

ACTION REPORT

Date: January 05, 2011	Rating No.: VNW-003
Building Name: NPS Painted Hills	Rating Org.: Viridian Northwest
Owner's Name: National Park Service	Phone No.: (360) 464-4046
Property: Painted Hills Unit	Rater's Name: Daimon Doyle
Address: Mitchell, OR 97750	Rater's No.: WAHERS-0030
Builder's Name: Kirby Nagelhout Construction	
Weather Site: Redmond, OR	Rating Type: Confirmed Rating
File Name: Painted_Hills_Final.blg	Rating Date: 11/29/2010

The following table identifies and ranks energy use and cost by building component. A maximum of six components are shown. Current mechanical equipment is assumed for this analysis. To determine the impact of varying the equipment efficiency, change the equipment specified in the building file and perform the energy calculations again.

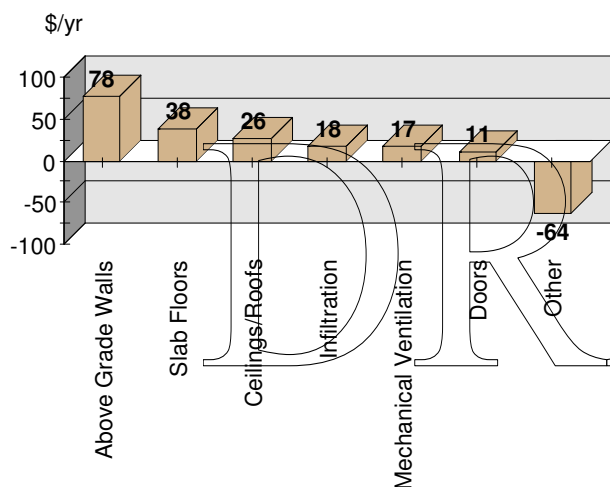
ANNUAL ENERGY PROFILE

Energy End-Use	Component	Consumption (MMBtu/yr)	Cost (\$/yr)
HEATING	Above Grade Walls	3.3	\$ 78
	Slab Floors	1.6	\$ 38
	Ceilings/Roofs	1.1	\$ 26
	Infiltration	0.8	\$ 18
	Mechanical Ventilation	0.7	\$ 17
	Doors	0.5	\$ 11
	Other	-2.7	\$ -64
	Total	5.3	\$ 123
COOLING	Internal Gains	1.0	\$ 25
	Windows/Skylights	0.4	\$ 9
	Ceilings/Roofs	0.0	\$ 0
	Other	-0.8	\$ -18
	Total	0.7	\$ 16
WATER HEATING	Water Heater	0.5	\$ 11
LIGHTS & APPLIANCES	Lights & Appliances	13.0	\$ 305
PHOTOVOLTAICS	Photovoltaics	-26.2	\$ -614

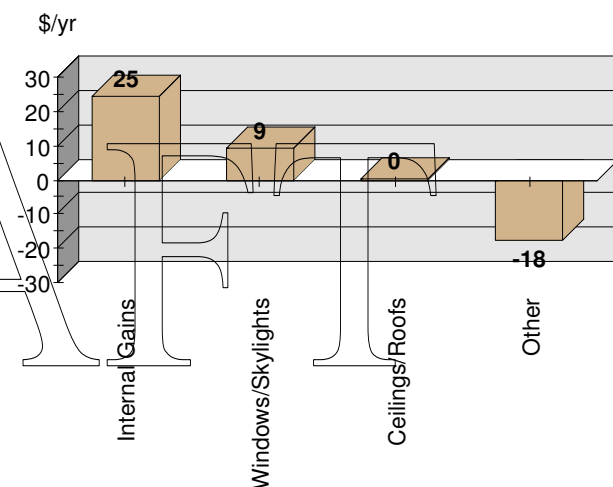
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Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction	Rating Type:	Confirmed Rating
Weather Site:	Redmond, OR	Rating Date:	11/29/2010
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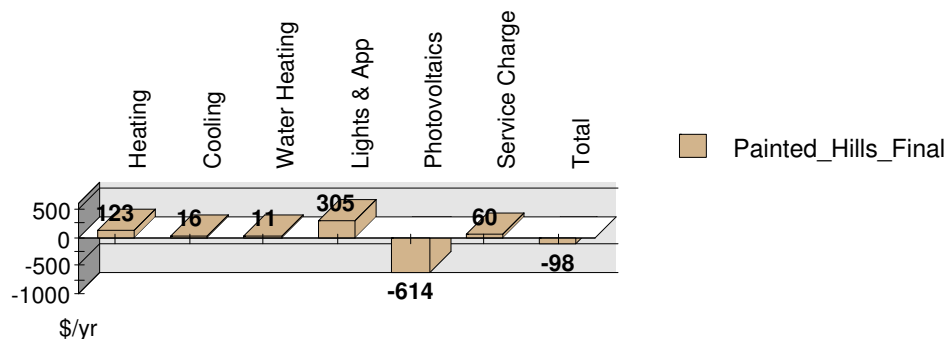
Heating Cost (\$/yr)



Cooling Cost (\$/yr)



Annual Energy Cost



AIR LEAKAGE REPORT

Date:	January 05, 2011	Rating No.:	VNW-003
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Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
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Whole House Infiltration

	Blower door test	
	Heating	Cooling
Natural ACH:	0.08	0.07
ACH @ 50 Pascals:	1.27	1.27
CFM @ 25 Pascals:	126	126
CFM @ 50 Pascals:	198	198
Eff. Leakage Area:	10.9	10.9
Specific Leakage Area:	0.00008	0.00008
ELA/100 sf shell:	0.35	0.35

Total Duct Leakage to Outside

CFM @ 25 Pascals:	N/A
CFM25 / CFMfan:	N/A
CFM25 / CFA:	N/A
CFM per Std 152:	N/A
CFM per Std 152 / CFA:	N/A
CFM @ 50 Pascals:	N/A
Eff. Leakage Area:	N/A
Thermal Efficiency:	0.00

Ventilation

Mechanical:	Balanced
Sensible Recovery Eff. (%):	57.0
Total Recovery Eff. (%):	67.0
Rate (cfm):	55
Hours/Day:	12.0
Fan Watts:	36.0
Cooling Ventilation:	Natural Ventilation

ASHRAE 62.2 - 2007 Ventilation Requirements

For this home to comply with ASHRAE Standard 62.2 - 2007 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, a minimum of 25 cfm of mechanical ventilation must be provided continuously, 24 hours per day. Alternatively, an intermittently operating mechanical ventilation system may be used if the ventilation rate is adjusted accordingly. For example, a 49 cfm mechanical ventilation system would need to operate 12 hours per day, as long as the system operates to provide required average ventilation once each hour.

REM/Rate - Residential Energy Analysis and Rating Software v12.9

This information does not constitute any warranty of energy cost or savings.
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BUILDING FILE REPORT

File Name: Painted_Hills_Final.blg

Date: January 05, 2011

Property/Builder:		Rating	
Building Name:	NPS Painted Hills	Org. Name:	Viridian Northwest
Owner's Name:	National Park Service	Address:	PO Box 13049
Property Address:	Painted Hills Unit	City, St, Zip:	Olympia, WA 98508
City, St, Zip:	Mitchell, OR 97750	Phone No:	(360) 464-4046
Phone No:	(541) 987-2333	Website:	www.viridiannw.com
Builder's Name:	Kirby Nagelhout Construction	Rater's Name:	Daimon Doyle
Phone No:	(541) 389-7119	Rater's Email:	daimon@viridiannw.com
Email Address:	ChrisP@knccbend.com	Rater's No.:	WAHERS-0030
Model:		Rating Date:	11/29/2010
Development:		Rating Type:	Confirmed Rating
		Reason:	New Home
		Rating No.:	VNW-003

General Building Information

Area of Cond. Space(sq ft):	973
Volume of Cond. Space:	9340
Year Built:	2010
Housing Type:	Single-family detached
Level Type(Apartments Only):	None
Floors on or Above-Grade:	2
Number of Bedrooms:	1
Foundation Type:	Slab
Enclosed Crawl Space Type:	N/A
Thermal Boundary Location:	N/A

Slab Floor Info:		1		
Name		R20 Cont		
Library Type		R-20 Continuous		
Area(sq ft)		713		
Depth Below Grade(ft)		0.0		
Full Perimeter(ft)		114		
Exposed Perimeter(ft)		114		
On-Grade Perimeter(ft)		114		

BUILDING FILE REPORT

NPS Painted Hills

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Slab Floor: R-20 Continuous

Slab Covering: None
 Perimeter Insulation (R-Value): 10.0
 Perimeter Insulation Depth (ft): 2.0
 Under-Slab Insulation (R-Value): 20.0
 Under-Slab Insulation Width (ft): 16.0
 Slab Insulation Grade: 1
 Radiant Slab: No
 Note:

Rim and Band Joist:	1	2	
Name	Rim Joist - Ext	Rim Joist - Gar	
Area(sq ft)	52.0	33.0	
Continuous Ins	0.0	0.0	
Framed Cavity Ins	30.0	30.0	
Cavity Ins Thk(in)	12.0	12.0	
Joist Spacing	16.0	16.0	
Insulation Grade	1	1	
Location	Cond -> ambient	Cond -> garage	
Uo Value	0.032	0.032	

Above-Grade Wall:	1	2	3
Name	Ext.	House / Garage	House / Garage
Library Type	SIP 5-5/8"	SIP 5-5/8"	R-21***
Gross Area(sq ft)	1188.00	156.00	108.00
Exterior Color	Medium	Medium	Medium
Location	Cond -> ambient	Cond -> garage	Cond -> garage
Uo Value	0.043	0.043	0.061

BUILDING FILE REPORT

NPS Painted Hills

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Above-Grade Wall: SIP 5-5/8"

Quick Fill not used.

