City of Batavia
Community Development Department
100 North Island Avenue
Batavia IL 60510
Phone (630) 454-2700
Fax (630) 454-2775

Application for Certificate of Appropriateness

Property Address 901 N. Batavia Ave

Property Identification Number 12-15-176-008
Existing/Proposed Zoning Ordinances x Yes ___ No
Zoning _____

Submittal Date 9 / 15 / 16

Project Description :

Owner's Name Frank Mares
Phone Number 630-879-3107
Mobile Number N/A
E-Mail Fmares@Prairiestructures.com

Applicant's Name Josh Pathammavong
Applicant Address 10700 W. Higgins Rd, Ste 210 Rosemont, IL 60018
Phone Number 630-352-0793
Mobile Number _____
E-Mail JPath@LccTelecom.com
Applicant Signature _____ on behalf of AT&T
Owner Signature _____

TYPE OF WORK
(Check All That Apply)

- [x] **Exterior Alteration/Repair**
- [ ] **New Construction**
  - [ ] Primary Structure
  - [ ] Addition
  - [ ] Garage/Outbuilding
  - [ ] Other_____
- [ ] **Demolition**
  - [ ] Whole Primary Structure
  - [ ] Part Primary Structure
  - [ ] Garage/outbuilding
- [ ] **Relocation of Building**

Additional Information to be Submitted with Application – Digital Format If Available

- [ ] **Exterior Alteration/Repair**
  - [ ] Architectural Feature (Decorative Ornamentation)
  - [ ] Awning or Canopy
  - [ ] Deck
  - [ ] Door
  - [ ] Fence
  - [ ] Gutters
  - [ ] Light Fixture
  - [ ] Mechanical System Units
  - [ ] Masonry Cleaning, Repointing, Painting
  - [ ] Material Change (wood, brick, etc)
  - [ ] Painting (paint removal etc)
  - [ ] Paving (Parking Lot, Driveways, Landscaping)
  - [ ] Photographs of building(s)
  - [ ] Porch – Maintenance and Minor Repair
  - [ ] Porch – Major Repair and Reconstruction
  - [ ] Retaining Walls
  - [ ] Roof (Change in Shape, Features, Materials)
  - [ ] Satellite Dish
  - [ ] Security Doors or Windows
  - [ ] Sidewalks
  - [ ] Shutters
  - [ ] Siding
  - [ ] Signs
  - [ ] Solar Collectors
  - [ ] Storm Doors or Windows
  - [ ] Windows, Skylights
  - [x] Others Antennas

Attach a detailed description of all work to be done for each item. Include the following materials where appropriate and check appropriate box if included

☒ A. Drawings, photographs, specifications, manufacturer's illustrations or other description of proposed changes to the building's exterior, to-scale drawings with dimensions will be required for major changes in design (e.g., roofs, facades, porches, and other prominent architectural features)

☐ B. If application is for any feature not on the primary structure, include a site plan. A site plan will not be required if there is no change to the existing structure or any proposed new structure.

☐ C. If changes to building materials are proposed, include samples.

☐ **New Construction/Additions**

Include the following materials where appropriate and check appropriate box if included.

☐ For primary structure, outbuilding or addition:

- ☐ 1. Fully dimensioned site plan
- ☐ 2. Elevation drawings of each façade with dimensions and specifications
- ☐ 3. Drawings, photographs, samples and manufacturer's illustrations

☐ Drawings or other descriptions of site improvements, e.g., fences sidewalks, lighting, pavements, decks.

☐ **Structure Demolition**

1. Photographic evidence supporting the reason for demolition
2. Describe the proposed reuse of the site, including drawings of any proposed new structure
3. If economic hardship is claimed, include evidence that hardship exists (Criteria set forth in Section 7-2 of Title 12)

☐ **Structure Relocation**

1. Explain what will be moved, where and why.
2. If a structure will be moved into the district from outside, include photographs.
3. Include a site plan showing proposed location of the structure on the new parcel. Describe any site features that may be altered or disturbed (e.g., foundations, walls)

THIS FORM IS NOT A BUILDING PERMIT APPLICATION

FOR OFFICE USE ONLY BELOW

Property is: **Significant** **Contributing** **Non-Contributing**

_____ _____

Signature of Historic Preservation Commission Chair Date of Commission Review

City Council Action: **Date**_____ **Vote Record** _____ **Not Applicable**_____

Conditions: YES*/ NO

*See Attachment

The Batavia Historic Preservation Commission, or its authorized agent, has reviewed the proposed work and has determined that it is in accordance with the applicable criteria set forth in Section 6-2 of Title 12 of the Code of the City of Batavia. Accordingly, this Certificate of Appropriateness is issued.

Any change in the proposed work after issuance of this Certificate of Appropriateness shall require inspection by Commission staff to determine whether the work is still in substantial compliance with the Certificate of Appropriateness.

This certificate is not a permit, does not authorize work to begin, does not ensure building code compliance, and does not imply that any zoning review has taken place.

PROJECT INFORMATION

APPLICANT:	AT&T 930 NATIONAL PARKWAY SCHAUMBURG, IL 60173
FA CODE:	10131147
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
STRUCTURE TYPE:	ROOF TOP
SITE ADDRESS:	901 NORTH BATAVIA AVENUE BATAVIA, IL 60510
PROPERTY OWNER:	CAMPANA REDEVELOPMENT, LLC
CONTACT PERSON:	FRANK MARES, PRESIDENT PRAIRIE STRUCTURES (630) 879-3107
PARCEL NUMBER:	12-15-176-008
JURISDICTION:	KANE COUNTY
LATITUDE:	41° 51' 55.22" N
LONGITUDE:	88° 18' 56.11" W
LAT/ LONG TYPE:	NAD 83
GROUND ELEVATION:	716.00 AMSL
POWER COMPANY:	COMED
PHONE:	(800) 334-7661
TELEPHONE COMPANY:	AT&T
PHONE:	(800) 257-0902

SITE NUMBER: IL0859
SITE NAME: NORTH BATAVIA

PROJECT:

LTE 3C (WCS)

PROJECT DESCRIPTION:

REPLACE (3) EXISTING ANTENNAS POS.1 & INSTALL (3) NEW WCS RRUS32.
INSTALL NEW FIF RACK W/ LTE RBS 6601 FOR WCS EQUIPMENT.
ADD (1) FIBER & (2) DC CABLES

AT&T APPROVAL

SITE ACQUISITION MANAGER: _____ Date _____
NSORO CONSTRUCTION MANAGER: _____ Date _____
NSORO SA PROJECT MANAGER: _____ Date _____
NSORO SA SPECIALIST: _____ Date _____
NSORO COMPLIANCE MANAGER: _____ Date _____
AT&T RF PROJECT MANAGER: _____ Date _____
AT&T PROJECT MANAGER: _____ Date _____

AT&T MOBILITY APPROVAL

Real Estate _____ **Date** _____
RF _____ **Date** _____
Operation _____ **Date** _____

LTE PROJECT

☒ 700 ☒ AWS ☒ 1900 ☐ 850 ☒ WCS

DRAWING INDEX

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IL0859-01	TITLE SHEET	A
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IL0859-06-A	NEW FIF RACK SPECIFICATION	A
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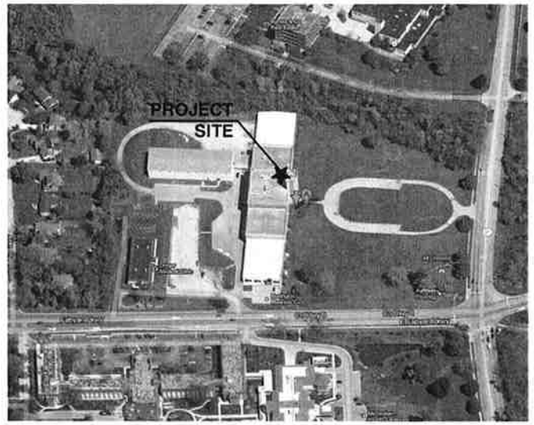
IL0859-10	FIBER-OPTIC JUMPER COLOR CODING	A
IL0859-11	GENERAL NOTES	A

THESE DRAWINGS ARE PREPARED BASED ON INFORMATION PROVIDED BY MASTEC NETWORK SOLUTION. GENERAL CONTRACTOR TO VERIFY AND INCORPORATE MOST RECENT VERSION OF RFDS PRIOR TO CONSTRUCTION.

VICINITY MAP

DIRECTIONS: DEPART CHICAGO O'HARE INTERNATIONAL AIRPORT. TURN RIGHT (NORTH) ONTO RENTAL CAR ACCESS. TURN LEFT (SOUTH) ONTO BESSIE COLEMAN DR. TAKE RAMP ONTO I-190/ CHICAGO. AT EXIT 1D, TURN RIGHT ONTO I-294/ INDIANA. MERGE ONTO I-294. TURN RIGHT ONTO RAMP I-88/ E-W TOLLWAY/ AURORA. MERGE ONTO I-88. TURN RIGHT ONTO RAMP NORTH FARNSWORTH AVE. BEAR RIGHT ONTO CR-77 [N FARNSWORTH AVE]. KEEP STRAIGHT ONTO CR-77 [S KIRK RD]. KEEP STRAIGHT ONTO CR-77. TURN LEFT (WEST) ONTO CR-8 [E FABYAN PKY]. KEEP STRAIGHT ONTO CR-8. TURN RIGHT (NORTH) ONTO LOCAL ROAD(S). ARRIVE AT SITE



APPLICABLE BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
[INTERNATIONAL BUILDING CODE (IBC), 2006 AS ADOPTED BY LOCAL BUILDING AUTHORITY]

ELECTRICAL CODE:
[NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70-2002; 2005 NATIONAL ELECTRICAL CODE, AS ADOPTED BY LOCAL BUILDING AUTHORITY]
LIGHTNING PROTECTION CODE:
[NFPA 780 – 2000, LIGHTNING PROTECTION CODE]
CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS
TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM – DC POWER SYSTEMS – TELECOM, ENVIRONMENTAL PROTECTION
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

HANDICAPPED REQUIREMENTS

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
HANDICAP ACCESS REQUIREMENTS NOT REQUIRED

PLUMBING REQUIREMENTS

FACILITY HAS NO PLUMBING

FIRE PROTECTION NOTE

BUILDING HAS EXISTING SPRINKLER SYSTEM

UTILITIES

CALL J.U.L.I.E. 48 HOURS BEFORE YOU DIG
JULIE
1 (800) 892-0123

SITE QUALIFICATION PARTICIPANTS

	NAME	COMPANY	NUMBER
A/E	SATISH PATEL	APEX ENGINEERS, INC.	(630) 627-1800
SA			
RF	SAEED MIR	AT&T MOBILITY	(847) 762-2259
PM	KEN STOCKERO	NSORO	(847) 463-5921
CM		NSORO	

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE THEY COMPLY WITH THE REQUIREMENT OF ALL APPLICABLE CODES AND ORDINANCES.

