

## Planning & Development Department

803-329-5590 / [permits@cityofrockhill.com](mailto:permits@cityofrockhill.com)

Physical (By Appointment Only): 155 Johnston Street, Rock Hill, SC

29730 Mailing: PO Box 11706, Rock Hill, SC 29731-1706

[www.cityofrockhill.com](http://www.cityofrockhill.com)



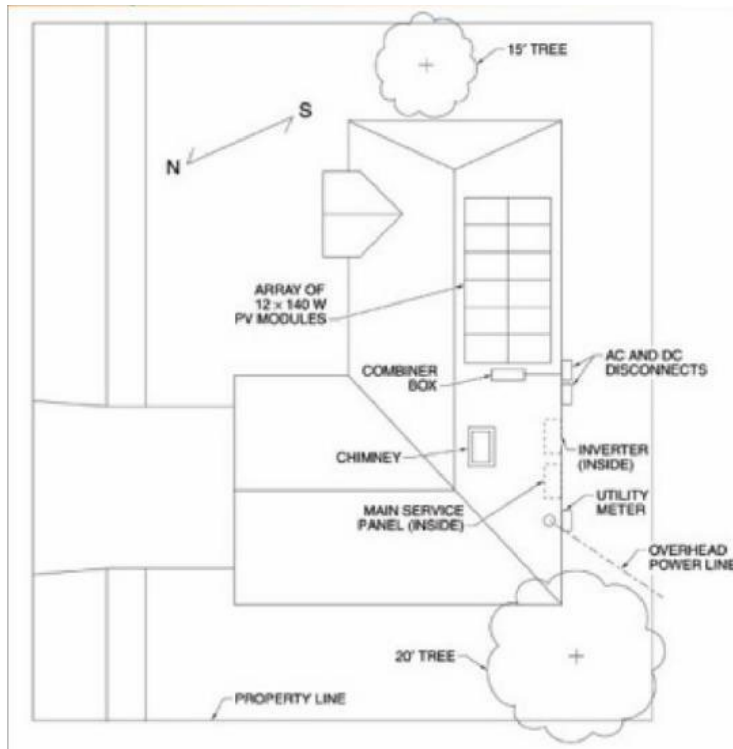
## SOLAR PANELS PERMIT APPLICATION

### APPLICATION PROCESS

1. **Submit the following in PDF format** through the Online Services website at [www.cityofrockhill.com/online-services](http://www.cityofrockhill.com/online-services):

- Solar Panels Permit Application (page 5)
- Trades Permit Application (last page)
- Construction plans and electrical plan
- Power riser diagram and panel schedules
  - Show location and size of electrical service, meter, disconnects, panels, transformer, etc. in accordance with NEC Article 690.5. The diagram must show the meter base separate from the panel. The meter should be shown schematically as self-contained with the service passing through meter. The PV connection cannot be made inside the utility meter base. Inverters should be equipped with integrated ARC-fault and rapid shutdown per NEC 690.5.
  - Add note: "A lockable disconnect shall be located within 6' of the utility meter on an exterior wall and accessible to utility personnel at all times."
  - Add note: Power riser must state "In the event of a Utility power outage the PV system will automatically disconnect from the utility." Maximum Voltage per NEC 690.7 (A-E) and circuit sizing NEC 690.8.
  - List the specific UL and IEEE certifications (UL 1741 & IEEE 1547) that apply for systems interconnecting with an electric utility provider on the one-line diagram.
- Equipment specifications and cut sheets for solar panels and all components including module, inverter, racking and mounts, and other major electrical components.
- Structural analysis from SC licensed engineer for rooftop-mounted systems. The analysis must include an evaluation of the structural components for the additional loads as well as an ability to resist components and cladding wind loads. The ICC specifies that a single unit must be used to establish the effective wind area.
- If the mounting structure is not an engineered product designed to mount solar electric modules, provide details of structural attachment in a letter certified by a registered design professional.
- Copy of signed contract between contractor/installer and property owner
- Electrical Department forms— Bidirectional meter will not be installed until all necessary net metering documentation has been submitted and approved by the Electrical Department.
  - [Tri-Party Net Billing Power Purchase Agreement](#)
  - [Standard Interconnection Agreement for Customer-Owned Renewable Generation System](#)
  - Contract to purchase or lease agreement between homeowner and solar company
  - Homeowner's insurance/ liability insurance as required in Standard Interconnection Agreement – Residential \$100,000 per occurrence; Commercial \$300,000 per occurrence.
- HOA Approval letter, if applicable ([example](#))
- Site plan (for ground-mounted panels) or overhead site plan (for roof-mounted panels) showing compliance with Zoning Ordinance standards (see page 3). Include north arrow, distance from property lines, street name, location of utility lines, and location of residence or other building with front and rear labeled.