Note:

Layers	Paths		
	Foam	Framing	Spline
Inside Air Film	0.680	0.680	0.680
Gyp board	0.450	0.450	0.450
OSB	1.175	1.175	1.175
Framing	0.000	6.950	0.000
Foam	21.406	0.000	18.518
Spline	0.000	0.000	0.938
Ext. Finish (lap)	1.430	1.430	1.430
Outside Air Film	0.250	0.250	0.250
Total R-Value	25.891	10.935	23.441
U-Value	0.039	0.091	0.043
Relative Area	0.860	0.060	0.080
UA	0.034	0.005	0.003

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Total Component UA: 0.043

Total Component Area: 1.0

Component Uo: 0.043

BUILDING FILE REPORT

NPS Painted Hills

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Above-Grade Wall: R-21***

Information From Quick Fill Screen:

Standard Wood Frame

Continuous Insulation (R-Value)	0.0
Frame Cavity Insulation (R-Value)	21.0
Frame Cavity Insulation Thickness (in)	5.5
Frame Cavity Insulation Grade	2
Stud Size (w x d, in)	1.5 x 5.5
Stud Spacing (in o.c.)	24.0
Framing Factor - (default)	0.1988
Gypsum Thickness (in)	0.6

Note:

Layers

Inside Air Film

Gyp board

Air Gap/Frm

Cavity ins/Frm

Continuous ins

Ext Finish

Outside Air Film

Total R-Value

U-Value

Relative Area

UA

Total Component UA: 0.061

Total Component Area: 1.0

Component Uo: 0.061

	Paths Cavity	Framing	Grade
Inside Air Film	0.680	0.680	0.680
Gyp board	0.563	0.563	0.563
Air Gap/Frm	0.000	0.000	0.000
Cavity ins/Frm	21.000	6.875	1.030
Continuous ins	0.000	0.000	0.000
Ext Finish	0.940	0.940	0.940
	0.000	0.000	0.000
Outside Air Film	0.170	0.170	0.170
Total R-Value	23.353	9.227	3.383
U-Value	0.043	0.108	0.296
Relative Area	0.781	0.199	0.020
UA	0.033	0.022	0.006

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Window Information:	1	2	3
Name	2640 Casement	4046 DBL/SH	6046 DBL/SH
Library Type	Atrium 3/LoE***	Atrium 3/LoE***	Atrium 3/LoE***
U-Value	0.210	0.210	0.210
SHGC	0.320	0.320	0.320
Area(sq ft)	10.00	18.00	27.00
Orientation	North	East	South
Overhang Depth	2.0	1.5	2.0
Overhang To Top	0.5	5.5	1.0
Overhang To Bottom	4.5	10.0	5.5
Interior Winter Shading	0.85	0.85	0.85
Interior Summer Shading	0.70	0.70	0.70
Adjacent Winter Shading	None	None	None
Adjacent Summer Shading	None	None	None
Wall Assignment	AGWall 1	AGWall 1	AGWall 1

Window Information:	4	5	6
Name	3036 SH	2640 Casement	2640 Casement
Library Type	Atrium 3/LoE***	Atrium 3/LoE***	Atrium 3/LoE***
U-Value	0.210	0.210	0.210
SHGC	0.320	0.320	0.320
Area(sq ft)	10.50	10.00	10.00
Orientation	South	South	West
Overhang Depth	2.0	2.0	1.5
Overhang To Top	1.0	1.0	1.0
Overhang To Bottom	4.6	5.0	5.0
Interior Winter Shading	0.85	0.85	0.85
Interior Summer Shading	0.70	0.70	0.70
Adjacent Winter Shading	None	None	None
Adjacent Summer Shading	None	None	None
Wall Assignment	AGWall 1	AGWall 1	AGWall 1

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Window Information:	7	8
Name	6068 SF61	2640 Casement
Library Type	Codel SF61***	Atrium 3/LoE***
U-Value	0.220	0.210
SHGC	0.300	0.320
Area(sq ft)	20.00	10.00
Orientation	North	North
Overhang Depth	2.0	2.0
Overhang To Top	0.5	0.5
Overhang To Bottom	7.5	4.5
Interior Winter Shading	0.85	0.85
Interior Summer Shading	0.70	0.70
Adjacent Winter Shading	None	None
Adjacent Summer Shading	None	None
Wall Assignment	AGWall 1	AGWall 1

Window: Atrium 3/LoE***

U-Value: 0.210
 Solar Heat Gain Coefficient: 0.320
 Note:

Window: Codel SF61***

U-Value: 0.220
 Solar Heat Gain Coefficient: 0.300
 Note:

Door Information:	1	2	3
Name	Garage	Utility	Entry
Opaque Area(sq ft)	20.0	16.7	20.0
Library Type	Codel C6P***	Codel C6P***	Codel SF6P***
Wall Assignment	AGWall 2	AGWall 2	AGWall 2
Uo Value	0.160	0.160	0.160

Door: Codel C6P***

R-Value of Opaque Area: 5.3
 Storm Door: No
 Note:

Door: Codel SF6P***

R-Value of Opaque Area: 5.3
 Storm Door: No
 Note:

BUILDING FILE REPORT

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Roof Information:

	1		
Name	SIPS Roof		
Library Type	11 1/4 SIPS Roof***		
Gross Area(sq ft)	814.00		
Color	Medium		
Radiant Barrier	No		
Type(Attic)	Attic		
Uo Value	0.026		

Ceiling: 11 1/4 SIPS Roof***

Quick Fill not used.

Note: Values from WSEC Framing U-Calculator

Layers

	Paths			
	Foam	Framing	Spline	
Inside Air Film	0.680	0.680	0.680	
Gyp board	0.450	0.450	0.450	
OSB (x2)	0.938	0.938	0.000	
Framing	0.000	13.125	0.000	
Foam	40.425	0.000	37.537	
Spline	0.000	0.000	0.938	
Roofing	0.500	0.500	0.500	
Outside Air Film	0.250	0.250	0.250	
Total R-Value	43.243	15.943	40.355	
U-Value	0.023	0.063	0.025	
Relative Area	0.860	0.060	0.080	
UA	0.020	0.004	0.002	

Total Component UA: 0.026

Total Component Area: 1.0

Component Uo: 0.026

Mechanical Equipment: General

Number of Mechanical Systems:	2
Heating SetPoint(F):	68.00
Heating Setback Thermostat:	Present
Cooling SetPoint(F):	78.00
Cooling Setup Thermostat:	Present

BUILDING FILE REPORT

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ASHP: Daikin FTXS15DVJU***

Fuel Type:	Electric
Heating Seasonal Efficiency:	10.10 HSPF
Compressor Heating Output Capacity at 17F (kBtuh):	11.0
Compressor Heating Output Capacity at 47F (kBtuh):	18.0
Electric Resistance Backup Capacity (kW):	0
Cooling Output Capacity (kBtuh):	15.0
Cooling Seasonal Efficiency:	17.00 SEER
Desuperheater:	No
Note:	Mfg's Specs
Location:	Conditioned area
Performance Adjustment:	100
% Heating Load Served:	100
% Cooling Load Served:	100
Number Of Units:	1

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Water Heating Equipment: Solar BC&S 1994004H***

Water Heater Type:	Conventional
Fuel Type:	Electric
Energy Factor:	0.95
Recovery Efficiency:	0.98
Water Tank Size (gallons):	80
Extra Tank Insulation (R-Value):	14.0
Note:	
Location:	Conditioned area
Percent Load Served:	100
Performance Adjustment:	100
Number Of Units:	1

Infiltration and Mechanical Ventilation

Whole House Infiltration

Measurement Type:	Blower door test
Heating Season Infiltration Value:	1.27 ACH @ 50 Pascals
Cooling Season Infiltration Value:	1.27 ACH @ 50 Pascals
Shelter Class	2
2009 IECC Verification:	Tested

Mechanical Ventilation for IAQ

Type:	Balanced
Rate(cfm):	55
Sensible Recovery Efficiency(%):	57.00
Total Recovery Efficiency(%):	67.00
Hours per Day:	12.00
Fan Power (watts):	36.00

Ventilation Strategy for Cooling

Cooling Season Ventilation:	Natural Ventilation
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Lights and Appliances

Simplified Audit	
Oven/Range Fuel Type:	Electric
Clothes Dryer Fuel Type:	Electric
Percent Fluorescent - Pin-Based:	60.00
Percent Fluorescent - CFL:	40.00
Refrigerator KWh:	392
Dishwasher EF:	0.72
Ceiling Fan CFM / Watt:	92.00

BUILDING FILE REPORT

NPS Painted Hills

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Mandatory Requirements

IECC Requirements

Verified IECC 04:	true
Verified IECC 06:	true
Verified IECC 09:	true

ENERGY STAR Version 2 Checklist

Thermal Bypass Checklist:	true
ENERGY STAR Products:	true

ENERGY STAR Version 3 Checklists

Thermal Enclosure Checklist:	true
HVAC System Quality Installation Contractor Checklist:	false
HVAC System Quality Installation Rater Checklist:	false
Water Management System Builder Checklist:	false
Indoor airPlus Verification Checklist:	true

ENERGY STAR Version 3 Appliances

Has Refrigerators:	true
Number Of Refrigerators:	1
Has Ceiling Fans:	true
Number Of Ceiling Fans:	1
Has Exhaust Fans:	true
Number Of Exhaust Fans:	2
Has Dishwashers:	true
Number Of Dishwashers:	1

Added Mass: Drywall Thickness(in): 0.63

Added Mass Info:

Name	Concrete Floor
Type	Concrete
Area(sq ft)	296.0
Thickness(in)	5.0
Location	Sunlit floor

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Active Solar

System Type:	DHW heating only
Loop Type:	Liquid, direct
Type:	Double glazing, flat black
Orientation:	South
Area(sq ft):	80.0
Tilt(degrees):	30.3
Volume(cu ft/gal):	80.0

Photovoltaic System

Collector Orientation:	South
Collector Area(sq ft):	432.0
PV Panel Peak Power(Watts):	5640.0
Collector Tilt(degrees):	30.3
Inverter Efficiency(%):	97.0

Sunspace Floor

Floor Area(sq ft):	296.0
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Frame Floor

FrameFloor Insulation(R-Value):	0.0
---------------------------------	-----

Slab Floor

Exposed Slab Perimeter(ft):	53.0
Slab Depth Below Grade(ft):	0.00
Slab Thickness(in):	5.0
Perimeter Insulation(R-Value):	10.0
Under Slab Insulation(R-Value):	20.0

Notes

Floorplan?

