



Electrical Plan Review Requirements

Department of Planning & Development Review, Bureau of Permits and Inspections
900 East Broad Street, Room 108
Richmond, Virginia 23219
Office: (804) 646-4169 Fax: (804) 646-6948

2015 Code Cycle

June 01, 2020*

THE FOLLOWING DO NOT REQUIRE PLANS FOR PERMIT:

1) Electrical connections for elevators; 2) Exterior temporary power poles; 3) Projects \$5,000 or less; 4) All low voltage (50 volts or less [Refer to VCC Section 108.2.1]) electrical projects (this does not include fire alarm or security); 5) Single and two family dwelling projects; 6) Underground raceway.

****Plans, and/or other documents, may be required at the discretion of the inspector. ** (For any changes in the path of egress, the contractor is required to supply an Emergency Lighting Test Checklist, Annex B, to the City for approval)**

Low voltage security (access or egress control systems or delayed locking or latching systems) and fire alarm shall be completed under separate permits. Plans are not required for low voltage security permits.

All project documents under a commercial electrical permit application shall be in PDF format and are required to be submitted to the City Hall, Room 108. For walk-in or mailed in permit applications or resubmissions, make sure to have a printed copy of either the permit application or plan intake sheet.

****Do not leave Room 108 without your media (thumb/flash drive or CD/DVD).**

The City will not claim responsibility for such devices.**

The requirements herein may not be required for all submissions. Please contact the Bureau of Permits and Inspections if you are unsure of which requirements are necessary for your project.

The following set of requirements are based on the 2015 version of the Virginia Uniform Statewide Building Code (VUSBC).

Virginia Construction Code (VCC)-2015	International Code Council (ICC) A117.1-2009
Virginia Energy Conservation Code (VECC)-2015	National Fire Protection Association (NFPA) 20-2013
American Society of Civil Engineers (ASCE) 7-10	National Electrical Code (NEC)/(NFPA 70) - 2014
ASCE 24-14	NFPA 111-2013
Virginia Existing Building Code (VEBC)-2015	NFPA 110-2013

Page 10 (Annex A) of this checklist shall be submitted, as a PDF file, with all required Construction Documents as a check to make sure the engineer/owner/contractor has fulfilled the City's requirements. All appropriate items within this checklist that pertain to the project shall be checked (i.e. "✓").

Items in Section D-6 are required for all documents submitted after the permit has been issued.

*Changes to this document will occur on June 1st and December 1st (or when there is a code cycle change).

Make sure to check the webpage on these dates for any revisions:

<http://www.richmondgov.com/planninganddevelopmentreview/forms.aspx>

Section A: General Requirements for Projects:

01	<p>The following items are required for plans submitted in PDF format:</p> <ul style="list-style-type: none"> • All plans shall be bound into one PDF file. The file shall be named based on Section D-5. • All plans to be “to scale”, the same size and be neat and legible. • All plans will be signed by the proper individual based on Section D-7. • All plans shall have a blank space that is 3.5” x 2” for the City of Richmond’s approval stamp. • The plans will contain the scope of work for that is required for this permit only. • Graphical scale(s) are required on all plans showing scaled floorplans. • Within the scope of work, all rooms/areas shall be labeled with their use (include dwelling unit number as well). • For projects with more than one plan, a plan legend shall be shown on the first electrical plan sheet. • The project information stated in Sections D-1 and D-2 shall be shown on the first electrical plan sheet. • Provide a legend for all symbols and abbreviations/acronyms, preferably on the first electrical plan sheet. • All text on the plans shall be at least 0.125” in height. Photometrics text shall be at least 0.1” in height.
02	All submissions shall include the following contact information for the engineer of record and contractor: Name of contact, address of contact, phone number of contact, and email address of contact.
03	Provide a completed checklist, see Annex A , with all applicable items checked.
04	For all electrical equipment, show the working and dedicated equipment space, along with all obstructions, in any room/area containing new/relocated equipment. [NEC 110.26]
05	Plans shall be signed by the proper individual. See Annex A for a list of all Use Groups and whom can sign these plans. List is based on the Code of Virginia §54.1-402.
06	For multi-level buildings, there shall be a floor plan for each and every level, do not show a “typical” floor plan for multiple levels. The electrical inspector will use this for their inspections.
07	New work shall be differentiated from that which exists. The plans shall make it clear what is new and what is existing.
08	For project with new or revised load(s), provide load calculations for entire normal service [provide separate load calculation for new generator(s)] on the plan(s). For renovation projects, provide existing load based on Article 220.87. Refer to NEC 220, NEC ANNEX D.
09	Electrical site work requires plans. All parking lots with lighting (showing photometrics in parking lot on the plan(s)) shall be routed to Zoning for review. Provide graphical scale, based on Section D-3 on all site plan plans.
10	For high-rise buildings, provide all necessary emergency and legally required loads as specified for high-rise buildings on the plan(s). Refer to IBC Section 403.
11	For projects with hazardous areas, show an outline of each hazardous area on the plans. Refer to NEC Article 500.
12	Coordination study is required for NEC Articles 240.12, 240.100, 517.17, 517.30 (G), 620.62, 645.27, 700.28, 701.27, 708.54 (See Annex C for coordination study requirements)
13	Label all patient care areas and provide proper wiring method on the plans as required by NEC Article 517.
14	<p>For the following documents that are not on the plans, provide in PDF format and named based on Section D-5:</p> <ul style="list-style-type: none"> • Specifications • COMCheck (Required for any new lighting. See Section C-3 for requirements) • Dominion Energy Fault Current Letter (required for new service(s))
15	Any site electrical work that encroaches on public land, shall apply for an encroachment through the Department of Public Works.