DATE: 08/12/16

SATISHKUMAR C. PATEL, S.E.
ILLINOIS S.E. LICENSE # 081-004996
EXPIRES 11-30-2016

STATE OF ILLINOIS
SATISHKUMAR C. PATEL
081-004996
CHICAGO, IL
LICENSED STRUCTURAL ENGINEER

MasTec Network Solutions
1351 E. Irving Park Rd
Itasca, IL 60143

Apex Engineers, Inc.
Structural & Civil Engineers
500 East 22nd Street, Suite B
Lombard, Illinois 60148
Ph. (630) 627-1800
Fax. (630) 627-1165
APEX JOB No. GM10-286

NORTH BATAVIA
SITE NO. IL0859
SITERRA NO. 101093-A
901 NORTH BATAVIA AVENUE
BATAVIA, IL 60510

NO.	DATE	REVISIONS	BY	CHK	APP'D
A	08/12/16	ISSUED FOR REVIEW	YA	EW	SP

SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

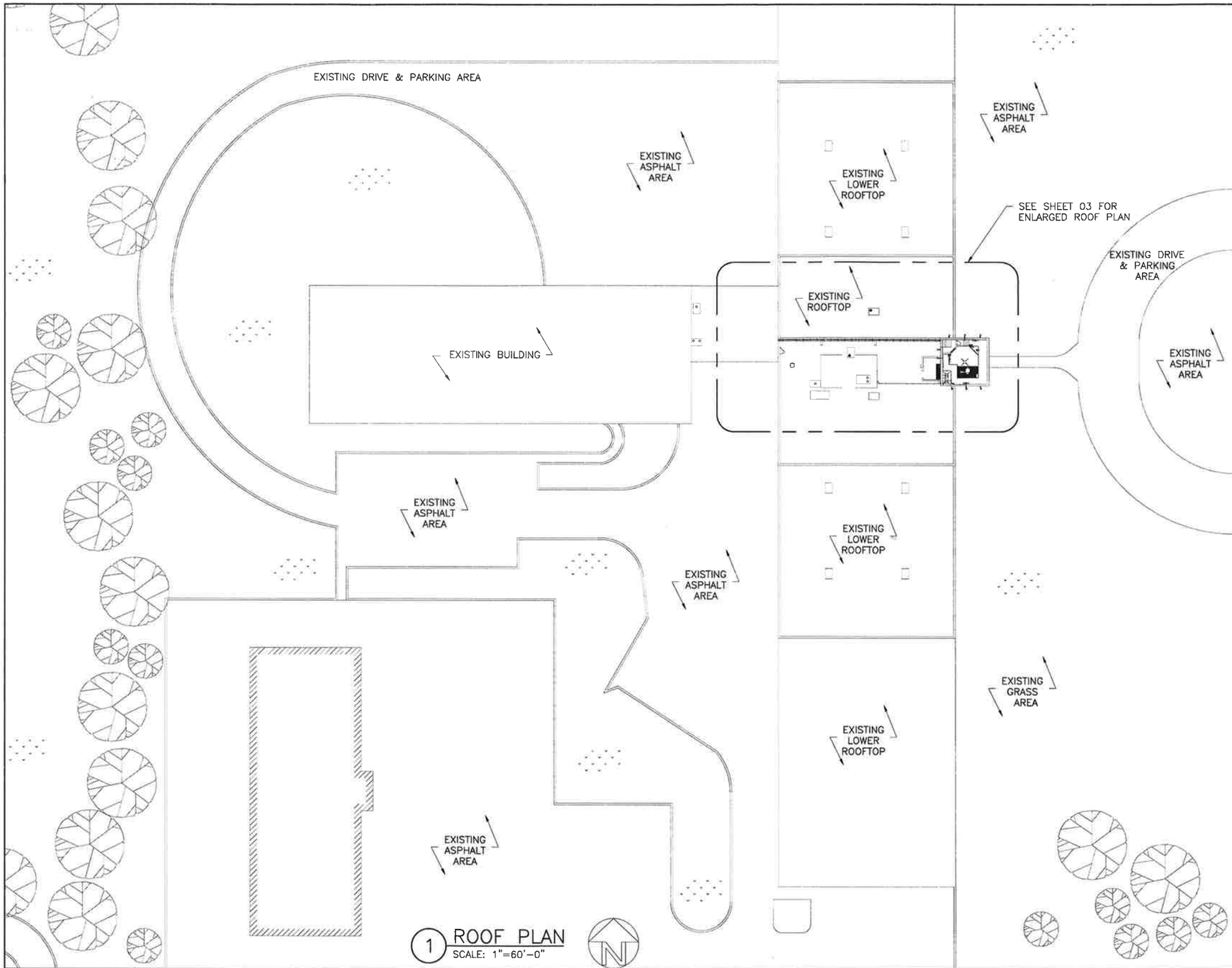
AT&T MOBILITY

TITLE

DRAWING NUMBER	REV
IL0859- 01	A

11 x 17 "B" SIZE

6 5 4 3 2



1 ROOF PLAN
SCALE: 1"=60'-0"

BUILDING ELEVATION

MasTec
Network Solutions
1351 E. Irving Park Rd
Itasca, IL 60143

Apex Engineers, Inc.
Structural & Civil Engineers
500 East 22nd Street, Suite B
Lombard, Illinois 60148
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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

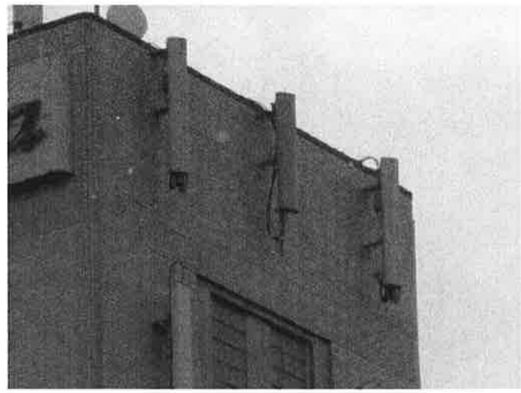
AT&T MOBILITY

ROOF PLAN

DRAWING NUMBER	REV
IL0859-02	A

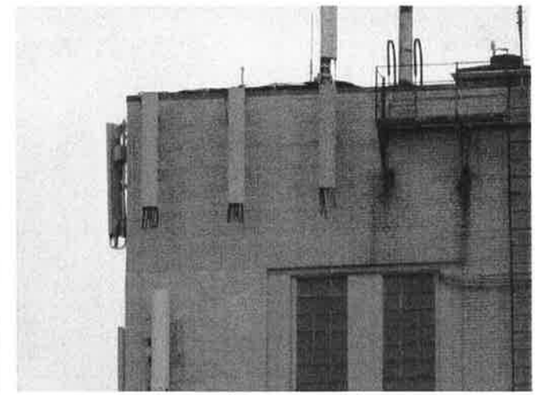
11 x 17 "B" SIZE

6 5 4 3 2



SECTOR ALPHA

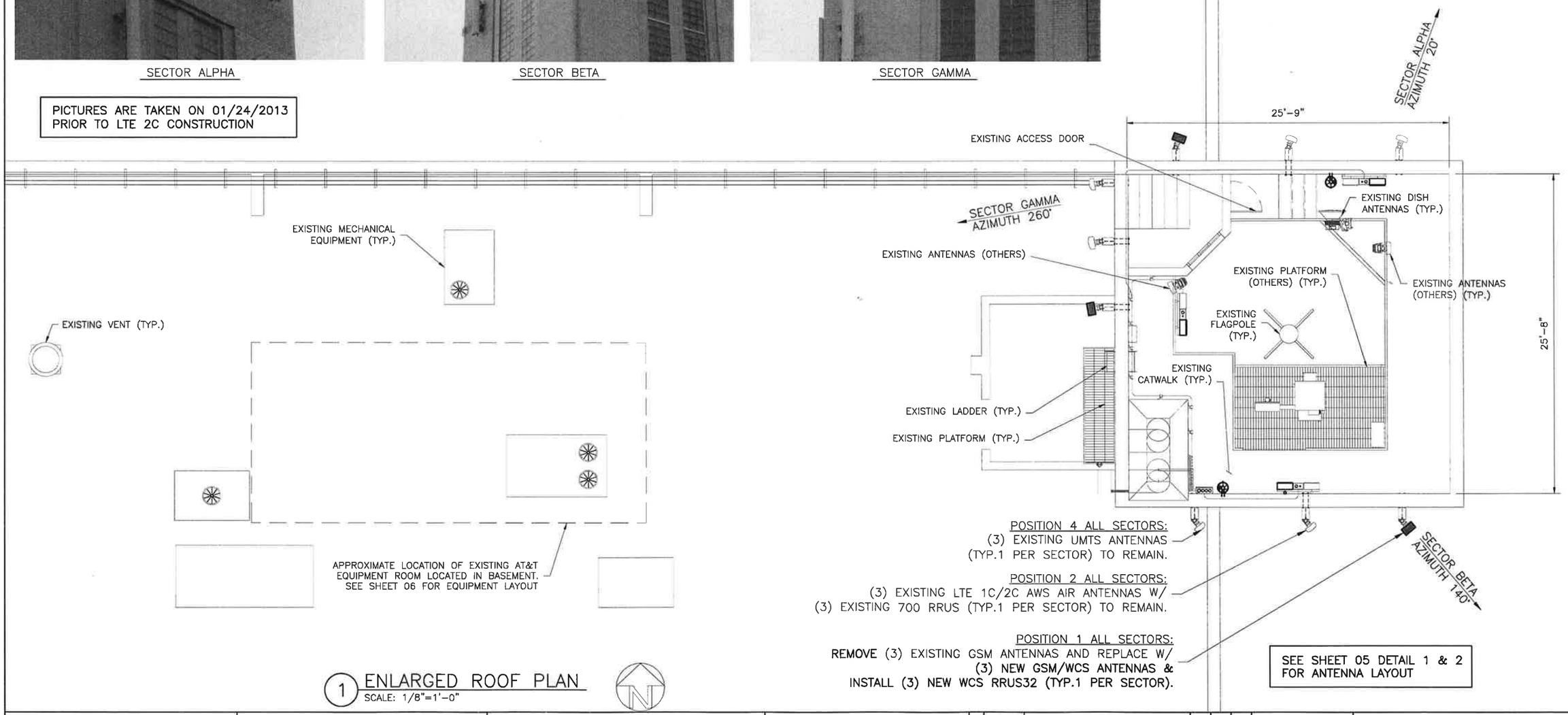
SECTOR BETA



SECTOR GAMMA

PICTURES ARE TAKEN ON 01/24/2013
PRIOR TO LTE 2C CONSTRUCTION

ANTENNA LEGEND:	
	PROPOSED ANTENNA
	RELOCATED ANTENNA
	EXISTING ANTENNA
	REMOVED ANTENNA



SEE SHEET 05 DETAIL 1 & 2
FOR ANTENNA LAYOUT

1 ENLARGED ROOF PLAN
SCALE: 1/8"=1'-0"

MasTec
Network Solutions
1351 E. Irving Park Rd
Itasca, IL 60143

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at&t

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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

