

CODE	DESCRIPTION	COMMENTS
BPRE2	NEC 2011	
BPRE2 A	NEC 2011	
BPRE2 AFCI	ARC FAULT PROTECTION	All 120-volt, single phase, 15- and 20-amp branch circuits supplying outlets installed in dwelling unit Family Rooms, Dining Rooms, Living Rooms, Parlors, Libraries, Dens, Sunrooms, Recreation Rooms, Closets, Hallways, or similar rooms or areas shall be protected by a listed Arc-Fault circuit interrupter, combination-type, installed to provide protection of the branch circuit. NEC 210.12(B)
BPRE2 AFREP	AFCI FOR REPLACED RECEPTACLES	Where a receptacle outlet is supplied by a branch circuit that requires AFCI protection, a replacement receptacle at this outlet shall be one of the following: (1) A listed outlet branch circuit type AFCI receptacle; or (2) A receptacle protected by a listed outlet branch circuit type AFCI-type receptacle; or (3) A receptacle protected by a listed combination type AFCI type circuit breaker. NEC 406.4(D)(4)
BPRE2 BLDFDR	AFCI FOR REPLACED RECEPTACLES	Where a receptacle outlet is supplied by a branch circuit that requires AFCI protection, a replacement receptacle at this outlet shall be one of the following: (1) A listed outlet branch circuit type AFCI receptacle; or (2) A receptacle protected by a listed outlet branch circuit type AFCI-type receptacle; or (3) A receptacle protected by a listed combination type AFCI type circuit breaker. NEC 406.4(D)(4)
BPRE2 BRCIR	SHOW BRANCH CIRCUITS	Identify and show the branch circuits, indicating the size and number of conductors and/or conduits. Section 109.3 of the 2011 Virginia Construction Code.
BPRE2 CB<800	OCPD'S RATED UNDER 800A.	Where the OCPD is rated 800A or less, the next higher standard OCPD rating (above the ampacity of the conductors) shall be permitted to be used, provided all of the following conditions are met:  (1) The conductors being protected are not part of a branch circuit supplying more than one receptacle for cord and plug-connected portable loads;

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		(2) The ampacity of the conductors does not correspond with the standard ampere rating of a fuse or a circuit breaker;
		(3) The next higher standard rating selected does not exceed 800 amperes. NEC 240.4(B).
BPRE2 CB>800	OCPD'S RATED OVER 800A.	Where the OCPD is rated over 800A, the ampacity of the conductors it protects shall be equal to or greater than the rating of the Over Current Device defined in NEC 240.6 NEC 240.4(C)
BPRE2 CKTID	BRANCH CIRCUIT IDENTIFICATION	Every circuit and circuit modification shall be legibly identified as to its clear, evident, and specific purpose or use. NEC Article 408.4(A) and 90.4.  Examples: (1) If Architectural Floor Plan identifies the areas by its use (Classroom, Conference, Lab, etc), branch circuits serving those areas should correlate on the Panel Schedule;  (2) In large, Open Office areas with Systems Furniture, individual or group Work Stations should be uniquely identified on the Floor Plan so that the Panel Schedule can quickly isolate one Work Station (or a group) without disrupting work on neighboring stations.
BPRE2 CODMOD	CODE MODIFICATION REQUEST REQ.	Because the proposed installation, listed below, does not comply specifically with current code requirements, a code modification request must be submitted for review. Please include in the request, details demonstrating equivalence to the spirit and functional intent of current code requirements (VUSBC 106.3). Request may be submitted in letter form to Land Development Services, Commercial Mechanical Plan Review Department, 12055 Government Center Parkway, Suite 324, Fairfax, Virginia 22035-5504, or you may use the following link to complete the code modification request form from: <a href="http://www.fairfaxcounty.gov/dpwes/publications/codemods_appeals.htm">http://www.fairfaxcounty.gov/dpwes/publications/codemods_appeals.htm</a>
BPRE2 CONDPD	CONDUCTOR OVERCURRENT PROTECTION	Each ungrounded SERVICE CONDUCTOR shall have overcurrent protection by an OCPD that has a rating or setting higher than the allowable ampacity of the conductor. NEC 230.90, 290(A).  CONDUCTORS, other than flexible cords,

