

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

January 3, 2002

Richard Greene  
Senior Wireless Designer  
Edward and Kelcey  
One Church Street, 3<sup>rd</sup> Floor  
New Haven, CT 06510

RE: **EM-AT&T-005-018-031-055-068-092-111-125-153-162-168-011121** - Edwards and Kelcey on behalf of AT&T Wireless notice of intent to modify existing telecommunications facilities located at twelve sites throughout the State of Connecticut.

Dear Mr. Greene:

At a public meeting held on January 3, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify the Litchfield-Kent (L04); Mohawk Mountain (L12); Pine Meadows (L14); and North Kent (L17) sites of the proposed twelve existing telecommunications facilities, eight of which were previously approved on December 17, 2001, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notices dated November 20, 2001, December 10, 2001, and December 21, 2001. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston  
Chairman

MAG/laf

c: See attached list

List Attachment:

Honorable Dolores R. Schiesel, First Selectman, Town of Kent  
Judith Wick, Zoning Enforcement Officer, Town of Kent  
Honorable James P. O'Leary, First Selectman, Town of Goshen  
Martin Connor, Town Planner, Town of Goshen  
Honorable Michael D. Fox, First Selectman, Town of Barkhamsted  
Karl Nilsen, Zoning Enforcement Officer, Town of Barkhamsted  
Honorable P. Robert Moeller, First Selectman, Town of Sharon  
Elizabeth H. Casey, Zoning Enforcement Officer, Town of Sharon  
Honorable Gorden M. Ridgway, First Selectman, Town of Cornwall  
Ruth Mucahy, Zoning Enforcement Officer, Town of Cornwall



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
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December 13, 2001

Richard Greene  
Senior Wireless Designer  
Edward and Kelcey  
One Church Street, 3<sup>rd</sup> Floor  
New Haven, CT 06510

RE: **EM-AT&T-005-018-031-055-068-092-111-125-153-162-168-011121** - Edwards and Kelcey on behalf of AT&T Wireless notice of intent to modify existing telecommunications facilities located at twelve sites throughout the State of Connecticut.

Dear Mr. Greene:

At a public meeting held on December 11, 2001, the Connecticut Siting Council (Council) acknowledged your notice to modify eight of the proposed twelve existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies. The Litchfield-Kent (L04); Mohawk Mountain (L12); Pine Meadows (L14); and North Kent (L17) sites will be presented at a future Council meeting after requested information is received.

The proposed modifications are to be implemented as specified here and in your notice dated November 20, 2001. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston  
Chairman

MAG/laf

c: See attached list

Honorable John F. Arcelaschi, Mayor, Town of Winchester  
Anthony Cannavo, Planning and Zoning Chairman, Town of Winchester  
Margaret A. Johnson, Town Manager, Town of Winchester  
Honorable Rosalie G. Loughran, Chairman of the Town Council, Town of Watertown  
Mary Barton, Zoning Enforcement Officer, Town of Watertown  
Charles T. O'Conner, Jr., Town Manager, Town of Watertown  
Honorable David C. Mischke, Mayor, Town of Plymouth  
William Kuehn, Town Planner, Town of Plymouth  
Honorable Richard W. Crane, First Selectman, Town of Woodbury  
Christopher S. Wood, Town Planner, Town of Woodbury  
Honorable Arthur J. Peitler, Mayor, Town of New Milford  
David, N. Hubbard, Planning and Econ. Director, Town of New Milford  
Honorable Dolores R. Schiesel, First Selectman, Town of Kent  
Judith Wick, Zoning Enforcement Officer, Town of Kent  
Honorable James P. O'Leary, First Selectman, Town of Goshen  
Martin Connor, Town Planner, Town of Goshen  
Honorable Katherine L. Rieger, First Selectman, Town of New Hartford  
Karl Nilsen, Zoning Enforcement Officer, Town of New Hartford  
Honorable Michael D. Fox, First Selectman, Town of Barkhamsted  
Karl Nilsen, Zoning Enforcement Officer, Town of Barkhamsted  
Honorable P. Robert Moeller, First Selectman, Town of Sharon  
Elizabeth H. Casey, Zoning Enforcement Officer, Town of Sharon  
Honorable Martin J. Foncello, Jr., First Selectmen, Town of Brookfield  
Clare Ann Walsh, Land Use Enforcement Officer, Town of Brookfield  
Heather Paton, Land Use Office, Town of Brookfield

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RUTH E. ROTH  
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CHAUNCEY L. WALKER (also CA)  
ROBERT L. WOLFE  
DAVID E. WORBY**

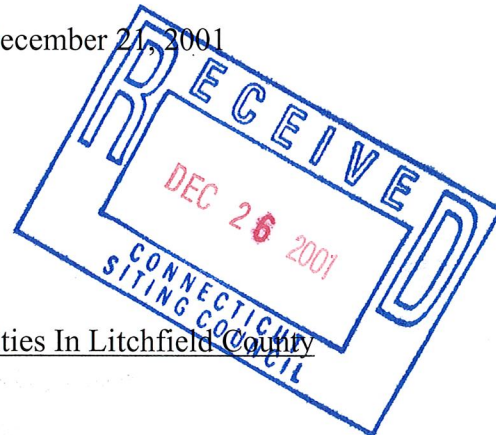
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ANDREW A. GLICKSON (also CT)  
ROBERT L. OSAR (also TX)  
MARYANN M. PALERMO  
ROBERT C. SCHNEIDER  
LOUIS R. TAFFERA**

NEIL J. ALEXANDER (also CT)  
CHARLES T. BAZYDLO (also NJ)  
THOMAS R. BEIRNE (also DC)  
THOMAS M. BLOOMER  
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ANTHONY B. GIOFFRE III (also CT)  
SUSAN E.H. GORDON  
KAREN G. GRANIK  
JOSHUA J. GRAUER  
WAYNE E. HELLER (also CT)  
KENNETH F. JURIST  
MICHAEL L. KATZ (also NJ)  
JOSHUA E. KIMERLING (also CT)  
DANIEL F. LEARY (also CT)  
BARRY E. LONG

December 21, 2001

VIA FEDERAL EXPRESS

Robert Mercier  
Siting Analyst  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051



Re: AT&T Exempt Modification Filings For Facilities In Litchfield County

Dear Mr. Mercier:

On behalf of Litchfield Acquisition Corporation d/b/a AT&T Wireless ("AT&T") enclosed please find additional information that you had requested with respect to the Notice of Exempt Modifications that were filed with the Council by Edwards & Kelcey on November 27, 2001:

1. As noted in our December 10, 2001 correspondence with respect to AT&T Site L04, Bulls Bridge Road, Kent, Edwards & Kelcey and AT&T have confirmed that based on their information, AT&T's antennas are at 152' centerline on this existing tower facility with SCLP (Cingular) located at the 170' level (this is consistent with the Council's inventory).
2. AT&T Site L12 Mohawk State Forest, West Goshen - AT&T Wireless believes that this tower is owned by AT&T Long Lines which no longer has a corporate relationship with AT&T Wireless.
3. AT&T Site L14, 127 New Hartford Road, Barkhamsted - Annexed hereto is a revised report by RF Emissions Experts, dated December 19, 2001 with AT&T, Nextel and Cingular included as approved by the Council in 1998. As you may know, Sprint is

CUDDY & FEDER & WORBY LLP

December 21, 2001

Page 2

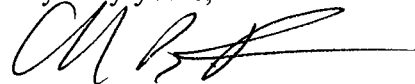
currently processing an application for an amended certificate and has included calculations in their filing for all carriers should a modified facility be approved by the Council.

4. AT&T Site L17, Herb Road, Sharon – Annexed hereto is a revised report by RF Emissions Experts, dated December 20, 2001 including AT&T, Nextel and Cingular as approved by the Council in 1998. At this time the State Police are not proposing to use the tower and as such have been excluded from the calculations provided by AT&T.

We would appreciate it if these notices were placed on the next available agenda of the Council for acknowledgement.

Thank you for your continued assistance. Please do not hesitate to contact me, should you require any additional information or have any questions.

Very truly yours,



Christopher B. Fisher

cc: Carmen Chapman, AT&T  
Richard Greene, E&K  
Darryl Hendrickson, Bechtel



Engineering  
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Real Estate Services

November 27<sup>th</sup>, 2001

Mr. Mortimer A. Gelston, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT. 06051

**RE: Notice of Intent to modify an existing telecommunication facility at Buckingham Street Watertown, CT. (Site ID: L03).**

Dear Mr. Gelston:

On behalf of AT&T Wireless, Edwards and Kelcey is enclosing 20 copies of an RF study that was recently done on the above site as well as 20 - 1/2 size drawing of our modifications to the site.

The changes we are proposing will have no visual changes to the site. One antenna will be changed out and replaced with a new one, same shape, size and weight. New radio equipment will be installed in an enclosed shelter.

The drawings were stamped by a structural engineer on the cover stating that no changes were required for this site.

In conclusion Edwards and Kelcey on behalf of AT&T Wireless Service Petition for a declaratory ruling that no amendment to the Certificate of Environmental Compatibility and public need is required for modifications to a facility located at Buckingham Street in Watertown, CT.

Thank you for your consideration of this matter

Very truly yours,

EDWARDS AND KELCEY

Richard Greene  
Senior Wireless Designer

Cc: Rob Davis  
One Church Street, 3rd Floor  
New Haven, Connecticut 06510

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Real Estate Services

November 20<sup>th</sup>, 2001

Mr. Mortimer A. Gelston, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT. 06051

RE: Request by Edwards And Kelcey for an order to approve the AT&T Wireless 1900 MHZ System for cellsites named below

Dear Mr. Gelston:

Enclosed you will find 20 copies of 12 cellsite RF reports and 20 copies of ½ size construction drawings showing the changes we will be making at these sites. As well as a statement on the cover of each drawing set stating that these changes will have no additional structural effect on the tower structure. We will be removing one panel on each sector and replacing it with one the same size, shape and weight.

Cellsite numbers involved in this study are as follows:

L02 Plymouth	L09 Cornwall
L03 Watertown	L12 Mohawk Mountain
L04 Litchfield-Kent	L13 Brookfield
L05 Winstead	L14 Pine Meadows
L06 New Milford	L16 Nepaug
L07 Woodbury	L17 North Kent

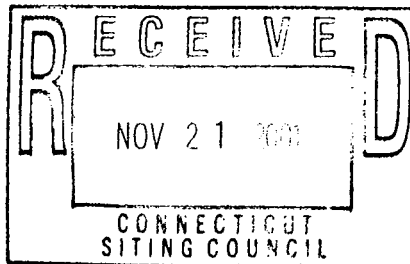
In conclusion we are requesting the approval by the siting council for the addition of the AT&T Wireless 1900 MHZ System.

Thank you for your consideration of this matter

Very truly yours,

EDWARDS AND KELCEY

  
Richard Greene  
Senior Wireless Designer



One Church Street, 3rd Floor  
New Haven, Connecticut 06510

Voice 203.772.1710  
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*Analysis and Report  
of RF Exposure Levels  
and Compliance with  
FCC Regulations*

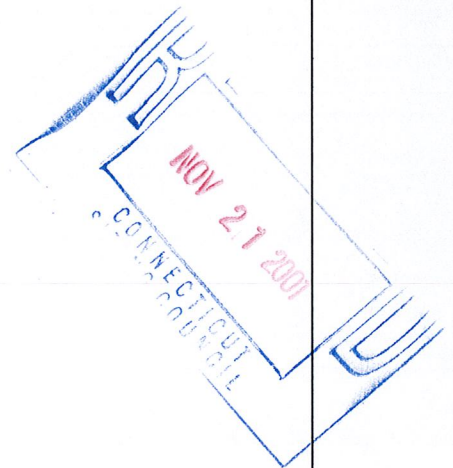
**Watertown Site  
Buckingham Street  
Watertown, CT  
Site ID: L03**

*Prepared for*  
**AT&T Wireless**

*November 16, 2001*

EDWARDS AND KELCEY  
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**PROPRIETARY – AT&T WIRELESS AND EDWARDS AND KELCEY**

This document has been prepared for AT&T Wireless for its use in demonstrating RF compliance, as necessary, to federal, state and/or local authorities, and/or site landlords. Distribution beyond that described is prohibited without the express written consent of Edwards and Kelcey.