Foundation walls with slab?

Wall insulation type?

Compare SIP values with WSEC u-values

Ducted dhp? supply and return 1 ft. each?

Property/Builder:

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Property Address: Painted Hills Unit
City, St, Zip: Mitchell, OR 97750
Phone No.: (541) 987-2333

Builder's Name: Kirby Nagelhout Construction
Model:
Development:
Phone No.: (541) 389-7119

Rating Date: 11/29/2010
Rating No.: VNW-003

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IMPORTANT NOTICE TO BUILDER

Builder affirms in this affidavit that all components listed in the Building File Report are accurate and incorporated into this New Home. Builder agrees to permit home energy rating system (HERS) Provider and/or Rater, to randomly verify components solely for the benefit of the HERS Provider's and/or Rater's interest. The HERS Provider and Rater do not create or imply any duty or obligations to Builder or any subsequent owner. Builder is responsible for making any inspections to protect Builder's interest. There is no GUARANTEE or WARRANTY, expressed or implied, from the HERS Provider or Rater as to this New Home.

Builder's Signature: _____
Date: ____/____/____

HERS Index: -15

Rating Reason: Confirmed Rating

Rater's Signature: _____

Date: ____/____/____

COMPONENT CONSUMPTION SUMMARY

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NPS Painted Hills

HEATING SEASON (MMBtu/yr)

Ceilings/Roofs	1.1
Rim/Band Joists	0.2
Above Grade Walls	3.3
Foundation Walls	0.0
Doors	0.5
Windows/Skylights	0.4
Frame Floors	0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	1.6
Infiltration	0.8
Mechanical Ventilation	0.7
Ducts	0.0
Active Solar	-0.0
Sunspace	0.0
Internal Gains	-3.3
Total	5.3

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COMPONENT CONSUMPTION SUMMARY

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NPS Painted Hills

COOLING SEASON (MMBtu/yr)

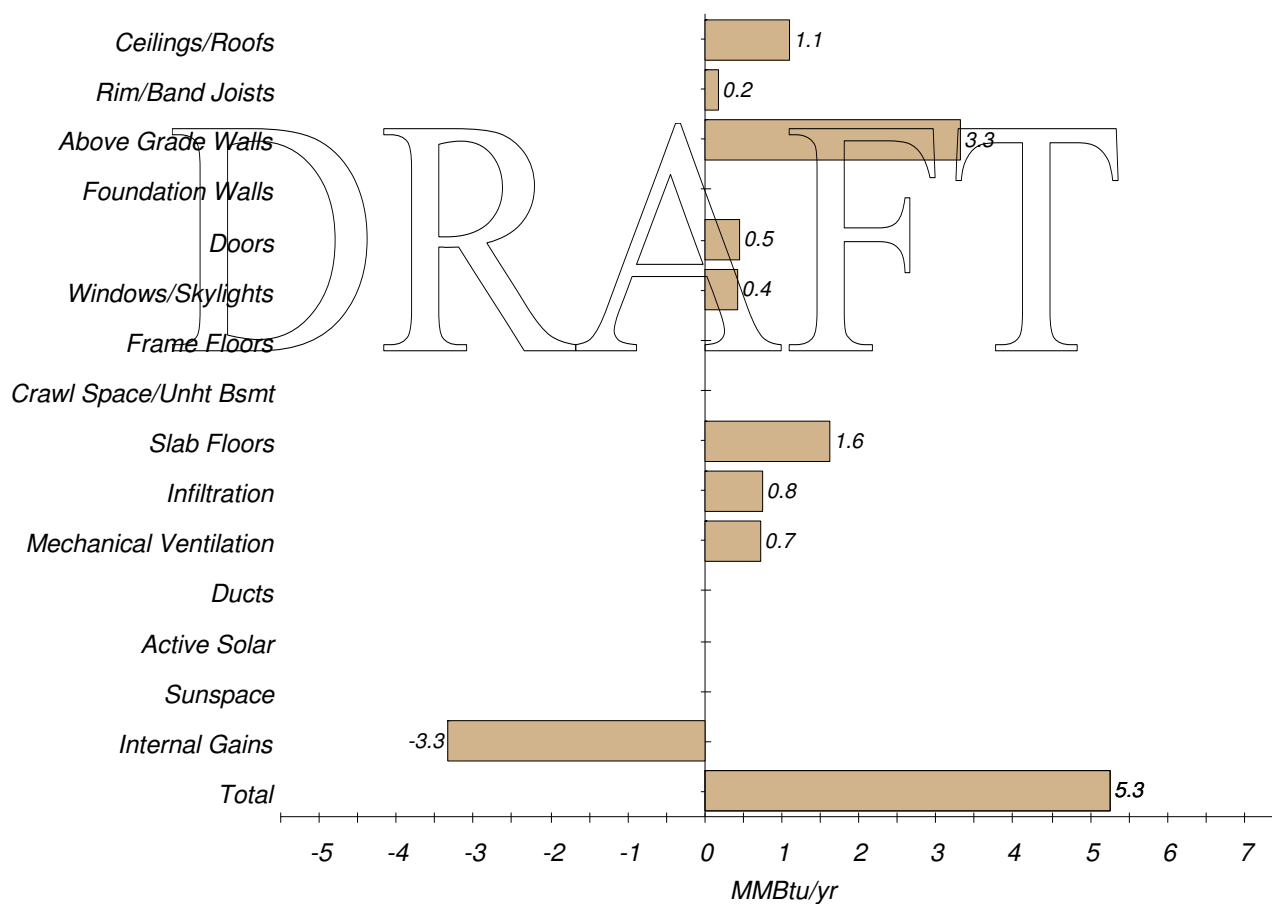
Ceilings/Roofs	0.0
Rim/Band Joists	-0.0
Above Grade Walls	-0.1
Foundation Walls	0.0
Doors	-0.0
Windows/Skylights	0.4
Frame Floors	0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	-0.2
Infiltration	-0.0
Mechanical Ventilation	-0.0
Ducts	0.0
Active Solar	0.0
Sunspace	0.0
Internal Gains	1.0
Whole House Ventilation	-0.4
Total	0.7

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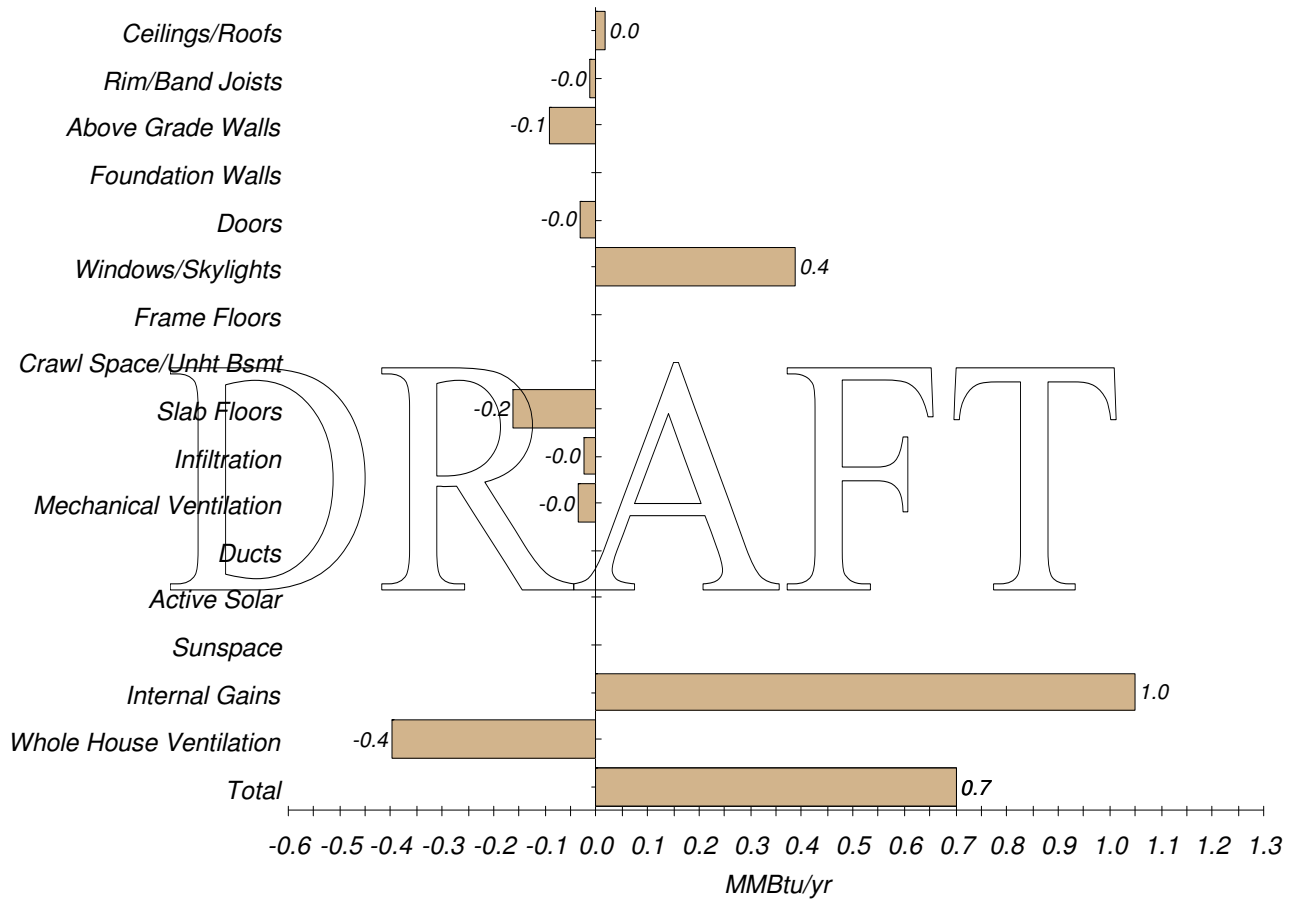
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Heating Season



Cooling Season



COMPONENT LOAD SUMMARY

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NPS Painted Hills

HEATING SEASON (MMBtu/yr)

