Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

Please Read Application And Notes, If Any, Attached

DEPT. OF BUILDING INSPECTION
CITY OF PORTLAND, ME

Permit Number: 060677

JUN - 9 2006

RECEIVED

PERMIT

This is to certify that PORTLAND HOUSING AUTHORITY /Cingular

has permission to 12 panel Antennas on roof top w/ steel platform, to cabinets, co-axial cables in a cable tray

AT 19 EMERY ST 057 F001001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procured before this building or part thereof is lathed or closed-in 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. _____

Health Dept. _____

Appeal Board _____

Other _____
Department Name

6/8/06
Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (20'7) 874-8703, Fax: (207) 874-8716

Permit No:	Issue Date:	CBL:
06-0677	DEPT. OF BUILDING INSPECTION CITY OF PORTLAND, ME	057 F001001

Location of Construction:	Owner Nanie:	Owner Address:	Phone:
19 EMERY ST	PORTLAND HOUSING AUTHOR	14 BAXTER BLVD	
Business Name:	**Contractor Kame:**	**Contractor Address:** JUN - 9 2006	**Phone**
	Cingular	580 Main Street Bolton	9787900250
Lessee/Buyer's Name	**Phone:**	**Permit Type:** RECEIVED	**Zone:**
		Additions - Commercial	R-6

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Commercial/ Multi-Family Residential	Commercial/ Multi-Family Residential/ 12 panel Antennas on roof top w/ steel platform. radio cabinets, co-axial cables in a cable tray	$831.00	$90,000.00	2

Proposed Project Description:
12 panel Antennas on roof top w/ steel platform, radio cabinets, co-axial cables in a cable tray

FIRE DEPL': ☐ Approved ☐ Denied
Signature:

INSPECTION: Use Group: Type:
ANTENNA EQUIPMENT
6/8/06
Signature:

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)
Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied
Signature: Date:

Permit Taken By:	Date Applied For:
ldobson	05/04/7006

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland	☐ Variance	☑ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☐ Site Plan	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐	☐ Denied	☐ Denied
Date: 6/14/06	Date:	Date

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition. if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT | ADDRESS | DATE | PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE | DATE | PHONE

General Building Permit Application

If **you** or the property owner owes real estate **or** personal property taxes or user charges **on any** property within the City, payment arrangements must be made before permits **of** any kind are accepted.

Total Square **Footage** of Proposed Structure	Square Footage of Lot	
Tax Assessor's Chart, Block & Lot Chart# 57 Block# F Lot# 1	Owner: PORTLAND HOUSING AUTHORITY	Telephone:
(Lessee) Buyer's Name (If Applicable) CINGULAR WIRELESS	Applicant name, address & telephone: CINGULAR WIRELESS 580 MAIN STREET BOLTON, MA 01740 ATN: DAVE GALE 781-640-7920	cost Of Work: $ 90,000.00 Fee: $ 851.00 C of O Fee: $

Current Specific use: RESIDENTIAL

Proposed Specific use: WIRELESS COMMUNICATIONS FACILITY

Project description:
APPLICANT IS PROPOSING TO PLACE TWELVE (12) PANEL ANTENNAS ON THE ROOFTOP OF THE EXISTING BUILDING. APPLICANT WILL ALSO CONSTRUCT AND PLACE A STEEL PLATFORM ON THE ROOF OF THE BUILDING ON WHICH IT WILL PLACE RADIO CABINETS CO-AXIAL CABLES, IN A CABLE TRAY, WILL RUN FROM THE EQUIPMENT ON THE PLATFORM TO THE ANTENNAS.

Contractor's name, address & telephone:

Who should we contact when the permit is ready: Dave Gale

Mailing address: Phone: 978-790-0250

DEPT. OF BUILDING INSPECTION
CITY OF PORTLAND, ME
MAY 4 2006
RECEIVED

Please submit all of the information outlined in the Commercial Application Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information visit us on-line at www.portlandmaine.gov, stop by the Building Inspections office, room 315 City Hall or call 874-8703.

I hereby certify that **I** am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable **laws** of this jurisdiction. In addition, if a permit for work described in **this** application is issued, I certify that the Code Official's authorized representative **shall** have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: DAVID GALE - ON BEHALF OF CINGULAR WIRELESS	**Date:** 5/1/06

This is not a permit; you may not commence ANY work until the **permit is issued.**

PORTLAND HOUSING AUTHORITY
14 BAXTER BOULEVARD, PORTLAND, MAINE 04101-1822
www.porthouse.org
Administrative Office (207) 773-4753 • TDD (207) 774-2570
Fax (207) 774-6471
Maintenance (207) 774-2815

March 10, 2006

Marge Schmuckal, Zoning Administrator
Office of Inspections
City of Portland
389 Congress Street
Portland, ME 04101

RE: Property Address: 284 Danforth Street – Harbor Terrace (57-F-1)
Applicant: New Cingular Wireless PCS, LLC
Property Owner: Portland Housing Authority

Dear Marge:

Please be advised that on behalf of the Portland Housing Authority ("PHA"), the owner of the property located at 284 Danforth Street, Portland, Maine, PHA consents to, and authorizes, New Cingular Wireless PCS, LLC to apply for all necessary permits and approvals to construct, install, operate, and maintain a wireless communications facility on the property located at 284 Danforth Street.