Section B: Projects 50 Volts and Greater - New and Renovated Buildings:

Code Requirements

Building Code

01	Provide the following for rated assemblies on the plans: [VCC 714.3.2] <ul style="list-style-type: none">• Show all rated assemblies on the plans specifying their rating• Provide UL listed fire stop detail for all rated assemblies being penetrated• For walls, ceilings floors that are penetrated, provide method stating the required fire/smoke resistance will not be reduced
02	Smoke alarms shall be interconnected and installed in the following rooms/areas [VCC 907.2.11]: <ul style="list-style-type: none">• Rooms use for sleeping purposes• Just outside of each separate sleeping area in the immediate vicinity of bedrooms.• In each story/level within a dwelling unit
03	Show the continuous egress path on the plan(s). [VCC 202, 1008]
04	For Type “A” and “B” accessible dwelling and sleeping units on the plans [VCC 1107]: <ul style="list-style-type: none">• Label all type “A” and “B” units on the plans• Show clear space and mounting heights for all required equipment listed in ICC A117.1 for both type “A” and type “B” units. [ICC A117.1 1003.9, 1004.9]

Flood Plain

05	For projects in the 100 year flood plain, show the following on the plan(s): <ul style="list-style-type: none">• Floor/level elevations and floor elevation on each plan [VCC 1612, NEC 110.28, ASCE 24-14]• Height of new/relocated service entrance disconnect switch. [ASCE 24-14 7.2.5]
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Site Plan

06	Show outline of building, along with any streets, alleys, and property lines on the site plan(s). [VCC 109.3]
07	Show all wiring/raceway sizes, along with burial depths, if installed underground. On the site plan(s). [NEC 300.5]

One-Line Diagram

08	A one-line diagram is required for any new or relocated equipment for a service, separately derived system or feeder (see Article 100 for definitions). A riser diagram will not be accepted as a replacement for a one-line diagram. [NEC 100, 110.3, 110.9, 240, 250.50, 250.52, 250.66, 250.122, Chapter 3, 695.5]
09	The following are required in a one-line diagram: <ul style="list-style-type: none">• Show all overcurrent protection device sizes for equipment fed from service or feeder conductors (branch circuit overcurrent protection devices are not required in the one-line diagram) [NEC 240]• Safety/disconnect switch sizes• All service and feeder raceway type(s), conductors (specify copper or aluminum) including equipment grounding conductors, and conductor insulation type [NEC Chapter 3, 695.5 (C)(2)]• Wireway and trough size(s)• All service and separately derived grounding electrode(s) and grounding electrode conductors• Specify Main Lug Only or Main Circuit Breaker for panels• Short Circuit Current Rating (SCCR) of all new equipment [NEC 110.9]• Fault current for all equipment based on Dominion Energy’s Fault Current Letter [NEC 110.9]• State NEC Article next to generator/transfer switches• Indicate size (in KVA), primary and secondary voltages for transformers [NEC 110.3, 250.52]
10	Provide the following grounding information in the one-line diagram: <ul style="list-style-type: none">• Grounding electrodes and size of all grounding electrode conductors [NEC 250.50, 250.52]• Equipment grounding conductor(s) [NEC 250.122]• Size of service grounded conductor [NEC 250.102(C)(1)]• Grounding electrode(s) and conductor(s) for buildings supplied by feeder or branch circuit [NEC 250.32]

