City of Portland, Maine	- Building or Use	Permit	Application	Permit No:	Issue Date:		CBL:	
389 Congress Street, 04101	_						087 E00	5001
Location of Construction:	Owner Name:	`		Owner Address:			Phone:	
100 LEDGEWOOD ST Peaks	Islan SIMPSON DA	AVID C &	& CAROL I E	99 LUTHER ST				
Business Name:	Contractor Name	::	_	Contractor Address:			Phone	
	Revision Energ	gy LLC		142 Presumpscot street Portland			2073231805	
Lessee/Buyer's Name	Phone:			Permit Type:				Zone:
		-		HVAC				IR-7
Past Use:	Proposed Use:			Permit Fee: Cost of Work:			EO District:	T .
Single Family Home	Single Family	Home - i	nstall Solar	\$400.00	\$37,92	3.00	ı	
	Hot water w/ S		ectors on	FIRE DEPT:		INSPEC	TION:	<u> </u>
	south side of r	oof		<u>-</u>	Denied	Use Gro	^{up:} <i>R3</i>	TypeSB
	1			_	_ Donke		-	
Proposed Project Description:	# 09-0546	·				-	TRC Z	003
install Solar Hot water w/ Solar	r collectors on south si	de of roo	f	Signature:		Signatur	1) me	1112/09
		_		PEDESTRIAN ACTI				113151
				Action: Approx	red	roved w/C	Conditions	Denied
				Approx	ica □ wbb	TOACO M/C	ACCORDING	Petiten
				Signature:			Date:	
Permit Taken By:	Date Applied For:			Zoning	Approva	1		
Ldobson	11/02/2009							
1. This permit application do	es not preclude the	Speci	al Zone or Revie	ws Zoning Appeal			Historic Preservation	
Applicant(s) from meeting Federal Rules.	applicable State and	☐ Shoreland		☐ Varianc	☐ Variance		Not in District or Landmark	
Building permits do not inc septic or electrical work.	clude plumbing,	☐ Wetland ☐ Miscel		laneous		Does Not Req	uire Review	
3. Building permits are void i within six (6) months of th		☐ Flood Zone		Conditional Use		[]	Requires Revi	iew
False information may invented permit and stop all work		Subdivision		☐ Interpretation			Approved	
		☐ Site	Plan	☐ Approve	ed	[Approved w/0	Conditions
PERMIT ISS	SUED						_	_
		Maj	Minor MM	Denied		Į l	Denied	
NOV 17 20	09	01						_
NOV 17 S	•	Date:	-11 1 2	Date:		Da	te:	_/_
	_		11/4/0	7			/	
City of Portis	and		,					
•				,				
				· · · · · · · · · · · · · · · · · · ·	i		·	
		CI	ERTIFICATION	DN	•			
I hereby certify that I am the ow	mer of record of the na				sauthorized	hy the o	wner of recor	d and that
I have been authorized by the or								
jurisdiction. In addition, if a pe								
shall have the authority to enter	all areas covered by su	uch perm	it at any reasor	able hour to enforce	ce the provis	sion of t	he code(s) app	olicable to
such permit.								
SIGNATURE OF APPLICANT			ADDRES:	3	DATE		PHO	NE
RESPONSIBLE PERSON IN CHARG	E OF WORK, TITLE				DATE		PHO	NE

CLOSES SMH 5/25/10

City of Portland, Maine - Buil 389 Congress Street, 04101 Tel: (•		Permit No: 09-1238	Date Applied For: 11/02/2009	CBL: 087 E005001
Location of Construction:	Owner Name:		Owner Address:	<u> </u>	Phone:
100 LEDGEWOOD ST Peaks Islan Business Name:	SIMPSON DAVID C Contractor Name:		99 LUTHER ST Contractor Address:		Phone
	Revision Energy LLC	1	142 Presumpscot s	treet Portland	(207) 323-1805
Lessee/Buyer's Name	Phone:		Permit Type: HVAC	-	
Proposed Use: Single Family Home - install Solar H south side of roof	ot water w/ Solar collect	'	ed Project Description: Solar Hot water w/	Solar collectors on	south side of roof
Dept: Zoning Status: A	Approved	Reviewer	: Marge Schmucka	al Approval I	Date: 1 /04 / 2009