Sincerely,

Mark B. Adelson
Deputy Executive Director

Cc: David Gale, Cingular Project Manager

City of Portland, Maine - Building or Use Permit
389 Congress Street, 04101 Tel: (207) 874-8703, **Fax:** (207) 874-8716

Permit No:	Date Applied For:	CBL:
06-0677	05/04/2006	057 F001001

Location of Construction:	Owner Name:	Owner Address:	Phone:
19 EMERY ST	PORTLAND HOUSING AUTHOR1	14 BAXTER BLVD	

Business Name:	Contractor Name:	Contractor Address:	Phone
	Cingular	580 Main Street Bolton	(978) 790-0250

Lessee/Buyer's Name	Phone:	Permit Type:
		Additions - Commercial

Proposed Use:	Proposed Project Description:
Commercial/ Multi-Family Residential/ 12 panel Antennas on roof top w/ steel platform, radio cabinets, co-axial cables in a cable tray	12 panel Antennas on roof top w/ steel platform, radio cabinets, co-axial cables in a cable tray

Dept: Zoning **Status:** Approved **Reviewer:** Marge Schmuckal **Approval Date:** 05/11/2006
Note: **Ok to Issue:** ☐

Dept: Building **Status:** Approved **Reviewer:** Mike Nugent **Approval Date:** 06/08/2006
Note: **Ok to Issue:** ☑

1) Project must receive final inspection and written compliance ceretification from the project engineer.

Comments:
5/15/2006-mjn: Need clearer letter from engineer, went over this with David Gale.

5/25/2006-ldobson: Received PDF with application

CITY OF PORTLAND
BUILDING CODE CERTFICATE
389 Congress St., Room 315
Portland, Maine 04101

To: Inspector of Buildings City of Portland, Maine
Department of Planning & Urban Development
Division of Housing & Community Service

FROM: Aaron C. Jones, P.E.

RE: Certificate of Design

DATE: 2/17/2006 /4/5/06

These plans and / or specifications covering construction work on:

New Cingular Equipment Platform @ 284 Danforth Street in Portland Maine.

Have been designed and drawn up by the undersigned, a Maine registered Engineer according to the ***2003 International Building Code*** and local amendments.

(SEAL)

STATE OF MAINE
AARON C. JONES
NO. 10968
REGISTERED PROFESSIONAL ENGINEER
2/17/2006

Signature: Aaron C. Jones

Title: President

Firm: Structural Integrity Consulting Engineers, Inc.

Address: 180 Beacon Street, Portland, Maine 04103

As per Maine State Law:

$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or Structures, shall be prepared by a registered design Professional.

FROM DESIGNER Aaron C. Jones, P.E.

DATE: 4/5/06

Job Name: Harbor Terrace Rooftop Equipment For Chiller

Address of Construction: 284 Danforth Street, Portland, ME

2003 *International Building Code*

Construction project was designed according to the building code criteria listed below:

Building Code and Year 2003 IBC Use Group Classification(s) I-1 / R-2

Type of Construction II

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC N/A

Is the Structure mixed use? N/A if yes, separated or non separated (see Section 302.3) N/A

Supervisory alarm system? N/A Geotechnical/Soils report required?(See Section 1802.2) N/A

STRUCTURAL DESWN CALCULATIONS

_____ Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)

Uniformly distributed floor live loads *(7603.11, 1607)*

	Loads Shown
Equip. platform	100psf

Wind loads *(1603.1.4, 1609)*

- N/A / 90 — Design option utilized (1609.1. *1*, 1609.6) / Basic wind speed *(1609.3)*
- 1.0 — Building category and wind importance factor, I_w (Table *1604.5*, 1609.5)
- C — Wind exposure category *(1609.4)*
- N/A — Internal pressure coefficient *(ASCE 7)*
- 23psf — Component and cladding pressures *(1609.1.1; 1609.6.2.2)*
- 21psf — Main force wind pressures (7603.1. *1*, *1609.6.2.1)*

Earthquake design data *(1603.1.5, 1614 - 1623)*

- 1614.3 — Design option utilized *(1614.1)*
- II — Seismic use group ("Category") *(Table 1604.5; 1616.2)*
- .16g / .37g — Spectral response coefficients, S_{DS} & S_{D1} *(1615.1)*

Site class *(1615.1.5)*

- N/A — Live load reduction *(1603.1.1, 1607.9, 1607.10)*
- 20psf — Roof *live* loads *(1603.1.2, 1607.11)*

Roof snow loads *(7603.7.3,1608)*

- 50 — Ground snow load, P_g (1608.2)
- 35 — If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*
- 1.0 — If P_g > 10 psf, snow exposure factor, C_e *(Table 1608.3.1)*
- 1.0 — If P_g > 10 psf, snow load importance factor, I_s *(Table 1604.5)*
- 1.0 — Roof thermal factor, C_t *(Table 1608.3.2)*
- N/A — Sloped roof snowload, P_s *(1608.4)*
- C — Seismic design category *(1616.3)*
- N/A — Basic seismic-force-resisting system *(Table 1617.6.2)*
- 3/3 — Response modification coefficient, R_I and deflection amplification factor, C_d *(Table 1617.6.2)*
- Simplified — Analysis procedure *(1616.6,* 1617.5)
- N/A — Design base shear (1617.4, *1617.5.1)*

Flood loads *(1603.1.6, 1612)*

- N/A — Flood hazard area (1612.3)
- N/A — Elevation of structure

Other loads

- N/A — Concentrated loads (1607.4)
- N/A — Partition loads (1607.5)
- N/A — Impact loads *(1607.8)*
- N/A — Misc. loads (*Table 1607.8, 1607.8.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

Structural Integrity

February 8,2006

Mr. James R Seymour, P.E.
Sebago Technics
One Chabot Street
P.O. **Box 1339**
Westbrook, Maine 04098

Reference:
Harbor Terrace Load Capacity Evaluation
284 Danforth Street
Portland, Maine
Structural Integrity Job Number: 06-0004

Mr. Seymour,

At your request, I have completed my evaluation of the existing above-mentioned building. The intent of my evaluation was to study the existing structure, based on **existing** structural drawings from 1969 and 1970, provided by the Portland Housing **Authority,** to determine the maximum load that could be added to the structure without any modifications or reinforcing.

