DPS Montgomery County Department of Permitting Services
YOUR PROJECT PARTNER

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Wheaton, MD 20902
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ALL ELECTRIC

2021 IECC Residential Energy Compliance Path for New Construction

All new residential one- and two-family dwellings must comply with the residential provisions of the 2021 IECC unless the building is considered a "Low Energy Building" as defined in Section R402.1

Applicants must select **one** compliance path option from page 1 and applicable additional energy features from tables on Page 2 as required by Section R401.2.5. Additional compliance documentation must be submitted with this form for the Total UA Alternative, Total Building Performance or Energy Rating Index Compliance Alternative path options.

☐ **Prescriptive Compliance Option R402.1.2**

Table R402.1.2 Maximum Assembly *U*-Factors and Fenestration Requirements (2021 IECC)

Climate Zone	Fenestration *U-Factor*	Skylight *U-Factor*	*Glazed Fenestration SHGC*	Ceiling *U-Factor*	Wood Frame Wall *U-Factor*	Mass Wall *U-Factor*	Floor *U-Factor*	Basement Wall *U-Factor*	Crawl Space Wall *U-Factor*
4 Except Marine	0.30	0.55	0.40	0.024	0.045	0.098	0.047	0.059	0.065

Must select at least one feature from Table 1

☐ **Prescriptive R-Value Alternative R402.1.3**

Table R402.1.3 Insulation minimum R-values and Fenestration Requirements by Component (2021 IECC)

Climate Zone	Fenestration *U-Factor*	Skylight *U-Factor*	Glazed Fenestration SHGC	Ceiling *R-value*	Wood Frame Wall R-value	Mass Wall *R-value*	Floor *R-value*	Basement Wall *R-value*	Slab *R-value & Depth*	Crawl Space Wall *R-value*
4 Except Marine	0.30	0.55	0.40	60	30 or 20 & 5ci or 13 & 10ci or 0 & 20 ci	8/13	19	10 ci or 13	10 ci, 4ft	10ci or 13

Must select at least one feature from Table 1

☐ **Total UA Alternative R402.1.5** | **Must select at least one feature from Table 1** | **REScheck or similar report**

☐ **MD Prescriptive R–Value Alternative R402.1.3.1**

Table R402.1.3 Insulation minimum R-values and Fenestration Requirements by Component (2021 IECC)

Climate Zone	Fenestration *U-Factor*	Skylight *U-Factor*	Glazed Fenestration SHGC	Ceiling *R-value*	Wood Frame Wall R-value	Mass Wall *R-value*	Floor *R-value*	Basement Wall *R-value*	Slab *R-value & Depth*	Crawl Space Wall *R-value*
4 Except Marine	0.30	0.55	0.40	49	20 or 13 & 5ci	8/13	19	10 ci or 13	10 ci, 4ft	10ci or 13

Must select one feature from Table 1 | **Must select features from Table 2**

☐ **Total Building Performance R405** | **Select one option from Table 3**

☐ **Energy Rating Index Compliance Alternative R406** | **Energy Rating Index Value must be less than or equal to the appropriate value indicated in Table R406.5** | **Additional compliance report required.**

MUST NOT DUPLICATE OPTIONS SELECTED ON TABLE 1

Table 1	
☐ Option 1	Enhanced Envelope Performance. (R408.2.1)
☐ Option 2	More Efficient HVAC Equipment Performance. Greater than or equal to 10 HSPF/16 SEER air source heat pump.
☐ Option 3	More Efficient HVAC Equipment Performance. Greater than or equal to 3.5 COP ground source heat pump.
☐ Option 4	Reduced energy use in service water-heating. Greater than or equal to 2.0 EF electric service water-heating system.
☐ Option 5	Reduced energy use in service water-heating. Greater than or equal to 0.4 solar fraction solar water-heating system.
☐ Option 6	More efficient duct thermal distribution system option.100% of ductless thermal distribution system or hydronic thermal distribution system located completely inside the building thermal envelope.
☐ Option 7	More efficient duct thermal distribution system option. 100%of duct thermal distribution system located in conditioned space as defined by Section R403.3.2.
☐ Option 8	Improved air sealing and Efficient Ventilation System option. (R408.2.5)

Table 3 Select Only 1 Option - R405	
☐ Option 1	One of the additional efficiency package options in Table 1 shall be selected without including such measures in the proposed design under Section R405.
☐ Option 2	The proposed design of the building under Section R405.3 shall have an annual energy cost that is less than or equal to 95 percent of the annual energy cost of the standard reference design.