ENLARGED ROOF PLAN

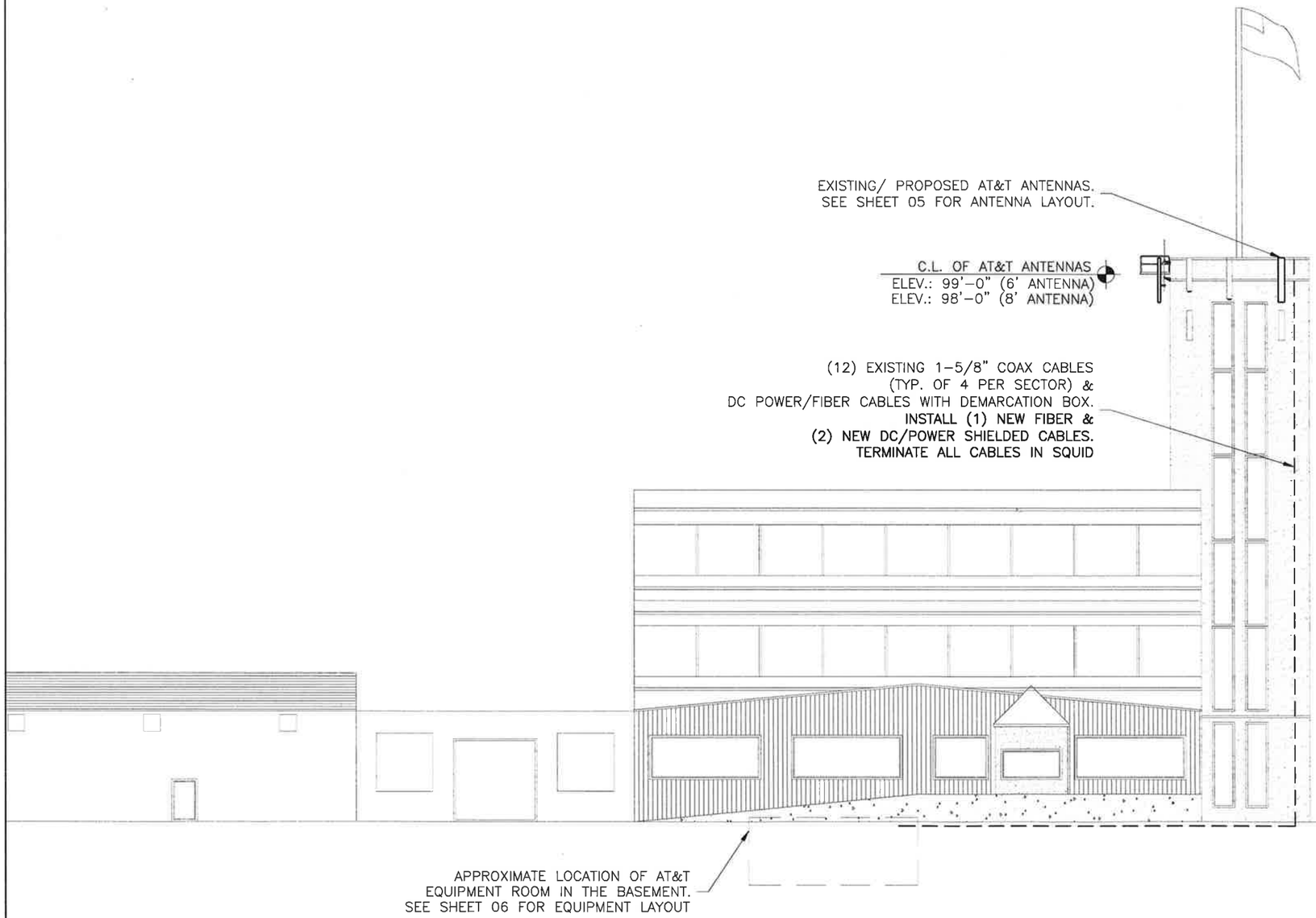
DRAWING NUMBER: IL0859-03
REV: A

11 x 17 "B" SIZE

6 5 4 3 2

NOTE:
1. REFER TO RF DESIGN SHEET/ ANTENNA CONFIGURATION DRAWING/ RET CONTROL DIAGRAM & INSTALL AS REQUIRED UPPER TMA'S, LOWER DIPLEXERS, BIAS-T, PDUs, RET CONTROLLER & HR CABLE, MCU, BOTTOM JUMPERS, GSM 850 RADIOs, LMU CABLES, 50OHM LOADs OR TERMINATION CAPS

2. ALL ANTENNA AZIMUTH TO BE FROM TRUE NORTH



NOTE:
PROPOSED FIBER/DC CABLES
TO FOLLOW EXISTING RUN.
CONTRACTOR TO VERIFY IN FIELD CABLES
LENGTH PRIOR TO INSTALLATION.

1 ELEVATION
SCALE: 3/64"=1'-0"

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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

ELEVATION

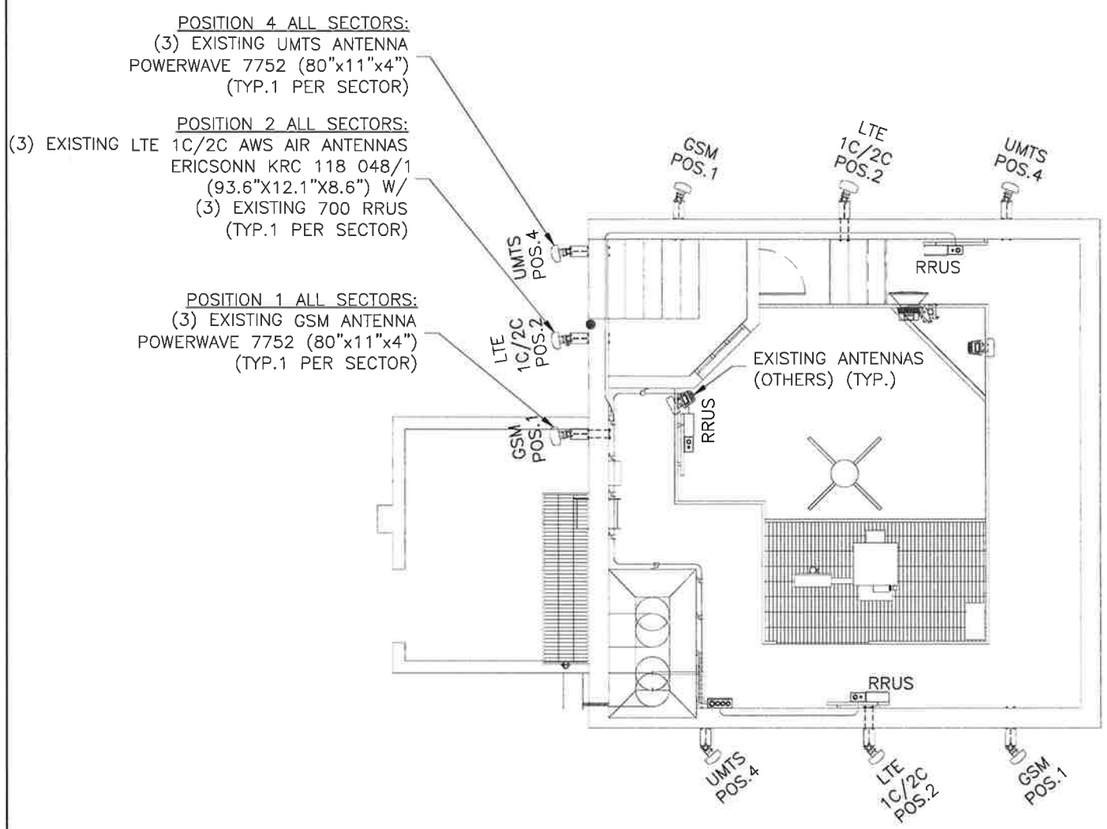
DRAWING NUMBER: IL0859-04 | REV: A

11 x 17 "B" SIZE

6 5 4 3 2

EXISTING ANTENNA MODELS, POSITIONS & AZIMUTHS ARE ASSUMED BASED ON RFDS. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION & COORDINATE WITH AT&T RF ENGINEER FOR ANY DISCREPANCY.