My calculations, incompliance with the current building code for Portland, Maine, 2003 International Building Code, have proved that we *can* add nineteen and a half tons, spread over four columns. The location that I analyzed was based on Sebago Technics Lease Exhibit **A,** sheet 1 of **3,** dated 1-4-2006, which you provided during out meeting on January 19th. Careful consideration must be given to the layout of the new support structure and pre-cast lightweight concrete shelter; such that the increase to each of the four columns falls within the limits I have calculated. The layout shown in Lease Exhibit **A,** appears to meet these requirements.

My calculations determined that the existing footings are the controlling factor. The vertical carrying capacity of the columns themselves and lateral force resisting capacity of the building are **well** in excess of the nineteen and a half ton limit. If we cannot layout the new shelter to stay within the load limits for each column, we should consider having a soils engineer from your office test the existing soils to determine that actual soil bearing capacity. The existing foundations at these locations are currently exerting approximately four thousand pounds of pressure **per** square foot, under full loading. Since the existing drawings form 1969 only specify that foundations be placed on firm soils, I have limited the new load to stay within the code allowed five percent stress increase for existing structures. Please discuss this option with your in-house geotechnical engmeer.

Please do not hesitate to call with any question, or if I can be of further assistance.

Sincerely,

Aaron C. Jones, P.E.
President

STATE OF MAINE
AARON C. JONES
NO. 10968
REGISTERED PROFESSIONAL ENGINEER

p. 207-774-4614 | f. 866-793-7835 | 180 Beacon Street, Portland, ME, 04103 | www.structuralinteg.com

Statement of Special Inspections

Project: Angular Equipment Platform
Location: 284 Danforth Street. Portland, MAINE
Owner:

Design Professional in Responsible Charge: Aaron C. Jones, P.E. (Structural only)

This ***Statement*** of ***Special Inspections*** is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This Statement of ***Special*** Inspections encompass the following disciplines:

- ☒ Structural
- ☐ Mechanical/Electrical/Plumbing
- ☐ Architectural
- ☐ Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A ***Final Report*** of ***Special Inspections*** documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

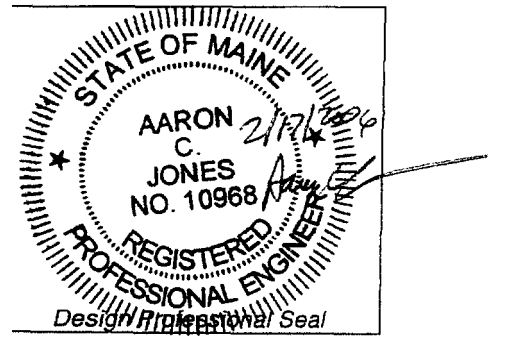
Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: At Completion (Final Report Only) or ☐ per attached schedule.

Prepared by:

Aaron C. Jones
(type or print name)

Aaron C. Jones 2/17/2006
Signature Date



Owner's Authorization:

Signature Date

Building Official's Acceptance:

Signature Date

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☐ Soils and Foundations
- ☐ Cast-in-Place Concrete
- ☐ Precast Concrete
- ☐ Masonry
- ☑ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases

Special Inspection **Agencies**	**Firm**	**Address,** Telephone, **e-rnail**
Coordinator T.B.D.		
2. Inspector Aaron C. Jones, P.E.	Structural Integrity Consulting Engineers, Inc.	180 Beacon Street Portland, Maine 04103
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category

Quality **Assurance Plan Required** (Y)

Description of seismic force resisting system and designated seismic systems:

Components only.

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)

Wind Exposure Category

Quality **Assurance Plan Required** (Y/(N))

Description of wind force resisting system and designated wind resisting components:

3 second gust = 90mph

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

N/A

Structural Steel

Item	Agency # (Qualif.)	Scope
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt Periodic	3 AWS/AISC SSI ICC-SWSI	Review shop fabrication and quality control procedures.
2. Material Certification	2 AWS/AISC SSI ICC-SWSI	Review certified mill test reports and identification markings on wide-flange shapes, high-strength bolts, nuts and welding electrodes
3. Open Web Steel Joists N/A		Inspect installation, field welding and bridging of joists.
4. Bolting Periodic	2 AWS/AISC SSI ICC-SWSI	Inspect installation and tightening of high-strength bolts. Verify that splines have separated from tension control bolts. Verify proper tightening sequence. Continuous inspection of bolts in slip-critical connections.
5. Welding Periodic	2 AWS-CWI ASNT	Visually inspect all welds. Inspect pre-heat. post-heat and surface preparation between passes. Verify size and length of fillet welds. Ultrasonic testing of all full-penetration welds.
6. Shear Connectors	AWS/AISC- SSI ICC-SWSI	Inspect size, number, positioning and welding of shear connectors. Inspect studs for full 360 degree flash. Ring test all shear connectors with a 3 lb hammer. Bend test all questionable studs to 15 degrees.
. Structural Details Periodic	2 PE/SE	Inspect steel frame for compliance with structural drawings, including bracing, member configuration and connection details.
. Metal Deck N/A	AWS-CWI	Inspect welding and side-lap fastening of metal roof and floor deck.
. Other: Bar Grating Attachment Periodic	3 PE/SE	Inspect installation of "XFCM" P.A.F.