**FCC RF COMPLIANCE ANALYSIS FOR**

**AT&T Wireless**

**Watertown, CT Water tank**

This site compliance report is organized as follows:

- Site Technical Data
- Analysis Method and Assumptions
- The FCC RF Radiation Exposure Regulations
- Applicable Formulas
- Analysis Results
- Conclusion

***SITE TECHNICAL DATA (replacing one existing 800 MHz antenna per sector with one 1900 MHz antenna per sector – data reflects additional 1900 MHz system)***

Facility type	Existing Water tank
Transmit frequency band (proposed additional band)	1965 - 1975 MHz
Replacement Antenna type	Allgon 7262
Antenna major dimension (length)	4.3 ft.
Maximum antenna gain	14.0 dBd
Antenna centerline height	92 ft. above ground level
Total number of 1900 MHz antennas added	2 (1 per sector)
Number of 1900 MHz channels per antenna	2 channels
Maximum ERP per channel	150 watts
Maximum antenna downtilt	4 degrees (mechanical)
Existing carriers on water tank	See report

***ANALYSIS METHOD AND ASSUMPTIONS***

Type of analysis	Maximum / ground-level
Area analyzed	0' to 500' from water tank
Classification of area	Uncontrolled (gen. pop.)
FCC Maximum Permissible Exposure (MPE) limit	1.000 mW/ cm <sup>2</sup> (1900 MHz)
Mathematical model	Point source, far field
Assumed ground reflection factor	100%
Assumed human height	6'0"
Vertical antenna discrimination included	from Ant. Mfr. data

## **THE FCC RF RADIATION EXPOSURE REGULATIONS**

This RF exposure analysis is based on the current FCC guidelines for human exposure to RF fields, which represent the consensus of federal agencies responsible for RF safety matters. Those agencies include the National Council on Radiation Protection and Measurements (NCRP), the Occupational Health and Safety Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American National Standards Institute (ANSI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). In formulating its guidelines, the FCC also considered input from the public and technical community – notably the Institute of Electrical and Electronics Engineers (IEEE).

The FCC's RF exposure guidelines are incorporated in Section 1.1301 *et seq* of its Rules and Regulations. Those guidelines specify maximum permissible exposure (MPE) levels for both occupational and general population exposure on a continuous basis, as well as averaging times for each of those categories when and if exposure exceeds the specified continuous exposure limits. (The concept of averaging time will be ignored in this analysis, as the results show the potential exposure levels are far below those permitted even for continuous exposure.)

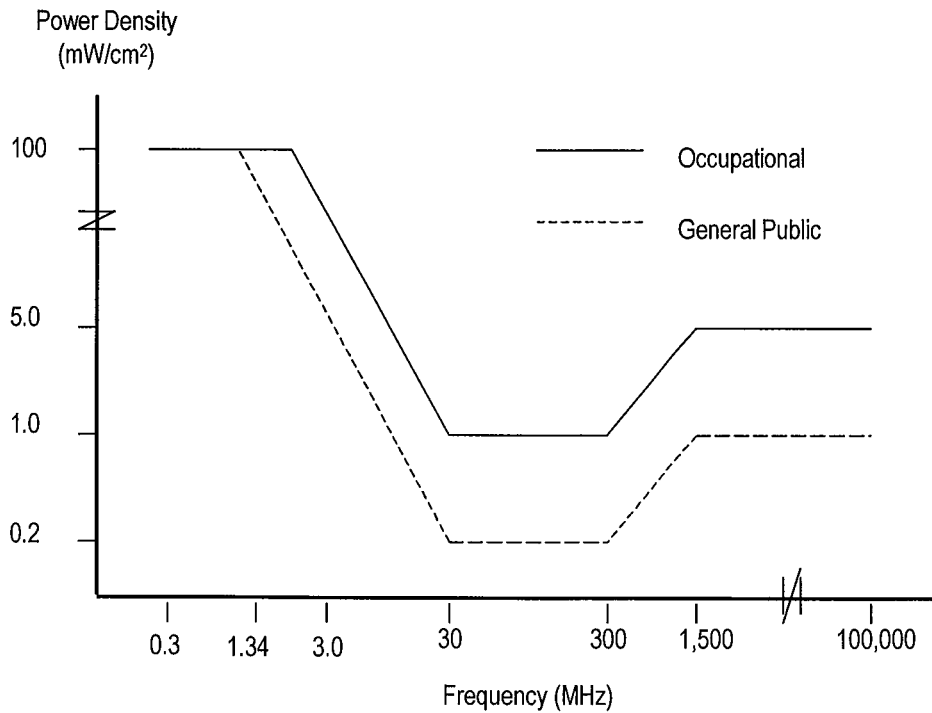
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in the form of heat). The occupational MPE guidelines incorporate a safety factor of 10 or greater with respect to RF levels known to represent a health hazard, and an additional safety factor of five is applied to the MPE limits for general population exposure. Thus the general population MPE limit has a built-in safety factor of more than 50. Continuous exposure at levels equal to or below the applicable MPE limits is considered to result in no adverse health effects on humans.

The reason for *two* tiers of MPE limits is based on an understanding and assumption that members of the general public are unlikely to have had appropriate RF safety training and may not be aware of the exposures they receive; occupational exposure in controlled environments, on the other hand, is assumed to involve individuals who have had such training, are aware of the exposures, and know how to maintain a safe personal work environment.

The FCC's RF exposure limits are expressed in two equivalent forms, using alternative units of field strength (expressed in volts per meter, or V/m), and power density (expressed in milliwatts per square centimeter, or mW/cm<sup>2</sup>). The more popularly used reference unit is power density, as it is more easily understood. One milliwatt per square centimeter is approximately the energy impinging on an area roughly one-fourth the size of a dime from a light bulb emitting ten thousand times less than the energy of a common 100-watt bulb. The table below lists the FCC limits for both occupational and general population exposure to different radio frequencies.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm <sup>2</sup> )	General Public Exposure (mW/cm <sup>2</sup> )
0.3 - 1.34	100	100
1.34 - 3.0	100	180 / F <sup>2</sup>
3.0 - 30	900 / F <sup>2</sup>	180 / F <sup>2</sup>
30 - 300	1.0	0.2
300 - 1,500	F / 300	F / 1500
1,500 - 100,000	5.0	1.0

The figure below provides a graphical illustration of both the FCC's occupational and general population MPE limits.



FCC MPE limits – graphical representation

The FCC makes it clear that the MPE limits apply only in accessible areas. Fundamentally, in areas that are considered normally inaccessible, the exposure issue is moot.

## **APPLICABLE FORMULAS**

According to FCC OET Bulletin 65, different mathematical models apply to different distances around an antenna. At the height of the antenna, the breakpoint is the “far-field distance”, calculated as the ratio of the square of the major dimension of the antenna divided by the signal wavelength . Beyond the far-field distance at the height of the antenna, as well as at ground-level underneath the antenna, a “far-field point source” model applies; within that distance, a “near-field cylindrical model applies. The subsections below provide background on the two applicable models in the 1900 MHz band.

### Far-Field Point Source Model

$$(1) \quad S \text{ [mW/cm}^2\text{]} = ( 4 * \text{EIRP}_{\text{max}} * \text{VertAntDisc}(\phi) ) / ( 4 * \pi * R_{\text{cm}}^2 )$$

$$(2) \quad \text{FCC MPE limit} = 1.000 \text{ mW/cm}^2$$

$$(3) \quad \text{MPE}\% = 100 * (S / 1.000)$$

where:

S	=	Calculated power density
4 (in numerator)	=	100% field ground reflection effect (has $[1 + 1]^2 = 4$ effect on power density )
EIRP <sub>max</sub>	=	Maximum effective isotropically radiated power (Note: EIRP is 64% higher than ERP, which is referenced to a half-wave dipole)
VertAntDisc( $\phi$ )	=	Numeric factor for antenna discrimination (EIRP reduction) in the vertical plane, applicable at downward angle $\phi$ to a 6' human standing on ground, calculated at distances from 0' to 500' away from the antenna
R	=	Straight-line distance from antenna to 6' human
MPE%	=	Calculated exposure level, as a percentage of the FCC MPE limit for continuous exposure of the general population

### Near-Field Cylindrical Model

- (1)  $S \text{ [mW/cm}^2\text{]} = (P_i * ACF / (2 \pi R h))$
- (2) FCC MPE limit = 1.000 mW/cm<sup>2</sup>
- (3) MPE% = 100 \* (S / 1.000)

where:

S	=	Calculated power density
P <sub>i</sub>	=	Total power input to the antenna, in mW
ACF	=	Antenna correction factor (adjustment to near-field power density calculation to compensate for the antenna mounting height above ground level and resulting partial-body exposure; see Richard Tell article listed in the References)
R	=	Straight-line distance from antenna to 6' human
h	=	Subtended height of the antenna, in cm
MPE%	=	Calculated exposure level, as a percentage of the FCC MPE limit for continuous exposure of the general population

### ***ANALYSIS RESULTS – GROUND-LEVEL***

AT&T Wireless will replace one existing antenna (in each of two sectors) presently transmitting in the 800 MHz band, with one new antenna that will transmit in the 1900 MHz band. This analysis will reflect the additional RF emissions from the replacement antennas.

The table on the following page summarizes the results of the calculations using the site data, method and far-field point source formula described above. Note that the information on the vertical antenna discrimination has been taken from the antenna manufacturer's specification sheets. In addition, note that while the tabular distances are listed in feet, the calculations translate these units into centimeters, to match the FCC specification of MPE units. Also note that the value for 'G dist' is the distance along the ground in feet, from the base of the water tank.

1900 MHz Antenna Array (AT&T Wireless)					
G dist	R dist	V angle	V disc	mW/cm <sup>2</sup>	GPMPE%
0	83.0	86.0	0.025	0.0006	0.062
20	85.4	72.5	0.025	0.0006	0.058
40	92.1	60.3	0.025	0.0005	0.050
60	102.4	50.1	0.020	0.0003	0.032
80	115.3	42.1	0.020	0.0003	0.025
100	130.0	35.7	0.020	0.0002	0.020
120	145.9	30.7	0.020	0.0002	0.016
140	162.8	26.7	0.020	0.0001	0.013
160	180.2	23.4	0.020	0.0001	0.010
180	198.2	20.8	0.020	0.0001	0.009
200	216.5	18.5	0.040	0.0001	0.014
220	235.1	16.7	0.040	0.0001	0.012
240	253.9	15.1	0.040	0.0001	0.010
260	272.9	13.7	0.040	0.0001	0.009
280	292.0	12.5	0.040	0.0001	0.008
300	311.3	11.5	0.040	0.0001	0.007
320	330.6	10.5	0.040	0.0001	0.006
340	350.0	9.7	1.000	0.0014	0.138
360	369.4	9.0	1.000	0.0012	0.124
380	389.0	8.3	1.000	0.0011	0.111
400	408.5	7.7	1.000	0.0010	0.101
420	428.1	7.2	1.000	0.0009	0.092
440	447.8	6.7	1.000	0.0008	0.084
460	467.4	6.2	1.000	0.0008	0.077
480	487.1	5.8	1.000	0.0007	0.071
500	506.8	5.4	1.000	0.0007	0.066

**Table 1.** AT&T Wireless 1900 MHz ground level RF power density & percent-of-MPE calculations

On November 16, 2001 Edwards & Kelcey conducted on-site RF exposure measurements. These measurements were performed using a Narda model 8722 RF probe and Narda model 8718 RF meter. Both the probe and meter are capable of broadband RF measurements, covering a range of 300 kHz to 50 GHz. The measuring equipment is designed to automatically register measured total RF exposure levels and report them as percentages of the FCC's overall occupational MPE limit. The attached site plan shows measured MPE levels for general population.

## **CONCLUSION**

The calculations presented above demonstrate that the maximum potential exposure level around the existing water tank induced by the 1900 MHz AT&T Wireless system is 0.0014 mW/cm<sup>2</sup>, which represents 0.138% of the FCC limits for exposure of the general population.