### Example of overhead site plan



- 2. Pay processing fee:** A non-refundable processing fee of \$200 is required for residential applications and \$1,500 for non-residential applications. Mail payments to the Electric Department, 757 S. Anderson Rd., Rock Hill SC 29730.
- 3. City staff will review your plan** and send comments back to the designated contact person on the application within approximately 10 business days. If the plan must be revised, use the [Plan Resubmittal Instructions](#) to guide you in revising your plans.

4.

## CONTRACTOR LICENSING REQUIREMENTS

### 1. Residential Installations

- Solar installers are required to have a SC Residential Builder's License, a Solar Installer License with a roofing specialty license, or be licensed with the SC Contractor's Licensing Board.
- If additional structural framing members are required, the installer must also have a carpenter classification.
- The electrical work must be permitted separately and completed by a SC licensed electrical contractor.
- A solar installer cannot contract out the work to an electrical contractor. A licensed Residential Builder can.

### 2. Commercial Installations

- Contractors must be licensed with the SC Contractor's Licensing Board.
- Installers must have a valid mechanical contractor's license with an electrical classification to perform work related to solar electric systems.
- If the solar electric system is roof mounted, the installer is required to have a general contractor's license with either a General Roofing or Specialty Roofing classification, whichever is applicable to the roof type, or the building classification.
- If additional structural framing members are required, the installer must have a general contractor license with a Structural Framing classification.
- If the solar electric system is ground mounted, the installer is required to have a general contractor's license with a Structural Shapes classification.

- 3. City Business License:** All contractors require a City of Rock Hill [business license](#).

## ZONING REQUIREMENTS

If the solar panels are not accessory to another land use, such as a residence, please contact zoning staff at 803-325-2647 for information about the zoning regulations for the use.

If the solar panels are accessory to another land use, the following standards apply:

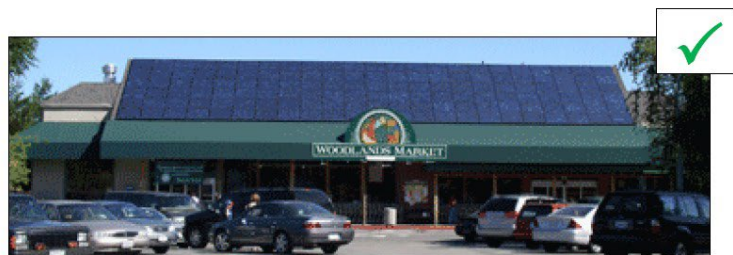
### A. Roof-mounted on a residence

All roof vents, pipes, antennas, satellite dishes, solar installations, and other roof penetrations and equipment (except chimneys) must be located on the rear elevations or otherwise configured to the degree practicable to have a minimal visual impact as seen from the street. Solar installations that are visible from the street must be either composed of building-integrated components (such as solar shingles) that are not readily evident, or be designed and mounted to match the shape, proportions, and slope of the roof. The following are examples of acceptable and unacceptable visible residential solar installations.



### B. Roof mounted on a commercial building

- E. **Solar:** Solar installations that are visible from the street must be either composed of building-integrated components (such as solar shingles) that are not readily evident, or designed and mounted to match the shape, proportions, and slope of the roof, or to serve as a feature of the building (such as awnings). See below examples of acceptable commercial solar installations.