Structural Integrity
Consulting Engineers, Inc.

May 16, 2006

Mr. James R. Seymour, P.E.
Sebago Technics
One Chabot Street
P.O. Box 1339
Westbrook, Maine 04098

Reference:
Harbor Terrace Load Capacity Evaluation
284 Danforth Street
Portland, Maine
Structural Integrity Job Number: 06-0004

Mr. Seymour,

This letter is to confirm that the revised equipment layout and new platform as shown on record drawings dated April 5, 2006 can be added to the structure without any modifications or reinforcing of the existing framing. The new platform and equipment does not increase the stress in any existing building member or element by more than the five percent allowed by 2003 International Building Code.

Sincerely,

Aaron C. Jones, P.E.
President

STATE OF MAINE
AARON
C
JONES
NO. 10968
PROFESSIONAL ENGINEER

STRUCTURAL GENERAL NOTES

DESIGN LOADS: International Building Code; IBC 2003 Edition, except as noted

Occupancy Category, Table 1604.5 — II Standard

Roofs:

Ground Snow,	Pg		50 psf	(used for drifting calculations)
Flat Roof Snow,	Pf		35 psf	
Snow Exposure Factor	Ce	Table 1608.3.1	1.0	
Snow Importance Factor,	Is	Table 1604.5	1.0	
Snow Thermal Factor,	Ct	Table 1608.3.2	1.0	

Floors:

Equipment Platform — 100 psf

Lateral

Wind — IBC 1603.1.4, ASCE 7-02 — Analytic Method

3 Second Gust Velocity		90 mph
Importance Factor		1.0
Exposure		C

Seismic

Use Group			II		
Importance Factor			1.0		
Spectral Response	Acceleration			Coefficient	
Short Period	S_s	0.375 g		S_{DS}	0.37 g
One Second	S_1	0.10 g		S_{D1}	0.16 g
Soils Site Class	Table 1615.1.1		D		
Design Category	Table1616.3		C		
Analysis Procedure			Simplified		

STATE OF MAINE
AARON C. JONES
NO. 10968
REGISTERED PROFESSIONAL ENGINEER

STRUCTURAL STEEL:

Structural steel shall be detailed, fabricated, and d i n accordance with AISC Specifications, 1989, and code of Standard Practice, 2000.
Structural steel wide flange beams shall conform to ASTM A992.
Other rolled shapes, including plates, channels, and angles shall conform to ASTM A36.
Pipe shapes shall conform to ASTM A53 Grade B.
Except as noted, framed beam connections shall be bearing-type with 3/4" diameter, snug tight, A325-N bolts, detailed in conformance with Part 4, Tables II and III, for 0.6 times the allowable uniform loads tabulated in Part 2 of the AISC Manual, 9th Edition. Instal bolts in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts", 1985.
All beams shall have full depth web stiffeners each side of webs above and below columns
Welding shall be done by a certified welder in accordance with AISC and AWS specifications and recommendations using E70- electrodes Where not specifically noted, minimum weld shall be 3/16" fillet by length of contact edge
All steel and connectors exposed to the environment shall be hot dip galvanized, or shall receive a 3 coat 100% Solids Epoxy Paint system approved by the owner

SHOP DRAWINGS:

Construction Documents are copyrighted and shall not be copied for use as erection plans or shop details.
The General Contractor and his subcontractors shall submit in writing any requests to modify the plans or specifications.
Furnish one (1) reproducible and two (2) prints of shop and erection drawings to the Structural Engineer for review prior to fabricatior for structural steel and steel bar grate
Submit in a timely manner to permit five (5) working days for review.

FIELD VERIFICATION OF EXISTING CONDITIONS

Contractor shall thoroughly inspect and survey existing structure to verify conditions that affect the work shown on the drawings.
Contractor shall report any variations or discrepanaes to the Architect before proceeding.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

The structural drawings illustrate the completed structure with elements in their final positions, properly supported and braced.
These construction documents contain typical and representative details to assist the contractor.
All proprietary connections shall be installed in accordance with the manufacturers' recommendations.
All work shall be accomplished in a workmanlike manner and in accordance With the applicable code and local ordinances.
The general contractor is responsible for coordination of all work, including layout and dimension verification, materials coordination, shop drawing review, and the work of subcontractors.
Any discrepancies or omissions discovered in the course of the work shall be immediately reported to the engineers for resolution.
Continuation of work without notification of discrepancies relieves the engineers from all consequences.
The contractor, in the proper sequence, shall perform or supervise all work necessary to achieve the final completed structure, and tc protect the structure, workmen, and others during construction

Structural Integrity
Consulting Engineers Inc.
180 Beacon Street
Portland, ME, 04103
p. 207-774-4614
f. 866-793-7835
www.structuralinteg.com
BUILD WITH CONFIDENCE