Grounding/Bonding

11	Provide grounding/bonding requirements for permanently installed pools, spas, hot tubs, and fountains. [NEC 680]
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Disconnect and Starters

12	If the service disconnecting means is not located within the nearest point the conductors enter the building, the City requires less than six feet of unprotected conductors from when the service enters the building to the service disconnecting means. [NEC 230.70(A)(1)]
13	Provide, on the plan(s) the following information for disconnect switches and starters: <ul style="list-style-type: none">• Size, type, overcurrent protection device size, and NEMA rating [NEC 240.21]• Location of all safety/disconnect switches and motor starters - in sight of equipment for devices greater than 300 Volt-Amperes. [NEC 110.26]

Overcurrent Protection Devices

14	Show the following for overcurrent protection devices on the plan(s): <ul style="list-style-type: none">• Proper location on the floor plan(s) [NEC 110.26, 240.24 (B) – (F)]• Series rating documentation from professional engineer [NEC 240.86(A)]• Series rating calculations from professional engineer [NEC 240.86(A)]
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Panelboards

15	For new or renovated panels, provide the following in the panel/switch/distribution board(s) schedule: [NEC 220] <ul style="list-style-type: none">• Load in amperes or kilo volt-amperes (KVA)• All over current protection devices [NEC 240]• Conductor sizes (if not shown on floor plans) [NEC Chapter 3]• For new panels: indicated voltage, phase, size (in amperes) and SCCR rating [NEC 110.3]
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Branch Circuits

16	Show the following on the floor plans for branch circuits: <ul style="list-style-type: none">• Homerun(s), listing the circuit numbers and panel they are associated with• Circuit number at each branch device, if not clear by the homerun• Size of conductors/raceway that are not shown in panelboard schedule [NEC 310.15(B)(3) (a), (B)(3)(b)]• Proper ground fault and arc fault protection, if not shown in one-line diagram. [NEC 210.8, 210.12]• Proper location and spacing of receptacles [NEC 210.52]• Wiring methods (if not shown in specifications) [NEC Chapter 3]
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Equipment/Appliances

17	Show, label and provide description for all new and revised equipment/appliance/device/lighting on the plan(s). For buildings with multiple tenants/dwelling units, label the tenant/dwelling unit number next to equipment that is not specifically located in each tenant/dwelling unit. [NEC 110.26, Chapter 4, VCC 109.3]
18	Equipment shall be installed based on the requirements of the National Electrical Code. [NEC Chapter 4]

Lighting Fixture Schedule/Lighting Plans

19	Show the following in the lighting fixture/schedule: [VECC C405.4.1, C405.5.1] <ul style="list-style-type: none">• Fixture type(s). The fixture type shall match the floor plans and the COMCheck.• Maximum Input watts for all fixture(s) [VECC C405.4.1, C405.5.1]• Input watts for transformers supplying low-voltage lighting [C405.4.1]
20	Show circuit connections for exit and egress lighting on the plans. [NEC 700.12(F)]

Emergency and Legally Required Systems

21	Provide the following information for Emergency and Legally Required Standby on the plans: <ul style="list-style-type: none">• Show separation of emergency wiring and equipment from all other wiring. [NEC 700.10(B)]• Show how the emergency systems will be protected from complete failure due to fire, flood, icing, and vandalism. [NEC 700.12, 701.12]• Provide proper disconnecting means for outside generator {NEC 701.12 (B)(5)}
22	Prior to final inspection, all projects that require emergency lighting shall have either (i) or (ii) below: (i) Signed copy of the Emergency Lighting Test Checklist, see Annex B OR Provide normal and emergency lighting photometrics on the electrical plan(s). Show photometrics for areas that are part of the path of egress only. For both normal and emergency photometrics, provide maximum and minimum illumination levels, as well as the maximum to minimum ratio. [VCC 1008.2, 1008.3.5, 1007]

Section C: City of Richmond Code Related Detailed Requirements:

C-1: Photovoltaic Requirements (Commercial)