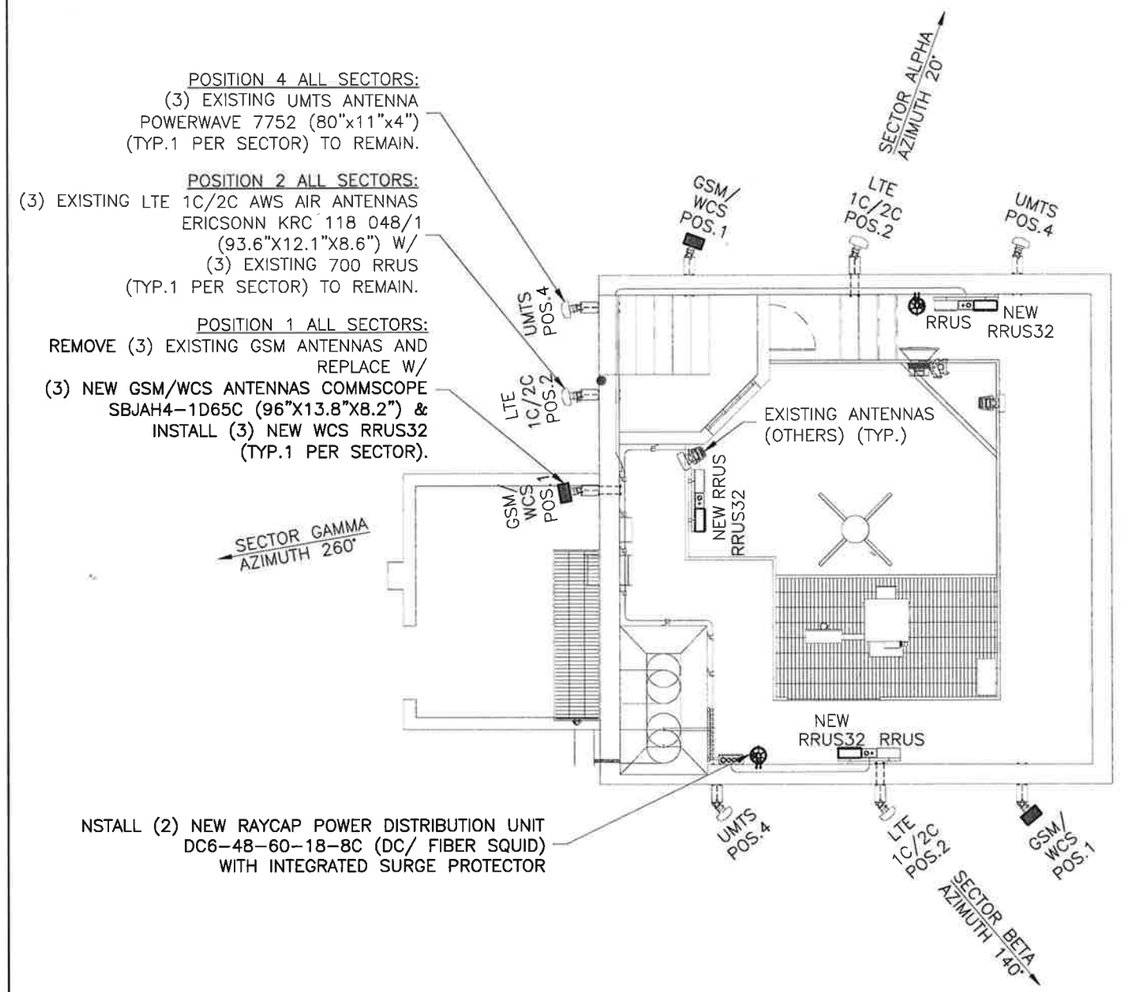
REFER TO RF DESIGN SHEET FOR ADDITIONAL INFORMATION ON TMA'S/DIPLEXERS/DC&FIBER BOX/SQUID



1 LTE 2C/ EXISTING ANTENNA LAYOUT
SCALE: N.T.S.

MOUNT PROPOSED OR RELOCATE EXISTING RRU/RRH USING APPROVED ERICSSON BRACKET SXK 107 2839 OR SXK 107 2841

RELOCATE/ ADD/ REPLACE MOUNTING PIPES AS REQUIRED TO ACCOMMODATE NEW ANTENNAS



2 PROPOSED 3C (WCS) ANTENNA LAYOUT
SCALE: N.T.S.

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Fax. (630) 627-1165
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BATAVIA, IL 60510

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NO.	DATE	REVISIONS	BY	CHK	APP'D
A	08/12/16	ISSUED FOR REVIEW	YA	EW	SP

SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

ANTENNA LAYOUT

DRAWING NUMBER	REV
IL0859-05	A

11 x 17 "B" SIZE

6 5 4 3 2

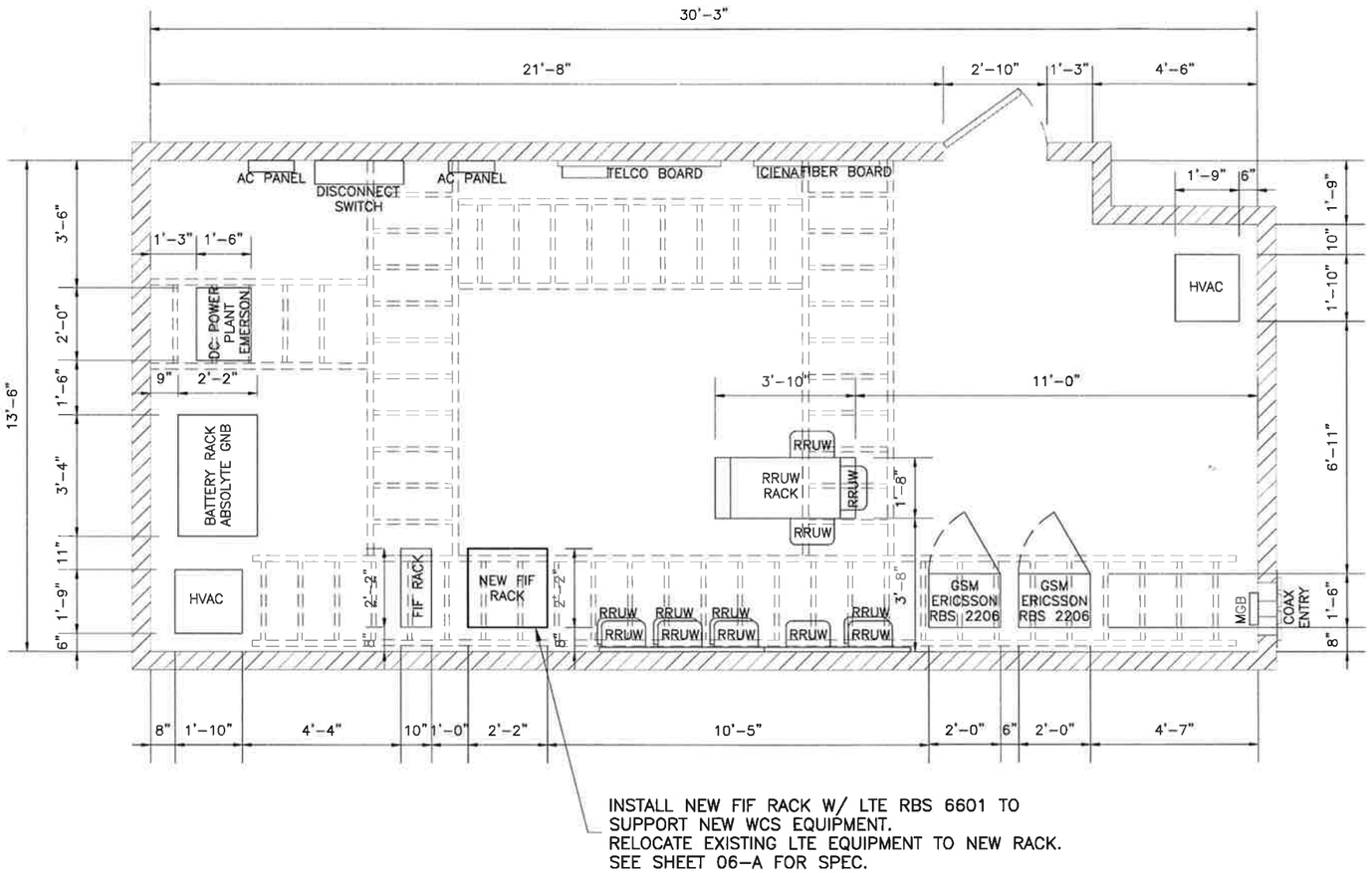
NOTES:

1. EXISTING SPACE FOR PROPOSED EQUIPMENT ASSUMED TO BE ADEQUATE, PRIOR TO INSTALLATION, COORDINATE FINAL LOCATION WITH CONSTRUCTION MANAGER.

2. COORDINATE WITH CONSTRUCTION MANAGER FOR THE PROVISION OF DC CIRCUIT BREAKERS AND OTHER ANCILLARY ITEMS TO SUPPORT THE NEW EQUIPMENT.

3. PROPERLY BOND ALL EQUIPMENT AND CONDUCTIVE SURFACES TO EXISTING GROUND PER NEC AND AT&T STANDARDS.

DECOM EXISTING GSM CABINET AS REQUIRED.

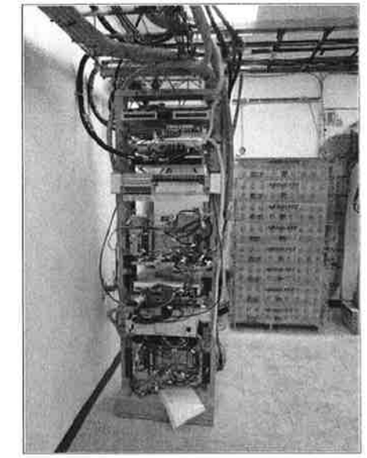


INSTALL NEW FIF RACK W/ LTE RBS 6601 TO SUPPORT NEW WCS EQUIPMENT.
RELOCATE EXISTING LTE EQUIPMENT TO NEW RACK.
SEE SHEET 06-A FOR SPEC.

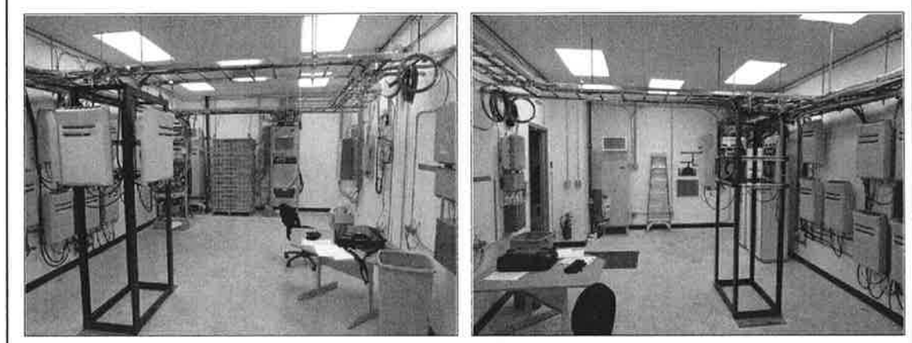
1 EQUIPMENT LAYOUT
SCALE: 1/4"=1'-0"

CONTRACTOR TO INSTALL CIRCUIT BREAKERS (PROVIDED BY AT&T) AS REQUIRED.

PICTURES ARE TAKEN ON 01/24/2013 PRIOR TO LTE 2C CONSTRUCTION

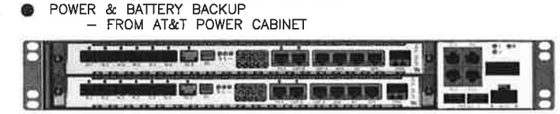


LTE EQUIPMENT



EXISTING SHELTER

- FOOTPRINT (HxWxD)
  - 66 x 483 x 350 MM (2.6 x 19 x 14 IN)
  - 1.5 U HEIGHT & 19" RACK MOUNTABLE
- WEIGHT
  - 10 KG (22 LBS)
- CLIMATE CONTROL
  - FANS (+41 TO +122F AMBIENT)
- BREAKERS/ POWER CABLE
  - -48 VDC (1x15 AMP BREAKER)
    DC CABLE SIZE #12 AWG (4 MM²)
- POWER CONSUMTION
  - ≈100 WATTS (TYP, WITH 1 DUL-20, AND 1 SAU)
- EXTERNAL ALARMS
  - 8 INTERNAL
  - 32 VIA SEPARATE UNIT SAU UNIT
- POWER & BATTERY BACKUP
  - FROM AT&T POWER CABINET



2 RBS 6601-UNIT
SCALE: N.T.S.

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APEX JOB No. GM10-286

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at&t

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

EQUIPMENT LAYOUT

DRAWING NUMBER	REV
IL0859-06	A

11 x 17 "B" SIZE

6 5 4 3 2

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. CONFORMS IN ACCORDANCE WITH ALL TELECT WORKMANSHIP STANDARDS.