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		flexible cables, and fixture wires shall be protected against overcurrent, according to their ampacities, specified in NEC 310.15, unless otherwise permitted or required in 240(A) through (G). NEC 240.4
BPRE2 DSWAPL	DISCONNECTING SW.--APPLIANCE	The location and rating of the Disconnecting Means for the permanently connected appliance(s) rated over 300 volt-amperes must be clearly shown on the plans.
BPRE2 DUCT	DUCT OVER PANEL BOARDS	NEC 422.30, 422.31(B), VUSBC 109.3 Mechanical duct work is located above the electrical panelboard(s). Relocate the duct work or panelboard(s). NEC Article 110.26(F) of the 2011 edition. Section 109.3 of the 2012 Virginia Construction Code.
BPRE2 EECF	ELECTRICAL ENERGY CERT FORM	Complete the Electrical Energy Certification Form and attach it to each set of the plan. ASHRAE 90.1, 2010 edition or the VECC, 2012 edition.  Forms can be downloaded at <a href="http://www.fairfaxcounty.gov/dpwes/forms">www.fairfaxcounty.gov/dpwes/forms</a> .
BPRE2 ELPLAN	COMPLETE ELECTRICAL PLANS	Provide at least (2) sets of electrical drawings showing the following components of the electrical distribution system, AS THEY APPLY TO THIS PROJECT: 2012 VUSBC 109.3  * Power Riser Diagram, including sizes of ALL feeders;.  * Location size, and type of the Service Entrance Conductors,  * Location and ratings of ALL Distribution Panels between the service entrance and the NEW or MODIFIED panels used for this project;  * An Electrical Floor Plan that includes ALL the Home Runs to the panels that feed all devices and electrical equipment within the Scope of Work for this project.  * Panel Directory (Schedule) of ALL panelboards directly used for this project-NEW OR Existing--as well those that might be feeding them.  * Load Calculations for ALL panelboards-

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BPRE2 EQGNDC	EQUIPMENT GND CONDUCTOR SIZE	<p>-Existing or NEW--if connected with this project;</p> <p>* Service or Transformer Grounding Detail that includes the size of the GROUNDING ELECTRODE CONDUCTOR, and the AVAILABLE GROUNDING ELECTRODES USED.</p> <p>Copper, Aluminum, or Copper-clad Aluminum Equipment Ground Conductors (EGC) shall NOT be smaller than shown on Table 250.122, based on the size of the OCPD ahead of Equipment.</p>
BPRE2 FDRSML	FEEDER CONDUCTOR UNDERSIZED	<p>In no case shall they be required to be larger than the circuit conductors supplying the Equipment. NEC 250.122</p> <p>Feeder conductors to panelboards are undersized. Feeder sizes must comply with NEC Table 310.15(B)(16) and Article 215.2. Section 109.3 of the 2012 Virginia Construction Code.</p>
BPRE2 FLRPLN	PROVIDE ELECTRICAL FLOOR PLAN	<p>Provide an electrical floor plan as required by Section 109.3 of the 2012 Virginia Construction Code.</p>
BPRE2 GFILOC	GFCI-PROTECTED LOCATIONS	<p>In other than dwelling units, ALL 125-volt, single phase, 15- and 20-ampere receptacles installed in the following locations shall have GFCI protection for personnel:</p> <ol style="list-style-type: none"> <li>(1) Bathrooms</li> <li>(2) Kitchens</li> <li>(3) Rooftops</li> <li>(4) Outdoors</li> <li>(5) Sinks--when within 1.8m (6 ft) of the outside edge of the sink.</li> <li>(6) Indoor wet locations</li> <li>(7) Locker rooms with associated showering facilities</li> <li>(8) Garages, service bays, and similar areas where electrical diagnostic equipment, hand tools, or portable lighting are to be used.</li> </ol>
BPRE2 HVAC	PROVIDE MAINT. RCPT FOR HVAC	<p>Provide service receptacle(s) for HVAC equipment. 2011 NEC Article 210.63 and Section 109.3 of the 2012 Virginia Construction Code.</p> <p>If located on a Roof Top, or outside the building, the receptacle must have GFCI protection per 210.8(B)(3), AND comply with NEC408(A) or (B) for damp or wet locations</p>