	Provide an electronic (PDF) copy for all documents required for Photovoltaic projects. All submitted documents shall follow the naming convention in Section D-5.
01	Items in Sections A and B of the City of Richmond’s Electrical Plan Review Requirements are required for photovoltaic project plan submission.
02	The following shall be shown in the one-line diagram: Array configuration, Combiner/junction box identified, DC grounding system specified, Disconnecting means for DC and AC specified, Inverter specified, AC grounding and system grounding specified, Point of connection attachment method identified. [NEC 690]
03	Provide manufacturer’s data sheets for all photovoltaic equipment. [VCC 109.3]
04	Provide the following array information on the plan(s): Number of module in series, Number of parallel source circuits, Total number of modules, Operating voltage, Operating current, Maximum system voltage, Short-circuit current. [NEC 690]
05	Show voltage and current calculations at the direct current (DC) side and the alternating current (AC) side of the inverter(s) on the plan(s). Show calculation for total photovoltaic output on the plan(s). [NEC 110.3, 690.7, 690.8]
06	Unless the panelboard is rated not less than the sum of the ampere ratings of all overcurrent devices supplying it, a connection in a panelboard shall be positioned at the opposite (load) end from the input feeder location or main circuit location. Provide appropriate label on panelboard. [NEC 705.12(D)(2)]
07	A building permit is required for all photovoltaic/solar projects. The building permit shall be issued prior to the release of the electrical permit.
08	Show, on the plans, all photovoltaic equipment/devices, including solar panels, inverters, panels (new and revised), disconnect switches, and any other equipment/devices that are required for this photovoltaic project.
09	All labels required in Article 690 for this project shall be shown on the plan(s).

C-2: Seismic Requirements

01	Category IV buildings shall require seismic information. All electrical equipment and devices shall have a Component Importance Factor (I_p) $I_p=1.5$, and will require the below information. [VCC Table 1604.5, ASCE 7-14 13.1.3]
02	Show all bracing and mounting details for raceways, lights and electrical equipment on the plan(s). [ASCE 7-14 13.2.1, 13.2.7, 13.4, 13.6.1, 13.6.4, 13.6.5.5.6]
03	Prior to calling for inspection provide shake table test results certified by a third party for light fixtures, panels, MCC’s, switchboards, Transfer switches, generators, UPS equipment, bus duct, and other similar electrical equipment. [ASCE 7-14 13.2.2]

C-3: Virginia Energy Conservation Code (VECC) Requirements:

01	For projects with new lighting, provide the Interior and/or Exterior Lighting COMCheck, in PDF format . Make sure fixture designations (i.e. fixture type “A”, “B”, etc.) shown in the fixture schedule (fixtures designation shall be shown for all fixtures on the plans) are shown in the COMCheck as well. All fixtures, new and existing, for the work area shall be in the COMCheck. Provide this on the plan(s), or submit an electronic (PDF) copy of the Interior and/or Exterior COMCheck(s). COMCheck(s) shall be signed by the proper individual based on Section A.13. Follow the naming convention in Section A-5, page 5. See Section A-4 for a URL link to the COMCheck software. [VECC C405.4.2, C405.5.1]
02	Dwelling units within commercial buildings shall not be required to comply with Sections C405.2 through C405.5, provided that they comply with Section R404.1. [VECC C405.1]
03	Provide the following on the plans: <ul style="list-style-type: none">• Lighting controls [VECC C405.2.1, C405.2.2, C405.2.3, C405.2.4 and C405.2.5]
04	Each dwelling unit located in a Group R-2 building shall have a separate electrical meter. [VECC C405.6]
05	A minimum of 75 percent of the lamps in permanently installed luminaires shall be high-efficacy lamps or a minimum of 75 percent of the permanently installed luminaires shall contain only high-efficacy lamps. [VECC R404.1]

Section D: General Information

D-1: Example Title Block

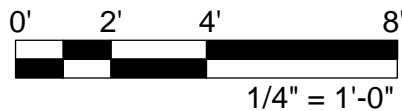
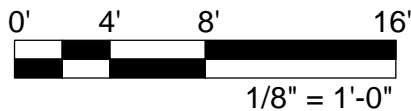
Project Name:	Project Address:	
Designer's Name:	Designer's License No. or Master No.:	
Telephone No:	Fax No:	
Email:	Scale:	
Title:		Sheet No:

D-2: Project Information

Building Code Year:	Electrical Code Year:	Construction Type:
Use Group:	Change of Use? Yes No	Occupancy Load: (Required for path of egress)
Is project in flood plain?	BFE per FIRM: (Not applicable (N/A) if project is not in a flood plain)	DFE: (Not applicable (N/A) if project is not in a flood plain)
Square footage of project: (Required for new/renovated lighting)	Total square footage of building: (Required for new/renovated lighting)	Level of Renovation: (Required for projects under the IEBC)
Elevation of Service Entrance Disconnect Switch (Not applicable (N/A) if project is not in a flood plain)	Alteration Level: (Required for renovation projects using the IEBC)	Is their new load? Yes No
Floor elevation at Service Entrance Disconnect Switch (Not applicable (N/A) if project is not in a flood plain)		