Table 2 MD Alternative Additional Packages Must select one or more options to meet or exceed 6%. R402.1.3.1		
☐ 1	≥ 2.5% reduction in total UA	1%
☐ 2	≥ 5% reduction in total UA	2%
☐ 3	> 7.5% reduction in total UA	2%
☐ 4	0.22 U-factor windows	3%
☐ 5	High performance cooling system (Greater than or equal to 18 SEER and 14 EER air conditioner)	3%
☐ 6	High performance cooling system (Greater than or equal to 16 SEER and 12 EER air conditioner)	3%
☐ 7	High performance gas furnace (Greater than or equal to 96 AFUE natural gas furnace)	5%
☐ 8	High performance gas furnace (Greater than or equal to 92 AFUE natural gas furnace)	4%
☐ 9	High performance heat pump system (Greater than or equal to 10 HSPF/18 SEER air source heat pump.)	6%
☐ 10	High performance heat pump system (Greater than or equal to 9 HSPF/16 SEER air source heat pump.)	5%
☐ 11	Ground source heat pump (Greater than or equal to 3.5 COP ground source heat pump.)	6%
☐ 12	Fossil fuel service water heating system (Greater than or equal to 82 EF fossil fuel service water-heating system.)	3%
☐ 13	High performance heat pump water heating system option (Greater than or equal to 2.9 UEF electric service water -heating system.)	8%
☐ 14	High performance heat pump water heating system. (Greater than or equal to 3.2 UEF electric service water- heating system.)	8%
☐ 15	Solar hot water heating system (Greater than or equal to 0.4 solar fraction solar water-heating system.)	6%
☐ 16	More efficient HVAC distribution system. (100 percent of ductless thermal distribution system or hydron- ic thermal distribution system located completely inside the building thermal envelope.)	10%
☐ 17	100% of ducts in conditioned space. (100 percent of duct thermal distribution system located in conditioned space as defined by Section R403.3.2.)	12%
☐ 18	Reduced total duct leakage. (When ducts are located outside conditioned space, the total leakage of the ducts, measured in accordance with R403.3.5, shall be in accordance with one of the following: a. Where air handler is installed at the time of testing, 2.0 cubic feet per minute per 100 square feet of conditioned floor area. b. Where air handler is not installed at the time of testing, 1.75 cubic feet per minute per 100 square feet of conditioned floor area.	1%
☐ 19	2 ACH50 air leakage rate with ERV or HRV installed. (Less than or equal to 2.0 ACH50, with either an Energy Recovery Ventilator (ERV) or Heat Recovery Ventilator (HRV) installed.)	10%
☐ 20	2 ACH50 air leakage rate with balanced ventilation. (Less than or equal to 2.0 ACH50, with balanced ventilation as defined in Section 202 of the 2021 International Mechanical Code.)	4%
☐ 21	1.5 ACH50 air leakage rate with ERV or HRV installed. (Less than or equal to 1.5 ACH50, with either an ERV or HRV installed.)	12%
☐ 22	1 ACH50 air leakage rate with ERV or HRV installed. (Less than equal to 1.0 ACH50, with either an ERV or HRV installed.)	14%
☐ 23	Energy Efficient Appliances (Minimum 3 appliances not to exceed 1 form each type with follow efficien- cies. Refrigerator - Energy Star Program Requirements, Product Specification for Consumer Refrigeration Products, Version 5.1 (08/05/2021), Dishwasher - Energy Star Program Requirements for Residential Dishwashers, Version 6.0 (01/29/2016), Clothes Dryer - Energy Star Program Requirements, Product Specification for Clothes Dryers, Version 1.1 (05/05/2017) and Clothes Washer - Energy Star Program Requirements, Product Specification for Clothes Washers, Version 8.1 (02/05/2018)	7%
☐ 24	Renewable Energy Measure.	11%

I hereby certify that the building design represented in the attached construction documents has been designed to meet or exceed the requirements of 2021 Edition International Energy Conservation Code (IECC)

Project Address:_____

Applicant Signature:_____ Date:_____