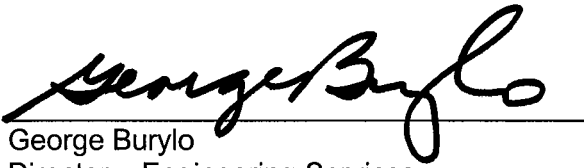
The worst case ground level measurement around the site was determined to be 4.05% of the FCC limit (see attached). When added to the additional level expected from the proposed AT&T Wireless 1900 MHz system of 0.138%, the resultant cumulative level of 4.188% is still safe for continuous exposure of the general population based on FCC standards.

**Therefore, the addition of the AT&T Wireless 1900 MHz system to the existing facility will not create a significant risk of cumulative exposure to RF emissions to the general population. And, according to the calculations, the AT&T Wireless facility is in compliance with the FCC regulations (FCC OET Bulletin 65) concerning the control of potential RF exposure.**



**CERTIFICATION**

This report was prepared by George Burylo, Director – Engineering Services. The undersigned certifies that the analysis provided herein is consistent with the applicable FCC Rules and Regulations and accepted industry practice.



George Burylo  
Director – Engineering Services

November 16, 2001

## **REFERENCES**

47 CFR, FCC Rules and Regulations, Section 1.1301 *et seq.*

FCC Second Memorandum Opinion and Order and Notice of Proposed Rulemaking (FCC 97-303), *In the Matter of Procedures for Reviewing Requests for Relief From State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934 (WT Docket 97-192), Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation (ET Docket 93-62), and Petition for Rulemaking of the Cellular Telecommunications Industry Association Concerning Amendment of the Commission's Rules to Preempt State and Local Regulation of Commercial Mobile Radio Service Transmitting Facilities*, released August 25, 1997.

FCC First Memorandum Opinion and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released December 24, 1996.

FCC Report and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released August 1, 1996.

FCC Office of Engineering and Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.

FCC Office of Engineering and Technology (OET) Bulletin 56, "Questions and Answers About Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields", Fourth Edition, August 1999.

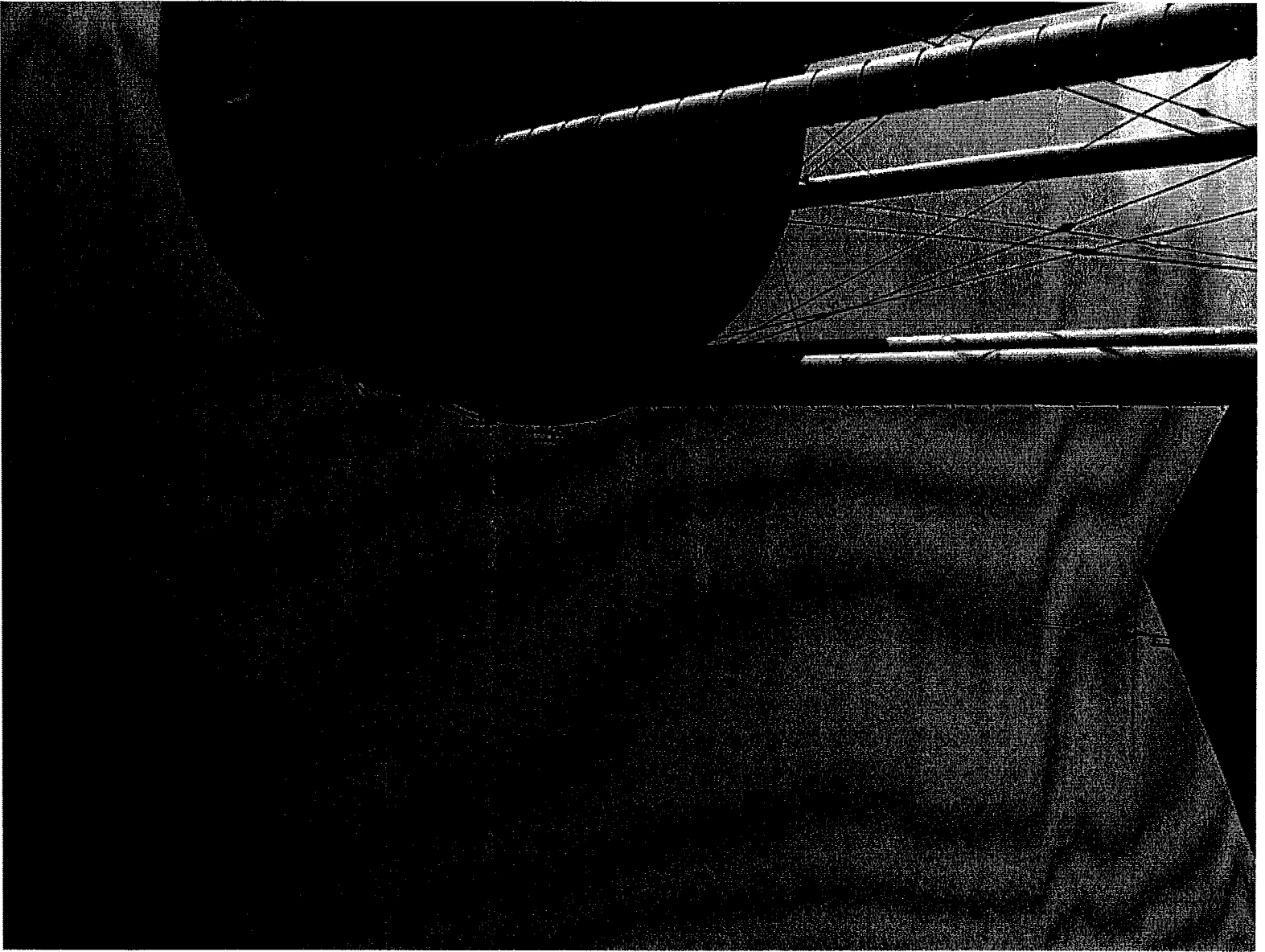
Richard Tell, "CTIA's EME Design and Operation Considerations for Wireless Antenna Sites", November 15, 1996.

*Site Data*

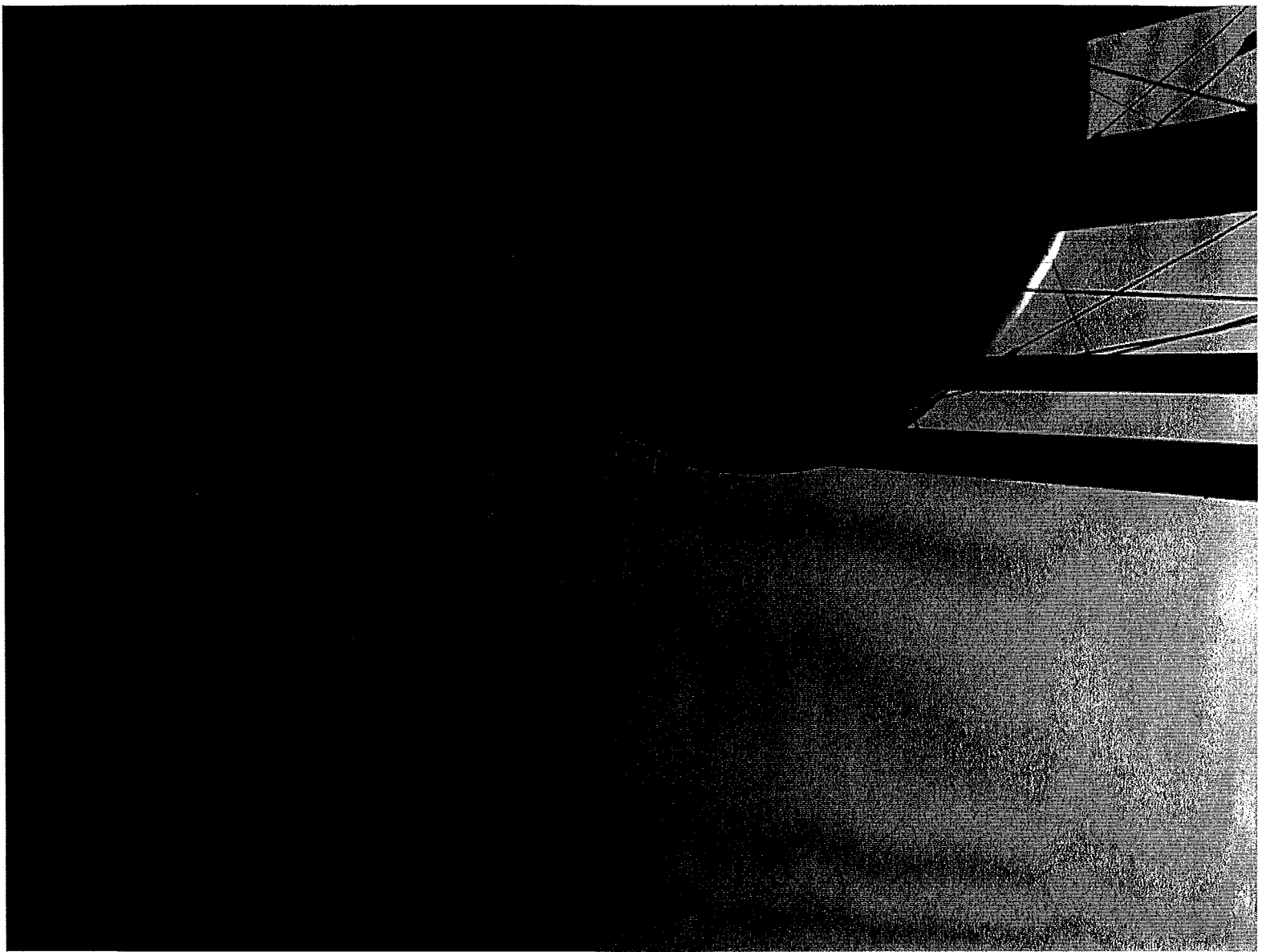
299 Madison Avenue, PO Box 1936  
Morristown, New Jersey 07962-1936

Tel 973.267.8830 x1250  
Fax 973.267.3555  
Email [burylo@ekmail.com](mailto:burylo@ekmail.com)  
Web [www.ekcorp.com](http://www.ekcorp.com)





