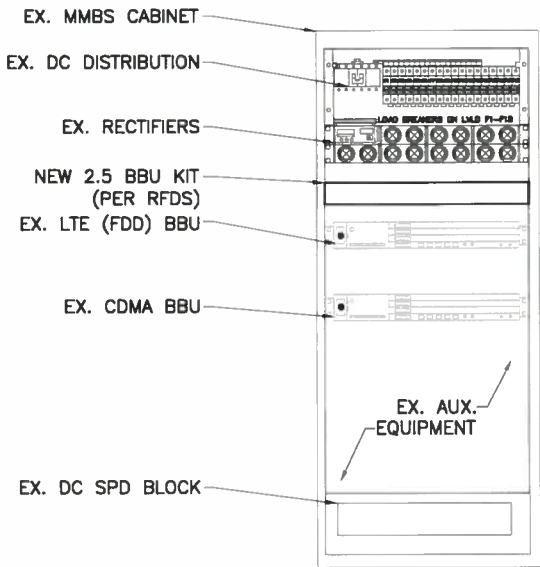
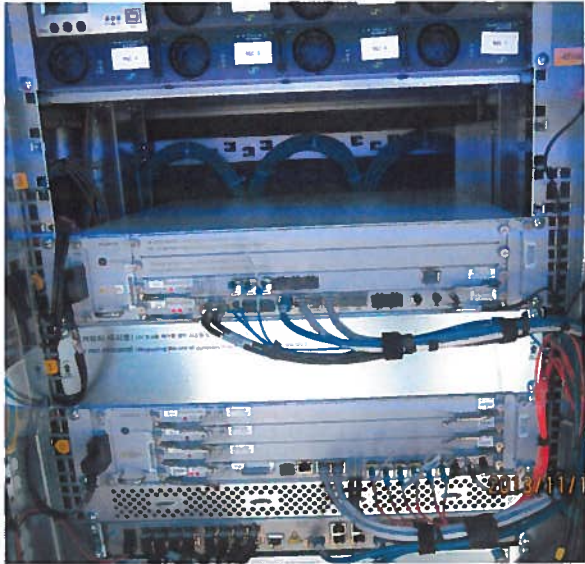
KS

SHEET TITLE

ELEVATIONS

SHEET NUMBER

A5



1 EX. MMBS CABINET

SCALE: N.T.S.

2 EX. MMBS CABINET W/ 2.5 EQUIPMENT

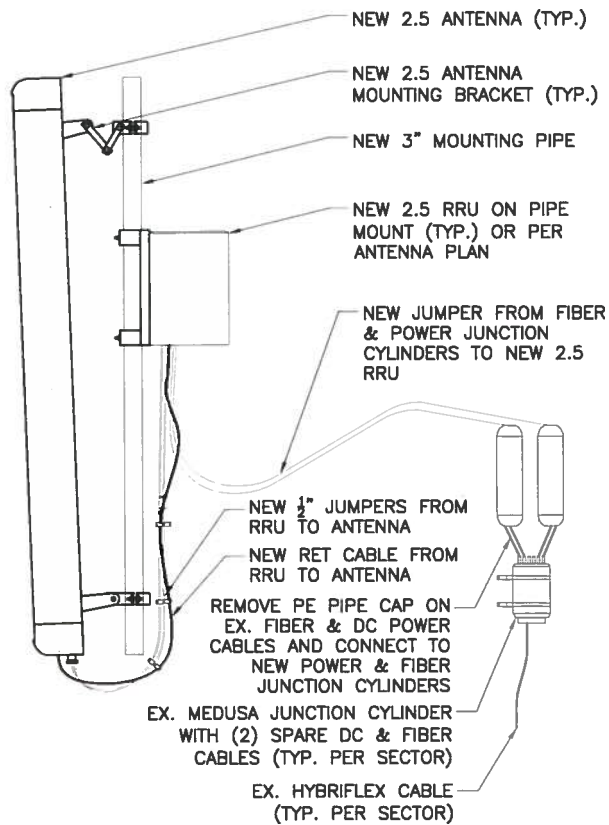
SCALE: N.T.S.

3 EX. BBU CABINET

SCALE: N.T.S.

4 EX. BBU CABINET W/ 2.5 EQUIPMENT

SCALE: N.T.S.



5 NOT USED

SCALE: N.T.S.

6 TYP. 2.5 ANTENNA & RRU DETAIL

SCALE: N.T.S.

6 NOT USED

SCALE: N.T.S.

This sheet of drawings has not been reviewed for code compliance.

14 - 869520

PLANS PREPARED FOR:



△			
△			
△			
2	7/1/14	FINAL CONST	ML
1	6/26/14	100% CONST	JN
0	4/16/14	90% CONST	ML
REV.	DATE	REVISION DESCRIPTION	BY

ISSUED FOR

CONSTRUCTION

PLANS PREPARED BY:



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Golden, CO 80403  
303-993-3293  
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ARAPAHOE COUNTY

DRAWN BY:	CHECKED BY:	APPROVED BY:
ML	JN	KS

SHEET TITLE  
EQUIPMENT  
DETAILS

SHEET NUMBER  
A6



## RF Design Sheet Version 3.1

\*\*\*NOTE: Build site assuming future growth (ie 13.3 forecast).

## Basic Information

Note: Italic text are RFDS instructions for RF Engineer. Please remove these comments prior to issuing RFDS form and remove italic formatting.