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BPRE2 INFO	INFORMATION LACKING	Based on the lack of information provided, the above comments may not constitute a complete list of requested information. Additional design information is required for the county to review for code compliance. Section 109.3 of the 2012 Virginia Construction Code.
BPRE2 LEQPT	SHOW LOCATION OF EQUIPMENT	Identify and show the location of the electrical equipment, such as Service Equipment, Disconnecting Means, Tap Boxes, C/T Cabinets, Switchboards, Enclosed Breakers, Fused or Unfused Safety Disconnects. Section 109.3 of the 2012 Virginia Construction Code.
BPRE2 LUMIN	PROVIDE LUMINAIRE SCHEDULE	Provide a luminaire schedule. NEC Article 410 and Section 109.3 of the 2012 Virginia Construction Code.
BPRE2 MAX FI	MAX AVAILABLE FAULT CURRENT	When modifications to the electrical installation occur that affect the Maximum Available Fault Current (MAFC) at the service, the MAFC shall be verified or re-calculated as necessary to insure the service equipment ratings are sufficient for the MAFC at the line terminals of the equipment. The required field markings in 110.24(A) shall be adjusted to reflect the new level of MAFC.
BPRE2 MAXDSW	MAXIMUM NUMBER OF SVC DSW	2011 NEC, Section 110.24(B) The Service Disconnecting Means for each service permitted by 230.2, or for each set of Service-Entrance Conductors permitted by 230.40, Ex No 1,3,4, or 5 shall consist of NOT MORE THAN (6) switches and sets of circuit breakers mounted in a single enclosure, in a GROUP of single enclosure, or in a switchboard. There shall be no more than (6) sets of disconnects PER service grouped in one location. NEC 230.71, VUSBC 109.3
BPRE2 MULTIW	MULTIWIRE SYSTEMS FURN CIRCUIT	Multiwire branch circuits supplying power to the partitions shall be provided with a means to disconnect simultaneously all ungrounded conductors at the panelboard where the branch circuit originates. 2011 NEC Article 605.6 and/or 605.7. Section 109.3 of the 2012 Virginia Construction Code.
BPRE2 NOT FT	NOT A FAST TRACK SUBMISSION	These plans do not fall under the criteria required for a Fast Track submission FOR THE ELECTRICAL DISCIPLINE ONLY. The Reviewer has determined that more time is required to complete an Electrical Review. This will be conducted, in turn, through the

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BPRE2 PIPES	PIPE(S) ABOVE PANELBOARD(S)	<p>standard submission procedures. VUSBC109.3 2012 EDITION</p> <p>Mechanical/Plumbing piping is located above the electrical panelboard(s). Relocate the piping or panelboard(s).</p>
BPRE2 PNLLOC	SHOW LOCATION OF PANELBOARDS	<p>NEC Article 110.26(F) and Section 109.3 of the 2012 Virginia Construction Code.</p> <p>Identify and show the location of the electrical panelboards installed new, or re-located (include both original and new locations), modified, or demolished by this project.</p> <p>Section 109.3 of the 2012 Virginia Construction Code.</p>
BPRE2 PNLOCP	PROVIDE MAIN OVER CURRENT PRO	<p>Provide the size and location of the main Over Current Protection Device(s) used for all panelboard(s) on this project. 2011 NEC Articles 240,312,404,408 and 500 through 517 (if located in a hazardous classified location). Section 109.3 of the 2012 Virginia Construction Code.</p>
BPRE2 PTPWR	PARTIAL POWER DIAGRAM	<p>Provide a PARTIAL RISER DIAGRAM that includes the following MINIMUM information:</p> <ul style="list-style-type: none"> <li>* All the Panelboards serving this Tenant-either installed NEW or Existing, that have been modified by the addition or reduction of loads or re-located; include the electrical ratings of the Panels.</li> <li>* The size and types of the feeders to these Panelboards, including size and type of conduit, size, number, and type of individual conductors and ground wires;</li> <li>* The source of the power to those feeders AND the Voltage, Current and IC Rating of the Over Current Protection Devices protecting those feeders.</li> </ul> <p>2011 NEC 215.5 2012 VUSBC 109.3</p>
BPRE2 RDPDWG	SIGNED AND SEALED DRAWINGS	<p>Provide original seal and signature of the design professional architect/engineer licensed to practice electrical engineering in the Commonwealth of Virginia. Section 111.1 of the 2012 edition of the Virginia Construction Code, and Section 54.1-410 of the Code of Virginia.</p> <p>Use of the seal shall comply with Virginia Administrative Code, Title 18, Section 10-20-760.</p> <p>When certifying a set of drawings, each page</p>