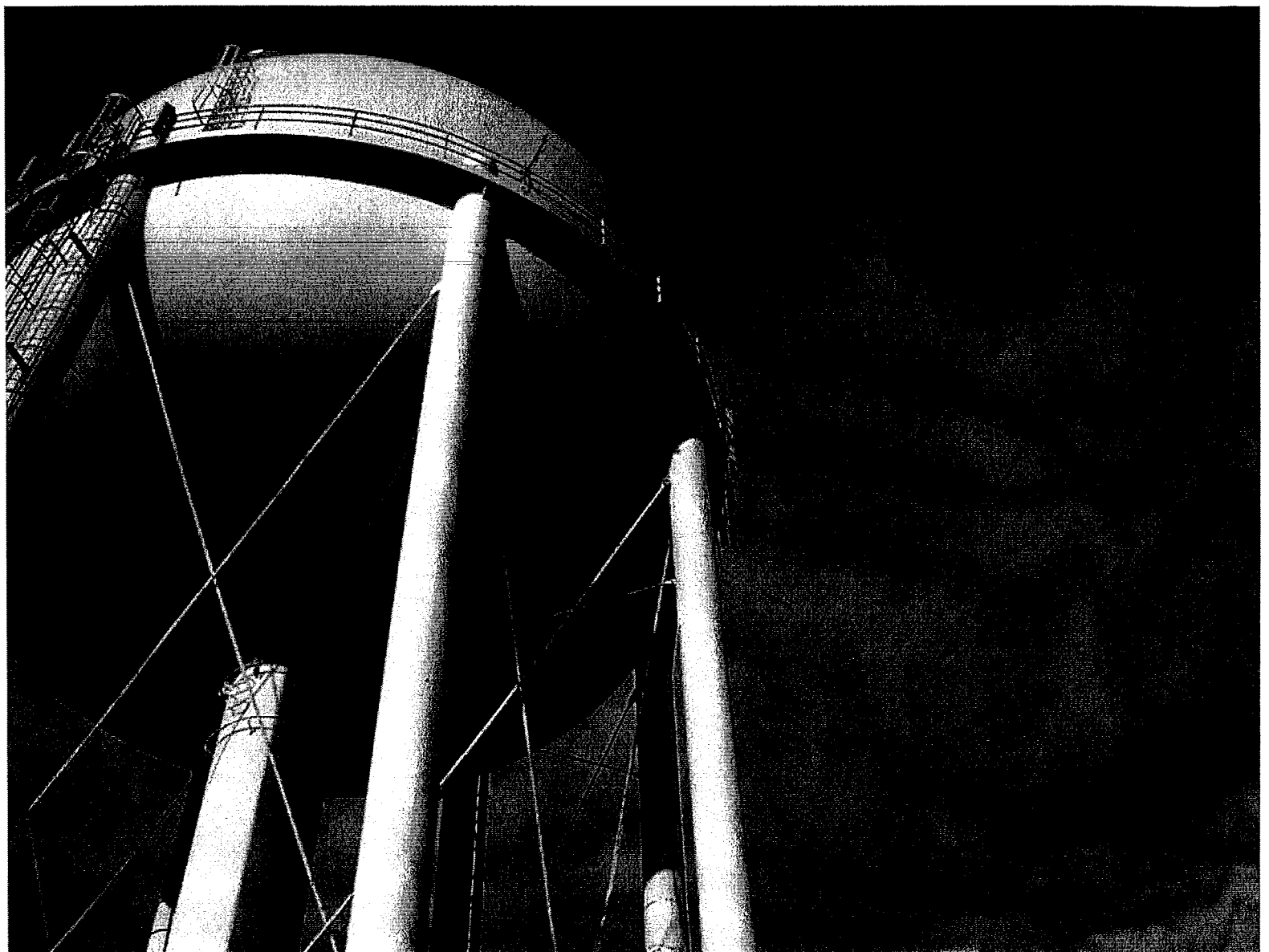


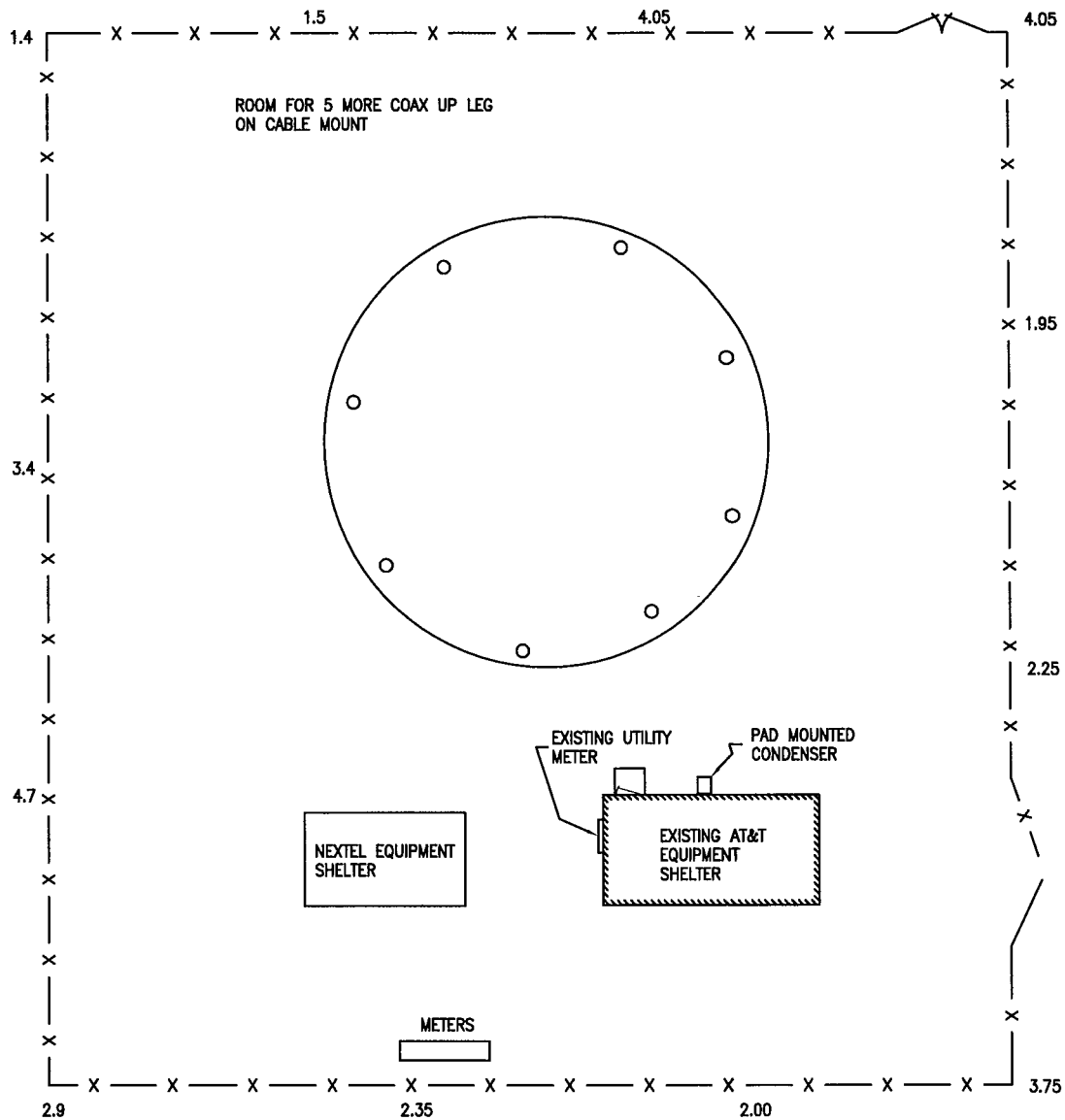












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 Designed by:  
 Drawn by:  
 Checked by:  
 Approved by:

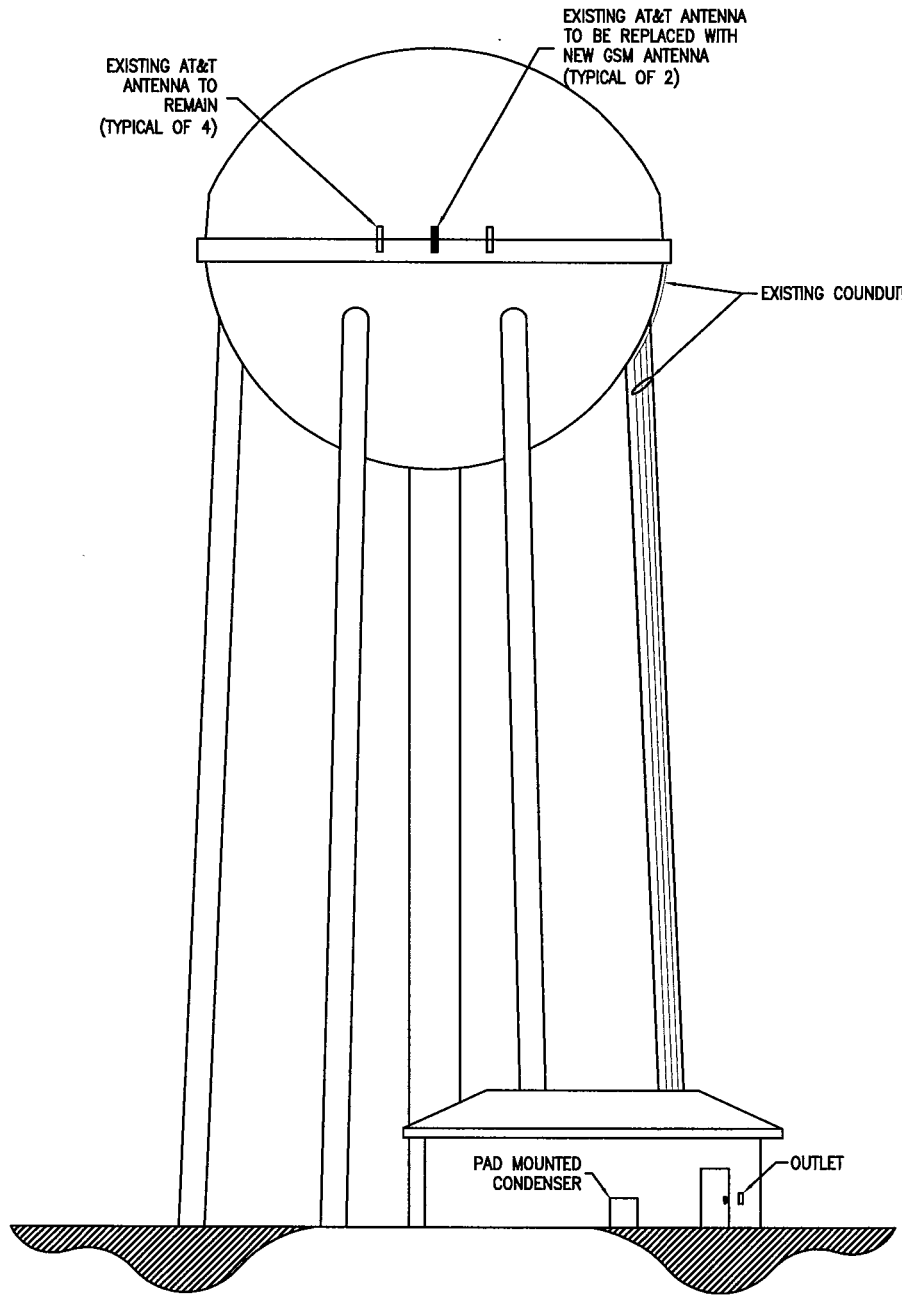


AT&T  
 WIRELESS COMMUNICATIONS FACILITY

SITE ADDRESS: **WATERTOWN**  
**BUCKINGHAM STREET**  
**WATERTOWN, CT**

REV. DATE:	DESCRIPTION
Scale:	Date: 11/16/01
Job No.	File No.

Dwg. No.  
**SK-1**  
 Dwg. of 1



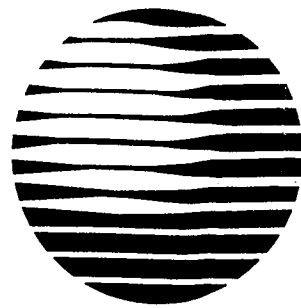
SITE ID NO:  
 Designed by:  
 Drawn by:  
 Checked by:  
 Approved by:



AT&T  
 WIRELESS COMMUNICATIONS FACILITY  
 SITE ADDRESS: **WATERTOWN  
 BUCKINGHAM STREET  
 WATERTOWN, CT**

REV.	DATE:	DESCRIPTION
Scale:	Date: 11/18/01	
Job No.	File No.	