Cascade Number	DN63XC021
Site Name	F2/FILL-IN/AURORA/DEN367/WALGREEN'S
Site Number 1 or 2 (for more than 3 sector site)	1.0
99 Market Name	Colorado
OEM	Samsung
Cluster ID	Colorado11
Issue Date	02/24/2014
Revision Date	
Solution ID	
PID	
RFDS Engineer (OEM RF Engineer)	Donghak Jong / Sawat Issa
Sprint RF Engineer	Kraig Clark
Sprint RF Engineer (phone/e-mail)	(O) 720-439-3197 (M) 720-350-3279 / Kraig.X.Clark@sprint.com
Sprint RF Manager	Mike Waterman
Sprint RF Manager (phone/email)	(O) 720-439-3198 (M) 949-278-9702 / Michael.J.Waterman@sprint.com
RF Need By Date	
Project Description	New 2.5G TDD LTE service at existing site. Add new antennas, RRH and RAN equipment.

## Location Information

Latitude (decimal only)	39.67519
Longitude (decimal only)	-104.809375
Address	15301 E. Iliff Av
City, State, Zip Code	Aurora Colorado 80013
County, E911 Phase	Arapahoe Phase 2

## Site Level Design Information 2500Mhz

	Number of Sectors	Carrier Count when 2.5G is on air	Tx and Rx start and stop frequencies
LTE 2500	3	3	Band 41
3G 1900 Mhz			
LTE PCS G Block			
LTE PCS Block A-F			
3G 800Mhz			
LTE 800Mhz			
Microwave Backhaul			
Existing BTS Location			
Existing BTS Type			
New Growth Cabinet Make/Model	NA		
New Growth Cabinet Quantity	NA		
New Growth Cabinet Dimensions (L x W x H in inches)	NA		
New Growth Cabinet Loaded weight (lbs)	NA		
New Top Hat Make/Model			
New Top Hat Cabinet Quantity			
New Top Hat Dimensions (L x W x H in inches)			
New Top Hat Loaded weight (lbs)			
Incremental Power Draw needed by new Growth Cabinet or Top Hat	75 Amps (3750 Watt)		
Site Structure Type	ROOFTOP		
Current Ethernet Speed			
Required Ethernet Speed			
Radio Configuration	8T8R		
Split Mode			
Radio Scenario	1		
Plumbing Diagram Number	SPRINT PD ST8T8R3A1XX		
RRH / RRU Model	RRU_2.5LTEV3_10KM		
RRH / RRU Qty	3		
RRH/RRU Weight (lbs including mount)	71.82 lbs each		
RRH/RRU Dimensions (L x W x H in inches)	21.1" x 15.03" x 9.45" each with Fingure guard		
Power Junction Cylinder Make/Model	Amphenol Fiber Optic		
Power Junction Cylinder Qty	3		
Power Junction Cylinder Dimensions (L x W x H in inches)	15.5" X 3.9" (Cylindrical)		
Power Junction Cylinder Weight (lbs)	6 lb Including Bracket and clamps		
Optical Junction Cylinder Make/Model	Amphenol Fiber Optic		
Optical Junction Cylinder Qty	3		
Optical Junction Cylinder Dimensions (L x W x H in inches)	15.5" X 3.9" (Cylindrical)		
Optical Junction Cylinder Weight (lbs)	3.7 lb Including Bracket and clamps		
Hybrid/Fiber Cable Make/Model	NA		
Hybrid/Fiber Qty	NA		
Hybrid/Fiber Length	NA		
Hybrid/Fiber Diameter (Inches)	NA		
Hybrid/Fiber weight per foot (lbs)	NA		
Homerun Coax Cable Make/Model	NA		
Homerun Coax Cable Qty	NA		
Homerun Coax Cable Length	NA		
Homerun Coax Cable Diameter (inches)	NA		
Homerun Coax Cable weight per foot (lbs)	NA		

1) Does Home Run AISG (RET) Cable Exist? 2) If so, How many? 3) If new ones will be run, incremental additional number of cables.  
Additional GPS antenna required?

## RF Design Sheet Version 3.1

\*\*\*NOTE: Build site assuming future growth (ie 13.3 forecast).

Final/New Configuration	Sector 1	Sector 2	Sector 3
Azimuth	345	120	225
Antenna Center Line (ft)	36	36	36
Antenna Manufacturer	KMW	KMW	KMW
Antenna Model	ET-X-WM-18-65-8P	ET-X-WM-18-65-8P	ET-X-WM-18-65-8P
Antenna Weight (lbs including mount)	50	50	50
Antenna Dimensions (L x W x H in inches)	61.0" x 12.0" x 4.3"	61.0" x 12.0" x 4.3"	61.0" x 12.0" x 4.3"
Antenna Qty	1	1	1
Antenna Mechanical Downtilt	0	0	0
Antenna Electrical Downtilt	2	2	2
Combined with *			
Upper Splitter Make/Model			
Upper Splitter Qty			
Upper Splitter Dimensions (L x W x H in Inches)			
Upper Splitter Weight (lbs)			
Top Jumper Make/Model	JMA or Other equivalent	JMA or Other equivalent	JMA or Other equivalent
Top Jumper Quantity	8X8' RF + 1X8' Calib	8X8' RF + 1X8' Calib	8X8' RF + 1X8' Calib
Top Jumper length in feet	8'	8'	8'
Bottom Jumper Make/Model	NA	NA	NA
Bottom Jumper Quantity	NA	NA	NA
Bottom Jumper length in feet	NA	NA	NA
Surge Arrestor			
Upper Diplexer/Tripexor/Duplexor Model			
Upper Diplexer/Tripexor/Duplexor Qty			
Upper Diplexer/Tripexor/Duplexor Dimensions (L x W x H in inches)			
Upper Diplexer/Tripexor/Duplexor Weight (lbs)			
Upper Diplexer/Tripexor/Duplexor Model			
Upper Diplexer/Tripexor/Duplexor Qty			
DC Block (specify port)			
RF Filter Make/Model			
RF Filter Quantity	0	0	0
RF Filter Dimensions (L x W x H in inches)			
RF Filter Weight (lbs)			