BFE—Base Flood Elevation DFE—Design Flood Elevation FIRM—Flood Insurance Rate Map (All flood, floor and Service Entrance Disconnect Switch elevations shall be shown as “feet above sea level”)

D-3: Example Graphical Scale



D-4: External Links

Example Electrical Plans:

<http://www.richmondgov.com/planninganddevelopmentreview/forms/Example-Electrical-Plans.pdf>

Department of Planning and Development Review—Forms and Applications:

<http://www.richmondgov.com/PlanningAndDevelopmentReview/forms.aspx>

City of Richmond’s Electrical Plan Review Requirements Checklist:

http://www.richmondgov.com/planninganddevelopmentreview/forms/Electrical_Handout.pdf

COMCheck:

<https://www.energycodes.gov/comcheck>

City of Richmond GIS Flood Plain Map:

<http://cor.maps.arcgis.com/home/webmap/viewer.html?webmap=d039492bec5346c8a75de1b6340da1c8>

City of Richmond GIS Parcel Mapper:

<http://cor.maps.arcgis.com/apps/webappviewer/index.html?id=c3ed34c0fb38441fb95cd2d2d6a22d48/>

FEMA:

http://www.richmondgov.com/dpu/documents/FEMA_CITY.pdf

Virginia Construction Codes (2015 Edition – Virginia amendments only):

<https://www.dhcd.virginia.gov/sites/default/files/Docx/building-codes-regulations/archive-codes/2015/2015-virginia-construction-part-1-code.pdf>

Permit/Plan/Inspection Status:

http://energov.richmondgov.com/EnerGov_Prod/CitizenAccess/Site/Public/Main

D-5: File Naming Convention

New Plan Construction Documents:

(see below for a list of file descriptions that the City accepts):

<file description>_<Street Address>.pdf

Example file names:

Plans_6112 Three Chopt Road.pdf	COMCheck_6112 Three Chopt Road.pdf
Checklist_6112 Three Chopt Road.pdf	Specifications_6112 Three Chopt Road.pdf

Resubmission based on City Comments (pre-permit):

[For documents being re-submitted due to comments for “post-permit” revisions, please see the “Post-Permit Revised Construction Documents” below] (see below for a list of file descriptions that the City accepts):

<file description>_<Street Address> - <plan number>.pdf

Example file names:

Plans_6112 Three Chopt Road - ELEC-016566-2017.pdf
COMCheck_6112 Three Chopt Road - ELEC-016566-2017.pdf
Response Letter_6112 Three Chopt Road - ELEC-016566-2017.pdf

Post-Permit Revised Construction Documents:

[The “revision date” should be based on the revision date located on the plan(s). All plans in the set shall have the same revision date]. For Post-Permit documents, do not use the “Plan Number” in the file name, only the “Permit Number” (see below for a list of file descriptions that the City accepts):

<file description>_<Street Address> - <permit number>_Rev <revision date>.pdf

Example file names:

Plans_6112 Three Chopt Road - ELEC-021780-2017_Rev 6-1-2017.pdf
Clarification Letter_6112 Three Chopt Road - ELEC-021780-2017_Rev 6-1-2017.pdf

City accepted “file descriptions”.

Checklist

Clarification Letter (*Note: This letter is to clarify any modification to plans that the City did not comment on*)

COMCheck

Coordination Study

Emergency Lighting Test Checklist

Engineer Letter

Fault Current Letter

Motor Efficiency Certification

Permit Application

Plan Intake Sheet

Plans

Response Letter (*Note: This letter shall contain responses to all City comments*)

Roof Layout (*Note: for photovoltaic*)

Series Rating Data Specification

Structural Letter (*Note: for photovoltaic*)

Submittal Data

Transformer Efficiency Certification

D-6: Resubmission Requirements

The following items are required for resubmission of plans.

Revised Plans - Due to Plan Review Comments

Provide a complete set of electronic (PDF) electrical Construction Documents. Plans shall be in one PDF file and shall not have any City stamps from any discipline within the City of Richmond or any other markings that are not original to the plans. Unless required by the plan reviewer, a checklist is not be required for re-submission. All submitted documents shall follow the naming convention in Section D-5. For plans being resubmitted due to comments for a “post-permit” revision, provide all plans that were submitted for that post-permit revision (for example if only three plans were submitted in the post-permit revision, then resubmit those three plans). All documents being resubmitted shall be brought into Room 108 at City Hall for processing.