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BPRE2 RESLTR	RESPONSE LETTER	<p>must be sealed, wet signed and dated. However, if the coversheet containing a full table of contents is certified, the remaining pages may contain a copy of the seal, signature and date.</p> <p>When resubmitting corrected plans for re-review, revisions should be prominently indicated by "clouding" or similar means. You must submit a Response Letter addressing each rejection comment. Please state where the corrections can be found on the plans. VUSBC 109.3</p>
BPRE2 RESUB	RESUBMISSION LETTER-DETAILED	<p>When resubmitting corrected plans for review, provide the following:</p> <ol style="list-style-type: none"> <li>1. Provide a letter that answers how and where each item has been addressed or resolved,</li> <li>2. Return the "COUNTY SET" with the originally reviewed and marked-up sheets INTACT. Make no "whiteout" or crossed out revisions, corrections or deletions to the COUNTY SET, Insert the new replacement sheet in front of each of the voided sheets in the county set UNLESS THE VOIDED SHEET is the last page.</li> <li>3. Mark the sheets with either "Void" or "Retain". "Void" sheets no longer applicable to the set, and "Retain" sheets that will be "saved for approved stamps",</li> <li>4. Indicate changes by dated revision symbol, clouding or similar method,</li> <li>5. Minor corrections may be made on the original sheets if initialed by the designer.</li> </ol>
BPRE2 RISER	PROVIDE ELECT RISER DIAGRAM	<p>Each additional review is charged by trade. Plan resubmission fees are described in Chapter 61 of the Code of the County of Fairfax, Virginia section 61-1-3 "Fees" in subsection 2. (B) or go to <a href="http://fairfaxcounty.gov/dpwes/construction/feeschedule99.pdf">fairfaxcounty.gov/dpwes/construction/feeschedule99.pdf</a>.</p> <p>bpre</p> <p>Provide an ELECTRICAL RISER DIAGRAM that traces power from the Service, through the Service Disconnect Switch(es), Distribution Equipment, Transformers (if any), and terminates at each Panelboard used for or affected by this project. Indicate the Conduit Size, number and type of conductors to each Electrical Equipment, Transformer, and Panelboard revised, modified, re-located, or installed as new for this project.</p>