This sheet of drawings has not been reviewed for code compliance.

CONTRACTOR TO OBTAIN MOST RECENT RFDS FROM SPRINT PRIOR TO CONSTRUCTION

14-869520

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2	7/1/14	FINAL CONST	ML
1	6/26/14	100% CONST	JN
0	4/16/14	90% CONST	ML
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PLANS PREPARED BY:



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303.993.3293  
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ALL SCALES ARE SET FOR A SIZE "D" 24"X36" SHEET  
PROJECT INFORMATION

WALGREENS  
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ARAPAHOE COUNTY

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SHEET TITLE

RFDS

SHEET NUMBER

A7

Frequency / Radio	Indicator	ID
800 #1	Yellow	Green
1900 #1	Yellow	Red
1900 #2	Yellow	Brown
1900 #3	Yellow	Blue
1900 #4	Yellow	Grey
800 #2	Yellow	Orange
2500 #1	Yellow	White
2500 #2	Yellow	Purple

1 TECHNOLOGY COLOR CODING

SCALE: N.T.S.

2500MHz #1 Cal Cable - Sector	Cable	First Ring	Second Ring	Third Ring	Forth Ring	Fifth Ring	Sixth Ring
1 Alpha	1	Yellow		Yellow	White		
2 Beta	2	Yellow	Yellow		Yellow	White	
3 Gamma	3	Yellow	Yellow	Yellow		Yellow	White
2500MHz #2 Cal Cable - Sector	Cable	First Ring	Second Ring	Third Ring	Forth Ring	Fifth Ring	Sixth Ring
1 Alpha	1	Yellow		Yellow	Purple		
2 Beta	2	Yellow	Yellow		Yellow	Purple	
3 Gamma	3	Yellow	Yellow	Yellow		Yellow	Purple

2 2500 MHz RADIO CALIBRATION CABLE COLOR CODING

SCALE: N.T.S.

Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2	Blue	No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Grey	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2	Blue	Blue	No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Grey	Grey	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
3	2	Blue	Blue	Blue
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Grey	Grey	Grey
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

3 HYBRID CABLE COLOR CODING

SCALE: N.T.S.

This sheet of drawings has  
not been reviewed for code  
compliance.