Ceilings/Roofs	2.6
Rim/Band Joists	0.4
Above Grade Walls	7.9
Foundation Walls	0.0
Doors	1.1
Windows/Skylights	1.0
Frame Floors	0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	3.9
Infiltration	1.8
Mechanical Ventilation	1.7
Ducts	0.0
Active Solar	-0.0
Sunspace	0.0
Internal Gains	-8.0
Total	12.6

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COMPONENT LOAD SUMMARY

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COOLING SEASON (MMBtu/yr)

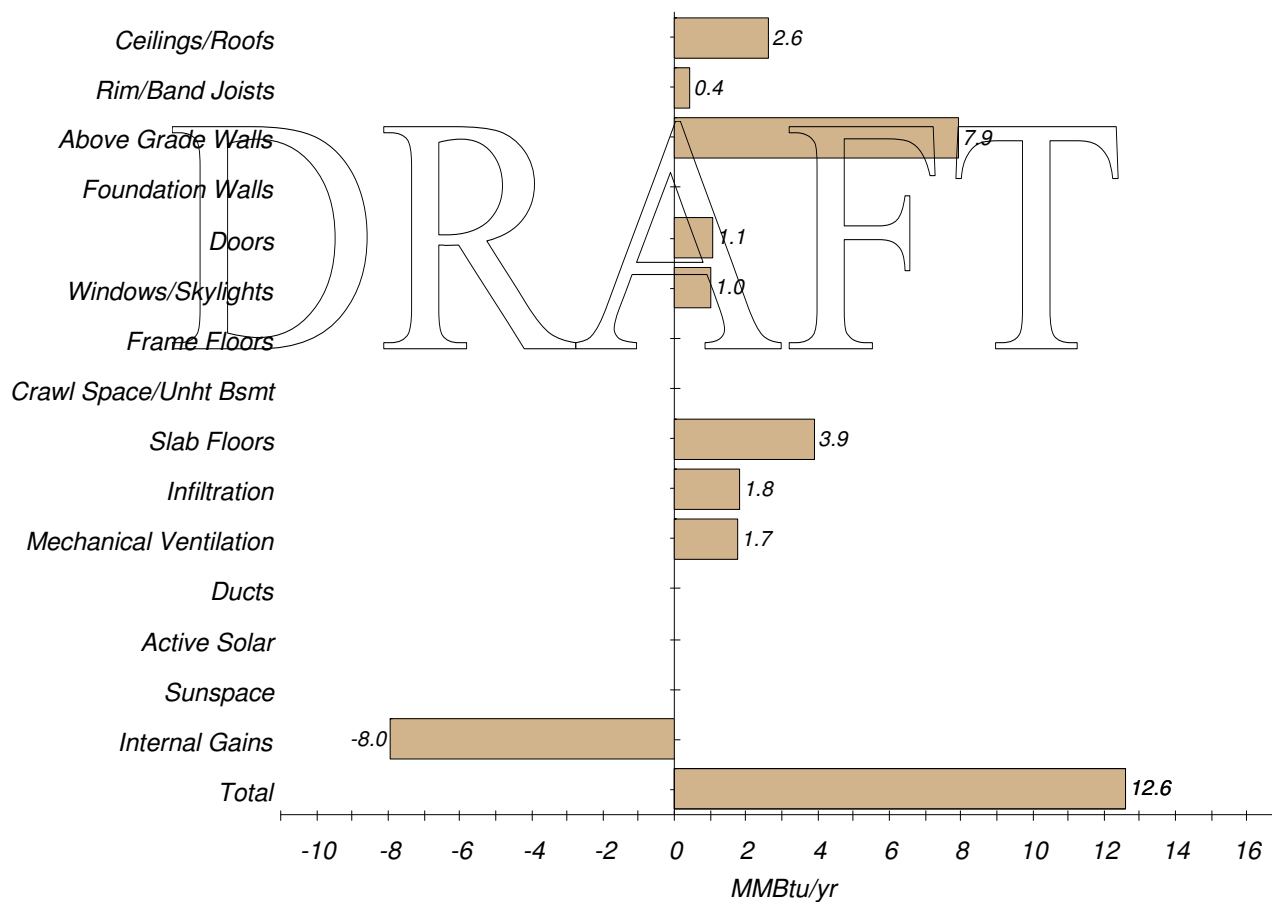
Ceilings/Roofs	0.1
Rim/Band Joists	-0.1
Above Grade Walls	-0.4
Foundation Walls	0.0
Doors	-0.1
Windows/Skylights	1.7
Frame Floors	0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	-0.7
Infiltration	-0.1
Mechanical Ventilation	-0.2
Ducts	0.0
Active Solar	0.0
Sunspace	0.0
Internal Gains	4.6
Whole House Ventilation	-1.7
Total	3.1

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Heating Season

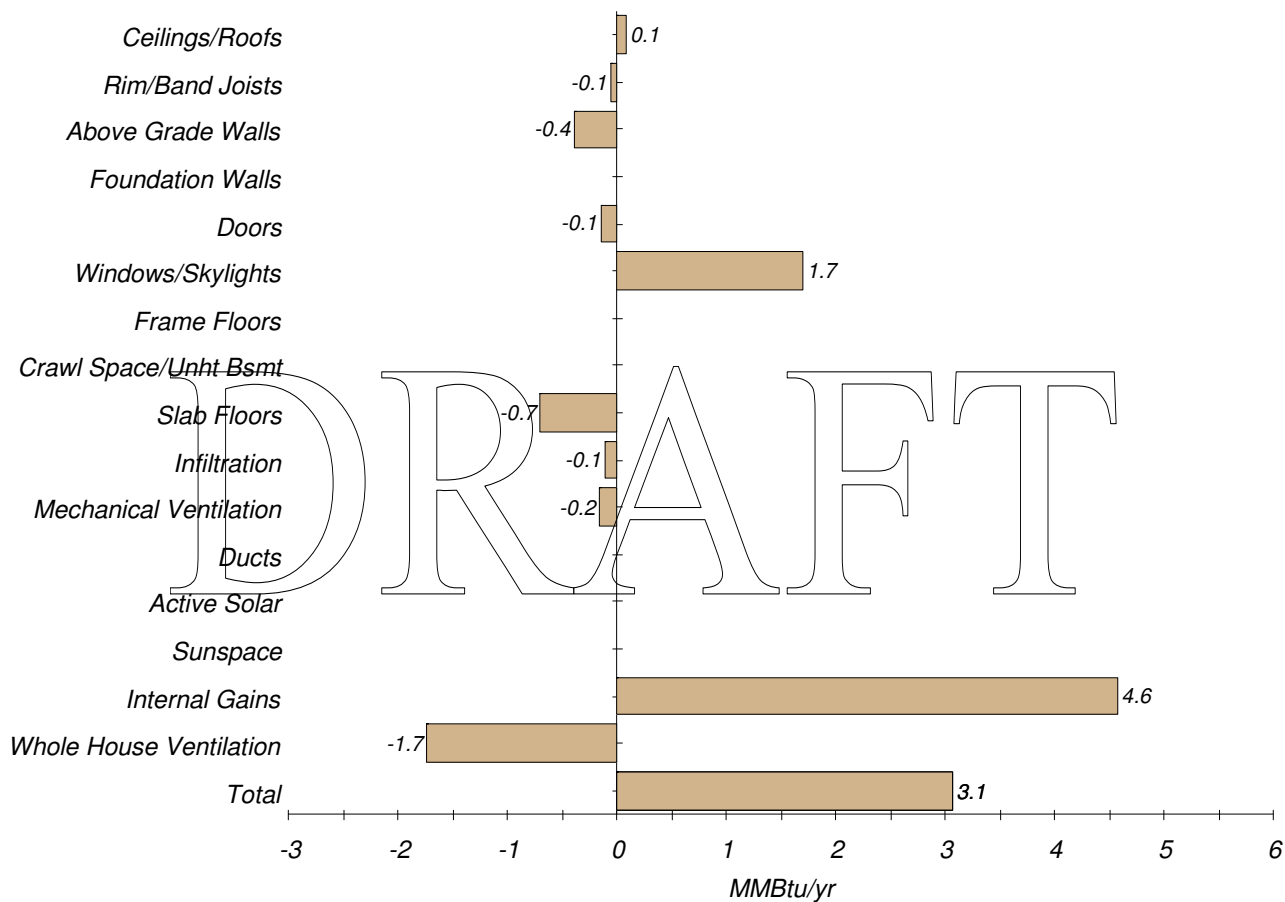


COMPONENT LOAD SUMMARY

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Cooling Season



COMPONENT DESIGN LOAD SUMMARY

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

HEATING (KBtu/Hr)

Ceilings/Roofs	1.2
Rim/Band Joists	0.2
Above Grade Walls	3.4
Foundation Walls	0.0
Doors	0.4
Windows/Skylights	1.5
Frame Floors	0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	1.5
Infiltration	0.7
Mechanical Ventilation	0.7
Ducts	0.0
Active Solar	0.0
Sunspace	0.0
Internal Gains	0.0
Total	9.5

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COMPONENT DESIGN LOAD SUMMARY

NPS Painted Hills

Page 2

NPS Painted Hills

COOLING (KBtu/Hr)