### C. Ground-mounted

1. **When Allowed:** Ground-mounted solar installations are allowed only when roof-mounting of solar panels or collectors is not practical due to efficiency or aesthetic considerations.
2. **Height:** The ground-mounted solar installations must be as close to the ground as practicable and in no case higher than the principal structure.
3. **Screening:** Residential ground-mounted solar installations must be located to the rear of the principal structure and screened from view of public streets. For non-residential ground-mounted solar installations, every effort must be made to completely screen the devices from view of public streets. In instances where complete screening is not possible, the devices must be screened and/or located as to have a minimal visual impact as seen from public streets.
4. **Color:** The mounting framework must be neutral in color or screened from the view of public streets and surrounding residential properties.
5. **Setbacks:** Solar panels are not permitted in front of the plane of the primary structure, but for side and rear yards, installations that are 6 feet tall or less may encroach up to 2 feet into a required setback area. Installations taller than 6 feet in side and rear yards may not encroach into the required yard area unless approved as a variance by the Zoning Board of Appeals.



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### SOLAR PANELS PERMIT APPLICATION

Job Site Address: \_\_\_\_\_ Subdivision: \_\_\_\_\_ Lot #: \_\_\_\_\_

Property Owner Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Property Owner Address: \_\_\_\_\_ Email: \_\_\_\_\_

Solar Installation Contractor: \_\_\_\_\_ Phone: \_\_\_\_\_ Contract Cost: \_\_\_\_\_

Address: \_\_\_\_\_ State Lic.#: \_\_\_\_\_ City Business Lic. #: \_\_\_\_\_ Provide the total system capacity rating of the solar electric system (sum of all panels): \_\_\_\_\_ kW-D

Building Use: Non-residential  Single-family residential  Multi-family residential  Other

If non-residential OR other, please list type of business or use: \_\_\_\_\_

**Valuation of Work: \$ \_\_\_\_\_ (Total cost of project)**

Is this property located in a flood zone? Yes  No  If yes, what is the flood zone classification? \_\_\_\_\_

What is the existing roofing material? \_\_\_\_\_ How many layers of existing roofing material? \_\_\_\_\_

What is the method and type of weatherproofing for roof penetrations (i.e., flashing, caulk)? \_\_\_\_\_

Is the mounting structure an engineered product designed to mount solar electric modules? Yes  No

For manufactured mounting systems, provide the following information about the mounting system:

- A. Manufacturer: \_\_\_\_\_ Product name: \_\_\_\_\_ Model #: \_\_\_\_\_
- B. Total weight of solar electric modules and rails: \_\_\_\_\_ lbs.
- C. Total # of attachment points: \_\_\_\_\_
- D. Weight per attachment point (total weight (B) ÷ number of attachment points (C)): \_\_\_\_\_ lbs.
- E. Maximum spacing between attachment points on a rail: \_\_\_\_\_ inches (see product manual)
- F. Total surface area of solar electric modules: \_\_\_\_\_ square feet
- G. Distributed weight of solar electric module on roof (total weight (B) ÷ total surface area (F)): \_\_\_\_\_ lbs./square feet
- H. Inverter(s): Quantity: \_\_\_\_\_ Make: \_\_\_\_\_ Model: \_\_\_\_\_
- I. Modules: Quantity: \_\_\_\_\_ Make: \_\_\_\_\_ Model: \_\_\_\_\_

### CERTIFICATIONS

- I certify that to the best of my knowledge, all information provided herein is true and correct and all work performed under this permit shall conform to the plans and specifications herewith submitted and to all applicable Building Codes and Law sand Ordinances pertaining thereto. I further understand that if any information provided is found to be incorrect or falsely stated that this permit will be null and void and that I may be responsible for violation of other related state laws and local ordinances.
- If I am not the property owner, I certify that I have the authority to apply for this permit from the property owner.
- If I am the property owner, I certify that I understand that I must use contractors licensed by the State of South Carolina.