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7/1/14

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ML

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6/26/14

100% CONST

JN

△

4/16/14

90% CONST

ML

REV

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WWW.CENTERLINESOLUTIONS.COM

COLORADO REGISTERED  
PROFESSIONAL ENGINEER

34610  
JUL 01 2016

CHRISTOPHER JAMES SCOTT

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SHEET TITLE

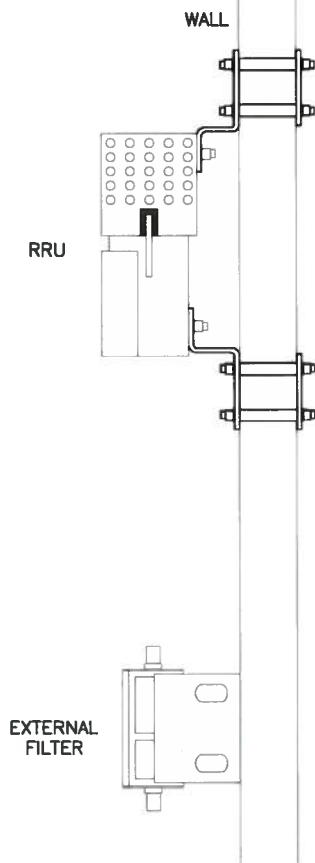
COLOR CODING

SHEET NUMBER

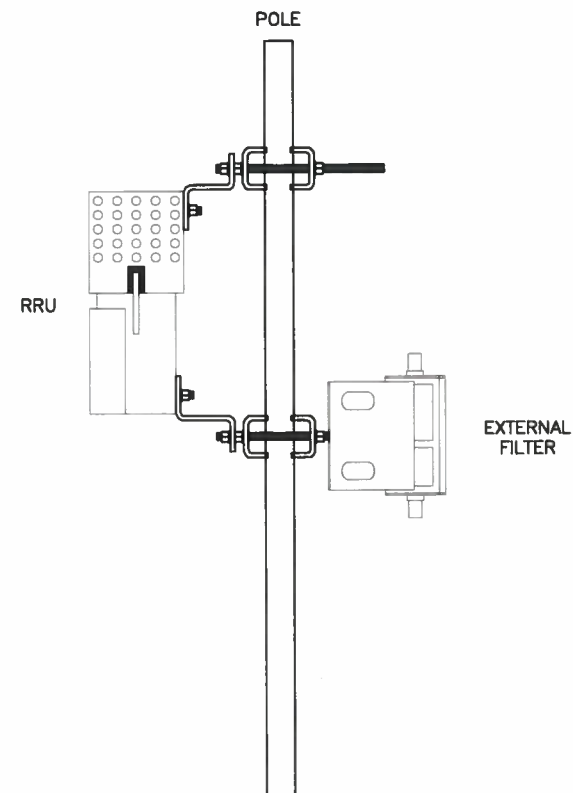
A8



NOTES:  
RRUS & FILTERS TO BE  
INSTALLED PER MFG.'S  
SPECIFICATIONS TO BE  
PROVIDED PRIOR TO  
INSTALLATION OF THE  
APPROVED EQUIPMENT PER  
LATEST RFDS PROVIDED BY  
SPRINT.



NOTES:  
RRUS & FILTERS TO BE  
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INSTALLATION OF THE  
APPROVED EQUIPMENT PER  
LATEST RFDS PROVIDED BY  
SPRINT.



1 TYPICAL RRU & RF FILTER ONE SECTOR WALL MOUNT

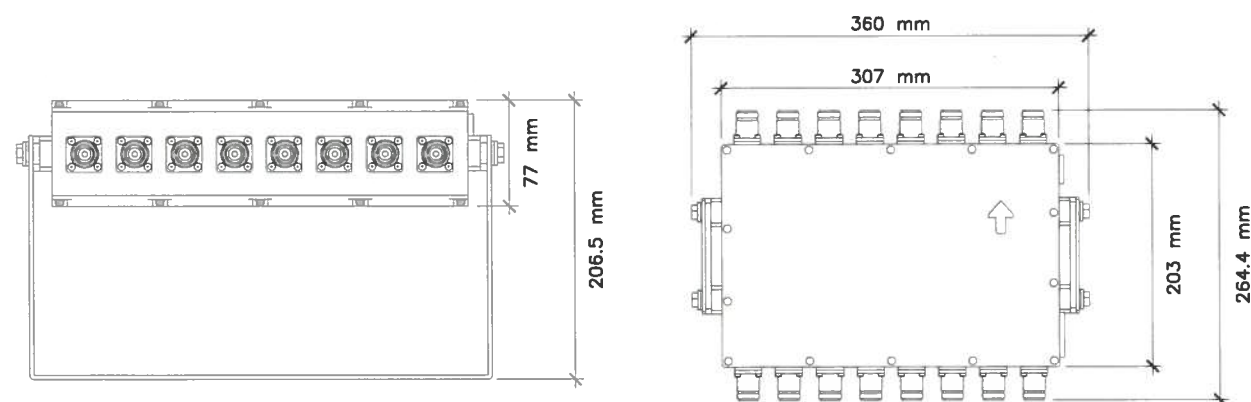
SCALE: N.T.S.

2 TYPICAL RRU & RF FILTER ONE SECTOR POLE MOUNT

SCALE: N.T.S.

SPRINT 8T8R 2.5G 8T8R RADAR FILTER

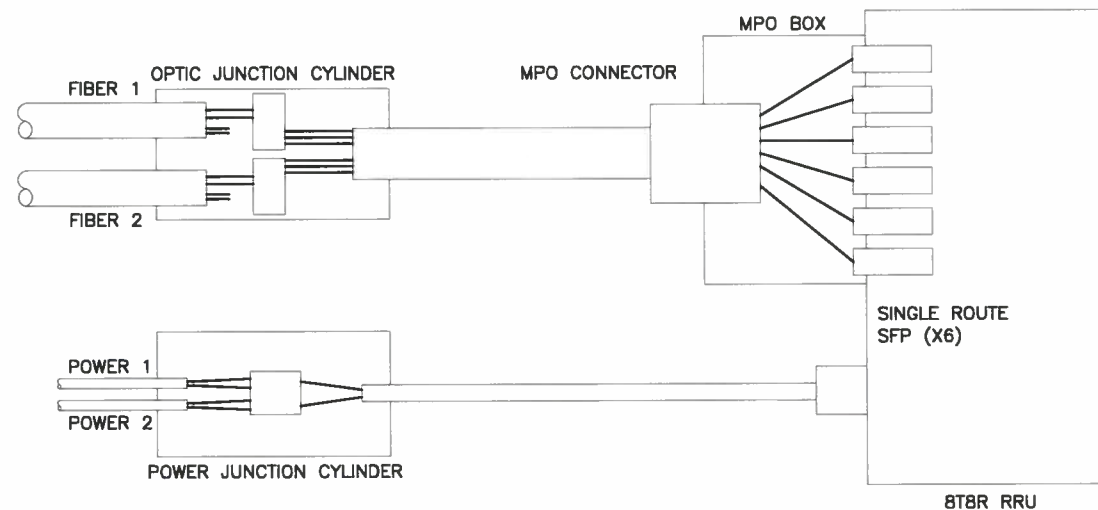
FILTER & BRACKET WEIGHT:  
<10KG  
FREQUENCY RANGE: 2500  
MHZ



NOTES:  
CONTRACTOR TO INSTALL APPROVED RF FILTER AT SITES  
REQUIRING RADAR FILTER PER LATEST RFDS PROVIDED BY SPRINT.