Revised plans are required to be the same size as original plans.

Provide a response letter, in PDF format with a file name based on **Section D-5**, stating the resolution for each comment item. All comments shall be addressed in the response letter. Failure to provide this information will delay the permit being issued. Provide a detail response for each comment item. Responses of “Will Comply”, “Okay”, “Noted”, “Will Verify”, “This has been complied with”, and other responses that do not provide a detailed response will not be acceptable responses.

Responses such as those noted, will be sent back for proper responses.

Provide clouds around response letter modifications only (do not cloud an entire area, since the modification might not affect that entire area, unless it’s a new plan, in that case cloud the plan number) with numbered revision triangles and remove clouds from previously issued revision(s).

Provide revision triangles with number, description and date.

Revised Plans - For Revisions After Permit is Approved

Provide a complete set (revised plans/documents only) of electronic (PDF) electrical Construction Documents. Plans shall be in one PDF file and not have any City stamps from any discipline within the City of Richmond or any other markings that are not original to the plans. Complete set of the electrical plans is not required for changes after the permit has been issued. You only need to submit the plans that were modified based on the clarification letter. For re-submitting post-permit plans based on plan review comments, see items in the “Revised Plans – Due to Plan Review Comments” above. Unless required by the plan reviewer, a checklist is not be required for resubmission. All submitted documents shall follow the naming convention in Section D-5. All documents being submitted shall be brought into Room 108 at City Hall for processing.

Revised plans are required to be the same size as original plans.

Provide a clarification letter, in PDF format with a file name based on **Section D-5**, stating all modifications per each plan. The clarification letter shall include the plan number, date of the modification, and a detailed description of each modifications. Cloud each modification separately. Failure to provide this information will delay the permit being issued.

Provide clouds around modifications only (do not cloud an entire area, since the modification might not affect that entire area, unless it’s a new plan, in that case cloud the plan number) with numbered revision triangles and remove clouds from previously approved revision(s).

When a plan reviewer submits comments based on the post-permit plans, make sure NOT to add a new revision number and date. Keep all clouds and triangles based on the original post-permit number and date. If required to add a new revision number, KEEP the same date of the original post-permit submission.

Do not skip revisions, submit all revisions for review that affect the permit when they are issued; do not wait until 2 or 3 revisions have been made to submit for review.

There is a fee for revisions after the permit has been issued. For projects that are greater than \$500,000, there will be a one-time fee at the first revision. No other fees will be required for other revisions. For projects under \$500,000, a revision fee of 10% of the original permit application fee will be charged for all revisions after permit has been approved.

D-7: Individual Responsible for Signing Plans (Code of Virginia §54.1-402)

Use Group	Description	1 To 3 Stories	Over Three Stories	100 or less occupants	Over 100 occupants	0 to 800 Amp Service	Over 800 Amp Service	0 to 50 Volts	51 to 600 Volts	Over 600 Volts
A1A	Theater With Stage	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A1B	Theater - No Stage	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A2A	Night Club	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A2B	Restaurant	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3B	Museum/Art Gallery	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3C	Library, Exhibits	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3D	Passenger Terminal	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3E	Recreation Center	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3F	Lecture Hall	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3G	Restaurant Fast Food	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A3H	Church	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
A3M	Misc. Assembly	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
A4A	Recreation Center	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
A5	Grandstand, Stadium	(1)(4)	Seal(4)	(1)(4)	(1)(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
B1	Business: Auto Dealership	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B2	Business: Doctor's Office	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B3	Business: Bank	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B4	Business: Car Wash	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B5	Business; Fire Station	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B6	Business: Funeral home	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B7	Business: Laundry	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B8	Business: Medical offices	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B9	Business: Offices	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
B10	Business: Miscellaneous	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
E1	Education: School 1 to 12	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
E2	Daycare over 2 ½ years	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
F1	Factory Moderate Hazard	(1)(3)(4)	Seal(4)	(1)(3)(4)	(1)(3)(4)	(1)(3)(4)	Seal(4)	(1)(4)	(1)(3)(4)	Seal(4)
F2	Factory Low Hazard	(1)(3)(4)	Seal(4)	(1)(3)(4)	(1)(3)(4)	(1)(3)(4)	Seal(4)	(1)(4)	(1)(3)(4)	Seal(4)
H1,2,3,4,5	High Hazard	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
I1	Group Home 6 or More	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
I2A	Institutional Incapacitated	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
I2B	Day Nursery	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
I3	Institutional Restrained	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal	Seal
I4B	Child Care 5 or More Under 2.5 Years	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
M1	Retail: Convenience Store	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
M2	Retail: Department Store	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
M3	Retail: Supermarket	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
M4	Retail: Store	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
M5	Retail: Service Station	(1)(2)(4)	Seal(4)	(1)(2)(4)	(1)(2)(4)	(1)(2)(4)	Seal(4)	(1)(4)	(1)(2)(4)	Seal(4)
R1H	Hotel	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
R1M	Motel	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
R2A	Dormitories	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
R2B	Multi-family - 3 or more units	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
R3A	1 or 2 Family over 3 stories	NO PLANS REQUIRED								
R4A	Assisted Living	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
R5	1 or 2 Family dwelling	NO PLANS REQUIRED								
S1	Storage Moderate Hazard	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
S2	Storage - Low Hazard	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)
U	Temporary, Miscellaneous	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	Seal(4)	(1)(4)	(1)(4)	Seal(4)