Dwg. No.  
**SK-2**  
 Dwg. of 1



# AT&T

## AT&T WIRELESS SERVICES, LLC

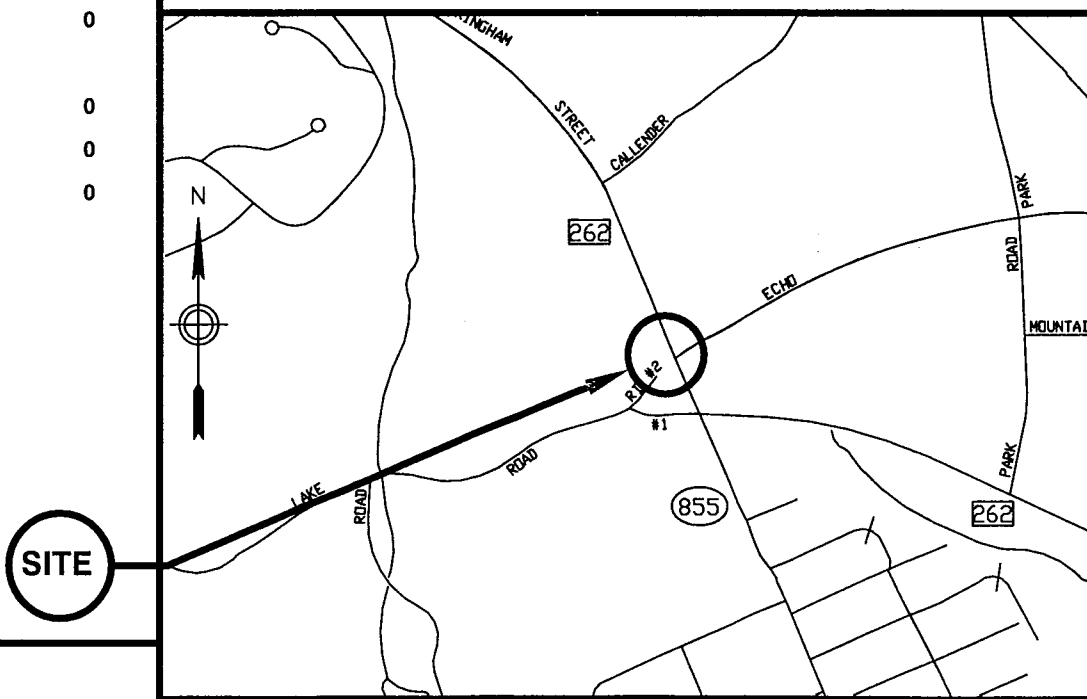
### SITE NUMBER: L03

### SITE NAME: WATERTOWN

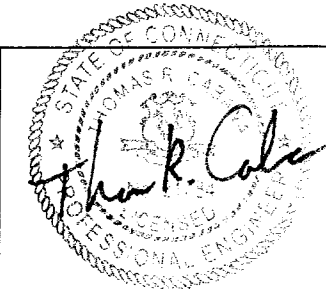
DRAWING INDEX	REV.	DIRECTIONS	PROJECT INFORMATION
24623-313-CT-L03-01	TITLE SHEET	0	<p>SCOPE OF WORK: REMOVE AND REPLACE EXISTING AT&amp;T ANTENNAS WITH NEW GSM ANTENNAS &amp; ASSOCIATED ITEMS AS SHOWN IN THE ATTACHED DRAWINGS</p> <p>SITE ADDRESS: BUCKINGHAM STREET WATERTOWN, CT 06795</p> <p>PROPERTY OWNER: TOWN OF WATERTOWN 424 MAIN STREET WATERTOWN, CT 06795</p> <p>CONTACT PERSON: CHUCK FRIGAN 203-945-5260</p> <p>APPLICANT: AT&amp;T 15 EAST MIDLAND AVE PARAMUS, NJ 07652</p> <p>LATITUDE: 41.6139 LONGITUDE: -73.0944 ELEVATION: 1182' JURISDICTION: WATERTOWN TAX I.D. NUMBER: NAV CURRENT USE: WIRELESS TELECOMMUNICATIONS FACILITY PROPOSED USE: NO CHANGE ZONING DISTRICT: IR-200 STRUCTURE HEIGHT: 150'± ANTENNA RAD CENTER: 92' RF DATASHEET: 06/26/01 (REV. 2) RF ENGINEER: TONY HOUWELING LUCENT TECHNOLOGIES (973) 386-8621</p> <p>ANTENNA LOCATION: ROOFTOP EQUIPMENT LOCATION: EQUIPMENT SHELTER GENERAL CONTRACTOR:</p>
24623-313-CT-L03-02	SITE LAYOUT	0	
24623-313-CT-L03-03	EQUIPMENT ROOM LAYOUT & NOTES	0	
24623-313-CT-L03-04	ELEVATION AND ANTENNA AZIMUTH	0	
24623-313-CT-L03-05	ANTENNA SCHEMATIC AND BILL OF MATERIALS	0	
24623-313-CT-L03-06	STANDARD DETAILS	0	
24623-313-CT-L03-07	STANDARD DETAILS	0	
STRUCTURAL REVIEW		<p>EXISTING TOWER/FOUNDATION AND BUILDING (AS APPLICABLE) HAVE BEEN EVALUATED FOR THE REPLACEMENT/ADDITION OF EQUIPMENT, ANTENNA AND COAX CABLES. NO STRUCTURAL MODIFICATIONS ARE REQUIRED</p>	

TAKE GARDEN STATE PARKWAY NORTH TO EXIT 8 (I-287) TO EXIT 1 (SAW MILL RIVER PARKWAY NORTH). MERGE WITH I-684 NORTH TO I-84 EAST. TAKE EXIT 20, ROUTE 8 NORTH. TAKE TO EXIT 37 AND TAKE LEFT ONTO ROUTE 282 TO THE SECOND TRAFFIC LIGHT. TAKE RIGHT ONTO BUCKINGHAM ST. DIRT DRIVEWAY LOCATED AFTER CRYSTAL ROCK OFFICE BUILDING. SITE AT BASE OF TOWER.

#### VICINITY MAP



NOT TO SCALE



THOMAS R. CABANA P.E. No. 21784 11/19/01 DATE

**Edwards AND Kelcey**  
EDWARDS AND KELCEY, INC.  
1247 WARD AVENUE  
WEST CHESTER, PA 19380-4259  
E & K PROJ.#: 020015.011  
CONTACT: ROB DAVIS  
PHONE: (401) 272-1969

SITE NAME: WATERTOWN  
SITE#: L03  
22 COLTON ROAD  
WATERTOWN, CONNECTICUT

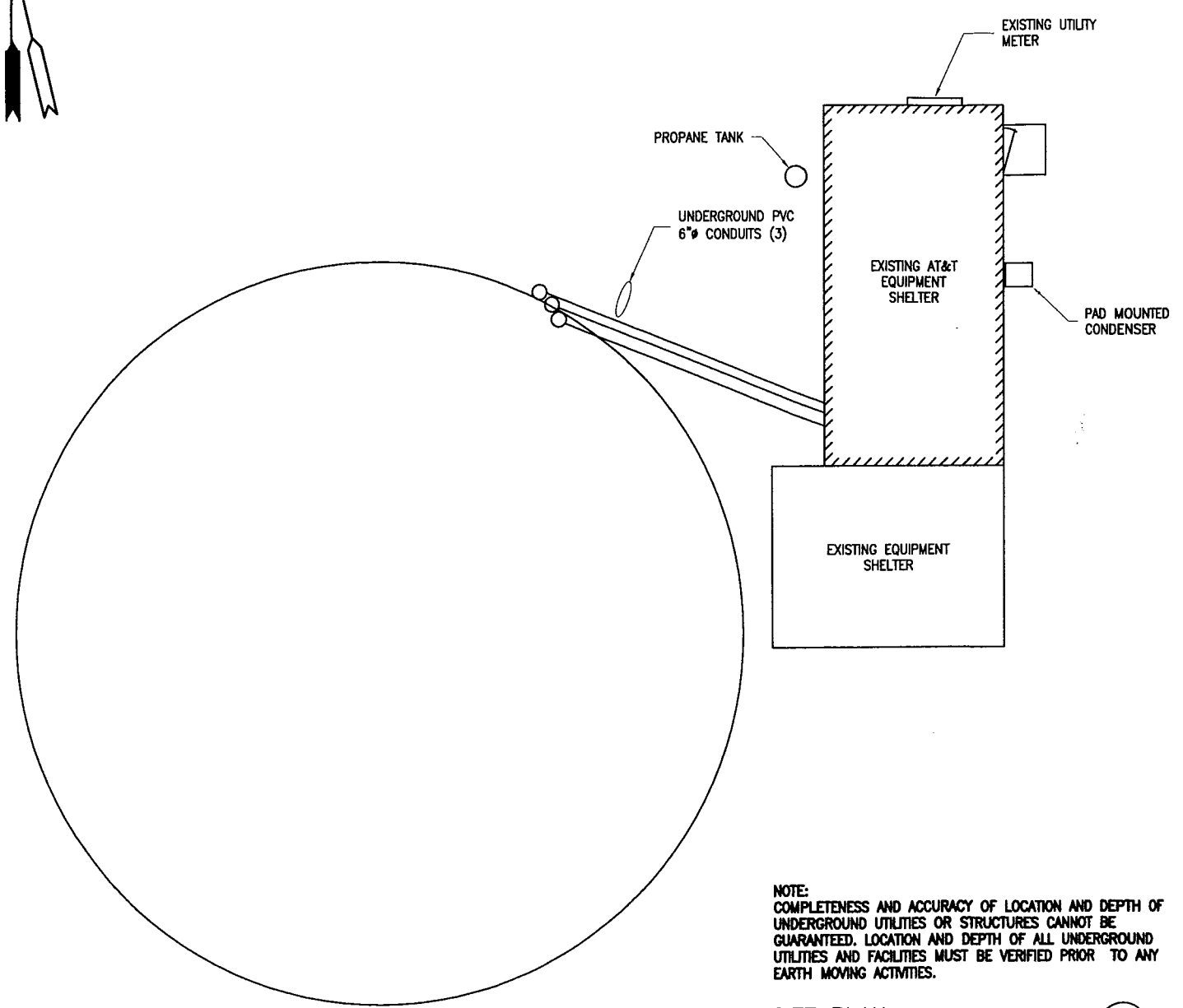
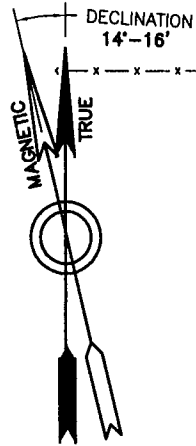


AT&T  
15 EAST MIDLAND AVE.  
PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/29/01	ISSUED FOR PERMIT	DPD	PDC	
0	08/17/01	ISSUED FOR CONSTRUCTION	DPD	PDC	

SCALE AS SHOWN    DESIGNED    DRAWN

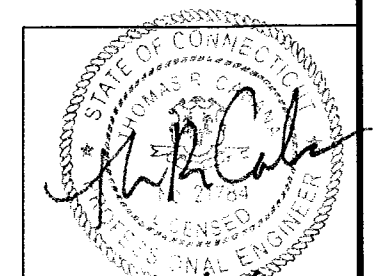
L03 - WATERTOWN		
TITLE SHEET		
JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-01	1



NOTE:  
COMPLETENESS AND ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES MUST BE VERIFIED PRIOR TO ANY EARTH MOVING ACTIVITIES.

SITE PLAN  
NOT TO SCALE

1  
02



THOMAS R. CABANA  
P.E. No. 21784  
11/19/01 DATE

**Edwards  
AND Kelcey**  
EDWARDS AND KELCEY, INC.  
1247 WARD AVENUE  
WEST CHESTER, PA 19380-4259  
E & K PROJ.#: 020015.011  
CONTACT: ROB DAVIS  
PHONE: (401) 272-1969

SITE NAME: WATERTOWN  
SITE#: L03  
22 COLTON ROAD  
WATERTOWN, CONNECTICUT



AT&T  
15 EAST MIDLAND AVE.  
PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/29/01	ISSUED FOR PERMIT		DPD	PDC
0	08/17/01	ISSUED FOR CONSTRUCTION		DPD	PDC

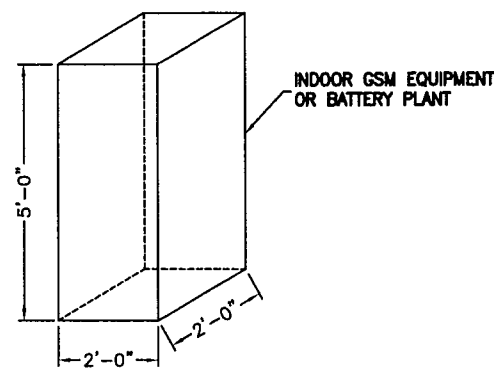
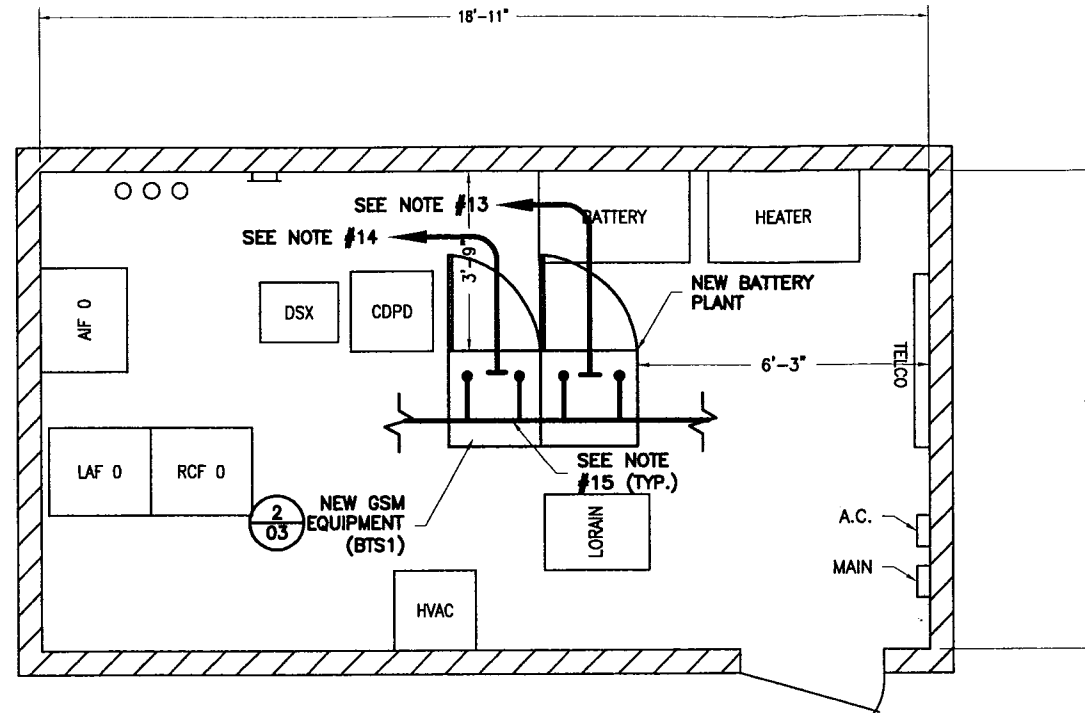
SCALE AS SHOWN DESIGNED DRAWN