Ok to Issue: Note: 1) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm or HVAC or exhaust systems. Separate plans may

Reviewer: Tom Markley

Status: Approved with Conditions

Building

Dept:

11/13/2009

Approval Date:

- need to be submitted for approval as a part of this process.
- 2) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approrval prior to work.

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

to schedule your inspections as agreed upon Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

Ry initializing at each inspection time, you are agreeing that you understand the

inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.							
A Pre-construction Meeting will take place upon receipt of your building permit.							
X Final inspection required at completio	n of work.						
Certificate of Occupancy is not required for certain your project requires a Certificate of Occupancy. A							
If any of the inspections do not occur, the project REGARDLESS OF THE NOTICE OR CIRCUM	-						
CERIFICATE OF OCCUPANICES MUST BE THE SPACE MAY BE OCCUPIED.	ISSUED AND PAID FOR, BEFORE						
Signature of Applicant/Designee							
Parish Makley	<u> 11/13/29</u>						
Signature of Inspections Official	D ate						

Building Permit #: 09-1238

CBL: 087 E005001

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.

Location/Address of Construction: 100 ledge wood ROAD Peaks Island						
Total Square Footage of Proposed Structure/A	rea Square Footage of Lot					
Tax Assessor's Chart, Block & Lor	Applicant *must be owner, Lessee or Buyer* Telephone:					
Chart# Block# Lot#	Name Revision Energy					
\S1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	' · · · · ·					
OI C O	Address 142 Presumps Cot St					
	City, State & Zip Port LAND, ME OY 103					
Lessee/DBA (If Applicable)	Owner (if different from Applicant) Name Dougle State of Work: \$37,923					
	Name David Simpson Work: \$31,925					
	Address 99 wher St C of O Fee: \$					
	City, State & Zip Peaks Island, Total Fee: \$ 400					
	30/HD 3M					
Current legal use (i.e. single family)						
If vacant, what was the previous use?						
Proposed Specific use:						
Is property part of a subdivision?	If yes, please name					
	DATEL COLLECTORS on loof of House					
SOUAR PLIECTI	RIC Collectors on Reof on the					
South SID	E OF THE BUILDING-SOUTH facing Rock.					
Contractor's name: REVISION ENER						
Address: 142 Presumpsco	7 54					
City, State & Zip POLT LAND	MQ 04103 Telephone: 221-6342					
Who should we contact when the permit is read	dy: (mail it) Telephone:					
Mailing address: Same						
Please submit all of the information	outlined on the applicable Checklist. Failure to					
	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 or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division 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 enjoyee the provisions of the codes applicable to this permit.

					<u> </u>	
Signature:	Marten	Date:	11/2/2009	RE	J 5000	A DE
	This is not a permit; you may	y not commence A	ANY work until the	permit is is is	Building Inspired N	laine



Professional design, installation and service of renewable energy systems

Fortunat Mueller ReVision Energy 142 Presumpscot Street Portland, ME 04103

RE: ReVision Energy Solar Installation

Address: 100 Ledgewood Road Peaks Island

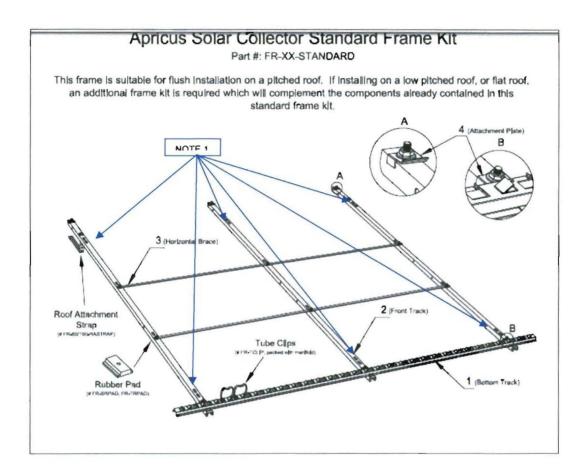
To Whom It May Concern:

I have reviewed the condition of the roof structure at the project site, and the installation method described in the attachment and find them to be sufficient and in accordance with applicable codes and standards.

Respectfully,

Fortunat Mueller Maine PE # 11246

Apricus structural mounting detail:



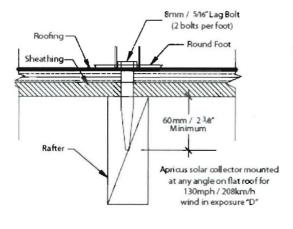
Notes:

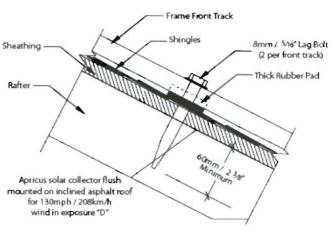
- 1. Fasten to roof framing using (6) 5/16" stainless steel Lag Bolt.
- 2. Drill pilot hole for lag bolt 60-75% of lag shank diameter.
- 3. Seal all penetrations using manufacturer supplied Rubber pad and Geocell 2300 tripolymer sealant or equivalent

Lag bolt details:

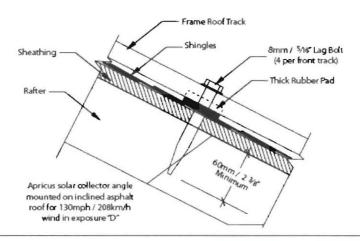
Mount on Flat Roof using Round Feet

Flush Mount on Pitched Asphalt Shingle Roof





Angle Mount on Pitched Asphalt Shingle Roof

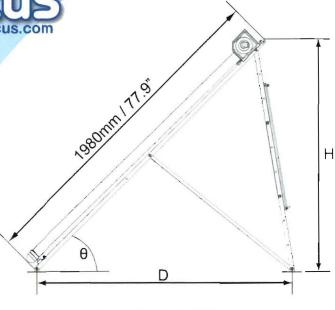


Notes:

- 1. Lag Bolt and washer should be stainless steel
- 2. Drill pilot hole for lag bolt 60-75% of lag shank diameter.
- 3. Seal all penetrations using manufacturer supplied Rubber pad and Geocell 2300 tripolymer sealant or equivalent

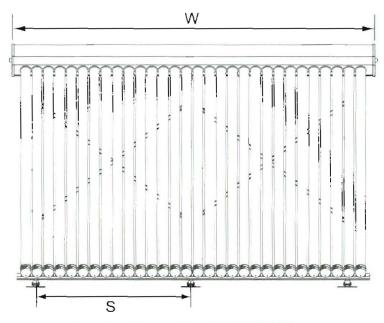
Apricus.com

Apricus Solar Collector Gross Dimensions



Angle	Type	D	Н
52°		1406mm / 55.4"	1539mm / 60.6"
45°	High Angle	1565mm / 61.6"	1389mm / 54.7"
38°	(Round Foot)	1688mm / 66.5"	1231mm / 48.5"
33°		1792mm / 70.6"	1074mm / 42.3"
46°		1900mm / 74.8"	1436mm / 56.5"
42°	High Angle	1900mm / 74.8"	1315mm / 51.8"
37°	(Roof Track)	1900mm / 74.8"	1186mm / 46.7"
33°		1900mm / 74.8"	1051mm / 41.4"
27°	Mid Angle (Round Feet) *	Variable	~ 911mm / 35.9"
270	Mid Angle (Roof Track)	1900mm / 74.8"	911mm / 35.9"
13°	Low Angle (Round Feet) *	Variable	~ 447mm / 17.6"
13°	Low Angle (Roof Track)	1900mm / 74.8"	447mm / 17.6"

*Low and Mid angle frame kits do not have a diagonal brace. When using round feet the rear legs can be freely positioned, and therefore the angle and height are slightly variable.