Applicant Signature: \_\_\_\_\_ Applicant Printed Name: \_\_\_\_\_

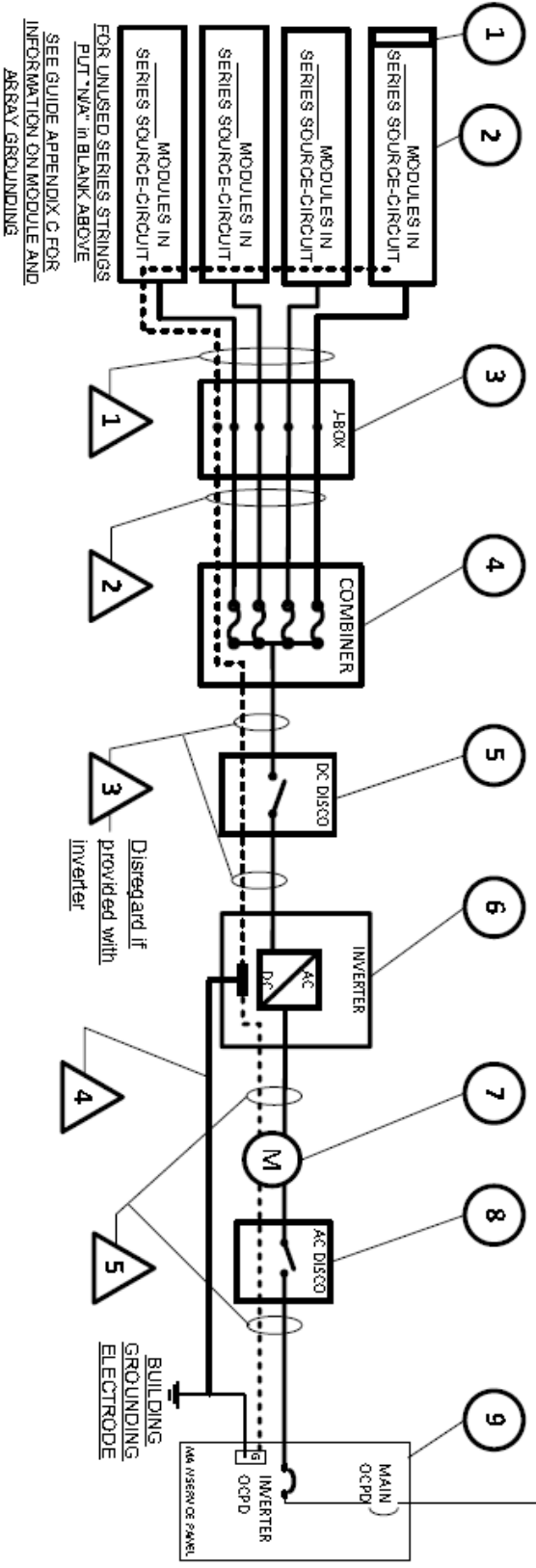
Applicant Title: \_\_\_\_\_ (Contractor, Property Owner, Agent, etc.)

# STANDARD ELECTRICAL DIAGRAM

EQUIPMENT SCHEDULE

TAG	DESCRIPTION	PART NUMBER	NOTES
1	SOLAR PV MODULE		
2	PV ARRAY		
3	J-BOX (IF USED)		
4	COMBINER (IF USED)		
5	DC DISCONNECT		
6	DC/AC INVERTER (IF USED)		
7	GEN METER (IF USED)		
8	AC DISCONNECT (IF USED)		
9	SERVICE PANEL		

VAC. \_\_\_\_\_ A MAIN. \_\_\_\_\_ A BUS. \_\_\_\_\_ A INVERTER OCPD  
 (SEE NOTE 6 FOR INVERTER OCPDs; ALSO SEE GUIDE SECTION 9)



CONDUIT AND CONDUCTOR SCHEDULE

TAG	DESCRIPTION OR CONDUCTOR TYPE	COND. GAUGE	NUMBER OF CONDUCTORS	CONDUIT TYPE	CONDUIT SIZE
1	USE 2 <input type="checkbox"/> or PV WIRE <input type="checkbox"/>			N/A	N/A
2	BARE COPPER EQ. GRD. COND. (EGC)			N/A	N/A
3	THWN2 <input type="checkbox"/> or XHHW2 <input type="checkbox"/> or RHW2 <input type="checkbox"/>				
4	THWN2 <input type="checkbox"/> or XHHW2 <input type="checkbox"/> or RHW2 <input type="checkbox"/>				
5	DC GROUNDING ELECTRODE COND.				
6	THWN2 <input type="checkbox"/> or XHHW2 <input type="checkbox"/> or RHW2 <input type="checkbox"/>				
7	INSULATED EGC				