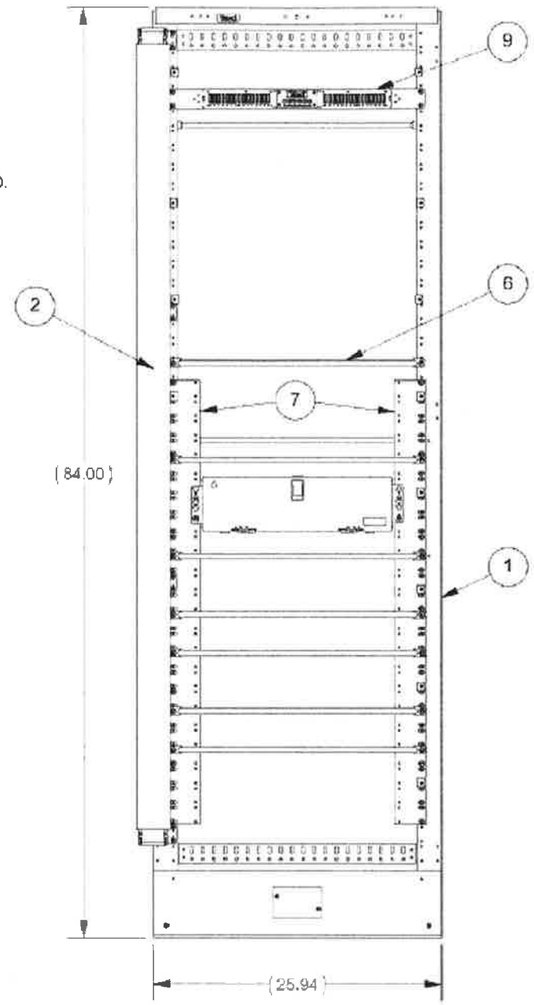
2. DIMENSIONS ARE IN INCHES.

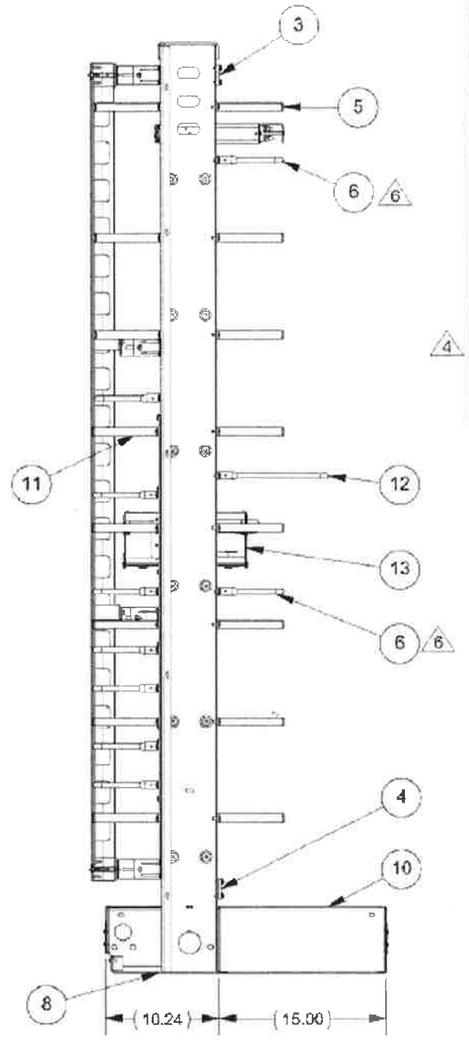
3. DIMENSIONS ARE FOR REFERENCE.

4. ITEM 11 INSTALLED ON ISOLATED EXTENDER ITEM 7.

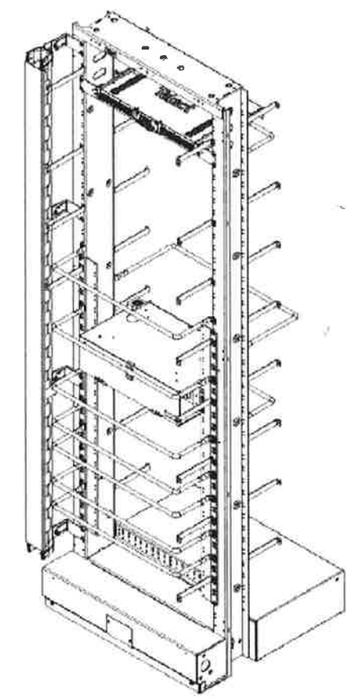
5. TIE BARS, ITEMS 6 AND 12, SHOWN FOR REFERENCE. PACKAGE AND SHIP WITH UNIT UNLESS OTHERWISE NOTED.

6. INSTALL TIE BARS ITEM 6.





ITEM	PART NO.	DESCRIPTION	QTY
1	12300KW201-FIF	BELL RK W/O ANCHS 23"x7' FRT GRD W/MASK	1
2	027-2000-4203A	TRAX (2) VERTICAL SLOTTED TROUGH KIT 2" SLOTS 1.5" SPACING 6' LENGTH,MID SPAN SUPPORT,OFFSET	1
3	02114-A23	GROUND BAR, 23", DUAL HOLE	1
4	02114-A23I	GROUND BAR, ISOLATED, 23", DUAL HOLE	1
5	02106-03C	BRACKET CABLE TIE ASSY,6"	22
6	37615-14I	TIE DOWN BAR 23" MOUNT,6" DEEP,ISOLATED	9
7	02117-23I	ISOLATED PANEL ADAPTER W/HARDWARE AND ISO PAD 23RU 23"-19" EIA	1
8	02100-113B	ANCHR KIT W/WIDE PLATES FOR EQ UFRKS 'B' ANCHOR	1
9	HPGMT15	FU PNL:DUAL 15/15 20A GMT, 100A,UNIV VOLTAGE	1
10	02122-0015	GUARD BOX UF 23" RR 25 15/16" X 15" EQ	1
11	02106-03I	BRACKET CABLE TIE,6",ISOLATED	6
12	37615-77I	TIE DOWN BAR 23" MOUNT,10" DEEP,ISOLATED	1
13	LCX-H3RU-01	LCX 3RU HINGED CHASSIS W/ REAR SPOOL, PATCH 72 LC PORTS	1



REV	ECO	DESCRIPTION	DATE	BY
A0	--	RESOLVED LCX MOUNTING BRKT ORIENTATION	10/06/2014	TMT

drawing no	customer drawing	rev	units	designed by	date	tolerances (unless otherwise specified)	sheet	sheet size	scale	project	projection
017-4011-0123-0169	AT&T HYBRID FRAME	A0	inch	T. TURPIN drawn by T. TURPIN	6/12/2014 date 6/12/2014	.X ±.060 .XX ±.020 .XXX ±.010 hole size: ±.005 angularity: ±1°	1 of 1	B	NTS	R001	

Telect

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NORTH BATAVIA
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A	08/12/16	ISSUED FOR REVIEW	YA	EW	SP

SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

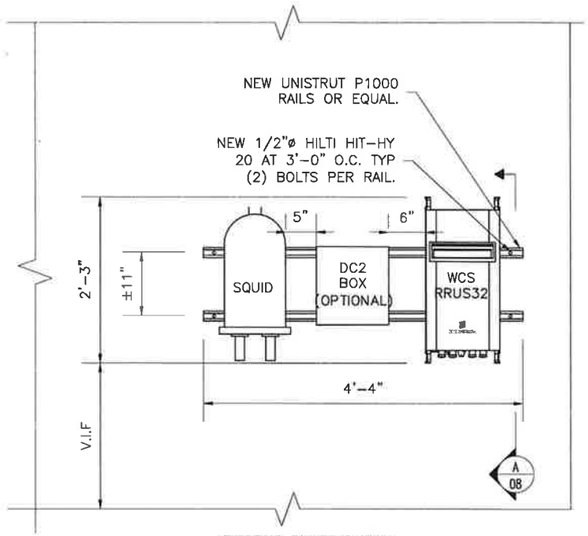
AT&T MOBILITY

NEW FIF RACK SPECIFICATION

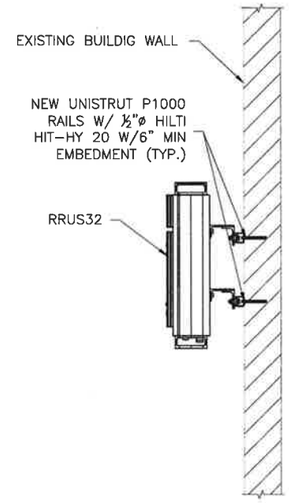
DRAWING NUMBER: IL0859- 06-A | REV: A

11 x 17 "B" SIZE

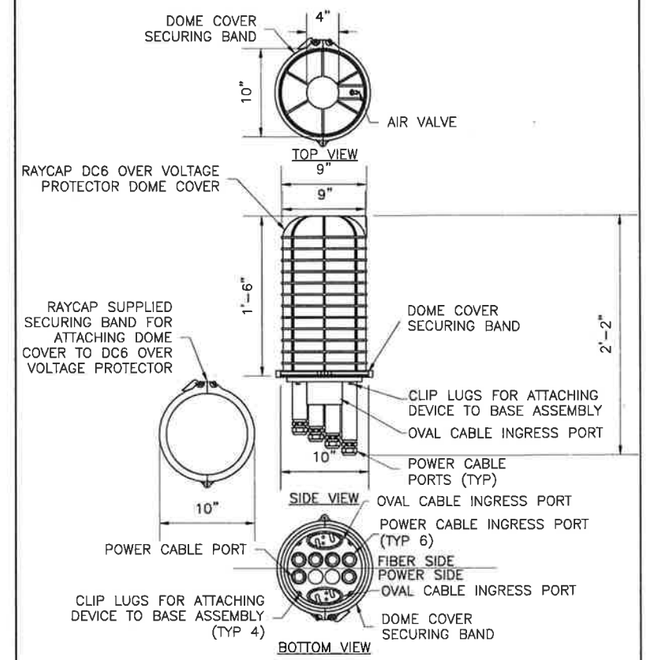
6 5 4 3 2



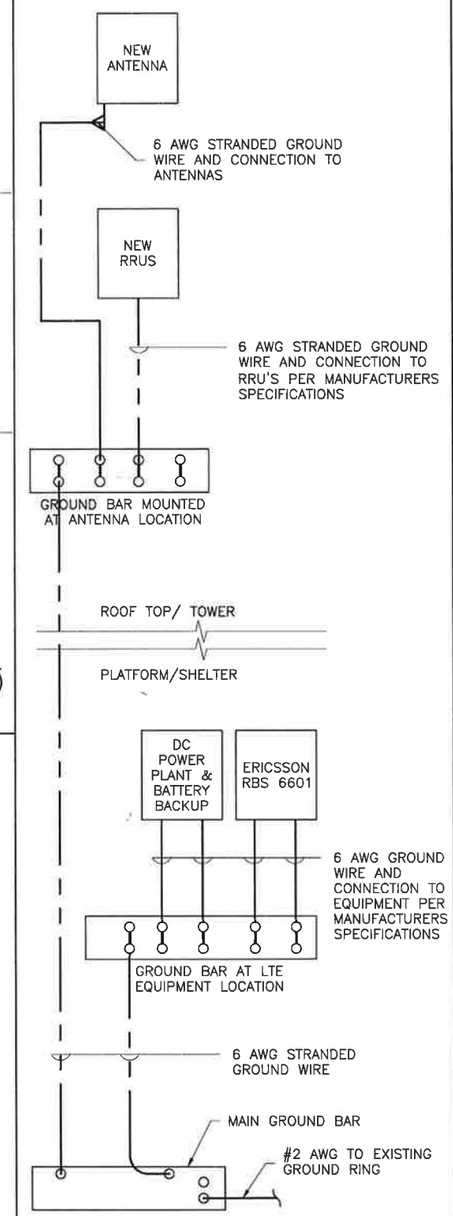
EXISTING BUILDING WALL



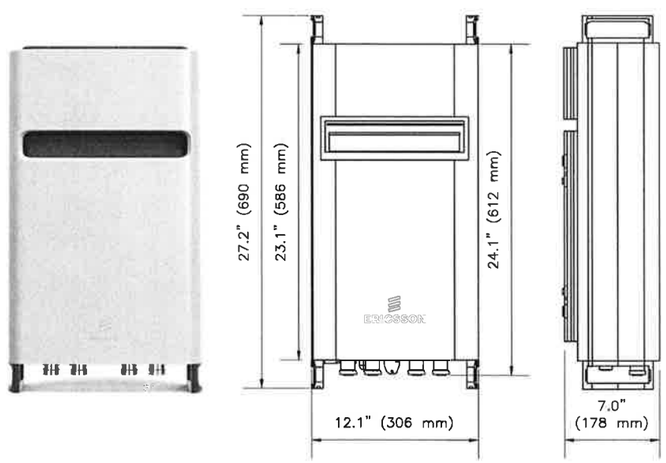
1 RRUS MOUNT DETAIL
SCALE: N.T.S.



2 RAYCAP DC6-48-60-18-8C
DC POWER OVER VOLTAGE PROTECTOR (OVP)



4 GROUNDING DIAGRAM
SCALE: N.T.S.



RRUS 32 B2

- PCS
- TX = 1930 – 1990 MHz
- RX = 1850 – 1910 MHz
- CPRI 2 ports x 10 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS32 during initial install.
- Only use Ericsson supplied and approved SFPs, RDH10247/3
- 6 external alarm inputs
- Max wind load @ 50m/sec = 350N
- Breaker size = 30A, DC Power Consumption = 910W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- 200mm separation required from antenna backplane to radio
- 600mm/800mm vertical outdoor/indoor separation required
- Min, Max DC cable size from squid to radio = 10, 8 AWG,
- Adapter is required for 2-wire connection
- Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield)
- Height: 27.2" (690 mm)
- Width: 12.1" (306 mm)
- Depth: 7.0" (178 mm)
- Weight, excl. mounting hardware = 53 lbs (24 kg)

RRUS 32 B30

- WCS A+B blocks
- TX = 2350 – 2360 MHz
- RX = 2305 – 2315 MHz
- CPRI 2 ports x 10 Gbps
- Only use Ericsson supplied and approved SFPs
- 6 external alarm inputs
- Max wind load @ 50m/sec = 350N
- Breaker size = 20A, DC Power Consumption = 800W
- 200mm horizontal separation required for side by side mounting
- 200mm separation required for antenna backplane to radio
- 600mm/800mm vertical outdoor/indoor separation required
- Max DC cable size from squid to radio = 8AWG
- Adapter is required for 2-wire connection
- Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield)
- Height: 27.2" (690 mm)
- Width: 12.1" (306 mm)
- Depth: 7.0" (178 mm)
- Weight, excl. mounting hardware = 53 lbs (24 kg)

RRUS 32 B66

- AWS
- TX = 2110 – 2180 MHz
- RX = 1710 – 1780 MHz
- CPRI 2 ports x 10 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS32 during initial install.
- Only use Ericsson supplied and approved SFPs RDH10247/3
- 6 external alarm inputs
- Max wind load @ 50m/sec = 350N
- Breaker size = 30A, DC Power Consumption = 880W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- 200mm separation required from antenna backplane to radio
- 600mm/800mm vertical outdoor/indoor separation required
- Min, Max DC cable size from squid to radio = 10,8 AWG
- Adapter is required for 2-wire connection
- Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield)
- Height: 27.2" (690 mm)
- Width: 12.1" (306 mm)
- Depth: 7.0" (178 mm)
- Weight, excl. mounting hardware = 53 lbs (24 kg)

3 RRUS32 SPECIFICATIONS
SCALE: N.T.S.

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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

CONSTRUCTION DETAILS

DRAWING NUMBER	REV
IL0859-07	A

11 x 17 "B" SIZE

6 5 4 3 2

SECTOR	ANTENNA NUMBER	POLARITY/PORT	TOP AND BOTTOM JUMPER COLOR	COAX ID	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/ DIPL./RRU MODEL NUMBER	AZIMUTH	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	ANTENNA CENTERLINE FROM GROUND	ANTENNA TIP HEIGHT	COAXIAL FEEDER SIZE	COAXIAL FEEDER LENGTH	ANTENNA TYPE
A	A1	850	R W Sl	A1-1	SBJAH4-1D65C	COMMSCOPE	(2) TMAs	20°	–	–	98'-0"	101'-0"	(2) 1-5/8"	±280'-0"	GSM
		WCS	R W Br	A1-2			(1) RRUS32						FIBER		WCS
	A2	700	R O Sl	A2-1	KRC 118 048/1	ERICSSON	(1) RRUS	20°	–	–	98'-0"	101'-0"	FIBER	±280'-0"	LTE 1C
		AWS	R O Br	A2-2											LTE 2C
	A3		R Br Sl	A3-1											
			R Br Br	A3-2											
	A4	850	R V Sl	A4-1	7752	POWERWAVE	(2) TMAs	20°	–	–	99'-0"	101'-0"	(2) 1-5/8"	±280'-0"	UMTS
		1900	R V Br	A4-2											
B	B1	850	Bl W Sl	B1-1	SBJAH4-1D65C	COMMSCOPE	(2) TMAs	140°	–	–	98'-0"	101'-0"	(2) 1-5/8"	±240'-0"	GSM
		WCS	Bl W Br	B1-2			(1) RRUS32						FIBER		WCS
	B2	700	Bl O Sl	B2-1	KRC 118 048/1	ERICSSON	(1) RRUS	140°	–	–	98'-0"	101'-0"	FIBER	±240'-0"	LTE 1C
		AWS	Bl O Br	B2-2											LTE 2C
	B3		Bl Br Sl	B3-1											
			Bl Br Br	B3-2											
	B4	850	Bl V Sl	B4-1	7752	POWERWAVE	(2) TMAs	140°	–	–	99'-0"	101'-0"	(2) 1-5/8"	±240'-0"	UMTS
		1900	Bl V Br	B4-2											
C	C1	850	G W Sl	C1-1	SBJAH4-1D65C	COMMSCOPE	(2) TMAs	260°	–	–	98'-0"	101'-0"	(2) 1-5/8"	±300'-0"	GSM
		WCS	G W Br	C1-2			(1) RRUS32						FIBER		WCS
	C2	700	G O Sl	C2-1	KRC 118 048/1	ERICSSON	(1) RRUS	260°	–	–	98'-0"	101'-0"	FIBER	±300'-0"	LTE 1C
		AWS	G O Br	C2-2											LTE 2C
	C3		G Br Sl	C3-1											
			G Br Br	C3-2											
	C4	850	G V Sl	C4-1	7752	POWERWAVE	(2) TMAs	260°	–	–	99'-0"	101'-0"	(2) 1-5/8"	±300'-0"	UMTS
		1900	G V Br	C4-2											

THESE ANTENNA MATRIX TABLE IS PREPARED BASED ON INFORMATION PROVIDED BY MASTEC NETWORK SOLUTIONS. GENERAL CONTRACTOR TO VERIFY AND INCORPORATE MOST RECENT VERSION OF RFDS PRIOR TO CONSTRUCTION.