3 SPRINT 8T8R 2.5G 8T8R RADAR FILTER

SCALE: N.T.S.



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not been reviewed for code  
compliance.

14-869520

4 CYLINDER SCHEMATIC DETAIL

SCALE: N.T.S.

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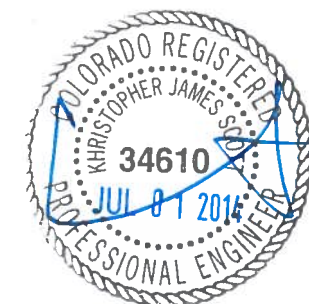
CONSTRUCTION

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DETAILS

SHEET NUMBER

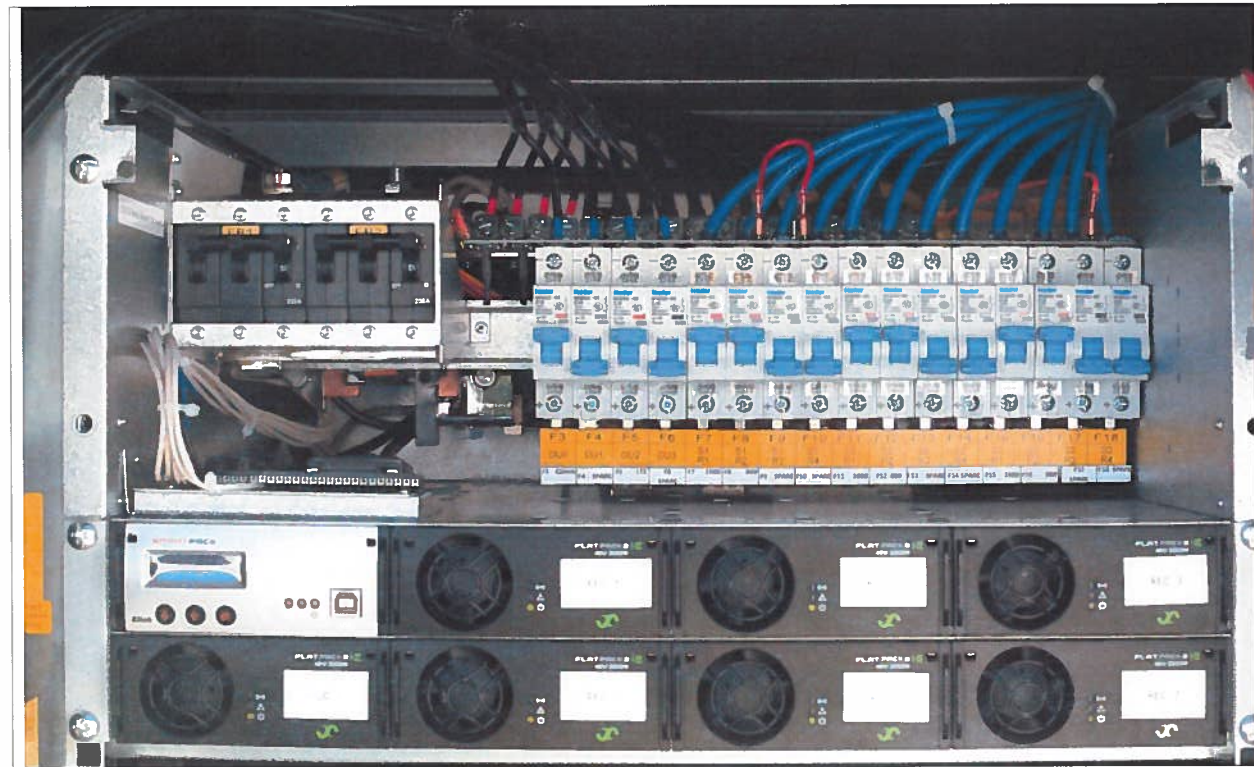
A9





1 EXISTING AC POWER DISTRIBUTION

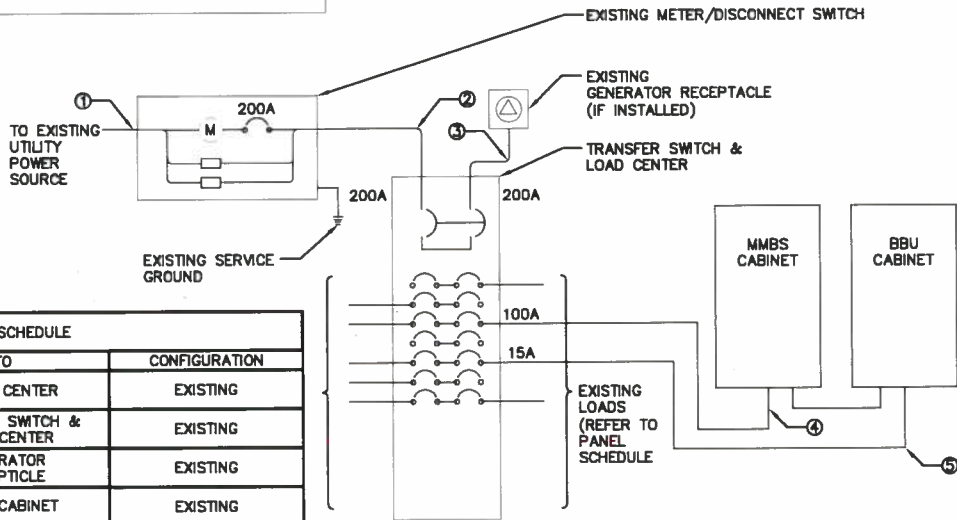
SCALE: N.T.S.