L03 - WATERTOWN		
SITE LAYOUT		
JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-02	1

6 5 4 3 2

**GENERAL NOTES:**

1. ALL WORK SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NATIONAL STATE, CITY, AND LOCAL CODES, STANDARDS, AND AMENDMENTS.
2. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM INFORMATION AND DRAWINGS PROVIDED BY CONTRACTOR. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
3. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
4. ALL ITEMS OTHER THAN WHAT IS NOTED IN THE BILL OF MATERIALS FOR ANTENNAS, WILL BE PROVIDED BY THE SUBCONTRACTOR.
5. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
6. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF SPECIFICATIONS LISTED BELOW.
7. FIELD ROUTE ALL CONDUITS, CABLES, ETC. AS REQUIRED. CONFIRM THE EXACT ROUTING WITH THE ON-SITE CONTRACTOR CONSTRUCTION MANAGER PRIOR TO THE START OF WORK .
8. ALL DAMAGE TO THE EXISTING STRUCTURE DURING THE CELL SITE UPGRADE MUST BE MADE GOOD TO THE PRE-CONSTRUCTION CONDITION OR BETTER .
9. REMOVE AND CLEAN UP ANY DEBRIS OR MATERIAL FROM THE SITE THROUGHOUT THE DURATION OF THE CONTRACT UPON COMPLETION OF THE WORK AS DIRECTED BY THE CONTRACTOR.
10. THIS CELL SITE IS IN FULL COMMERCIAL OPERATION, THE SUBCONTRACTOR IS NOT TO DISRUPT THE EXISTING SITE'S NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR AND SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
11. SINCE THIS SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
12. WHEN OTHER CARRIERS ARE PRESENT ON THE SAME STRUCTURE MAINTAIN 10' HORIZONTAL SEPARATION AND 5' VERTICAL SEPARATION BETWEEN CARRIERS.
13. **POWER:**  
SUBCONTRACTOR TO PROVIDE & INSTALL 3 DP 20 AMP BREAKERS. SUBCONTRACTOR TO FIELD ROUTE 8-#10 STRANDED WIRES AND 1-#10 STRANDED GREEN INSULATED GROUND WIRE 1-INCH EMT FROM AC PANEL TO A 8X8X4-INCH JUNCTION BOX NEAR EQUIPMENT LOCATION. SUBCONTRACTOR TO RUN FLEX CONDUIT FROM JUNCTION BOX TO 3- FEET ABOVE GROUND.
14. **TELCO:**  
SUBCONTRACTOR TO PROVIDE, INSTALL, & FIELD ROUTE (1.5 MBIT/s) CAT 5E T-1 LINE FROM THE NETWORK INTERFACE UNIT (NIU) TO LUCENT BTS CABINET PER DETAIL 1016A. CONNECTION TO CABINET WILL BE MADE BY LUCENT.
15. **GROUND:**  
SUBCONTRACTOR SHALL PROVIDE PIG TAIL WITH 2-HOLE LUG (DETAIL 508) FOR GROUNDING THE LUCENT GSM (BTS AND POWER) CABINET FRAMES TO EXISTING HALO GROUND RING USING #6 AWG STRANDED AND INSULATED GREEN COPPER WIRE WITH COMPRESSION TYPE CONNECTOR. IF CONNECTION TO HALO IS NOT FEASIBLE, PROVIDE #6 AWG STRANDED & INSULATED GREEN COPPER WIRE FROM LUCENT GSM (BTS AND POWER) CABINET FRAMES TO MASTER GROUND BAR (DETAIL 508) AND TERMINATE WITH 2-HOLE LUG PER DETAIL 508. PROVIDE 2 GROUNDS PER CABINET. CONNECTION TO CABINET WILL BE MADE BY LUCENT.
16. **CLEARANCE:**  
GSM CABINET SHOULD HAVE A MINIMUM OF 36-INCH FRONT CLEARANCE.



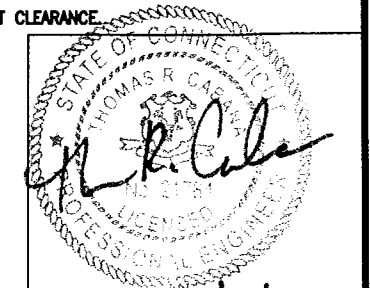
\*NOTE:  
DIMENSION FOR REFERENCE ONLY.  
3'-0" MINIMUM CLEARANCE REQUIRED.

EQUIPMENT PLAN  
NOT TO SCALE

TYPICAL LUCENT GSM  
EQUIPMENT/BATTERY PLANT  
NOT TO SCALE

**REFERENCE SPECIFICATIONS:**

1. 24623-033-3PS-ADOZ-00002, SCOPE OF WORK (EXHIBIT "D") FOR GENERAL CONSTRUCTION SERVICES.
2. 24623-033-3PS-ADOZ-00005, (EXHIBIT "E") FOR GENERAL CONSTRUCTION SERVICES.



THOMAS R. CABANA  
P.E. No. 21784 11/19/01 DATE

L03 - WATERTOWN

EQUIPMENT ROOM  
LAYOUT AND NOTES

JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-03	1



EDWARDS AND KELCEY, INC.  
1247 WARD AVENUE  
WEST CHESTER, PA 19380-4259

E & K PROJ.#: 020015.011  
CONTACT: ROB DAVIS  
PHONE: (401) 272-1969

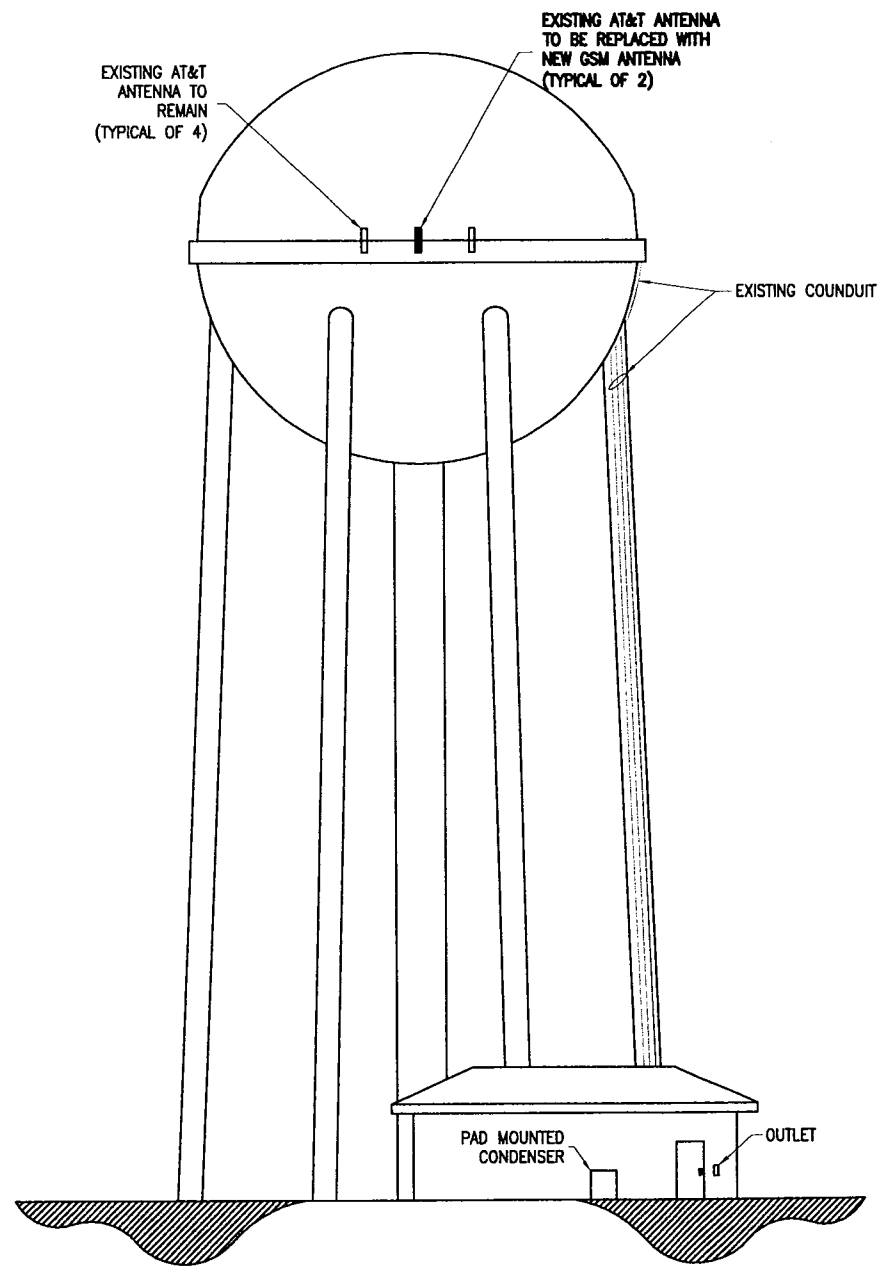
SITE NAME: WATERTOWN  
SITE#: L03  
22 COLTON ROAD  
WATERTOWN, CONNECTICUT



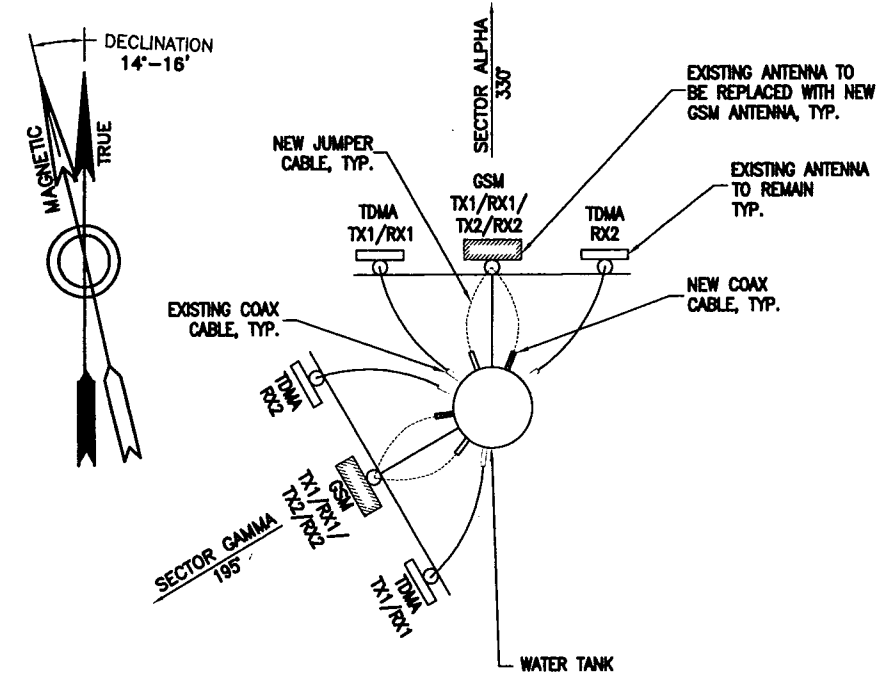
AT&T  
15 EAST MIDLAND AVE.  
PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/29/01	ISSUED FOR PERMIT		DPD	PDC
0	08/17/01	ISSUED FOR CONSTRUCTION		DPD	PDC
SCALE		AS SHOWN	DESIGNED	DRAWN	



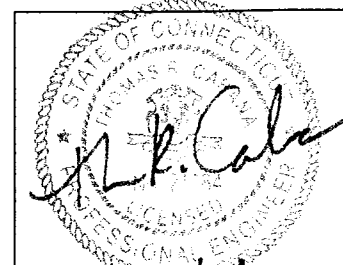


ELEVATION NOT TO SCALE 1/04



NOTE:  
 1. SEE SHEET 05 FOR SPECIFIC ANTENNA/COAX CONFIGURATION.  
 2. ROUTE NEW COAX CABLES ALONGSIDE EXISTING CABLES UNLESS OTHERWISE NOTED ON PLANS.