1 ANTENNA MATRIX
NTS

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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

ANTENNA MATRIX

DRAWING NUMBER: IL0859-08 | REV: A

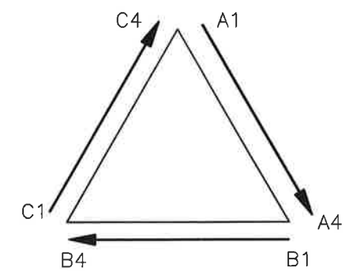
11 x 17 "B" SIZE

6 5 4 3 2

CABLE MARKING COLOR CONVENTION TABLE

ALPHA, A, X, #1	A1-1	A1-2	A2-1	A2-2	A3-1	A3-2	A4-1	A4-2
	+45	-45	+45	-45	+45	-45	+45	-45
SECTOR ANTENNA PORT (+/-)	RED	RED	RED	RED	RED	RED	RED	RED
	WHITE	WHITE	ORANGE	ORANGE	BROWN	BROWN	VIOLET	VIOLET
	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN
BAND (LOW/HI) *SEE NOTES 13 AND 15	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /
	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET
BEAM (LEFT/RIGHT) *SEE NOTE 14 BELOW	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /
	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW
BETA, B, Y, #2	B1-1	B1-2	B2-1	B2-2	B3-1	B3-2	B4-1	B4-2
	+45	-45	+45	-45	+45	-45	+45	-45
SECTOR ANTENNA PORT	BLUE	BLUE	BLUE	BLUE	BLUE	BLUE	BLUE	BLUE
	WHITE	WHITE	ORANGE	ORANGE	BROWN	BROWN	VIOLET	VIOLET
	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN
BAND (LOW/HI) *SEE NOTES 13 AND 15	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /
	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET
BEAM (LEFT/RIGHT) *SEE NOTE 14 BELOW	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /
	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW
GAMMA, C, Z, #3	C1-1	C1-2	C2-1	C2-2	C3-1	C3-2	C4-1	C4-2
	+45	-45	+45	-45	+45	-45	+45	-45
SECTOR ANTENNA PORT	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN
	WHITE	WHITE	ORANGE	ORANGE	BROWN	BROWN	VIOLET	VIOLET
	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN
BAND (LOW/HI) *SEE NOTES 13 AND 15	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /
	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET
BEAM (LEFT/RIGHT) *SEE NOTE 14 BELOW	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /
	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW
DELTA, D, #4	D1-1	D1-2	D2-1	D2-2	D3-1	D3-2	D4-1	D4-2
	+45	-45	+45	-45	+45	-45	+45	-45
SECTOR ANTENNA PORT	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW
	WHITE	WHITE	ORANGE	ORANGE	BROWN	BROWN	VIOLET	VIOLET
	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN	SLATE	BROWN
BAND (LOW/HI) *SEE NOTES 13 AND 15	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /	ORANGE /
	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET	VIOLET
BEAM (LEFT/RIGHT) *SEE NOTE 14 BELOW	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /	SLATE /
	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW

FIGURE 1: ANTENNA ORIENTATION



NOTE: ALPHA STARTS AT 0 (NORTH) OR FIRST AZIMUTH AFTER 0
NOTE: BETA IS FIRST AZIMUTH AFTER ALPHA IN CLOCK-WISE DIRECTION
NOTE: GAMMA IS FIRST AZIMUTH AFTER BETA IN CLOCK-WISE DIRECTION
NOTE: DELTA IS FIRST AZIMUTH AFTER GAMMA IN CLOCK-WISE DIRECTION
NOTE: AZIMUTH IS IDENTIFIED BY THE PANEL, NOT THE ELEMENTS INSIDE

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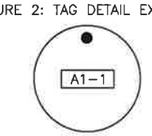
Version 2.8 – Updated 5/28/2014

CABLE MARKING TAGS

TO PROVIDE ADDITIONAL IDENTIFICATION RF CABLES SHALL BE IDENTIFIED WITH A METAL TAG MADE OF STAINLESS STEEL OR BRASS AND STAMPED WITH THE SECTOR, ANTENNA POSITION, AND CABLE NUMBER. THE ID MARKING LOCATIONS SHOULD BE AS PER "CABLE MARKING LOCATIONS TABLE". THE TAG SHOULD BE ATTACHED WITH CORROSIVE PROOF WIRE OR WAX STRING AROUND THE CABLE. THE TAG SHOULD BE LABLED AS SHOWN BELOW IN FIGURE 2.

FIGURE 2: TAG DETAIL EXAMPLE



NOTE 1*: ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) WRAPS OF TAPE.
NOTE 2*: ALL COLOR BANDS INSTALLED AT THE TOWER TOP SHALL BE A MINIMUM OF 3" WIDE AND SHALL HAVE A MINIMUM OF ¾" OF SPACING BETWEEN EACH COLOR.
NOTE 3*: ALL COLOR BANDS INSTALLED AT OR NEAR THE GROUND MAY BE ONLY ¾" WIDE. EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
NOTE 4*: EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH ¾" COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
NOTE 5*: ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF ¾" BANDS ON EACH END OF THE BOTTOM JUMPER.
NOTE 6*: ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
NOTE 7*: EACH COLOR BAND SHALL HAVE A MINIMUM OF (3) WRAPS AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
NOTE 8*: X-POLE ANTENNAS SHOULD USE "XX-1" FOR THE "+45" PORT, "XX-2" FOR THE "-45" PORT.
NOTE 9*: COLORBAND #4 REFERS TO THE FREQUENCY BAND: ORANGE=850, VIOLET=1900. USED ON JUMPERS ONLY.
NOTE 10*: RF FEEDLINE SHALL BE IDENTIFIED WITH A METAL TAG (STAINLESS OR BRASS) AND STAMPED WITH THE SECTOR, ANTENNA POSITION, AND CABLE NUMBER.
NOTE 11*: ANTENNAS MUST BE IDENTIFIED, USING THE SECTOR LETTER AND ANTENNA NUMBER, WITH A BLACK MARKER PRIOR TO INSTALLATION.
NOTE 12*: ONLY "SECTOR-SPLIT" ANTENNA COAX SHALL CONTAIN A 5TH COLORBAND TO INDICATE "LEFT" OR "RIGHT" BEAM.
NOTE 13*: "SECTOR-SPLIT" ANTENNA COAX SHALL USE BLACK TAPE AS A PLACEHOLDER ON MAINLINE FOR COLORBAND #4 (FREQ BAND)
NOTE 14*: "SECTOR-SPLIT" ANTENNAS SLATE FOR THE LEFT BEAM, AND YELLOW FOR THE RIGHT BEAM
NOTE 15*: "LOW" BAND REFERS TO 700MHZ OR 850MHZ, "HI" BAND REFERS TO 1900MHZ OR 2100MHZ

CABLE MARKING LOCATIONS TABLE

TAPE	TAG	LOCATIONS
X		EACH TOP JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
X		EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JAST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
	X	MARKING TAGS SHALL BE ATTACHED AT CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER
X		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4 " WIDE BANDS ON EACH END OF BOTTOM JUMPER.

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SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

COAX COLOR CODING

DRAWING NUMBER: IL0859-09 | REV: A

11 x 17 "B" SIZE

6 5 4 3 2

MIDWEST FIBER-OPTIC JUMPER COLOR CODE STANDARD (Version 2.8 – Updated 5/28/2014)

SECTOR	TECHNOLOGY	BAND	RADIO NAME	COLOR CODE				NOTES
A	LTE	700	LTE-700-A1	RED	ORANGE	BROWN	VIOLET	
A	LTE	2100	LTE-2100-A2	RED	ORANGE	WHITE	VIOLET	
A	LTE	2100	LTE-2100-A3	RED	ORANGE	WHITE	BROWN	"A2" MODULE, SEE NOTE 1 BELOW
A	UMTS	850	UMTS-850-A4	RED	SLATE	VIOLET	VIOLET	
A	LTE	850	LTE-850-A4S	RED	ORANGE	VIOLET	YELLOW	"TECHNOLOGY-SPLIT"
A	UMTS	1900	UMTS-1900-A5	RED	SLATE	ORANGE	VIOLET	
A	LTE	1900	LTE-1900-A5S	RED	ORANGE	ORANGE	YELLOW	"TECHNOLOGY-SPLIT"
A	LTE	1900	LTE-1900-A6	RED	ORANGE	ORANGE	SLATE	"A2" MODULE, SEE NOTE 1&2 BELOW
A	LTE	700D/E	LTE-700DE-A7	RED	ORANGE	YELLOW	VIOLET	
A	LTE	WCS	LTE-WCS-A8	RED	ORANGE	SLATE	VIOLET	
A	LTE	850	LTE-850-A9	RED	ORANGE	VIOLET	VIOLET	
A	LTE	1900	LTE-1900-A10	RED	ORANGE	ORANGE	VIOLET	
A	LTE	1900	LTE-1900-A11	RED	ORANGE	ORANGE	BROWN	"A2" MODULE, SEE NOTE 1 BELOW
B	LTE	700	LTE-700-B1	BLUE	ORANGE	BROWN	VIOLET	
B	LTE	2100	LTE-2100-B2	BLUE	ORANGE	WHITE	VIOLET	
B	LTE	2100	LTE-2100-B3	BLUE	ORANGE	WHITE	BROWN	"A2" MODULE, SEE NOTE 1 BELOW
B	UMTS	850	UMTS-850-B4	BLUE	SLATE	VIOLET	VIOLET	
B	LTE	850	LTE-850-B4S	BLUE	ORANGE	VIOLET	YELLOW	"TECHNOLOGY-SPLIT"
B	UMTS	1900	UMTS-1900-B5	BLUE	SLATE	ORANGE	VIOLET	
B	LTE	1900	LTE-1900-B5S	BLUE	ORANGE	ORANGE	YELLOW	"TECHNOLOGY-SPLIT"
B	LTE	1900	LTE-1900-B6	BLUE	ORANGE	ORANGE	SLATE	"A2" MODULE, SEE NOTE 1&2 BELOW
B	LTE	700D/E	LTE-700DE-B7	BLUE	ORANGE	YELLOW	VIOLET	
B	LTE	WCS	LTE-WCS-B8	BLUE	ORANGE	SLATE	VIOLET	
B	LTE	850	LTE-850-B9	BLUE	ORANGE	VIOLET	VIOLET	
B	LTE	1900	LTE-1900-B10	BLUE	ORANGE	ORANGE	VIOLET	
B	LTE	1900	LTE-1900-B11	BLUE	ORANGE	ORANGE	BROWN	"A2" MODULE, SEE NOTE 1 BELOW
C	LTE	700	LTE-700-C1	GREEN	ORANGE	BROWN	VIOLET	
C	LTE	2100	LTE-2100-C2	GREEN	ORANGE	WHITE	VIOLET	
C	LTE	2100	LTE-2100-C3	GREEN	ORANGE	WHITE	BROWN	"A2" MODULE, SEE NOTE 1 BELOW
C	UMTS	850	UMTS-850-C4	GREEN	SLATE	VIOLET	VIOLET	
C	LTE	850	LTE-850-C4S	GREEN	ORANGE	VIOLET	YELLOW	"TECHNOLOGY-SPLIT"
C	UMTS	1900	UMTS-1900-C5	GREEN	SLATE	ORANGE	VIOLET	
C	LTE	1900	LTE-1900-C5S	GREEN	ORANGE	ORANGE	YELLOW	"TECHNOLOGY-SPLIT"
C	LTE	1900	LTE-1900-C6	GREEN	ORANGE	ORANGE	SLATE	"A2" MODULE, SEE NOTE 1&2 BELOW
C	LTE	700D/E	LTE-700DE-C7	GREEN	ORANGE	YELLOW	VIOLET	
C	LTE	WCS	LTE-WCS-C8	GREEN	ORANGE	SLATE	VIOLET	
C	LTE	850	LTE-850-C9	GREEN	ORANGE	VIOLET	VIOLET	
C	LTE	1900	LTE-1900-C10	GREEN	ORANGE	ORANGE	VIOLET	
C	LTE	1900	LTE-1900-C11	GREEN	ORANGE	ORANGE	BROWN	"A2" MODULE, SEE NOTE 1 BELOW

NOTE 1: A SECONDARY JUMPER TO A2 MODULES IS REQUIRED WHEN A CARRIER BANDWIDTH EXCEEDS 10x10MHZ. A2 COLOR CODE IS REQUIRED.
NOTE 2: WHEN DEPLOYING 2 LTE CARRIERS WITHIN THE SAME BAND, F1 IS IDENTIFIED BY BROWN, F2 IS IDENTIFIED BY SLATE.