2 EXISTING DC POWER DISTRIBUTION

SCALE: N.T.S.

NOTES:  
1. ONE-LINE SHOWN PER FINAL SPRINT NETWORK VISION CONSTRUCTION DRAWINGS BY KDC DATED 08/08/2013.  
2. NO WORK TO BE PERFORMED WITHIN THE EXISTING AC PANEL



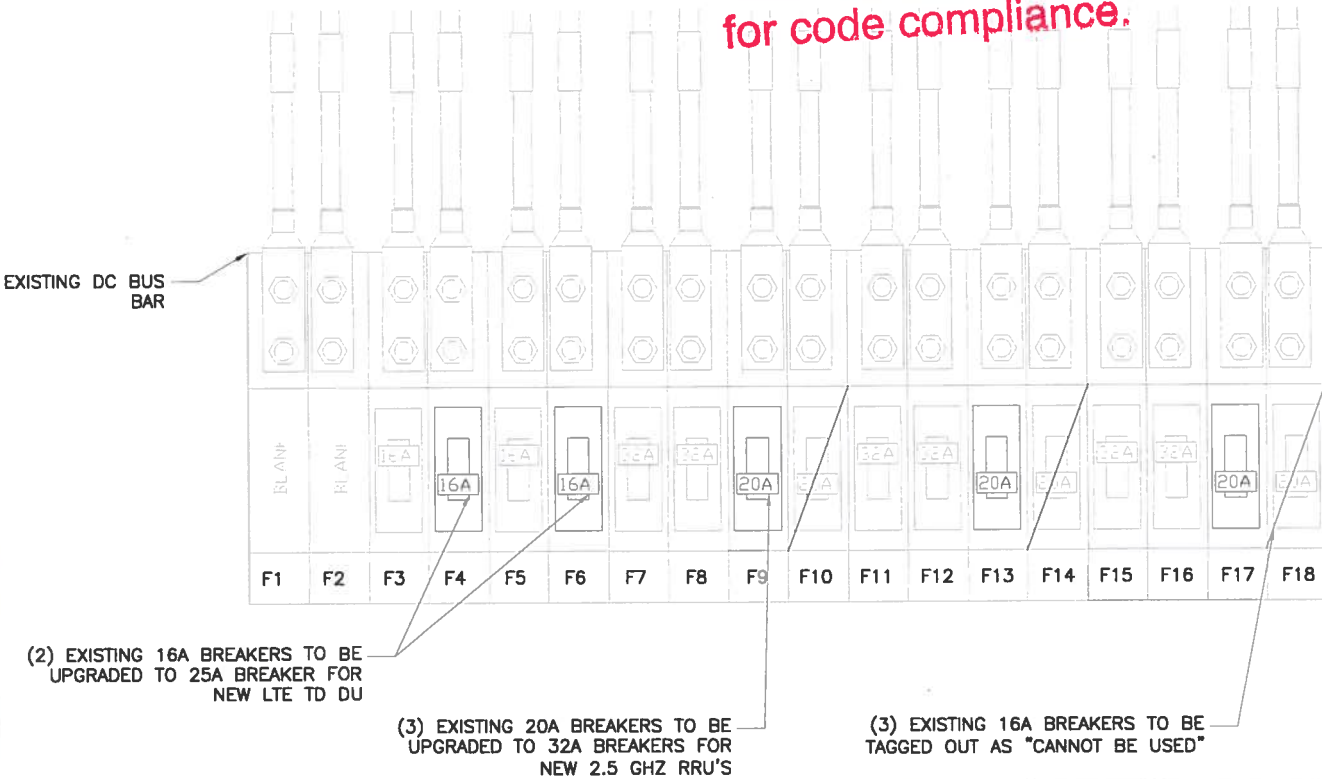
CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
1	SOURCE	METER CENTER	EXISTING
2	METER/DSC	TRANSFER SWITCH & LOAD CENTER	EXISTING
3	TRANSFER SWITCH & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER SUB-PANEL	MMBS CABINET	EXISTING
5	TRANSFER & LOAD CENTER SUB-PANEL	BBU CABINET	EXISTING

3 EXISTING ONE LINE DIAGRAM

SCALE: N.T.S.

NOTES:  
1. (2) DU BREAKERS TO BE UPGRADED FROM 16A TO 25A.  
2. (3) RRU BREAKERS TO BE UPGRADED FROM 20A TO 32A.  
3. REMAINING/UNUSED RRU BREAKERS TO BE TAGGED OUT AS "CANNOT BE USED"

This sheet of drawings has not been reviewed for code compliance.



(2) EXISTING 16A BREAKERS TO BE UPGRADED TO 25A BREAKER FOR NEW LTE TO DU

(3) EXISTING 20A BREAKERS TO BE UPGRADED TO 32A BREAKERS FOR NEW 2.5 GHZ RRU'S

(3) EXISTING 16A BREAKERS TO BE TAGGED OUT AS "CANNOT BE USED"

4 TYPICAL DC POWER DISTRIBUTION

SCALE: N.T.S.