Contractor Name  
 Address and Phone

One-Line Standard Electrical Diagram for  
 Small-Scale, Single-Phase PV Systems

Site Name: \_\_\_\_\_  
 Site Address: \_\_\_\_\_  
 System DC Size: \_\_\_\_\_

Owner/By: \_\_\_\_\_

Scale: \_\_\_\_\_ NTS \_\_\_\_\_ Date: \_\_\_\_\_

Project No: \_\_\_\_\_

Sheet: \_\_\_\_\_

# NOTES FOR STANDARD ELECTRICAL DIAGRAM

### PV MODULE RATINGS @ STC (Guide Section 5)

MODULE MAKE	
MODULE MODEL	
MAX POWER-POINT CURRENT (I <sub>mp</sub> )	A
MAX POWER-POINT VOLTAGE (V <sub>mp</sub> )	V
OPEN-CIRCUIT VOLTAGE (V <sub>oc</sub> )	V
SHORT-CIRCUIT CURRENT (I <sub>sc</sub> )	A
MAX SERIES FUSE (OCPD)	A
MAXIMUM POWER (P <sub>max</sub> )	W
MAX VOLTAGE (TYP 600V <sub>dc</sub> )	V
VOC TEMP COEFF (mV/°C or %/°C)	
IF COEFF SUPPLIED, CIRCLE UNITS	

### NOTES FOR ALL DRAWINGS:

OCPD = OVERCURRENT PROTECTION DEVICE  
 NATIONAL ELECTRICAL CODE® REFERENCES  
 SHOWN AS (NEC XXX.XX)

### INVERTER RATINGS (Guide Section 4)

INVERTER MAKE	
INVERTER MODEL	
MAX DC VOLTAGE	V
MAX POWER @ 40°C	W
NOMINAL AC VOLTAGE	V
MAX AC CURRENT	A
MAX OCPD RATING	A

### SIGNS-SEE GUIDE SECTION 7

#### SIGN FOR DC DISCONNECT

PHOTOVOLTATIC POWER SOURCE	
RATED MPP CURRENT	A
RATED MPP VOLTAGE	V
MAX SYSTEM VOLTAGE	V
MAX CIRCUIT CURRENT	A

WARNING: ELECTRICAL SHOCK  
 HAZARD-LINE AND LOAD MAY BE  
 ENERGIZED IN OPEN POSITION

#### SIGN FOR INVERTER OCPD AND AC DISCONNECT (IF USED)

SOLAR PV SYSTEM	
AC POINT OF CONNECTION	A
AC OUTPUT CURRENT	A
NOMINAL AC VOLTAGE	V

THIS PANEL FED BY MULTIPLE  
 SOURCES (UTILITY AND SOLAR)

### NOTES FOR ARRAY CIRCUIT WIRING (Guide Section 6 and 8 and Appendix D):

- 1) LOWEST EXPECT AMBIENT TEMPERATURE BASED ON ASHRAE MINIMUM MEAN EXTREME DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. LOWEST EXPECTED AMBIENT TEMP \_\_\_\_\_ °C
- 2) HIGHEST CONTINUOUS AMBIENT TEMPERATURE BASED ON ASHRAE HIGHEST MONTH 2% DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. HIGHEST CONTINUOUS TEMPERATURE \_\_\_\_\_ °C
- 3) 2005 ASHRAE FUNDAMENTALS 2% DESIGN TEMPERATURES DO NOT EXCEED 47°C IN THE UNITED STATES (PALM SPRINGS, CA IS 44.1°C). FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF-MOUNTED SUNLIT CONDUIT AT LEAST 0.5" ABOVE ROOF AND USING THE OUTDOOR DESIGN TEMPERATURE OF 47°C OR LESS (ALL OF UNITED STATES).
  - a) 12 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I<sub>sc</sub> OF 7.88 AMPS OR LESS WHEN PROTECTED BY A 12-AMP OR SMALLER FUSE.
  - b) 10 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I<sub>sc</sub> OF 9.6 AMPS OR LESS WHEN PROTECTED BY A 15-AMP OR SMALLER FUSE.