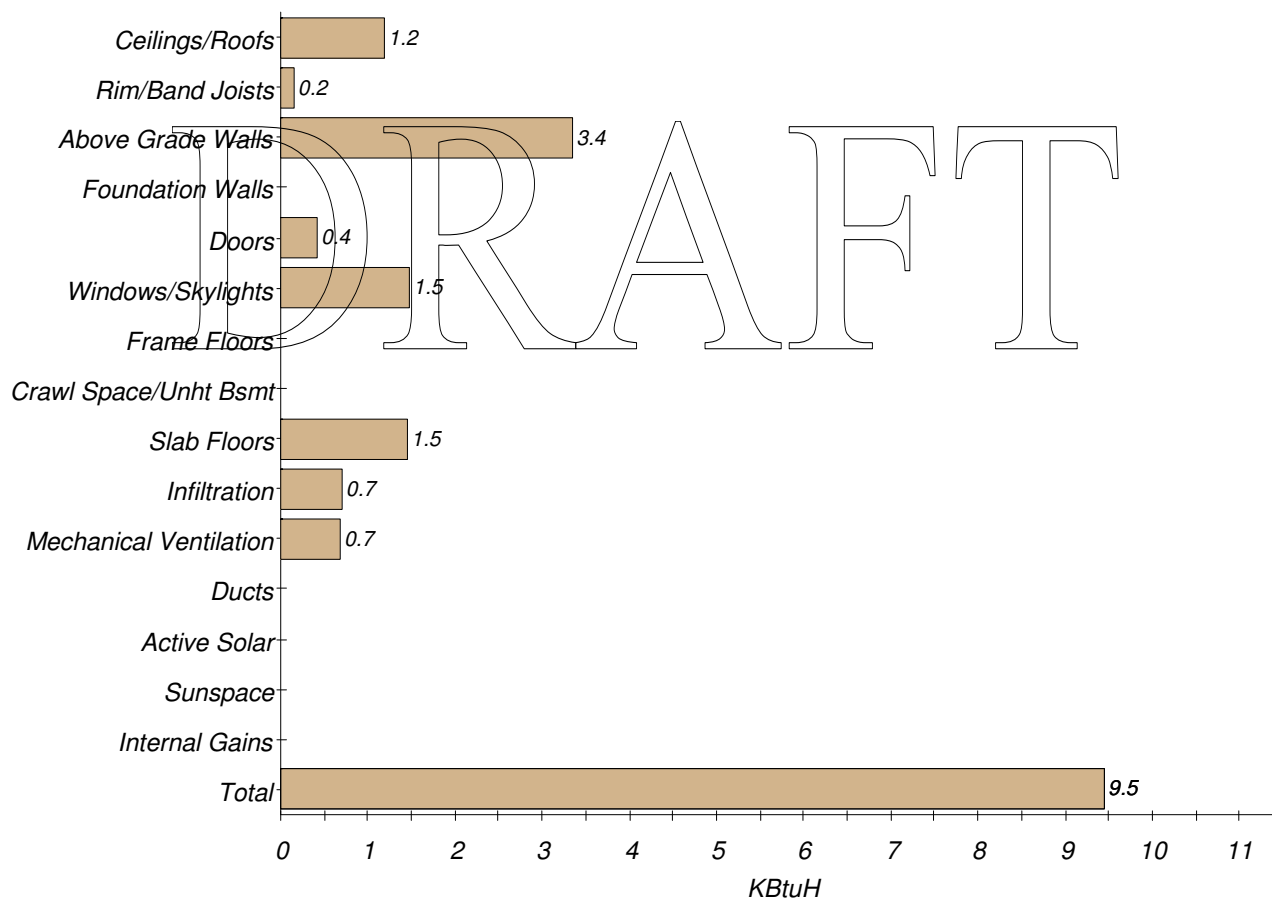
Ceilings/Roofs	0.7
Rim/Band Joists	0.0
Above Grade Walls	1.0
Foundation Walls	0.0
Doors	0.1
Windows/Skylights	1.2
Frame Floors	0.0
Crawl Space/Unht Bsmt	0.0
Slab Floors	-0.1
Infiltration	0.0
Mechanical Ventilation	0.0
Ducts	0.0
Active Solar	0.0
Sunspace	0.0
Internal Gains	2.0
Whole House Ventilation	0.0
Total	5.0

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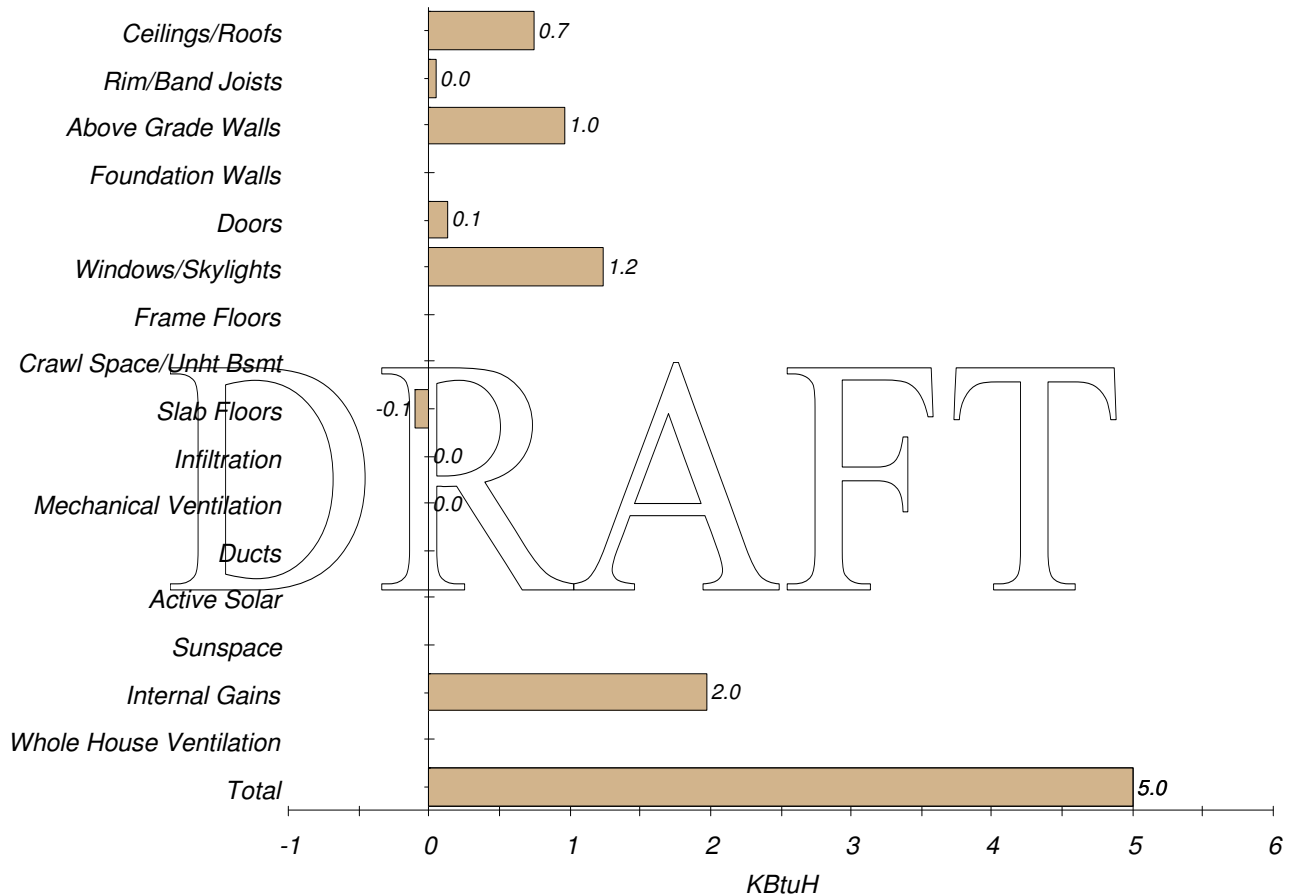
COMPONENT DESIGN LOAD SUMMARY

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
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Heating



Cooling



FUEL SUMMARY

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

Annual Energy Cost (\$/yr)

Annual End-Use Cost (\$/yr)

Heating	\$	123
Cooling	\$	16
Water Heating	\$	11
Lights & Appliances	\$	305
Photovoltaics	\$	-614
Service Charges	\$	60
Total	\$	-98

Annual End-Use Consumption

Heating (kWh)	1543
Cooling (kWh)	206
Water Heating (kWh)	138
Lights & Appliances (kWh)	3819
Photovoltaics (kWh)	-7675

Annual Energy Demands (kW)

Heating	2.5
Cooling	0.4
Water Heating (Winter Peak)	0.0
Water Heating (Summer Peak)	0.0
Lights & Appliances (Winter Peak)	0.3
Lights & Appliances (Summer Peak)	0.9
Total Winter Peak	2.8
Total Summer Peak	1.2

FUEL SUMMARY

NPS Painted Hills

Page 2

Utility Rates:

Electricity: Default Electric Provider

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ENERGY COST AND FEATURE REPORT

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

ANNUAL ENERGY COSTS

Heating	\$	123
Cooling	\$	16
Water Heating	\$	11
Lights & Appliances	\$	305
Photovoltaics	\$	-614
Service Charges	\$	60
Total	\$	-98
Average Monthly	\$	-8

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ENERGY FEATURES

Ceiling w/Attic:	11 1/4 SIPS Roof*** U=0.026
Vaulted Ceiling:	None
Above Grade Walls:	SIP 5-5/8" U=0.043
Foundation Walls (Cond):	None
Found. Walls (Uncond):	None
Doors:	Code1 C6P*** U=0.160
Windows:	Atrium 3/LoE*** U=0.210
Frame Floors:	None
Slab Floors:	R-20 Continuous U=0.032
Infiltration:	Htg: 1.27 Clg: 1.27 ACH50
Infilt. Measure:	Blower door test
Mechanical Ventilation:	Balanced: ERV, 55 cfm, 36.0 watts.
Interior Mass:	Conc
Mech Equip List:	ASHP: Htg: 18.0 kBtuh, 10.1 HSPF. Clg: 15.0 kBtuh, 17.0 SEER.
	Water Heating: Conventional, Elec, 0.95 EF, R-14 wrap.

Programmable Thermostat:	Heat=Yes; Cool=Yes
Ducts:	NA
Duct Leakage:	NA
Lights/Appliances:	Defaults
Active Solar:	DHW heating only
Photovoltaics:	5640 DC Watts
Sunspace:	No

Notes: Where feature level varies in home, the dominant value is shown.