△			
△			
△			
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△	4/16/14	90% CONST	ML
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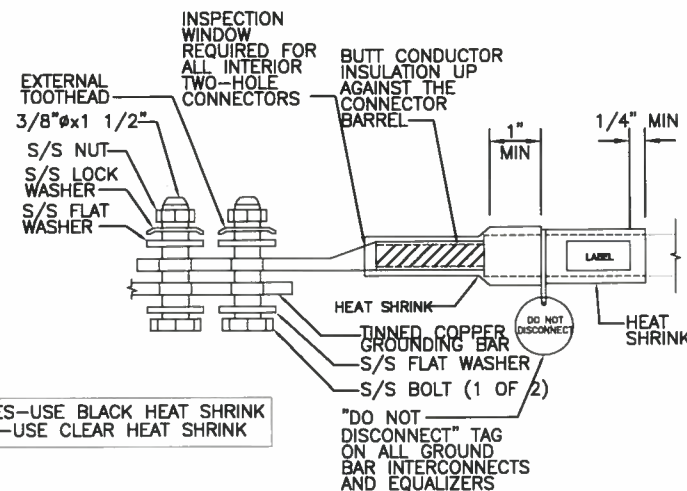
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PROJECT INFORMATION  
**WALGREENS**  
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ARAPAHOE COUNTY

DRAWN BY: ML  
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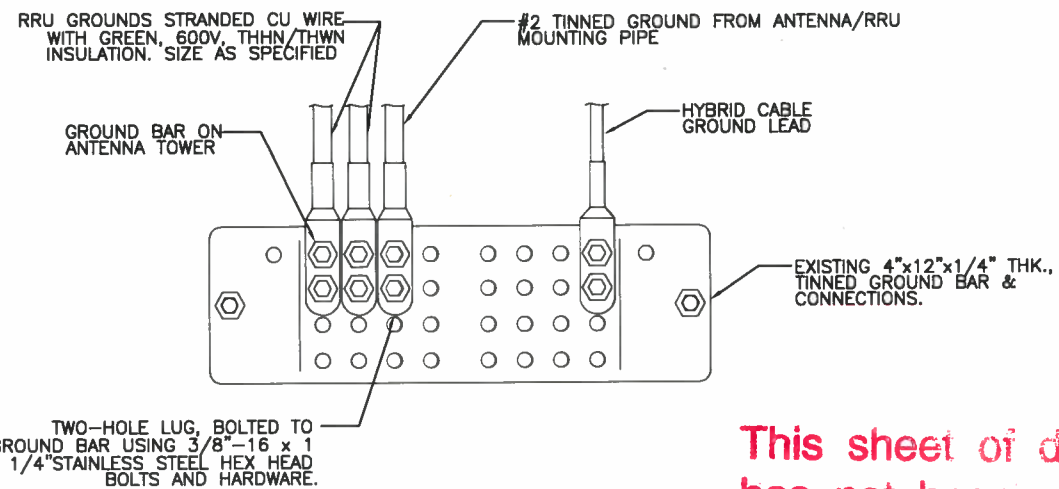
SHEET TITLE  
**EXISTING AC & DC POWER**

SHEET NUMBER  
**E1**





1. OUTDOOR SITES—USE BLACK HEAT SHRINK
2. INDOOR SITES—USE CLEAR HEAT SHRINK



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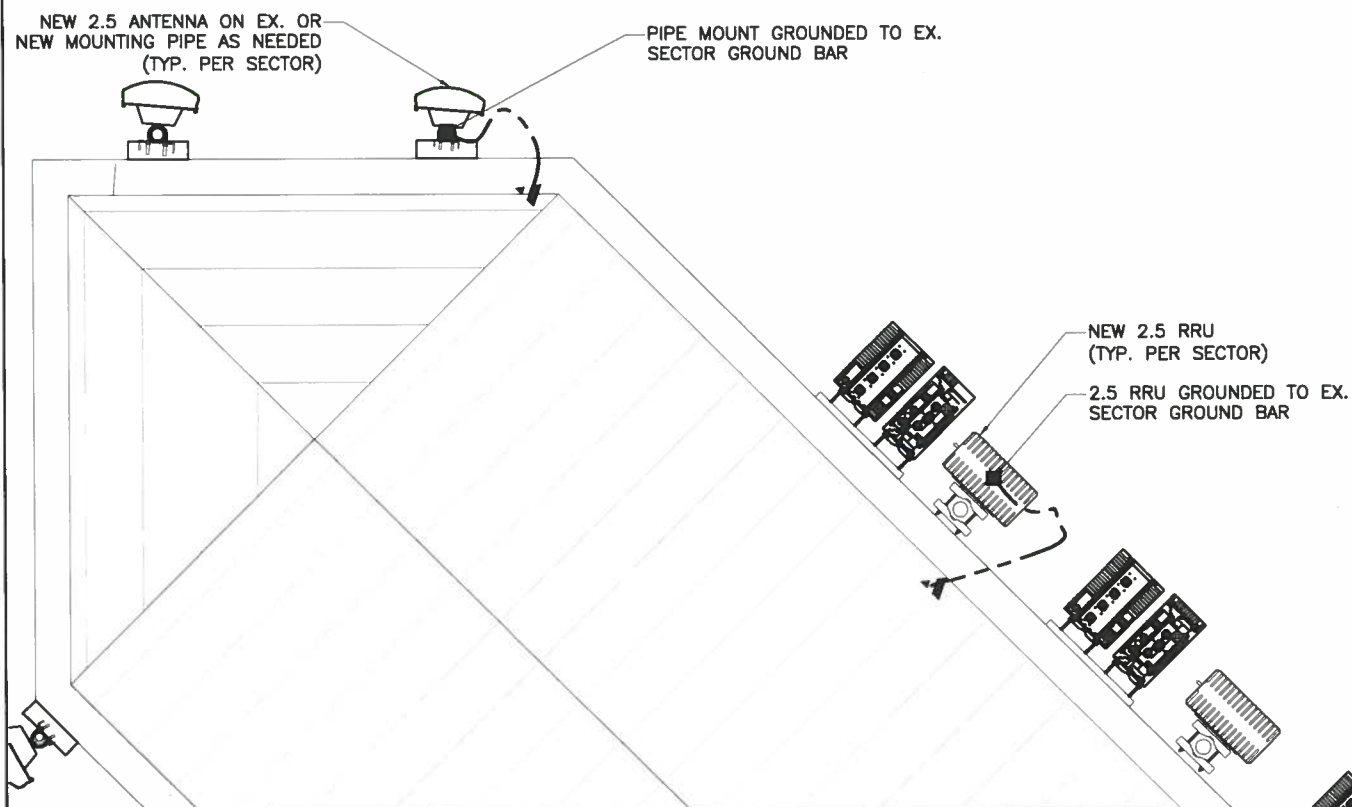
NOTE:  
\*PROVIDE NO-OX GREASE AT CONTACT SURFACE BETWEEN LUG AND GROUND BAR  
\*CONTRACTOR WILL VERIFY BUSS BAR GROUNDING TO THE TOWER OR RING.