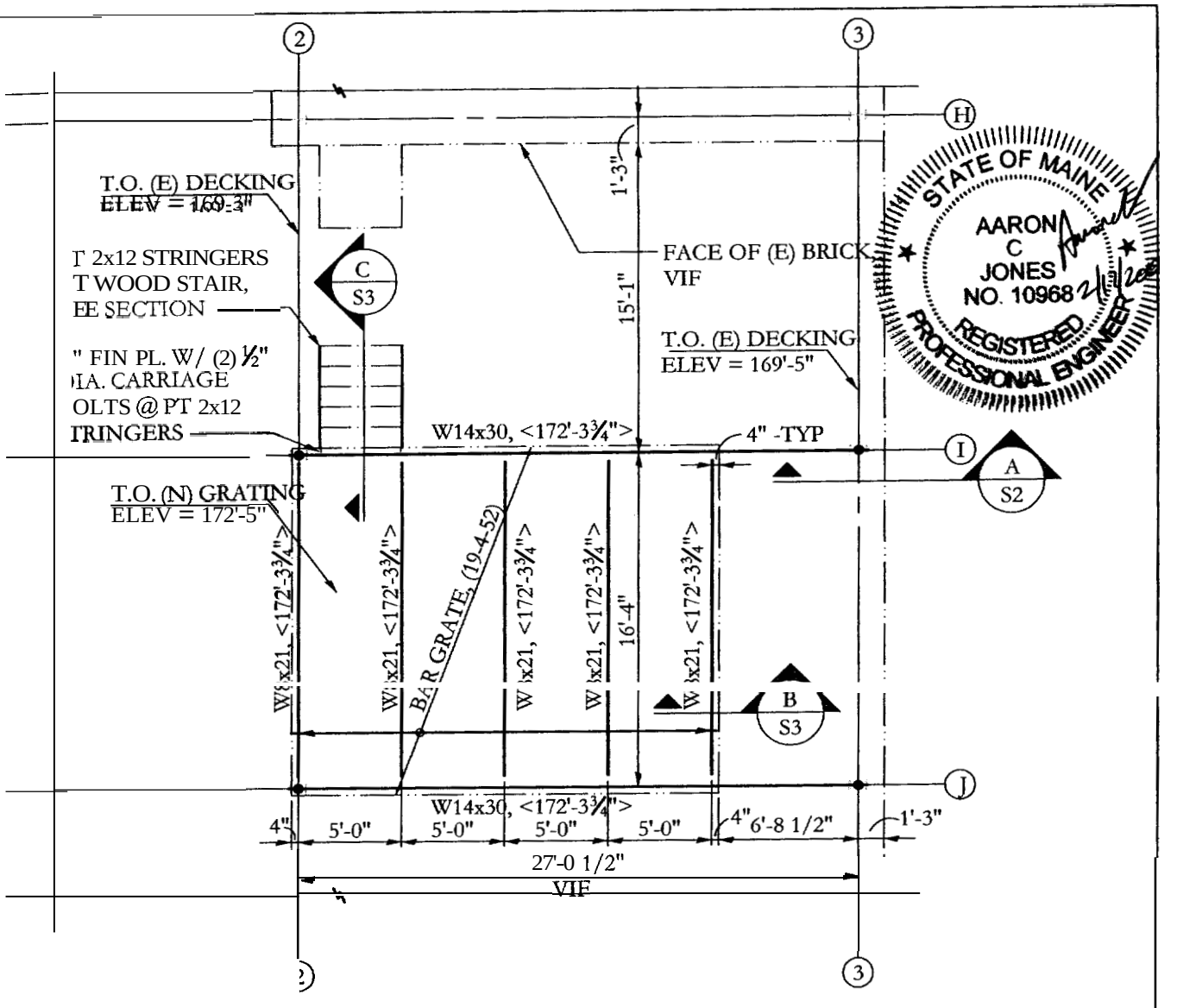
SIJOB# 06-0004.1

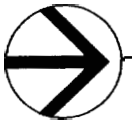
Cingular Equipment Platform

284 Danforth Street
Portland, ME

Scale: N/A
Date: 2/17/06

SO





Structural Integrity
Consulting Engineers, Inc
180 Beacon Street
Portland, ME, 04103
p. 207-774-4614
f. 866-793-7935
BUILD WITH CONFIDENCE

SIJOB# 06-0004.1

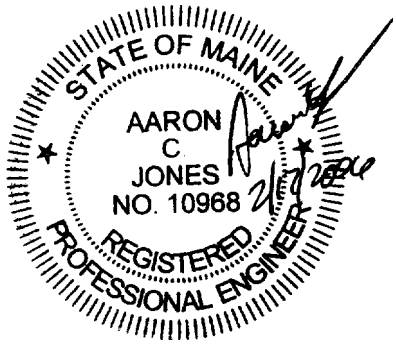
Cingular Equipment Platform

284 Danforth Street
Portland, ME

Scale: 1/8" = 1'-0
Date: 2/17/06

S1

NOTE CONTRACTOR TO REMOVE AND REPAIR METAL DECK, INSULATION AND ROOFING AS NEEDED



SECTION A/S2 3/4"=1'-0

Title: SECTION

Structural Integrity
Consulting Engineers, Inc
180 Beacon Street
Portland, ME, 04103
p. 207-774-4614
f. 866-793-7835
www.structuralinteg.com
BUILD WITH CONFIDENCE