TYPICAL ANTENNA ORIENTATION PLAN NOT TO SCALE 2/04



THOMAS R. CABANA P.E. No. 21784 11/19/01 DATE

**Edwards AND Kelcey**  
 EDWARDS AND KELCEY, INC.  
 1247 WARD AVENUE  
 WEST CHESTER, PA 19380-4259  
 E & K PROJ.#: 020015.011  
 CONTACT: ROB DAVIS  
 PHONE: (401) 272-1969

SITE NAME: WATERTOWN  
 SITE#: L03  
 22 COLTON ROAD  
 WATERTOWN, CONNECTICUT

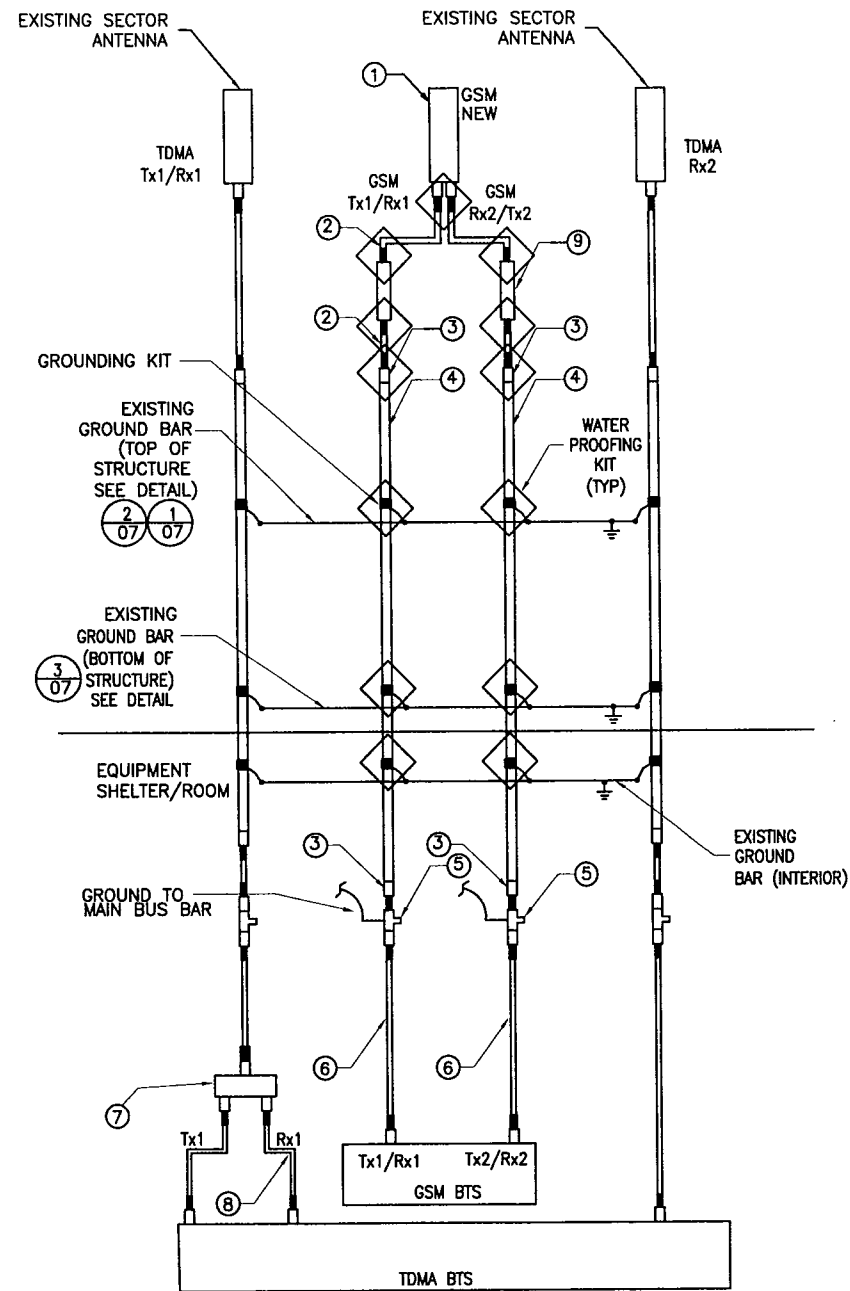


AT&T  
 15 EAST MIDLAND AVE.  
 PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/29/01	ISSUED FOR PERMIT	DPD	PDC	
0	08/17/01	ISSUED FOR CONSTRUCTION	DPD	PDC	
SCALE AS SHOWN		DESIGNED	DRAWN		

L03 - WATERTOWN		
ELEVATION AND ANTENNA AZIMUTH		
JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-04	1

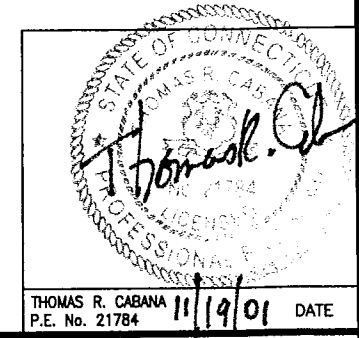
# BILL OF MATERIALS



3/4 VDP  
ANTENNA CONFIGURATION  
NOT TO SCALE

ITEM NO.	ITEM DESCRIPTION	SYS.	SECTOR ALPHA AZIMUTH 0°			SECTOR GAMMA AZIMUTH 240°			TOTAL QUANTITY	SUPPLIED BY		
			EXISTING	TX1/RX1/RX2/TX2 (GSM)	EXISTING	EXISTING	TX1/RX1/RX2/TX2 (GSM)	EXISTING				
1	ANTENNA		PD10188 EXISTING	ALLGON 7262.01 NEW (51.2"x5"x3.2")	PD10188 EXISTING			SRL-410C-4R160 EXISTING	ALLGON 7262.01 NEW (51.2"x5"x3.2")	SRL-410C-4R160 EXISTING	1+1	BECHTEL
	MECHANICAL DOWNTILT			4 DEG.					4 DEG.			
2	STANDARD HELIAX JUMPER LDF 1/2" JUMPER, DIN MALE/DIN MALE			L4A-PDMDM-6 NEW					L4A-PDMDM-6 NEW		4	BECHTEL
3	STANDARD HELIAX UNATTACHED CONNECTOR, DIN FEMALE			L5PDF-RPC NEW					L5PDF-RPC NEW		8	BECHTEL
4	MAIN COAXIAL CABLE (LENGTH)			LDF5-50A (166'-7/8") 1-NEW 1-EXISTING					LDF5-50A (182'-7/8") 1-NEW 1-EXISTING		348 LF ± (7/8")	BECHTEL
5	SURGE ARRESTOR			APTDC-BDFDM-SAT NEW					APTDC-BDFDM-SAT NEW		4	BECHTEL
6	1/2" JUMPER, DIN MALE/DIN MALE			L4A-PDMDM-25					L4A-PDMDM-25		TBD	TBD
7	DUPLEXER										TBD	TBD
8	1/2" JUMPER, DIN MALE/ DIN MALE										TBD	TBD
9	LOW NOISE AMPLIFIER								LUCENT TMA 19 (DX MAU)		2	BECHTEL
	ID TAG			ALPHA A2/A3 ATTWS GSM					GAMMA C2/C3 ATTWS GSM			SUB CONTRACTOR
	COLOR CODE			2/3 RED					2/3 GREEN			SUB CONTRACTOR

- SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION
- TAG (SEE DETAIL 5 ON SHEET 06) & COLOR CODE ALL MAIN CABLES AT LOCATIONS PER AWS TOWER/ANTENNA CABLE MARKING STANDARD:  
TOP OF TOWER END OF MAIN COAX  
BOTTOM OF TOWER SHELTER EXTERIOR AT CABLE ENTRY PORT  
WAVE GUIDE PORT SHELTER INTERIOR AT CABLE ENTRY PORT  
DIRECTLY BEFORE AND AFTER RF EQUIPMENT (DUPLEXERS, DIPLEXERS, ETC.)  
END OF INTERIOR JUMPERS AT BTS EQUIPMENT
- ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER
- PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT
- CONTRACTOR SHALL PROVIDE ALL GROUNDING KITS AND WEATHER PROOFING KITS.
- INFORMATION FROM RF DATA SHEETS, REV. 2.



THOMAS R. CABANA  
P.E. No. 21784  
11/19/01 DATE

**L03 - WATERTOWN**

ANTENNA SCHEMATIC AND  
BILL OF MATERIALS

JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-05	1

**Edwards AND Kelcey**

EDWARDS AND KELCEY, INC.  
1247 WARD AVENUE  
WEST CHESTER, PA 19380-4259

E & K PROJ.#: 020015.011  
CONTACT: ROB DAVIS  
PHONE: (401) 272-1969

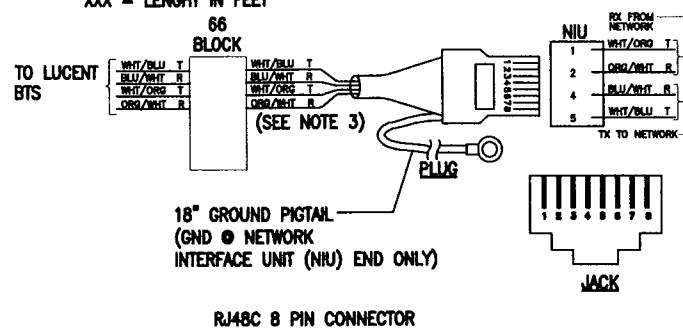
SITE NAME: WATERTOWN  
SITE#: L03  
22 COLTON ROAD  
WATERTOWN, CONNECTICUT



AT&T  
15 EAST MIDLAND AVE.  
PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/29/01	ISSUED FOR PERMIT		DPD	PDC
0	08/17/01	ISSUED FOR CONSTRUCTION		DPD	PDC
SCALE		AS SHOWN	DESIGNED	DRAWN	

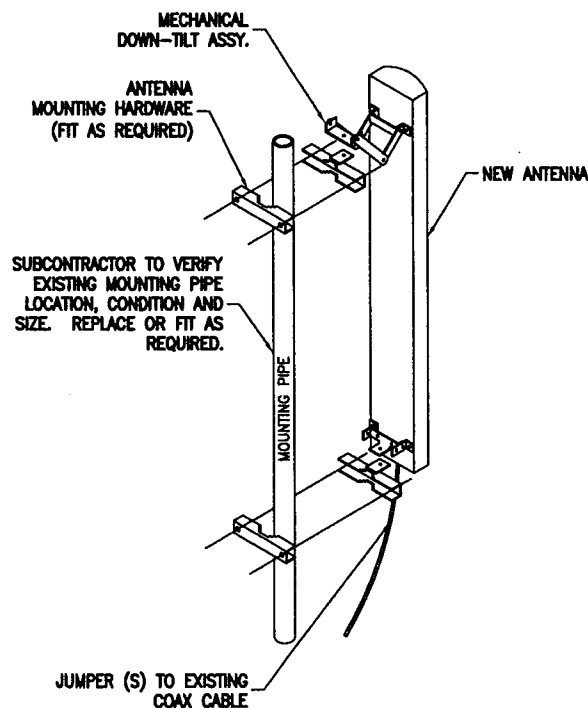
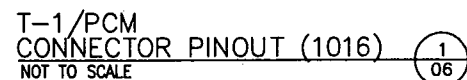
\* VENDOR:  
 CDS DATACOM INC.  
 214-340-9199  
 INDOOR SINGLE ENDED P/N C00411482-XXX  
 OUTDOOR SINGLE ENDED P/N C00411482-XXX  
 XXX = LENGTH IN FEET



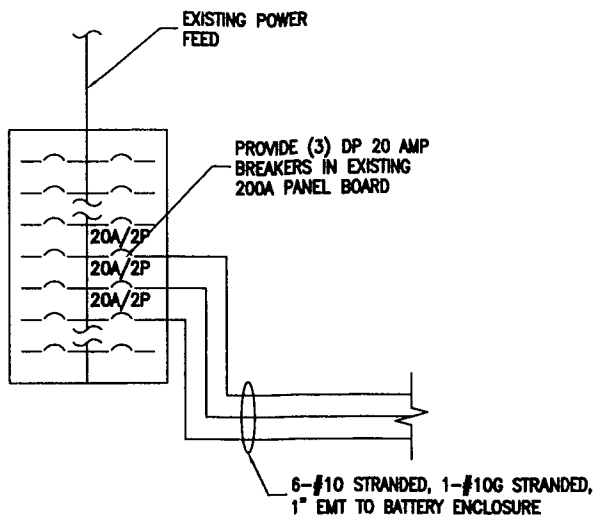
\* T1 CABLE MUST BE CDS DATACOM (NO SUBSTITUTION)

NOTES:

1. THE CABLE IS SUITABLE FOR LUCENT FLEXENT SITE GSM BTS.
2. THE CABLE IS A STRAIGHT-THROUGH CABLE WITH IDENTICAL CONNECTOR IF MODULAR PLUG USED AT BOTH ENDS.
3. Pairs 3&4 NOT SHOWN/ USED FOR RJ48C BUT ARE TERMINATED IN MODULAR PLUG PER ANSI/TIA/EIA (T568B).