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EQUIPMENT SIZING SUMMARY

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

HEATING

Calculated Peak Load (kBtu/hr)	9.5
Sizing Factor (%)	100.0

HEATING EQUIPMENT CAPACITY (kBtu/hr)

Required	9.5
Specified	18.0

COOLING

Calculated Peak Load (kBtu/hr)	5.0
Sensible	4.9
Latent	0.1
Sizing Factor (%)	100.0

COOLING EQUIPMENT CAPACITY (kBtu/hr)

Required Total	5.0
Specified Total	15.0

Required Sensible	4.87
Specified Sensible	10.50

Required Latent	0.13
Specified Latent	4.50

LIGHTS AND APPLIANCES SUMMARY

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

Electric Consumption (kWh/yr)

Lighting	513.4
Refrigerator	392.0
Freezer	0.0
Dishwasher	57.8
Oven/Range	547.5
Clothes Washer	30.0
Clothes Dryer	300.0
Mechanical Ventilation Fan	157.7
Ceiling Fan	169.8
Other	1650.6
Total	3818.7

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Annual Energy Cost (\$/yr)

Lighting	\$	41
Refrigerator	\$	31
Freezer	\$	0
Dishwasher	\$	5
Oven/Range	\$	44
Clothes Washer	\$	2
Clothes Dryer	\$	24
Mechanical Ventilation Fan	\$	13
Ceiling Fan	\$	14
Other	\$	132
Total	\$	305

PERFORMANCE SUMMARY

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

Annual Load (MMBtu/yr)

Heating	12.6
Cooling	3.1
Water Heating	0.5

Annual Consumption (MMBtu/yr)

Heating	5.3
Cooling	0.7
Water Heating	0.5
Lights & Appliances	13.0
Photovoltaics	-26.2
Total	-6.7

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Annual Energy Cost (\$/yr)

Heating	\$	123
Cooling	\$	16
Water Heating	\$	11
Lights & Appliances	\$	305
Photovoltaics	\$	-614
Service Charges	\$	60
Total	\$	-98

Design Loads (kBtu/hr)

Space Heating	9.5
Space Cooling	5.0

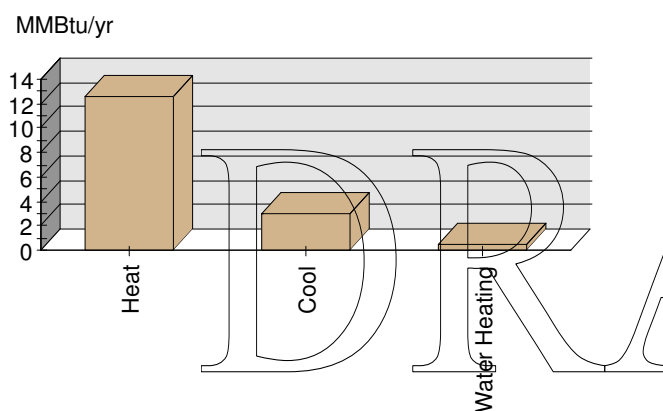
Utility Rates:

Electricity: Default Electric Provider

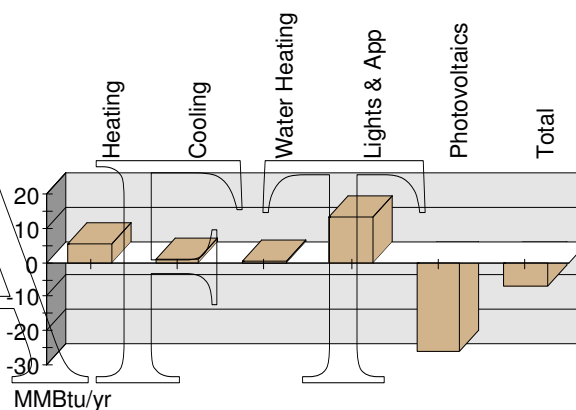
PERFORMANCE SUMMARY

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Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction	Rating Type:	Confirmed Rating
Weather Site:	Redmond, OR	Rating Date:	11/29/2010
File Name:	Painted_Hills_Final.blg		

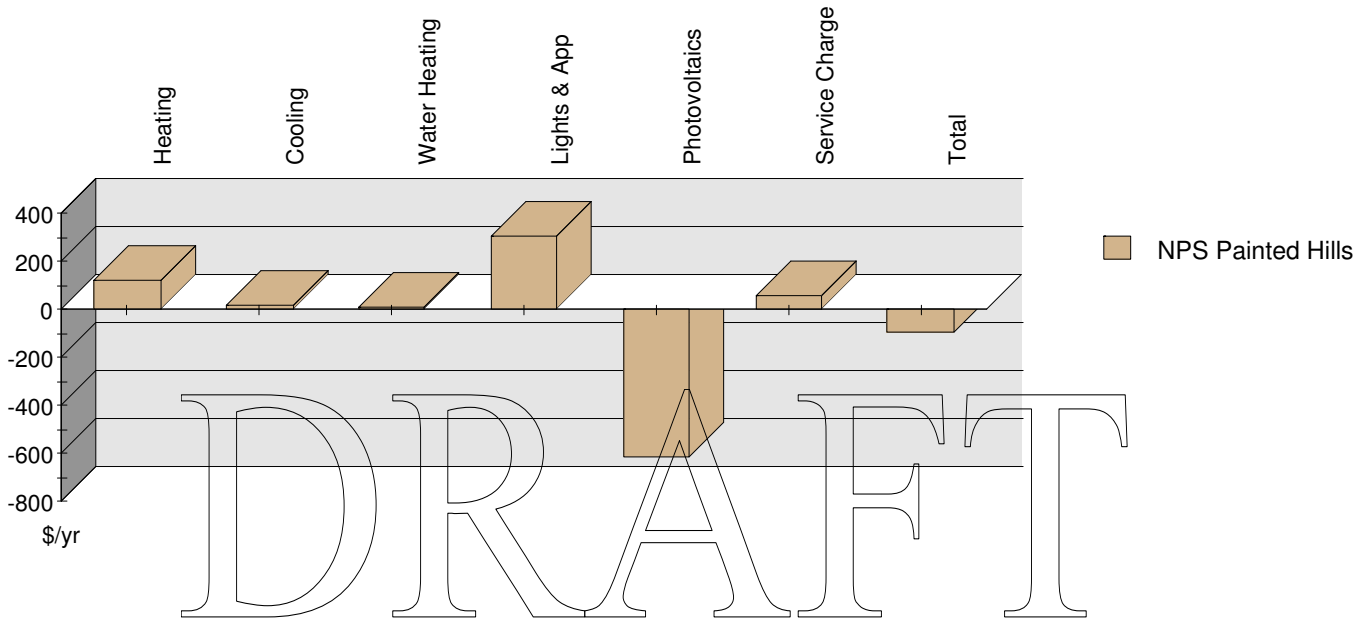
Annual Load



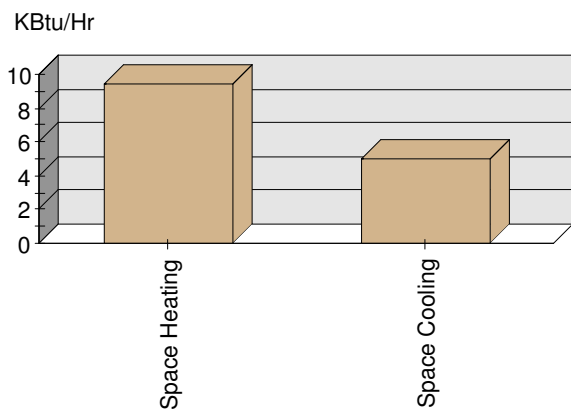
Annual Consumption



Annual Energy Cost



Design Loads



Utility Rates:

Electricity:

Default Electric Provider

PERFORMANCE FACTORS

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
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Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

NPS Painted Hills

Normalized Loads (Btu/sf shell area/DD)

Heating:	0.61
Cooling:	12.18

Normalized Consumption (kBtu/sf floor area/yr)

Heating:	5.4
Cooling:	0.7
Water Heating:	0.5
Lighting:	1.8
Appliances:	11.6
Photovoltaics:	-26.9
Total w/o PV:	20.0
Total:	-6.9

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Normalized Consumption (Btu/sf floor area/DD)

Heating:	0.8
Cooling:	8.8

Normalized Costs (\$/sf floor area/yr)

Heating:	\$	0.127
Cooling:	\$	0.017
Water Heating:	\$	0.011
Lighting:	\$	0.042
Appliances	\$	0.272
Photovoltaics	\$	-0.631
Total:	\$	-0.162

Normalized Design Loads (Btu/sf shell area/DD)

Heating:	0.0005
Cooling:	0.0199

Normalization Factors

Floor Area:	973
Shell Area:	3064
Heating Degree Days (B65):	6746
Cooling Degree Days (B74):	82

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SOURCE ENERGY & EMISSIONS REPORT

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

Source Energy Consumption (MMBtu/year)

All Electric

	<i>Reference Home</i>	<i>As Designed</i>	<i>Difference</i>	<i>% Difference</i>
Heating:	21.6	6.7	-14.9	-68.9%
Cooling:	3.1	0.9	-2.2	-71.0%
Water heating:	12.8	0.6	-12.2	-95.2%
Lights & Appliances:	21.9	16.6	-5.4	-24.4%
Photovoltaics:	0.0	-34.1	-34.1	
Total:	59.5	-9.2	-68.7	-115.5%

Total Emissions

All Electric

<i>Type of Emissions</i>	<i>Reference Home</i>	<i>As Designed</i>	<i>Difference</i>	<i>% Difference</i>
Carbon Dioxide (CO2) - tons/year	2.6	-0.4	-3.0	-115.5%
Sulfur Dioxide (SO2) - lbs/year	7.0	-1.1	-8.0	-115.5%
Nitrogen Oxides (NOx) - lbs/year	5.9	-0.9	-6.8	-115.5%

Emissions By End-Use

(All Electric Reference Home versus As Designed)

	CO2-tons/yr		SO2-lbs/yr		NOx-lbs/yr	
	<i>Ref</i>	<i>Des</i>	<i>Ref</i>	<i>Des</i>	<i>Ref</i>	<i>Des</i>
Heating	1.0	0.3	2.5	0.8	2.1	0.7
Cooling	0.1	0.0	0.4	0.1	0.3	0.1
Water Heating	0.6	0.0	1.5	0.1	1.3	0.1
Lights & Appliances	1.0	0.7	2.6	1.9	2.2	1.6
Photovoltaics	0.0	-1.5	0.0	-4.0	0.0	-3.4

The energy and emission values are calculated by comparing the Rated Home to an all-electric version of the Reference Home as defined in the "Mortgage Industry National Home Energy Rating Systems Standards" as promulgated by the Residential Energy Services Network (RESNET). Site-to-source multipliers and air emission data were taken from the US EPA eGRID2007 database.