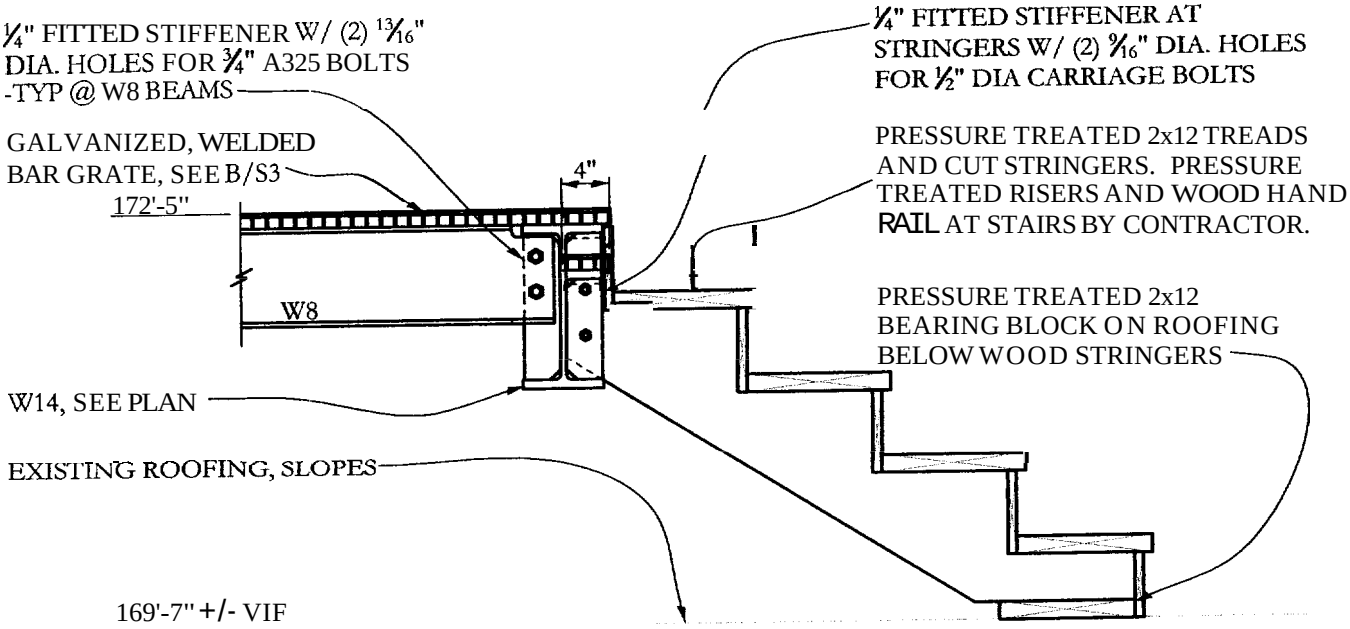
SI JOB# 06-0004.1

Cingular Equipment Platform

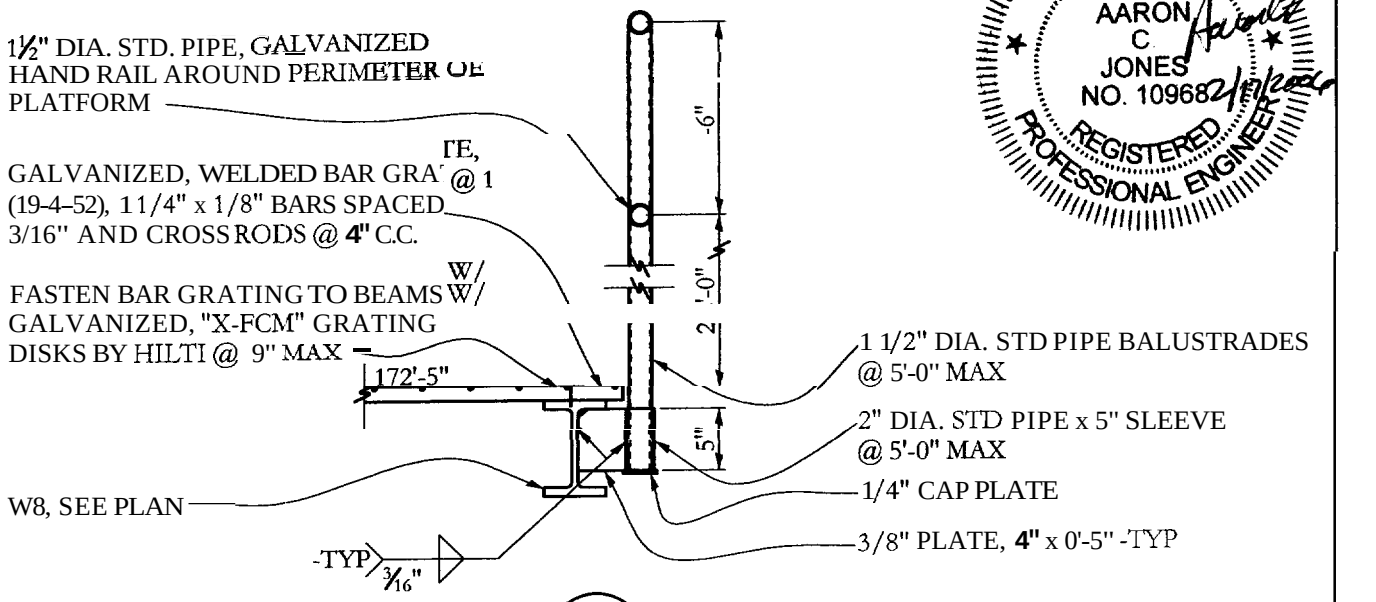
284 Danforth Street
Portland, **ME**

Scale: 3/4" = 1'-0"
Date: 2/17/06

s2



SECTION C/S3 3/4"=1'-0



SECTION B/S3 3/4"=1'-0

STATE OF MAINE
AARON C JONES
NO. 10968
REGISTERED PROFESSIONAL ENGINEER

Structural Integrity
180 Beacon Street
Portland, ME, 04103
p. 207-774-4614
f. 866-793-7835
www.structuralinteg.com
BUILD WITH CONFIDENCE