# 1 MECHANICAL CONNECTION LUG

SCALE: N.T.S.

# 2 SECTOR GROUND BAR CONNECTIONS

SCALE: N.T.S.

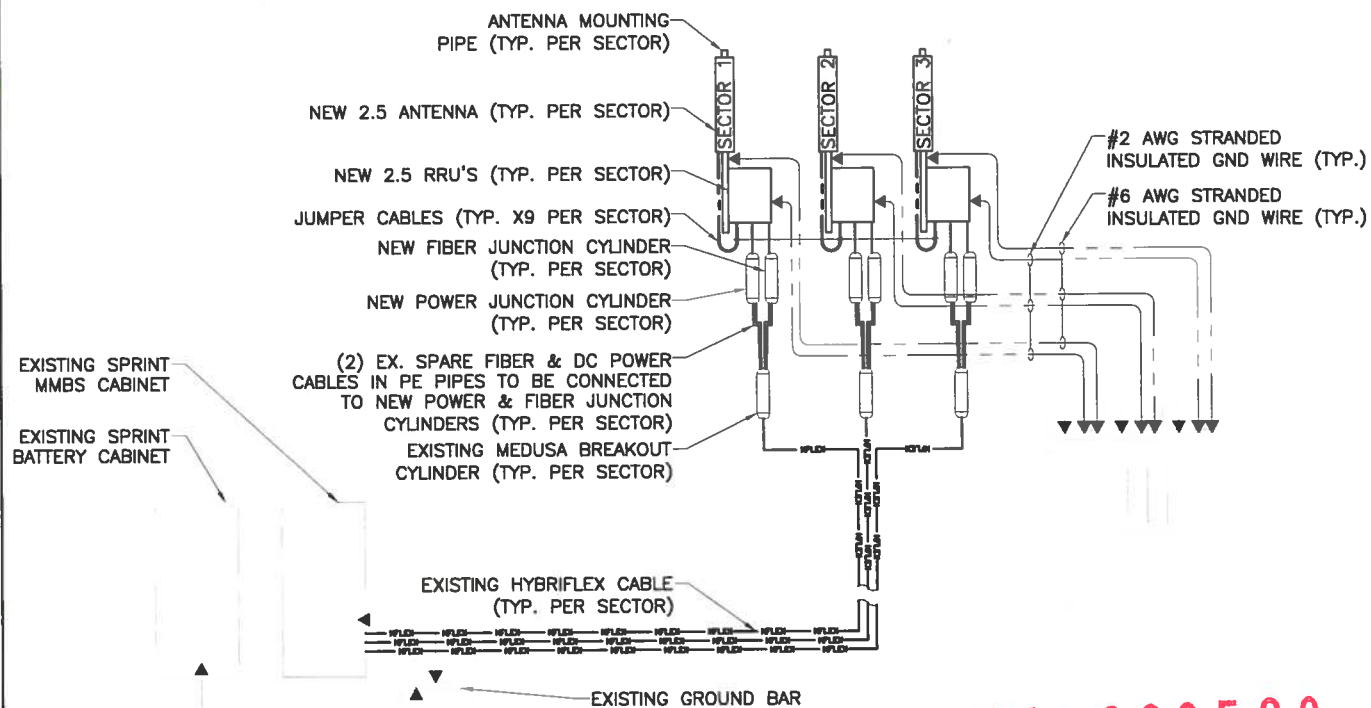


# 3 TYP. ANTENNA GROUNDING

SCALE: N.T.S.

# 4 GROUNDING RISER DIAGRAM

SCALE: N.T.S.



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SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

E2