Size	S	W
10 tubes*	490mm / 19.29"	796mm / 31.3"
20 tubes*	1190mm / 46.85"	1496mm / 58.8"
22 tubes	665mm / 26.18"	1636mm / 64.4"
30 tubes	945mm / 37.2"	2196mm / 86.4"

* 10 & 20 tube collectors only have 2 sets of legs

Notes:

- 1. The frame should be aligned with the roof rafters where possible.
- 2. The front tracks can be adjusted left and right slightly to match roof structure
- 3. When possible position the front tracks behind tubes so they are hidden
- Always refer the the installation manual regarding mounting guidelines, in particular regarding mounting strength and wind loading issues.
- 5. Seek engineer approval for non standard installations, or if at all in doubt of mounting strength or safety.



NEW

ES-B SERIES photovoltaic panels



Provisional datasheet.

Data subject to change. Certifications pending.

180, 190 & 195 W

A range of high quality String Ribbon solar panels offering exceptional performance, cost effective installation and industry-leading environmental credentials made with our revolutionary wafer technology.

- High field performance ratings PTC/STC rating up to 88.8%
- Tight power tolerances
 98% of rated power guaranteed for 180, 190W
 panels; 100% guaranteed for 195W panels
- Industry's lowest voltage per watt rating Delivers the most cost-effective installs
- UL4703 certified cables
 For use with highest efficiency transformer-less inverters (ES-B "fa1" type only)
- New extended length cables Eliminates home-run wiring
- New lockable MC® Type 4 connectors*
 Complies with the latest codesfor accessible arrays
- Most extensive range of mounting options Allows installs virtually anywhere and anyhow
- Smallest carbon footprint of any manufacturer
 Delivers the biggest offset to global warming and
 climate change
- Quickest energy payback
 15 month payback that maximizes energy conservation
- 100% cardboard-free packaging Minimizes job site waste and disposal costs.
- 5 year workmanship and 25 year power warranty"



Electrical Characteristics

Standard Test Conditions (STC)1

	ES-B-180 -fa1/fb1*	ES-B-190 -fa1/fb1*	ES-B-195 -fa1/fb1*		
P _{mp} ²	180	190	195	W	
Ptolerance	-2/+3	-2/+2.5	-0/+2.5	%	
P _{mp, max}	186.1	194.9	199.9	W	
P _{mp, min}	176.4	186.2	195.0	W	
P _{ptc} ³	159.7	168.8	173.3	W	
V _{mp}	17.1	17.4	17.6	V	
I _{mp}	10.53	10.92	11.08	Α	
Voc	21.3	21.5	21.7	V	
lsc	11.64	11.95	12.11	Α	

Nominal Operating Cell Temperature Conditions (NOCT)4

T _{NOCT}	45.9	45.9	45.9	°C
P _{max}	129.0	136.7	140.1	W
V_{mp}	15.4	15.5	15.6	V
Imp	8.38	8.82	8.98	Α
$V_{\rm oc}$	19.45	19.83	20.12	V
I _{sc}	9.28	9.59	9.79	Α

¹⁰⁰⁰ W/m², 25°C cell temperature, AM 1.5 spectrum;

Temperature Coefficients

α P _{mp}	-0.49	%/ °C
α V _{mp}	-0.47	%/ °C
α I _{mp}	-0.02	%/ °C
αV _∞	-0.34	%/°C
α I _{sc}	+0.06	%/ °C