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BPRE2 SCHED	PANEL DIRECTORY REQUIRED	<p>2011 NEC Article 215.5 and Section 109.3 of the 2012 Virginia Construction Code.</p> <p>Provide a panelboard directory for all panelboards used on this project, that is, whether installed new or revised existing.</p> <p>If the panelboard is a sub-panel, or fed throught another, then the schedule(s) for those preceding need to be included as well.</p> <p>NEC Article 408.4 and Section 109.3 of the 2012 Virginia Construction Code.</p>
BPRE2 SEAL	SEAL OR MASTER/CLASS A	<p>The electrical plans shall bear the original seal and signature of a licensed design professional in the Commonwealth of Virginia, except where exempted by state law, Code of Virginia under Title 54 Chapter 4 section 1-402.</p> <p>Use of the seal shall comply with Virginia Administrative Code, Title 18, Section 10-20-760.</p> <p>Where exempted, the plans may be prepared by a master level or Class A electrical contractor licensed in the Commonwealth of Virginia who will supervise the actual field installation. In this case, the plans shall bear the name of the individual (not company name) including their occupation and address.</p> <p>Virginia Construction Code (2012) Section 111.1. A detailed chart for when sealed drawings are required is available at <a href="http://www.fairfaxcounty.gov/dpwes/publications/seal.pdf">www.fairfaxcounty.gov/dpwes/publications/seal.pdf</a></p>
BPRE2 SERVC	NUMBER OF SERVICES TO BLDG	<p>A building or other structure served shall be supplied by only ONE SERVICE, unless permitted by (A) tbrugh (D):</p> <p>(A) SPECIAL CONDITIONS--Additional services shall be permitted to supply Fire Pumps, Emergency Systems, Legallyr equired Standby Systems; Optional Stanby Systems, Parallel Power Production Systems.</p> <p>(B) SPECIAL OCCUPANCIES</p> <p>(C) CAPACITY REQUIREMENTS</p> <p>(D) DIFFERENT CHARACTERISTICS</p>
BPRE2 SRCSUP	SOURCE OF SUPPLY	<p>NEC 230.2; VUSBC 109.3</p> <p>All switchboards and panelboards supplied by a feeder in other than one- or two-family dwellings shall be marked to indicate the</p>

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BPRE2 SSUPP	SOURCE OF SUPPLY MARKING	device or equipment where the power supply originates. NEC 408.4(B).  All Switchboards and Panelboards supplied by a feeder in other than one- or two-family dwellings shall be marked to indicate the device or equipment where the power supply originates. NEC408.4  Note: The Electrical Plan must include instructions, with a suggested legend, to affix said PERMANENT marking to all such Switchboards and Panelboards affected by this project. VUSBC 109.3
BPRE2 SVCACC	ACCESS IN MULTI-OCCUPANT BLDGS	In a multiple-occupancy building, EACH occupant shall have access to the occupant's service disconnecting means.  Exemption: In a multi-occ. bldg where elec service and maintenance are provided by the bldg mngmt and where these are under continuous bldg mngmt supervision.  NEC 230.72(C) VUSBC109.3
BPRE2 SVCEQ	DISCONNECTING MEANS FOR SRVCE	Means shall be provided to disconnect all conductors in a building from the Service Entrance Conductors.  (A)(1) The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.  (A)(2) Service disconnecting means SHALL NOT be installed in bathrooms.
BPRE2 SVCGND	SERVICE GROUNDING	NEC 230.70; VUSBC 109.3 The size of the Grounding Electrode Conductor is determined by the size of the largest SERVICE ENTRANCE CONDUCTOR, OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS, per NEC T250.66.  Indicate how the service equipment is grounded by providing the size of the Grounding Electrode Conductor and the type and location of System Grounding Electrode that it connects to.  In addition, show all the Grounding Electrodes present and the size of the Bonding Jumpers

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		connected to the Grounding System.  2011 NEC Article 250.50, Section 109.3 of the 2012 Virginia Construction Code.
BPRE2 SVCMRK	MARKING OF SERVICE EQUIPMENT	Service equipment rated 600V or less shall be marked "SUITABLE FOR SERVICE EQUIPMENT." NEC 230.66  Each Service Disconnect shall be permanently marked to identify it a "SERVICE SWITCH." NEC 23070(B)
BPRE2 TAP<10	TAPS NOT OVER 10 FT LONG	Conductors shall be permitted to be tapped, without OCPD AT THE TAP, to a FEEDER, as specified in 240.21(B)(1) through (B)(5). The provisions of 240.4(B) SHALL NOT be permitted for tap conductors (in other words, you cannot "round up"): (1) The ampacity of the tap conductors is (a) Not less than the combined calculated load on the circuits supplied by the tap conductors, and  (b) Not less than the rating of the device by the tap conductors or not less than the OCPD at the termination of the tap conductors.  (2) The tap conductors do not extend beyond the switchboard, panel, panelboard, disconnecting means, or control devices they supply.  (3) The tap conductors are enclosed in a raceway.  (4) For field installations, if the tap conductors leave the enclosure of vault in which the tap is made, the ampacity of the tap conductors is not less than one-tenth (1/10) of the ampacity of the OCPD protecting the feeder conductors. NEC 240.21(B)(1)
BPRE2 TAP<25	TAPS NOT OVER 25 FT LONG	Where the length of the tap conductors does not exceed 25 ft, and the tap conductors comply with ALL of the following:  (1) The ampacity of the tap conductors is not less than one- third (1/3) of the rating of the OCPD protecting the feeder conductors.  (2) The tap conductors terminate in a single breaker or a set of fuses that limit the load to the ampacity of the conductors.