SIJOB# 06-0004.1

Cingular Equipment Platform

284 Danforth Street
Portland, ME

Scale: 3/4" = 1'-0
Date: 2/17/06

S3

824-960/1710-2170 MHz Dual Broadband Antenna

90-degree Dual Broadband Antenna

Part Number:	HorizontalBeamwidth: 90°	ElectricalDowntilt: Adjustable
7770.00	Gain: 13.5/16 dBi	Connector Type. 7116 female

The Powerwave dual band dual polarized broadband antenna has individual adjustable electrical downtilt per band (upgradeable to Remote Electrical Tilt (RET) Four connector ports allow separate tilts on each frequency band and ensure the use of diversity concepts The phase shifter technology, based on a patented slidinq dielectric minimizes intermodulation distortion and maximizes efficiency The slant +/ 45 dud! polarization system provides the independent fading siqnals needed for achieving top-quality coverage via diversity concepts The Powerwave Broadband antenna design is based on a patented stacked aperture-coupled patch lechnology, which provides high rsolation performance and a wide VSWR bandwidth The antennas have superior radiation patterns due to a unique reflector design which provides a very small variation of the 3dB horizontal beam width over the frequency band as well as a high tront-to-back ratio

824-96011710-2170 MHz Dual Broadband Antenna

Preliminary

BASE STATION SYSTEMS

COVERAGE SYSTEMS

824-960/1710-2170 MHz Dual Broadband Antenna

Electrical Specifications (Prelirninairy)

Frequency band (MHz)	824-960		1710-2170
Gain, ± 0.5dB (dBi)	13.5		16 *a*
Polarization		Dual linear ±45°	
Nominal Impedance (Ohm)		50	
VSWR	1.5:1		
VSWR			1.5:1
Isolation between inputs (dB)	30		
Isolation between inputs (dB)			30
Inter band isolation (dB)		40	
Horizontal -3 dB beamwidth	88 ± 5'		90 ± 5'
Tracking, Horizontal plane, ±60° (dB)	c2.0		
Tracking, Horizontal plane, ±60° (dB)			<2.0
Electrical downtilt range (adjustable)	0° to 10°		0° to 10°
Vertical -3 dB beamwidth	14.3± 2.0'		6.6± 1°
Sidelobe suppression. Vertical 1 st upper (dB)	>17,16,15 x=0, 5, 10° MET		> 17, 16,15 x=0, 5, 10° MET
Vertical beam squint	<0.8°		<0.5°
First null-fill (dB)	<-25		<-25
Front-to-back ratio (dB)	>25		>27
Front-to-back ratio, total power (dB)	>20		>23
IM3, 2Tx@43dBm (d k)	<-153		
IM3, 2Tx@43dBm (dBc)			<-153
IM7, 2Tx@43dBm (d k)			<-160
Power Handling, Average per input (W)	300		250
Power Handling, Average total (W)	600		500

All specifications are subject to *change* without notice.
Contact factory for complete performance data.

Mechanical Specifications

Connector Type	4 x 7/16 DIN female
Connector Position	Bottom
Dimensions, HxWxD	1408mm x 280mm x 125mm (55"x11"x5")
Weight Including Brackets	15.8 kg (35lbs)
Wind Load, Frontal, 42m/s Cd=1	435N (98 lbf)
Survival Wind *Speed* (m/s)	70 (156mph)
Lightning Protection	DC grounded
Radome Material	GRP
Radome Color	Light Gray
Mounting	Pre-mounted Standard Brackets
Packing Size	1550mm x 355mm x 255mm (61"x14"x10")

Corporate Headquarters
Powerwave Technologies, Inc.
1801 East St. Andrew Place
Santa Ana, CA 92705 USA
Td: 714-466-1000
Fax: 714-466-5800
www.powerwave.com

Antennvägen 6
SE-187 80 Täby
Sweden
Td: +46 8 540 822 00

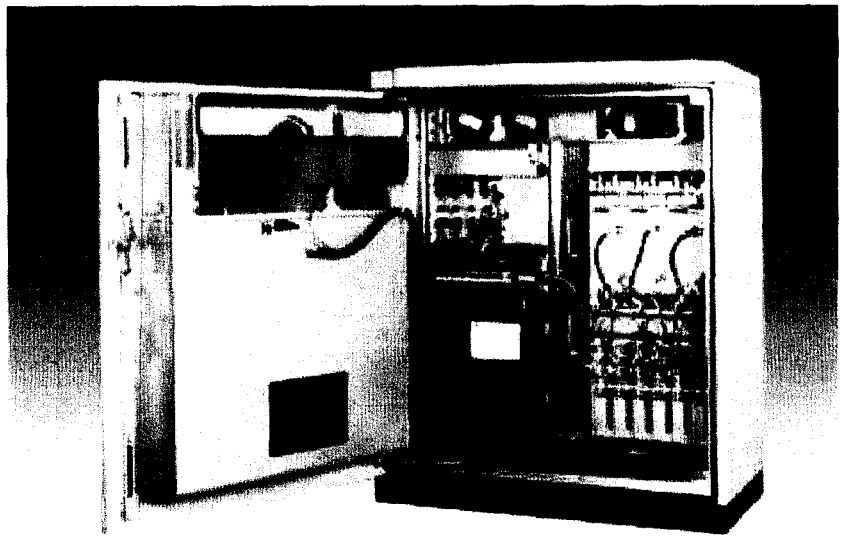
23 F Tai Yau Building
181 Johnston Road
Wanchai, Hong Kong
Tel: +852 2512 6123

Powerwave technologies

0000000

RBS 2106

The GSM Macro Outdoor Base Station



RBS 2106 is a high capacity, compact outdoor macro radio base station supporting up to twelve transceivers per cabinet. It is possible to build one, two and three sector configurations including dual band configurations in one cabinet.
Being the latest member in the RBS 2000 family, RBS 2106 is to date the most powerful outdoor RBS in the world. Keeping the successful characteristics of the existing RBS 2000 portfolio and improving functionality as well as operation and maintenance makes the RBS 2106 a very cost-effective solution for growing GSM operators.