Seal - Professional Engineer's Seal Required.

- (1) Master Electrician or Contractor's qualified individual on state license can do plans if of same quality as a professional engineer would normally submit. Contractor shall be Class A. This is only applicable when both the design and installation are under the Master Electrician or Contractor's direction or control.
- (2) Professional Engineer's seal required for greater than 5,000 square foot building.
- (3) Professional Engineer's seal required for greater than 15,000 square foot building.
- (4) Renovations where there is no change in service size (photovoltaic projects that supply the same or less than the Power Company's service size are not considered as a change in service size), a Master Electrician or Class A Contractor's qualified individual shall be able to sign plans.

Annex A: Required Checklist to Submit to City of Richmond

Project Address: _____

Make sure to check “✓” each box for all applicable items below that relate(s) to the above project. This checklist is required for all projects that require a plan review. Submit either on the plans or as a separate PDF document.

Section A: General Requirements for Projects

01 ____	02 ____	03 ____	04 ____	05 ____	06 ____	07 ____	08 ____	09 ____	10 ____
11 ____	12 ____	13 ____	14 ____	15 ____					

Section B: Code Requirements

01 ____	02 ____	03 ____	04 ____	05 ____	06 ____	07 ____	08 ____	09 ____	10 ____
11 ____	12 ____	13 ____	14 ____	15 ____	16 ____	17 ____	18 ____	19 ____	20 ____
21 ____	22 ____								

Section C-1: Photovoltaic Requirements

01 ____	02 ____	03 ____	04 ____	05 ____	06 ____	07 ____	08 ____	09 ____
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Section C-2: Seismic Requirements

01 ____	02 ____	03 ____
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Section C-3: Virginia Energy Conservation Code (VECC) Requirements

01 ____	02 ____	03 ____	04 ____	05 ____
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Annex B: Emergency Lighting Test Checklist

PERMIT NUMBER: _____ ADDRESS: _____

It will be the responsibility of a master electrician or a professional engineer to perform a light test for the entire floor or entire project provided on the plans with new lighting, then fill out this form and submit it (in PDF format) to the City for approval prior to final inspection. The following items below will be for the entire path of egress within the scope of work for this project. An Emergency Lighting Test is not required when Photometrics are present on the drawings.

Under Normal Power (Check all applicable items below)

_____	Not less than 1 Foot candle at any point in the path of egress at floor level.	IBC 1008.2.1
_____	Not less than 0.2 Foot candle at any point in the path of egress at floor level for auditoriums, theaters, concert or opera halls and similar assembly occupancies	IBC 1008.2.1 exception

Under Emergency Power (All items below shall be tested)

_____	Average of 1 Foot candle in the path of egress at floor level.	IBC 1008.3.5
_____	No less than 0.1 Foot candles at any point in the path of egress at floor level	IBC 1008.3.5
_____	A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded at any point on the path of egress at floor level.	IBC 1008.3.5

After emergency system has been active for 90 minutes, verify the following: (All items below shall be tested)

_____	Average of 0.6 Foot candles at the end of the emergency lighting time duration at floor level.	IBC 1008.3.5
_____	No less than 0.06 Foot candles at any point in the path of egress at floor level at the end of the emergency lighting time duration.	IBC 1008.3.5
_____	A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded at any point on the path of egress at floor level at the end of the emergency lighting time duration.	IBC 1008.3.5

<p>Contractor/Master Electrician Sign-off:</p> <p>Contractor License #: _____</p> <p>Master License #: _____</p> <p>Print Name: _____</p> <p>Signature: _____</p> <p>Date: _____</p>	<p>Engineer's Signed/Seal:</p>
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Annex C: Coordination Study Checklist

It is highly recommended to have an approved coordination study prior to installing service equipment.