EMISSIONS REPORT

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

Total Emissions

NPS Painted Hills

Type of Emissions

Carbon Dioxide (CO ₂) - tons/year	-0.4
Sulfur Dioxide (SO ₂) - lbs/year	-1.0
Nitrogen Oxides (NO _x) - lbs/year	-0.9

Emissions By End-Use

Carbon Dioxide (CO₂) - tons/year

Heating	0.3
Cooling	0.0
Water Heating	0.0
Lights & Appliances	0.8
Photovoltaics	-1.5

Sulfur Dioxide (SO₂) - lbs/year

Heating	0.8
Cooling	0.1
Water Heating	0.1
Lights & Appliances	2.0
Photovoltaics	-4.0

Nitrogen Oxide (NO_x) - lbs/year

Heating	0.7
Cooling	0.1
Water Heating	0.1
Lights & Appliances	1.7
Photovoltaics	-3.4

Site-to-source energy multipliers and air emission data were taken from the US EPA eGRID2007 database.

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2005 EPACT ENERGY EFFICIENT HOME TAX CREDIT

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
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Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

Normalized, Modified End-Use Loads (MMBtu/year)

	2004 IECC 50% Target	As Designed
Heating:	13.2	8.2
Cooling:	3.3	1.9
Total:	16.5	10.1

Envelope Loads (MMBtu/year)

	2004 IECC 90% Target	As Designed
Heating:	23.7	12.4
Cooling:	6.0	3.0
Total:	29.7	15.4

This home MEETS the requirements for the residential energy efficiency tax credits under Section 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

As demonstrated above, this dwelling unit has a projected level of annual heating and cooling energy consumption that is at least 50% below the annual level of heating cooling energy consumption of a reference dwelling in the same climate zone, and the building envelope components improvements alone account for at least 10% of those savings. The projected heating and cooling energy savings above have been calculated in the manner prescribed in Section 2.02 of Notice 2006-27 of the Internal Revenue Service. Field inspections of the dwelling unit performed by the undersigned eligible certifier during and after the completion of construction have confirmed that all features of the home affecting such heating and cooling energy consumption comply with the design specifications provided to the undersigned certifier.

Building Features

Ceiling Flat: U-0.026	Slab: R-10.0 Edge, R-20.0 Under
Vaulted Ceiling: NA	Duct: NA
Above Grade Walls: U-0.043, R-21	Window: U-Value = 0.210, SHGC = 0.320
Foundation Walls: NA	Air-Source HP: Electric, Htg: 10.1 HSPF, Clg: 17.0 SEER.
Exposed Floor: NA	

This report provides information useful in determining whether the home qualifies for Energy Efficiency Tax Credits. It is not valid for tax purposes, as homes must be inspected and approved by a certified HERS rater in order to qualify.

ASHRAE 90.2 ENVELOPE COMPONENT COMPLIANCE

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
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Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

Elements	Insulation Levels		Load Change
	ASHRAE	Design	
Ceilings w/ Attics (U-Value):	0.036	0.026	1.513
Above-Grade Frame Walls (U-Value):	0.063	0.042	3.346
Frame Walls Adjacent To Uncond. (U-Value):	0.095	0.049	0.407
Slab Floor (R-Value):	5.000	30.000	0.336
Doors (U-Value):	0.190	0.160	0.241
Windows/Skylights (U-Value):	0.360	0.212	2.277
Windows/Skylights (Shading Coeff):	1.000	0.364	-0.891
Total Load Change (must be positive to comply):			7.230

This home MEETS the building envelope performance requirements of ASHRAE Standard 90.2 - 1993 based on 6746 heating degree-days and 1972 cooling degree-hours.

Building Elements	Type	Uo	Area
Ceilings w/ Attics			
Roof	11 1/4 SIPS Roof***	0.026	814.0
Above-Grade Frame Walls			
Wall	SIP 5-5/8"	0.043	1072.5
Joist	Rim Joist - Ext	0.032	52.0
Frame Walls Adjacent To Uncond.			
Wall	SIP 5-5/8"	0.043	99.3
Wall	R-21***	0.061	108.0
Joist	Rim Joist - Gar	0.032	33.0
Slab Floor			
On-Grade Perimeter	R-20 Continuous	n/a	114.0

REM/Rate - Residential Energy Analysis and Rating Software v12.9

This information does not constitute any warranty of energy cost or savings.
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Building Elements	Type	Uo	Area
Doors			
Door	Code1 C6P***	0.160	20.0
Door	Code1 C6P***	0.160	16.7
Door	Code1 SF6P***	0.160	20.0
Windows/Skylights			
Window	Atrium 3/LoE***	0.210	10.0
Window	Atrium 3/LoE***	0.210	18.0
Window	Atrium 3/LoE***	0.210	27.0
Window	Atrium 3/LoE***	0.210	10.5
Window	Atrium 3/LoE***	0.210	10.0
Window	Atrium 3/LoE***	0.210	10.0
Window	Code1 SF61***	0.220	20.0
Window	Atrium 3/LoE***	0.210	10.0

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ASHRAE 90.2 ANNUAL ENERGY CONSUMPTION COMPLIANCE

Date:	January 05, 2011	Rating No.:	VNW-003
Building Name:	NPS Painted Hills	Rating Org.:	Viridian Northwest
Owner's Name:	National Park Service	Phone No.:	(360) 464-4046
Property:	Painted Hills Unit	Rater's Name:	Daimon Doyle
Address:	Mitchell, OR 97750	Rater's No.:	WAHERS-0030
Builder's Name:	Kirby Nagelhout Construction		
Weather Site:	Redmond, OR	Rating Type:	Confirmed Rating
File Name:	Painted_Hills_Final.blg	Rating Date:	11/29/2010

Annual Energy Cost (\$)

	ASHRAE	As Designed
Heating:	425	122
Cooling:	38	16
Water Heating:	240	11
SubTotal - Used to Determine Compliance:	703	150
Lights & Appliances:	305	305
Photovoltaics:	-0	-614
Service Charge:	60	60
Total:	1068	-99 *

This home **MEETS** the annual energy cost requirements of ASHRAE Standard 90.2 - 1993 based on 6746 heating degree-days and 1972 cooling degree-hours. In fact, this home surpasses the requirements by 115.7%.

* Design consumption is based on the following systems:
 ASHP: Htg: 18.0 kBtuh, 10.1 HSPF. Clg: 15.0 kBtuh, 17.0 SEER.
 Water Heating: Conventional, Elec, 0.95 EF, R-14 wrap.

In accordance with ASHRAE Standard 90.2, building inputs, such as setpoints, infiltration rates, and window shading may have been changed prior to calculating annual energy consumption.

Indoor airPLUS Qualified Home

This home built at
Painted Hills Unit
Mitchell, OR 97750
was verified by

Daimon Doyle

to meet Indoor airPLUS construction
specifications as established
by the
U.S. Environmental Protection Agency.



Indoor airPLUS qualified homes are
designed to contribute to improved
indoor air quality.

11/29/2010



Indoor airPLUS Features

- Moisture and Mold Control
- Radon Resistant Construction
- Pest Barriers
- Effective Heating, Ventilating,
and Air-Conditioning Systems
- Safe Combustion
- Healthier Building Materials

Not all features are required in all cases. To learn more about
indoor air quality features in your home, ask your builder to
review the Indoor airPLUS verification checklist with you, or visit
www.epa.gov/indoorairplus.

Home Energy Rating Certificate

Painted Hills Unit
Mitchell, OR 97750



**5 Stars Plus
Confirmed Rating**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

HERS Index: -15

General Information

Conditioned Area: 973 sq. ft.
Conditioned Volume: 9340 cubic ft.
Bedrooms: 1
HouseType: Single-family detached
Foundation: Slab

Mechanical Systems Features

Air-source heat pump: Electric, Htg: 10.1 HSPF, Clg: 17.0 SEER.
Water Heating: Conventional, Electric, 0.95 EF, 80.0 Gal, R-14 wrap.

Duct Leakage to Outside: NA
Ventilation System: Balanced: ERV, 55 cfm, 36.0 watts.
Programmable Thermostat: Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat: U-0.026
Vaulted Ceiling: NA
Above Grade Walls: U-0.043, R-21
Foundation Walls: NA
Slab: R-10.0 Edge, R-20.0 Under
Exposed Floor: NA
Window Type: Atrium 3/LoE***
Infiltration:
Rate: Htg: 1.27 Clg: 1.27 ACH50
Method: Blower door test

Lights and Appliance Features

Percent Fluorescent Pin-Based: 60.00
Percent Fluorescent CFL: 40.00
Refrigerator (kWh/yr): 392.00
Dishwasher Energy Factor: 0.72
Clothes Dryer Fuel: Electric
Range/Oven Fuel: Electric
Ceiling Fan (cfm/Watt): 92.00

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.9

This information does not constitute any warranty of energy cost or savings.
© 1985-2010 Architectural Energy Corporation, Boulder, Colorado.