SECTORS	ALPHA	RED
	BETA	BLUE
	GAMMA	GREEN
TECH	UMTS	SLATE
	LTE	ORANGE
FREQBAND	700	BROWN
	850	VIOLET
	1900	ORANGE
	2100	WHITE
	WCS	YELLOW
	700DE	SLATE
PORT	MASTER	VIOLET
	SPLIT/SLAVE	YELLOW
	>10MHZ A2 MODULE F1	BROWN
	>10MHZ A2 MODULE F2	SLATE

NOTE: "RED", "BLUE", AND "GREEN" ARE NOT USED ON ANY OTHER COLOR BAND AND ALWAYS DE-NOTE THE 1st COLOR BAND

WISIL STANDARD FIBER-OPTIC DEPLOYMENT PLANS (Version 2.8 – Updated 5/28/2014)

NOTE: ** DENOTES SPECIAL DEPLOYMENT WHERE RRH IS TECHNOLOGY SPLIT WITH UMTS AND LTE
NOTE: RRH'S DIPICTED IN PARENTHESES AND ITALICS INDICATE ERICSSON "A2" MODULES

FIBER TRUNK #1

RRH NAME	SECTOR	TECHNOLOGY	BAND	FIBER TRAY ID	FIBER TRAY PORT	SQUID/TRUNK PAIR
LTE-700-A1	A	LTE	700	A	1	1
LTE-700-B1	B	LTE	700	A	2	2
LTE-700-C1	C	LTE	700	A	3	3
LTE-2100-A2 (*LTE-2100-A3*)	A	LTE	2100	A	4	4
LTE-2100-B2 (*LTE-2100-B3*)	B	LTE	2100	A	5	5
LTE-2100-C2 (*LTE-2100-C3*)	C	LTE	2100	A	6	6
LTE-1900-A10 (*LTE-1900-A11*) **LTE-1900-A5s (*LTE-1900-A6*)	A	LTE	1900	A	7	7
LTE-1900-B10 (*LTE-1900-B11*) **LTE-1900-B5s (*LTE-1900-B6*)	B	LTE	1900	A	8	8
LTE-1900-C10 (*LTE-1900-C11*) **LTE-1900-C5s (*LTE-1900-C6*)	C	LTE	1900	A	9	9
LTE-850-A9/LTE-850-A4s	A	LTE	850	A	10	10
LTE-850-B9/LTE-850-B4s	B	LTE	850	A	11	11
LTE-850-C9/LTE-850-C4s	C	LTE	850	A	12	12
SPARE				B	7	13
SPARE				B	8	14
SPARE				B	9	15
SPARE				B	10	16
SPARE				B	11	17
SPARE				B	12	18

FIBER TRUNK #2

RRH NAME	SECTOR	TECHNOLOGY	BAND	FIBER TRAY ID	FIBER TRAY PORT	SQUID/TRUNK PAIR
UMTS-850-A4	A	UMTS	850	C	1	1
UMTS-850-B4	B	UMTS	850	C	2	2
UMTS-850-C4	C	UMTS	850	C	3	3
UMTS-1900-A5	A	UMTS	1900	C	4	4
UMTS-1900-B5	B	UMTS	1900	C	5	5
UMTS-1900-C5	C	UMTS	1900	C	6	6
UMTS-1900-A6	A	UMTS	1900	C	7	7
UMTS-1900-B6	B	UMTS	1900	C	8	8
UMTS-1900-C6	C	UMTS	1900	C	9	9
LTE-700-DE-A7	A	LTE	700DE	C	10	10
LTE-700-DE-B7	B	LTE	700DE	C	11	11
LTE-700-DE-C7	C	LTE	700DE	C	12	12
LTE-WCS-A8	A	LTE	WCS	B	1	13
LTE-WCS-B8	B	LTE	WCS	B	2	14
LTE-WCS-C8	C	LTE	WCS	B	3	15
SPARE				B	4	16
SPARE				B	5	17
SPARE				B	6	18

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NO.	DATE	REVISIONS	BY	CHK	APP'D
A	08/12/16	ISSUED FOR REVIEW	YA	EW	SP

SCALE: AS SHOWN | DESIGNED BY: XX | DRAWN BY: XX

AT&T MOBILITY

FIBER-OPTIC JUMPER COLOR CODING

DRAWING NUMBER: IL0859-10 | REV: A

11 x 17 "B" SIZE

6 5 4 3 2

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T
   OEM – ORIGINAL EQUIPMENT MANUFACTURE
2. 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 OWNER.
3. 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.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE OWNER.
8. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING.
9. 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 OWNER.
10. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL WORK SHALL BE IN COMPLIANCE WITH CURRENT VERSION OF AT&T CONSTRUCTION SPECIFICATIONS INCLUDING UPDATES. IF CONTRACTOR DOES NOT HAVE A COPY OF SPECS, NOTIFY AT&T IMEDIATELY.

GENERAL NOTES (USE WHERE APPLICABLE)

GROUNDING NOTES

1. COAX CABLE SHALL BE GROUNDED AT ANTENNA LEVEL WITHIN 5' OF ANTENNA, COAX WILL ADDITIONALLY BE GROUNDED AT THE BASE OF THE TOWER 18" BEFORE THE CABLE REACHES A HORIZONTAL PLANE. IF EQUIPMENT CABINET IS MORE THAN 15' FROM THE TOWER AN ADDITIONAL GROUND KIT WILL BE ADDED 24" BEFORE CABLE ENTERS CABINET.
2. ALL COAX GROUND KITS WILL BE ANDREW "COMPACT SURE GROUND" OR APPROVED EQUAL.
3. VERIFY THE GROUNDING CONTINUITY BETWEEN THE TOWER BASE AND THE NEW AT&T CABINET GROUND BAR. CONTRACTOR SHALL ENSURE THAT ALL METALLIC OBJECTS WITHIN 6' FROM CABINET HAVE GROUNDING CONTINUITY. THE CONTRACTOR SHALL CORRECT ANY DEFECTS BY ADDING GROUNDING CONDUCTOR TO ENSURE CONTINUITY.
4. CONTRACTOR SHALL PERFORM A GROUND IMPEDANCE TEST PRIOR TO CONSTRUCTION TO ENSURE SITE IS LOWER THAN 5–OHM. IF SITE HAS A RESISTANCE HIGHER THAN 5 OHM REPORT TO AT&T FOR FURTHER DIRECTION.
5. GROUNDING CONDUCTORS SHALL BE COPPER ONLY. EITHER SOLID OR STRANDED CONDUCTORS ARE PERMITTED. ALL EXTERNAL BURIED CONDUCTORS MUST BE BARE. EQUIPMENT GROUND LEADS IN CABLE TRAYS MUST BE GREEN INSULATED.
6. CONTRACTOR TO PROVIDE GROUND WIRES, BARS AND CONNECTIONS AS SHOWN ON GROUNDING RISER DIAGRAM.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. RADIUS BENDS OF GROUNDING LEADS TO BE A MINIMUM OF 12". #6 WIRE MAY BE BENT WITH 6" RADIUS BEND WHERE FIELD CONDITIONS PROHIBIT WIDER SWEEPS.
8. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELD") TO ANTENNA MASTS, FENCE POSTS, AND GROUND RODS, REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION/ MECHANICAL FITTINGS.

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFIRM TO THE 2005 NATIONAL ELECTRIC CODE.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
3. POWER WIRES AND CABLES SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION. SOLID CONDUCTORS FOR #10 AWG AND SMALLER, STRANDED FOR LARGER THAN #10 AWG. MINIMUM SIZE #12 AWG.
4. POWER WIRES OUTSIDE CABINET AND CABLES SHALL BE INSTALLED IN CODE COMPLIANT RIGID CONDUIT OR FLEXIBLE LIQUID TIGHT CONDUIT AS INDICATED ON DRAWING.
5. CONTRACTOR TO OBTAIN ALL PERMITS, PAY PERMIT FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS.
6. CONTRACTOR TO OBTAIN LOCAL POWER AND TELEPHONE COMPANY APPROVAL AND COORDINATE WITH UTILITY COMPANIES SERVICE ENTRANCE REQUIREMENTS.

COAX NOTES

1. MINIMUM SEPARATION BETWEEN ANTENNAS IS 36" IF CONTRACTOR CAN NOT MAINTAIN MINIMUM DISTANCE CONTACT ENGINEER FOR SOLUTION / ALTERNATE DESIGN.
2. COAX CABLE LENGTH SHOWN IS APPROXIMATE. CONTRACTOR IS REQUIRED TO MAKE ACTUAL FIELD MEASUREMENT PRIOR TO PURCHASE AND BE RESPONSIBLE FOR SAME.
3. COAX CABLE SHALL BE RAISED / SUPPORTED WITH HOISTING GRIP AT APPROPRIATE POINTS PER MANUFACTURER REQUIREMENTS.
4. CONTRACTOR WILL PROVIDE COAX CABLE, RF CONNECTORS AND RF GROUNDING KITS.
5. CONTRACTOR SHALL SUPPORT COAX CABLE PER MANUFACTURER REQUIREMENTS. SUPPORT SHALL BE STAINLESS STEEL SNAP IN OR NON–COMPRESSING BUTTERFLY CLAMP. NO NYLON OR PLASTIC "ZIP–TIES" WILL BE ALLOWED. COAX MAY BE UNSUPPORTED INSIDE MONOPOLE INSTALLATIONS.
6. NO COAX SHALL BE OUTSIDE THE POLE MORE THAN 20'–0" (UNLESS OTHERWISE DIRECTED). TO GET FROM AN EXISTING PORTHOLE TO ANTENNA HEIGHT IF DISTANCE IS GREATER THAN 20'–0" A NEW 6"X9" PORTHOLE SHALL BE INSTALLED. PORTHOLE SHALL BE INSTALLED PER TOWER MANUFACTURER REQUIREMENTS. NO HOLES WILL BE CUT WITH A TORCH. ALL HOLES WILL BE CUT WITH DIAMOND WHEEL. NO NEW PORTHOLES SHALL BE INSTALLED UNLESS PRIOR WRITTEN APPROVAL IS GIVEN BY "AT&T".

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AT&T MOBILITY

GENERAL NOTES

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