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BPRE2 TAP>25	TAPS OVER 25 FT LONG	(3) The tap conductors are protected from physical damage by being enclosed in an approved raceway or by other approved means. NEC 240.21(B)(2)
BPRE2 TAPTAP	TAPPING A TAP	Feeder taps over 25 feet in length apply only when the feeder is in a high bay manufacturing building over 35 ft high at walls, and the installation complies with ALL the conditions of NEC240.21(B)(4)(1) through (B)(4)(9). Conductors that receive their supply in accordance with 240.21(A) through (H) [therefore, constituting a "tap"] shall not supply another conductor ["tapping a tap"] except through an overcurrent device meeting the requirements of 240.4 NEC 240.21
BPRE2 TEMP	TEMPERATURE LIMIT ON TERMINAL	The maximum ampacity of conductors rated for 100A or less shall be determined from the 60-degree column of T310.15(B)(16) of 2011 NEC, unless the construction documents clearly certify that the terminations in the panelboard are rated for 75 degrees C (167 deg F)
BPRE2 TX-DSW	TRANSFORMER DISCONNECT MEANS	2011 NEC Section 110.14(C)(1)(a) Transformers shall have a disconnecting means located either IN SIGHT, or in a remote location.  Where located in a remote location, the disconnecting means shall be LOCKABLE with approved, listed fittings, and the location of aforementioned disconnecting means shall be field marked legibly and permanently at the transformer by approved means. NEC 450.14; VUSBC 109.3
BPRE2 TX-GND	TRANSFORMER GROUNDING	Indicate how the transformer is grounded by providing the size of the Grounding Electrode Conductor (GEC) and location and type of grounding electrode used.  The minimum size of that GEC is to be determined by the derived ungrounded secondary conductors per NEC T250.66.
BPRE2 TX-PRI	OCPD FOR PRIMARY	2011 NEC Art.250.30(A)(3); Section 109.3 of the 2012 Virginia Construction Code. Provide over current protection on the primary side of the transformer. NEC Article 450.3 and

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BPRE2 TX-SEC	OCPD FOR SECONDARY	<p>Section 109.3 of the 2011 Virginia Construction Code.</p> <p>Provide over current protection on the secondary side of the transformer. NEC Article 240.21(C), 450.3 and Section 109.3 of the 2009 Virginia Construction Code.</p>
BPRE2 TX-TAP	TAPS FOR A XFORMER (P+S <25FT)	<p>Where the tap conductors supply a transformer and comply with ALL the following conditions:</p> <p>(1) Primary conductors have an ampacity at least one third (1/3) of the OCPD protecting the feeder.</p> <p>(2) The secondary conductors shall have an ampacity that is not less than the PRI TO SEC Voltage ratio multiplied by one-third (1/3) the rating of the OCPD protecting the feeder conductors.</p> <p>(3) The total length of one PRI plus one SEC conductors, excluding any portion of the PRI that is protected at its ampacity, IS NOT over 25 feet.</p> <p>(4) The PRI and SEC are enclosed in an approved raceway or by other approved means.</p> <p>(5) The SEC conductors terminate in a single breaker or set of fuses that limit the load current to not more than the conductor ampacity tha is permitted by 310.15.</p>
BPRE2 WKCLR	WORKING CLEARANCE	<p>Provide the minimum working space clearance in front of electrical equipment. NEC Article 110.26 and Section 109.3 of the 2011 Virginia Construction Code.</p>