The RBS 2000 family supports a wide range of applications ranging from extreme coverage to extreme capacity. Being a RBS 2000 member guarantees coexistence with the installed base of RBS 200 and RBS 2000 products. Ericsson's synchronization based BSS features ensure that transceivers from different generations of radio base stations can easily form common cells. Operators can therefore bridge the past with the future. By making existing sites futureproof, investments are protected while migrating to 3G.

Part of the grow-on-site concept

Since it is becoming increasingly difficult to find new base station sites, it is of great interest to remain on the existing sites as long as possible. Site space is often a limiting factor for capacity growth. The powerful RBS 2106, included in Ericsson's grow-on-site toolbox, addresses this problem. On many sites, two or more existing cabinets can be replaced by one RBS 2106. This is of major importance, since it makes it possible to reuse the space to rollout WCDMA equipment. The RBS 2106 will pave the way for WCDMA.

Also interesting far new locations, the RBS 2106 offers a complete solution in stand-alone cabinet which rapidly can be implemented outdoors. All the units to run the RBS are included in this single cabinet, there is no need for an extra product.

ERICSSON

Doubled capacity – superior performance – same footprint

The 12-transceiver RBS 2106 cabinet has the same footprint as RBS 2102, but has doubled the capacity, thanks to the new double-capacity transceivers and combiners. The RBS 2106 has better output power than the current RBS 2000 products, which are the best on the market today. The improved radio performance means increased site-to-site distance, and therefore, fewer sites. Another example of a cost saving feature is 121 km Extended Range. The RBS 2106 comes with a configuration switch unit, the CXU, and two extremely flexible combiners. Examples of configurations supported by the Filter Combiner (CDU-F) are 3x4, 2x6, 1x12 and dual band 8+4 in one cabinet. CDU-F supports up to 12 transceivers on one dual-polarized antenna. The other combiner (CDU-G) can be configured in two modes: capacity mode and coverage mode, making it very flexible. In coverage mode, the output power from the CDU-G is increased, making it perfect for rural sites or when fast rollout is required at a minimum cost.

Prepared for the future

The RBS 2000 family is prepared for GSM data services, including General Packet Radio Service (GPRS) and High Speed Circuit Switched Data (HSCSD) including 14.4 kbit/s timeslots. To meet the operators' need for faster datacom solutions, RBS 2106 supports EDGE.

A powerful Distribution Switch Unit (DXU) and fast internal buses guarantee full EDGE support. With the optional BSS feature RBS 2000 synchronization, it is possible to have up to 32 transceivers in one cell. With the optional BSS feature RBS 200 and RBS 2000 in the same cell, it is possible to expand an existing RBS 200 cell with RBS 2106, and thereby introduce EDGE through plug-in units.

Key features

- Six double transceiver units (dTRU); that is, 12 transceivers
- Filter and hybrid combining one, two, or three sectors in one cabinet
- Excellent RF performance
- Synthesized and baseband frequency hopping
- Supports 12 transceiver EDGE on all timeslots
- Supports GSM 800, 900, 1800 and 1900 MHz
- Extended Range 121 km
- Duplexer and TMA support for all configurations
- Four transmission ports supporting up to 8 Mbit/s
- Optional built-in transmission equipment transmission
- Prepared for GPS assisted positioning services
- Internal or external battery backup
- Simple co-siting with WCDMA equipment
- Supports most common power systems
- Hardware independent of transmission interface
- Prepared for outdoor environment (wide range of temperatures / humidity)

Technical specification for RBS 2106

Frequency band:	GSM 800, E-GSM 900, P-GSM 900, GSM 1800, GSM 1900
Tx:	869–894, 925–960, 1805–1880, 1930–1990 MHz
Rx:	824–849, 880–915, 1710–1785, 1850–1910 MHz
Number of transceivers (per cabinet):	2–12
Number of sectors:	1–3
Transmission interface:	1.5 Mbit/s (T1), 2 Mbit/s (E1), 75, 100, 120 Ohm
Dimension (H x W x D):	1614 x 1300 x 940 mm (63112 x 511/5 x 37 in.) including installation frame
Weight without batteries:	560 kg (1235 lbs.)
Power into antenna feeder:	33 W 145.2 dBm (GSM 800 / GSM 900) 25 W / 44.0 dBm (GSM 1800/ GSM 1900) With TCC activated, add 2.5 dBm to above values
Receiver sensitivity:	-110,5 dBm (dynamic, without TMA and diversity gain)
Power supply:	200–250V AC, 50160 Hz
Integrated battery backup:	30, 90 or 130 minutes when TM space is used
External battery backup:	Up to 6 hours (optional)
Operating temperature:	-33°C – +40°C (-27°F – + 104°F) Eco cooling -33°C – +45°C (-27°F – + 113°F) Combo cooling
Weatherproofing:	Min level IP55 according to IEC/EN 60529 Min level 3R according to UL 50 and CSA C22.2 No. 94

Telefonaktiebolaget LM Ericsson
SE-126 25 Stockholm
Sweden
Telephone +46 8 719 0000
Fax +46 x 18 40 85
www.ericsson.com

AE/LZT 123 6493 R2