### NOTES FOR INVERTER CIRCUITS (Guide Section 8 and 9):

- 1) IF UTILITY REQUIRES A VISIBLE-BREAK SWITCH, DOES THIS SWITCH MEET THE REQUIREMENT? YES  NO  N/A
- 2) IF GENERATION METER REQUIRED, DOES THIS METER SOCKET MEET THE REQUIREMENT? YES  NO  N/A
- 3) SIZE PHOTOVOLTATIC POWER SOURCE (DC) CONDUCTORS BASED ON MAX CURRENT ON NEC 690.53 SIGN OR OCPD RATING AT DISCONNECT
- 4) SIZE INVERTER OUTPUT CIRCUIT (AC) CONDUCTORS ACCORDING TO INVERTER OCPD RATING. (See Guide Section 9)
- 5) TOTAL OF \_\_\_\_\_ INVERTER OCPD(S). ONE FOR EACH INVERTER. DOES TOTAL SUPPLY BREAKERS COMPLY WITH 120% BUSBAR EXCEPTION IN 690.54(B)(2)(a)? YES  NO

Contractor Name:  
 Address and Phone:

Notes for One-Line Standard Electrical  
 Diagram for Single-Phase PV Systems

Site Name: \_\_\_\_\_  
 Site Address: \_\_\_\_\_  
 System DC Size: \_\_\_\_\_

Drawn By: _____	SIZE	SCALE	NTS	Date:	DWG NO	REV
Checked By: _____	FORM NO				E1.2	
						SHEET

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## TRADES PERMIT APPLICATION

- Mechanical Permit  
 Plumbing Permit  
 Electrical Permit

- Gas Permit  
 Fire Suppression System Permit  
 Fire Sprinkler System Permit

- Fire Alarm System Permit  
 Exhaust Hood Permit  
 Solar Permit (electrical)

Job Site Address: \_\_\_\_\_

Property Owner Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Property Owner Address: \_\_\_\_\_ Email: \_\_\_\_\_

Contractor Name: \_\_\_\_\_ Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_ State Lic.#: \_\_\_\_\_ City Business Lic. #: \_\_\_\_\_

Type of work: Residential  Commercial

Valuation of Work \$ \_\_\_\_\_ Description: \_\_\_\_\_

### Mechanical:

SEER rating: \_\_\_\_\_ Size of New Unit: \_\_\_\_\_ Size of Old Unit: \_\_\_\_\_

For residential projects:

- If you will be replacing or installing new equipment, submit Manual J and Sc calculations.
- If you will be replacing or installing new ductwork other than branch lines and returns, submit Manual D calculations.

For commercial projects, if mechanical loads will be increased, submit a [COMcheck form](#) and an [electrical load data form](#).

### Electrical:

Meters required: 3 wire 1 ph  2 wire 1 ph  3 wire 3 ph  4 wire 3 ph

Volts: \_\_\_\_\_ Phase: \_\_\_\_\_ Amperage: \_\_\_\_\_ Overhead  Underground

Is this a service upgrade? Yes  No

If you are repairing or replacing an overhead service, call the Utilities Department at 803-329-5500 before beginning work. You may be required to convert the service from overhead to underground.

For commercial projects, if electrical loads will be increased, submit a [COMcheck form](#) and an [electrical load data form](#).

**Plumbing:** If replacing a water or sewer line, do you need for the City to replace the old tap? Yes  No

### Certifications

I certify that to the best of my knowledge, all information provided herein is true and correct and all work performed under this permit shall conform to the plans and specifications herewith submitted and to all applicable Building Codes and Laws and Ordinances pertaining thereto. I further understand that if any information provided is found to be incorrect or falsely stated that this permit will be null and void and that I may be responsible for violation of other related state laws and local ordinances.

If I am not the property owner, I certify that I have the authority to apply for this permit from the property owner.

If I am the property owner, I certify that I understand that I must use contractors licensed by the State of South Carolina.

Applicant Signature: \_\_\_\_\_ Applicant Printed Name: \_\_\_\_\_

Applicant Title: \_\_\_\_\_ (Contractor, Property Owner, Agent, etc.)