The following information is required for submitting a Coordination Study to the City of Richmond, Room 108:

- 1) Completed, Signed/Sealed Coordination Study
- 2) Completed Coordination Study Checklist
- 3) Completed Plan Intake Sheet (See **Annex D** for the Plan Intake Sheet)
- 4) (if applicable) When the coordination study is done by an engineer other than the engineer of record, the engineer of record shall review the coordination study and provide a letter, signed and sealed, to the City of Richmond certifying the construction documents adhere to the coordination study. If any changes need to be done to the construction documents, the engineer of record shall submit those plans to the City for review.
- 5) (if applicable) For all ‘time current curves’ that overlap, provide all manufacturers data for paired-coordinated overcurrent protection devices. Clearly label all paired-coordinated overcurrent devices.

For projects with new and existing overcurrent devices

<input type="checkbox"/>	All new devices shall coordinate with the existing overcurrent protection device above and below the new device(s).
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For projects with all new overcurrent devices (Check all that apply)

<input type="checkbox"/>	Coordination study one-line diagrams shall show only the devices that require coordination. Do not show devices that are not going to be coordinated.
<input type="checkbox"/>	For all overcurrent protection devices required to be coordinated, provide overcurrent protection device(s) manufacturer’s information below on the coordination study emergency and normal one-line diagrams: <ul style="list-style-type: none">• Manufacturer’s Type• Manufacturer’s Device Number/Name• Manufacturer’s Frame and Trip Size
<input type="checkbox"/>	Make sure the coordination study one-line matches the approved electrical plans. If not the approved plans must be revised to match the coordination study.
<input type="checkbox"/>	Provide maximum fault current, for normal and emergency power, located at each piece of equipment on the normal and emergency one-line diagrams.
<input type="checkbox"/>	Coordination shall be done from normal power supply and emergency (generator/UPS/etc.) supply, down to the branch circuit overcurrent protection devices. If for any panel there are different size and/or type branch overcurrent protection devices, a separate time-current curve is required for each type of overcurrent protection device.

When submitting coordination study for City review, check the option below that applies to the project.

Option #1 - Total Selective Coordination

<input type="checkbox"/>	Provide total selective coordination showing no overlapping curves in the Time Current Curves.
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Option #2 - Coordination to 0.01 Seconds

<input type="checkbox"/>	Coordination study shall coordinate to 0.01 seconds.
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Option #3 - Coordination to 0.1 Seconds [For Hospitals only, see NEC Article 517.30 (G)]

<input type="checkbox"/>	Coordination study shall coordinate to 0.1 seconds.
<input type="checkbox"/>	For all time current curves that overlap, provide all manufacturers data for paired-coordinated overcurrent protection devices. Clearly label all paired-coordinated overcurrent devices.



FILLED IN BY APPLICANT – All boxes in this section must be completed if applicable

Date –	Plan # –	Permit # –
Address –		

Responsible Contractor or Permit Holder –	
Contact Person –	Phone # –
	Email –
Revision Description:	

FOR OFFICE USE ONLY

Building	Zoning	Public Works	Public Utilities
Planning	Storm Water Management	Mechanical	Sprinkler
Hood	Fire Suppression	Electrical	Security
Fire Alarm	Plumbing	Gas Piping	Tank

Date Received –	Time In –	Intake Person –
Revised due to plan review comments: Yes No	Revised due to inspector comments: Yes No	Revised due to design Changes Yes No
Has the permit been issued? Yes No	Original Permit Fee – \$	Original cost of work – \$
Cost increase per change (if any) – \$	10% Revision fee required: Yes No	Increase fee paid (if applicable)? Yes No
If no revision fee is required, please explain:		
For revised plans, are the changes clouded? Yes No	Are the plans signed/sealed (if applicable)? Yes No	
Comments:		

Revision Resubmittal – Plan Intake Sheet
 Department of Planning and Development Review
 Bureau of Permits and Inspections
 900 East Broad Street, Room 108
 Richmond, Virginia 23219
 Phone (804) 646-4169