ANTENNA MOUNT DETAIL  
 NOT TO SCALE

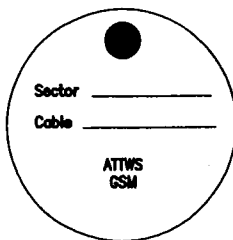


ONE LINE DIAGRAM  
 NOT TO SCALE

EXISTING 200A PANEL					
DESCRIPTION	BREAKER	CIRCUIT	CIRCUIT	BREAKER	DESCRIPTION
HVAC CKT #2 DISCONNECT	60	1	2	60	SURGE ARRESTOR
		3	4		
NEW A/C OUTSIDE	40	5	6	30	RECTIFIER #1
		7	8		
NEW A/C INSIDE	40	9	10	30	RECTIFIER #2
		11	12		
PLUG ABOVE BATTERY	20	13	14	30	RECTIFIER #3
CORD REELS	20	15	16		
PLUG BY PANEL	20	17	18	20	LIGHTS
HVAC DIS. CKT #1	30	19	20	30	RECTIFIER #4
		21	22		
		23	24	30	RECTIFIER #5
		25	26		
		27	28	30	RECTIFIER #6
		29	30		
		31	32	20	NEW GSM
		33	34		
		35	36	20	NEW GSM
		37	38		
		39	40	20	NEW GSM
		41	42		
SURGE ARRESTOR					

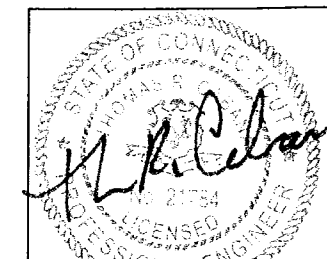
NOTE: SUBCONTRACTOR SHALL VERIFY IN FIELD AND MAKE ADJUSTMENTS IF NECESSARY

PANEL SCHEDULE  
 NOT TO SCALE



NOTE:  
 TAG SHALL BE MADE OF STEEL OR EQUIVALENT AND ATTACHED TO CABLE WITH CORROSION PROOF WIRE.

TAG LABELING  
 NOT TO SCALE



THOMAS R. CABANA  
 P.E. No. 21784 11/19/01 DATE

L03 - WATERTOWN

STANDARD DETAILS

JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-06	1



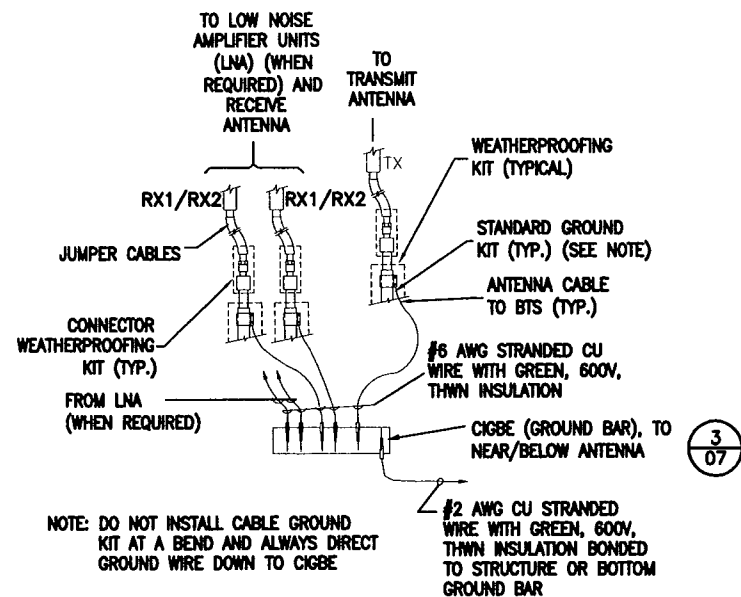
EDWARDS AND KELCEY, INC.  
 1247 WARD AVENUE  
 WEST CHESTER, PA 19380-4259  
 E & K PROJ.#: 020015.011  
 CONTACT: ROB DAVIS  
 PHONE: (401) 272-1969

SITE NAME: WATERTOWN  
 SITE#: L03  
 22 COLTON ROAD  
 WATERTOWN, CONNECTICUT

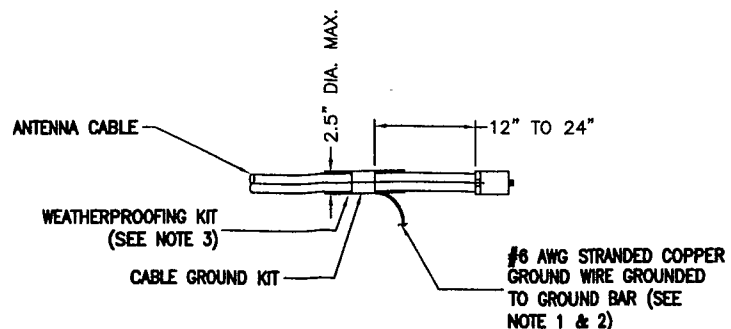


AT&T  
 15 EAST MIDLAND AVE.  
 PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/29/01	ISSUED FOR PERMIT	DPD	POC	
0	08/17/01	ISSUED FOR CONSTRUCTION	DPD	POC	
SCALE AS SHOWN		DESIGNED	DRAWN		

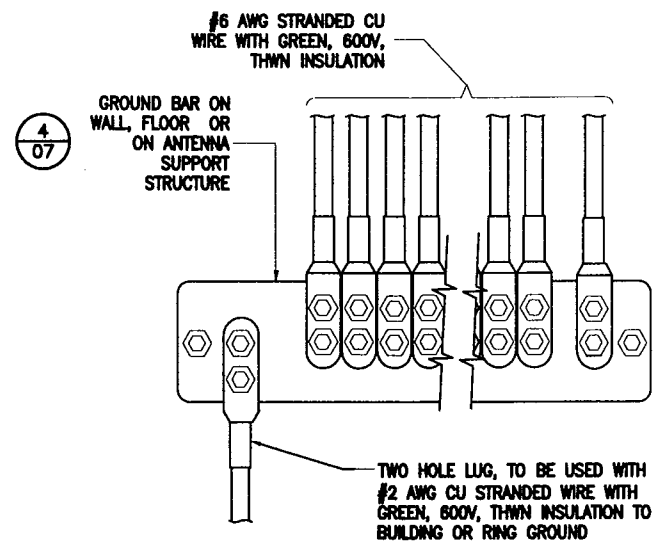


CONNECTION OF GROUND WIRE TO GROUND BAR (522A) 1  
07  
NOT TO SCALE

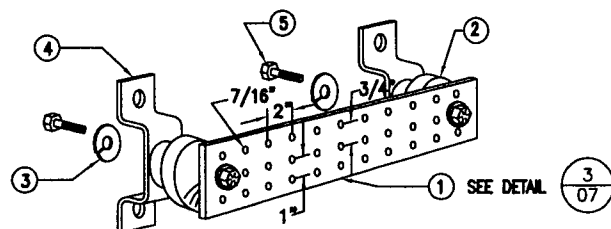


- NOTE:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
  - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
  - WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE (513A) 2  
07  
NOT TO SCALE



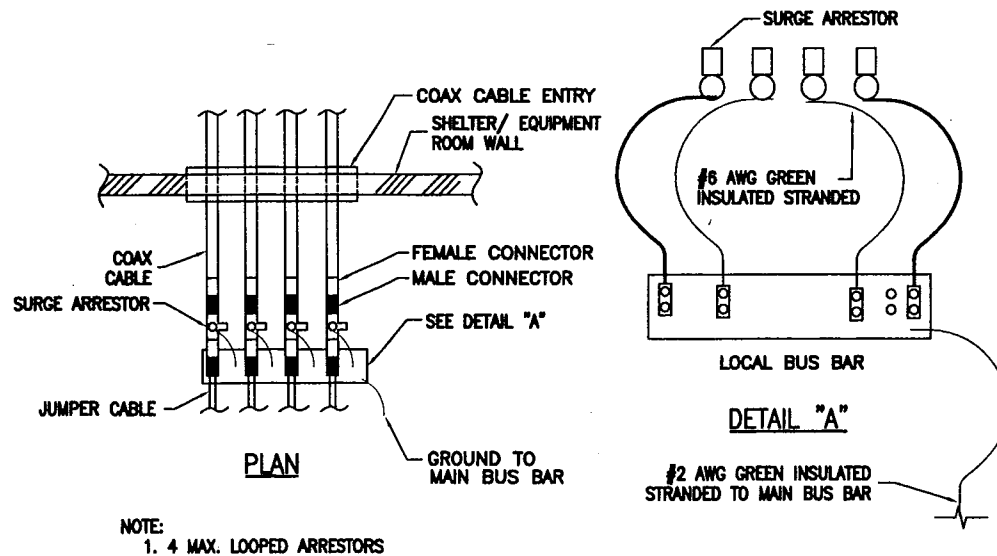
INSTALLATION OF GROUND WIRE TO GROUND BAR (508A) 3  
07  
NOT TO SCALE



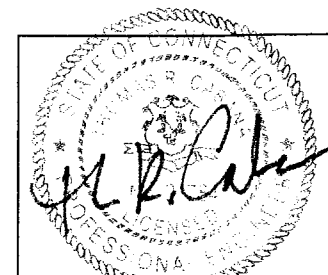
LEGEND

- COPPER GROUND BAR, 1/2" X 4" X 20", NEWTON INSTRUMENT CO. CAT. NO. B-8142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-8058
- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1

GROUND BAR DETAIL (509) 4  
07  
NOT TO SCALE



SURGE ARRESTOR GROUNDING DETAIL (527) 5  
07  
NOT TO SCALE



THOMAS R. CABANA  
P.E. No. 21784 11/19/07 DATE

L03 - WATERTOWN

STANDARD  
DETAILS

JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L03-07	1

**Edwards  
AND Kelcey**

EDWARDS AND KELCEY, INC.  
1247 WARD AVENUE  
WEST CHESTER, PA 19380-4259

E & K PROJ #: 020015.011  
CONTACT: ROB DAVIS  
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SITE NAME: WATERTOWN  
SITE#: L03  
22 COLTON ROAD  
WATERTOWN, CONNECTICUT



AT&T  
15 EAST MIDLAND AVE.  
PARAMUS, NJ 07652

1	10/29/01	ISSUED FOR PERMIT	DPD	POC
0	08/17/01	ISSUED FOR CONSTRUCTION	DPD	POC
NO.	DATE	REVISIONS	BY	CHK APP'D
SCALE		AS SHOWN	DESIGNED	DRAWN