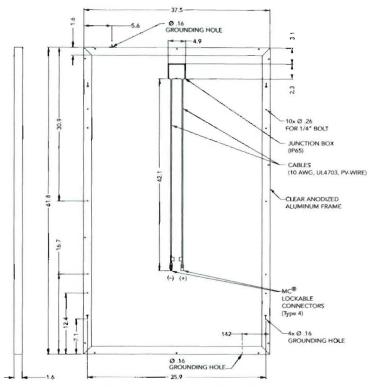
System Design

Series Fuse Rating ⁵	20 A
Maximum System Voltage	600 V _{DC}
Hard Grounding of DC	"fb1" panel
Negative Pole ⁶	type only

Also known as Maximum Reverse Current.

ELECTRICAL EQUIPMENT CHECK WITH YOUR INSTALLER

Mechanical Specifications



All dimensions in inches; Weight 40.1 lbs. (18.2 kg)

Product constructed with 108 poly-crystalline silicon solar cells, anti-reflective tempered solar glass, EVA encapsulant, polymer back-skin and a double-walled anodized aluminum frame. Product packaging tested to International Safe Transit Association (ISTA) Standard 2B and DIN EN ISO Standards 12048, 13355, 2244, 10531. All specifications in this product information sheet conform to EN50380. See the Evergreen Solar Safety, Installation and Operation Manual and Mounting Design Guide for further information on approved installation and use of this product.

Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without notice. No rights can be derived from this product information sheet and Evergreen Solar assumes no liability whatsoever connected to or resulting from the use of any information contained herein.

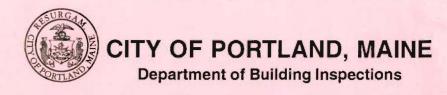
Partner:			

ES-B_US_195_190_180_011108; effective November 1st 2008

Worldwide Headquarters

¹⁰⁰⁰ W/m², 25°C cell temperature, AM 1.5 spectrum;
2 Maximum power point or rated power
3 At PV-USA Test Conditions: 1000 W/m², 20°C ambient temperature, 1 m/s wind speed
4 800 W/m², 20°C ambient temperature, 1 m/s wind speed, AM 1.5 spectrum
4 - framed, a – low voltage (Evergreen Solar does not require electrical grounding of this panel type; can be used in electrically ungrounded systems with transformer-less invertres), b – low voltage (Evergreen Solar requires this panel type to be hard grounded at the DC negative pole; cannot be used in ungrounded systems with transformer-less inverters), 1 – plain blue cells

⁶ See Safety, Installation and Operation Manual for more detailed information Local regulations may require electrical grounding of PV panels, irrespective of whether or not Evergreen Solar requires it.



Original Receipt

			10.2	20 0 9
Received from		1.5:01	21	
Location of Work	10	olecy	cox	
Cost of Construction	\$	Bu	uilding Fee:	
Permit Fee	\$		Site Fee:	
	Certific	ate of Occupa	incy Fee:	
			Total:	400
Building (IL) Plun	nbing (I5)	Electrical (I2)) Site PI	an (U2)
Other				
CBL: 87-8-	5			
Check #:		Total Co	ollected s	400
No work is	s to be st			

Please keep original receipt for your records.

Taken by:

WHITE - Applicant's Copy YELLOW - Office Copy PINK - Permit Copy

BUILDING PERMIT INSPECTION PROCEDURES

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to schedule your inspections as agreed upon Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

A Final inspection required at completion of	_ X	Final inspection required at comp	letion of work
--	-----	-----------------------------------	----------------

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.

Signature of Applicant/Designee

Signature of Inspections Official

PERMIT ISSUED

NOV 17 2009

City of Portland

CBL: 087 E005001

Building Permit #: 09-1238

City of Portland, Maine - Bu 389 Congress Street, 04101 Tel:	Permit No: 09-1238	Date Applied For: 11/02/2009	CBL: 087 E005001			
Location of Construction:	Owner Name:		Owner Address:		Phone:	
100 LEDGEWOOD ST Peaks Islan	SIMPSON DAVID C & CAROL I E		99 LUTHER ST			
Business Name:	Contractor Name:	tor Name: C		Contractor Address:		
	Revision Energy LLC		142 Presumpscot	(207) 323-1805		
Lessee/Buyer's Name	Phone:	_	Permit Type:			
			HVAC			
south side of roof	Hot water w/ Solar collecto	JIS OII diswi	Dolar Flot water w	/ Solar collectors or	i soudi side di 1001	
south side of roof						
south side of roof	Approved	Reviewer				

2) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review

need to be submitted for approval as a part of this process.

and approrval prior to work.

PERMIT ISSUED

NOV 17 2009

City of Portland

City of Portland, Maine - Building or Use Permit Application				ր 🗇	Permit No: Issue Date:		:	CBL:		
389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716								087 E005001		
Location of Construction: Owner Name:			Ow	Owner Address:			Phone:			
10	100 LEDGEWOOD ST Peaks Islan SIMPSON DAVID C & CAROL I E									
Business Name: Contractor Name: Revision Energy LLC			Contractor Address:				Phone			
			142 Presumpscot street Portland				2073231805			
Lessee/Buyer's Name Phone:				Per	mit Type:		Zone:			
				HVAC IR-7						
Pas	Past Use: Proposed Use:				Permit Fee: Cost of Work: CEO District:					
Sir	Single Family Home Single Family Home - install Solar			\$400.00 \$37,923.00				1		
								PECTION:		
		south side of r	roof		☐ Apployed			se Group: R3 Types S		
ĺ								-		
S	A from have perant	#09-0546	<u> </u>	3				RC 2	003 <u>1/13/09</u>	
	tall Solar Hot water w/ Solar o	collectors on south si	de of roof	Sign	nature:	ı	Signature:	m /	1112109	
				_	ESTRIAN ACTIVI	TIES DIST	RICT (P.A.	Ď.)	11-11-1	
				Acti	ion: Approved	∣ ∏ Арр	roved w/Con	ditions [Denied	
				Sigr	nature:		Da	te;	_	
	*	ite Applied For:			Zoning A	pprova	<u> </u>			
Ld	lobson 1	1/02/2009						<u> </u>		
1.	This permit application does	not preclude the	Special Zone or Review	ws	Zoning .	Appeal	1	Historic Prese	rvation	
Applicant(s) from meeting applicable State and Federal Rules.		☐ Shoreland		☐ Variance		1002	Not in District or Landmark			
2.	Building permits do not include plumbing, septic or electrical work.		☐ Wetland		☐ Miscellaneous			Does Not Require Review		
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			Flood Zone Subdivision		Conditional Use			Requires Review		
					Interpretation			Approved		
Site Plan					☐ Approved			Approved w/Conditions		
PERMIT ISSUED				Denied			Denied			
	0000		all -	_				(/	
	NOV 17 2009	-	Date	_	Date:		Date:			
	1/4/09									
	City of Portland									
	Oily Oil Oillan									
CERTIFICATION										
l ba-	nhu gartifu that I the garage	r of reased of the			monad work to	uhosiaad b	w the sw-	ar afrasa-1	and that	
	eby certify that I am the owner to been authorized by the owner									
juris	diction. In addition, if a permi	it for work described	in the application is iss	ued,	I certify that the	code offic	cial's autho	orized repre	sentative	
	have the authority to enter all	areas covered by su	ch permit at any reasons	ible l	hour to enforce	the provisi	ion of the	code(s) app	licable to	
such	ruch permit.									
	() then 11/20/2009									
SIGN	SIGNATURE OF APPLICANT ADDRESS DATE PHONE									
	Rev 18101	Evenez	Ma Pre	3 6/	NPSCOT ST		207.	. /ee .	£452	

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE

DATE

501.931.6347 PHONE