Rating Number: VNW-003

Certified Energy Rater: Daimon Doyle

Rating Date: 11/29/2010

Rating Ordered For: National Park Service

Estimated Annual Energy Cost

Confirmed Rating

Use	MMBtu	Cost	Percent
Heating	5.2	\$121	-114%
Cooling	0.7	\$16	-15%
Hot Water	0.5	\$11	-10%
Lights/Appliances	12.8	\$299	-281%
Photovoltaics	-26.2	\$-614	576%
Service Charges		\$60	-56%
Total		\$-107	100%

**This home meets or exceeds the minimum
criteria for all of the following:**

TITLE

Company

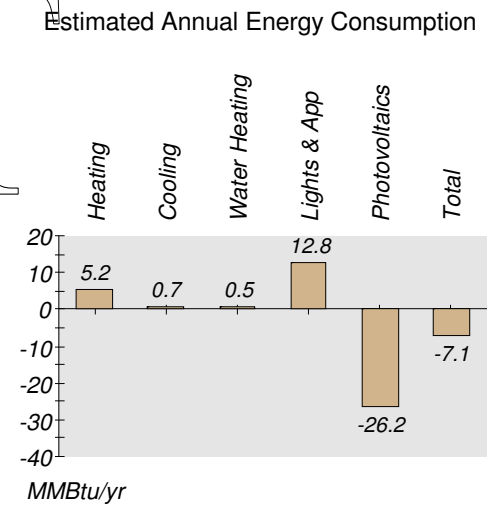
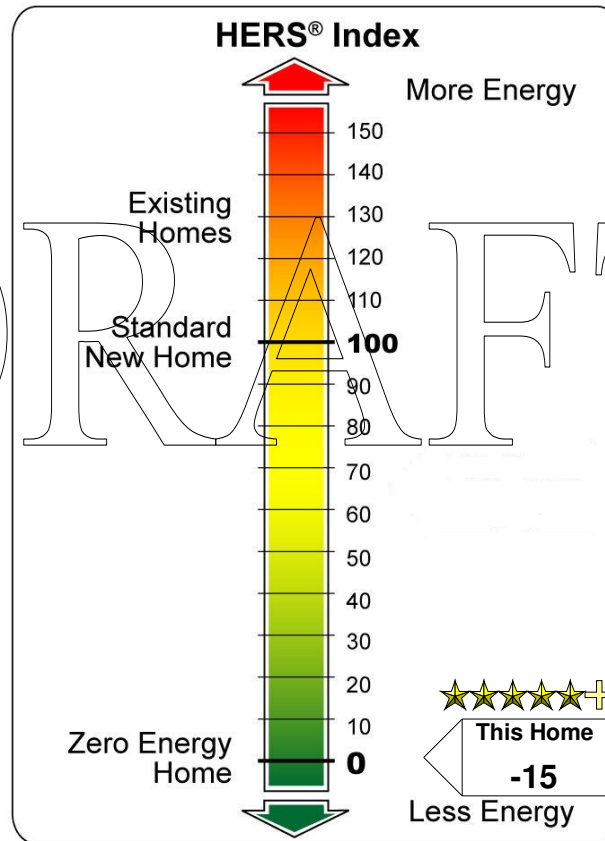
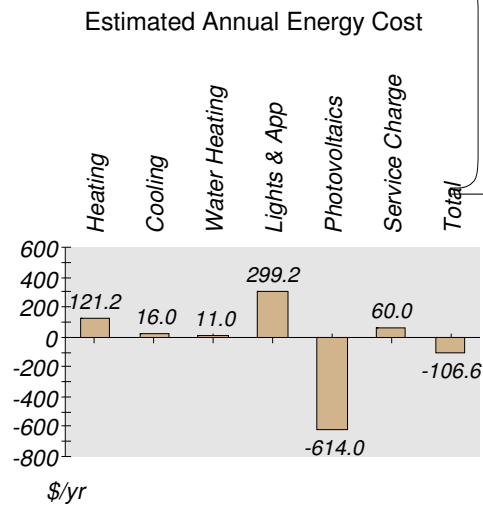
Address

City, State, Zip

Phone #

Fax #

HOME PERFORMANCE WITH ENERGY STAR ENERGY RATING CERTIFICATE



Address: Painted Hills Unit
Mitchell, OR 97750

House Type: Single-family detached
Cond. Area: 973 sq. ft.
Rating No.: VNW-003
Issue Date: January 05, 2011

Annual Estimates*:
CO2 emissions(Tons): -0
*Based on standard operating conditions
This home meets ENERGY STAR v 2

TITLE
Company
Address
Certified Rater: Daimon Doyle
Certification No: WAHERS-0030
Rating Date: 11/29/2010

REM/Rate - Residential Energy Analysis and Rating Software v12.9

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The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

RESNET HOME ENERGY RATING

Standard Disclosure

For home located at: Painted Hills Unit

City: Mitchell

State: OR

1. ☐ The Rater or the Rater's employer is receiving a fee for providing the rating on this home.
2. ☐ In addition to the rating, the Rater or Rater's employer has also provided the following consulting services for this home:

- ☐ A. Mechanical system design
- ☐ B. Moisture control or indoor air quality consulting
- ☐ C. Performance testing and/or commissioning other than required for the rating itself
- ☐ D. Training for sales or construction personnel
- ☐ E. Other (specify below)

3. ☐ The Rater or Rater's employer is:

- ☐ A. The seller of this home or their agent
- ☐ B. The mortgagor for some portion of the financed payments on this home
- ☐ C. An employee, contractor or consultant of the electric and/or natural gas utility serving this home

4. ☐ The Rater or Rater's employer is a supplier or installer of products, which may include:

	Installed in this home by:		OR	Is in the business of:	
HVAC systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Thermal insulation systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Air sealing of envelope or duct systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Windows or window shading systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Energy efficient appliances	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Construction (builder, developer, construction contractor, etc.)	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Other (specify below):	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer		<input type="checkbox"/> Rater	<input type="checkbox"/> Employer

I attest that the above information is true and correct to the best of my knowledge. As a Rater or Rating Provider I abide by the rating quality control provisions of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). The national rating quality control provisions of the rating standard are contained in Chapter One 4.C.8 of the standard and are posted at <http://www.natresnet.org/accred/standards.pdf>. This home may have been verified under the provisions of Chapter Six, Section 603, "Technical Requirements for Sampling" of the Standard.

Daimon Doyle

Rater's Printed Name

WAHERS-0030

Certification #

January 05, 2011

Date

Rater's Signature

EnergySmart Home Scale QUALIFICATION FORM: PERFORMANCE PATH

Third-Party Verifiers should complete form and submit to:

MAIL: Builders Challenge, 3760 Tanglewood Lane, Davidsonville, MD 21035

EMAIL: builderschallenge@newportpartnersllc.com

FAX: 301-889-0019

ENERGY PERFORMANCE	
HouseType Single-family detached	Building Plan Number
Year built 2010 (Homes completed in 2007 or later may qualify if they meet the energy threshold and a third-party verifier can verify the Quality Criteria)	Square footage of conditioned space 973.0
	Number of Bedrooms 1
Site address (if not available, list the site Lot#) Painted Hills Unit Mitchell OR 97750	E-Scale Mailing Address (where E-Scale will be mailed) Attn: Daimon Doyle PO Box 13049 Olympia, WA 98508 (360) 464-4046
Registered Builder Kirby Nagelhout Construction (541) 389-7119 ChrisP@knccbend.com	Developer (if known)
Third Party Verifier Viridian Northwest Daimon Doyle (360) 464-4046 daimon@viridiannw.com www.viridiannw.com	E-Scale Score/ HERS Index (70-0) -15
	Date of Rating 11/29/2010
	Identification number WAHERS-0030
	Rating software (name and version used) REM/Rate - v12.9
	Estimated annual energy costs(\$) -107 Do you want this on the E-Scale? Yes No
	Estimated average monthly energy cost (\$) -9 Do you want this on the E-Scale? Yes No
Estimated annual energy use -2079 kWh (Electric)	Estimated annual energy savings (relative to reference home) 15478 kWh (Electric)
Energy cost rates 0.08 \$/kWh	Estimated emissions reductions (relative to reference home) 3.0 tons of Carbon Dioxide (CO2) 8.0 lbs of Sulfur Dioxide (SO2) 6.8 lbs of Nitrogen Oxides (NOx)

QUALITY CRITERIA CHECKLIST

- ☐ As the Third-Party verifier for this house, I certify that the house complies with all the 'Required' Builders Challenge Quality Criteria, as defined by the Builders Challenge Quality Criteria Checklist

ADDITIONAL INFORMATION

House will be certified under these programs (check all that apply):

- ☐ ENERGY STAR
- ☐ Environments for Living
- ☐ LEED for Homes
- ☐ National Green Building Standard

DRAFT

SUMMARY OF SELECTED REPORTS

File Name: Painted_Hills_Final.blg

Date: January 05, 2011

ENERGY ANALYSIS

Action Report

Ranks the building elements with the largest energy consumption on a component basis.

Air Leakage Report

Displays infiltration in all available units (regardless of the user input). Displays duct leakage in all available units if other than the qualitative default is selected. Also displays the building ventilation information.

Building File Report

Echoes the building inputs. Use for verification or documentation.

Builder Affidavit

Builder affirmation of construction characteristics, coupled with HERS Provider/Rater disclaimer.

Component Consumption Summary

Presents the heating and cooling energy consumption of the building on a component basis.

Component Load Summary

Presents the heating and cooling load of the building on a component basis.

Component Design Load Summary

Presents the heating and cooling design load (or sizing load) of the building on a component basis, in kBtuh.

Fuel Summary

Summarizes the end-use energy consumption by fuel type.

Energy Cost And Feature Report

Summarizes the annual heating, cooling, water heating and lights and appliance costs and the major energy design features of the home.

Equipment Sizing Summary

Provides information about sizing heating and cooling equipment to meet the peak loads and the minimum Sensible Heat Fraction (SHF).

Lights And Appliances Summary

Summarizes the annual lights and appliance costs of the home.

Performance Summary

Summarizes the annual loads, energy consumption, and energy costs for heating, cooling, water heating, and lights and appliances.

Performance Factors

Shows area normalized and climate normalized consumption.

Source Energy & Emissions Report

Summarizes the Carbon Dioxide (CO₂), Sulfur Dioxide (SO₂), and Nitrous Oxides (NO_x) emissions from the source (power plant) based on the type of fuel used at the home and the location. The emission data for all 50 states were obtained from the American Gas Association.

Emissions Report

Summarizes the absolute values for Carbon Dioxide (CO₂), Sulfur Dioxide (SO₂), and Nitrous Oxides (NO_x) emissions produced by the currently loaded building. Use the 2-building report option to display a meaningful comparison between two buildings.

2005 EPAct Tax Credit

The report indicates whether the home qualifies for tax credits under Section 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

CODE COMPLIANCE

ASHRAE 90.2 Envelope Component Compliance

Compare the Uo values of the home to the prescriptive requirements of ASHRAE Standard 90.2-1992

ASHRAE 90.2 Annual Energy Consumption Compliance

Compare the energy performance of the home to the requirements of ASHRAE Standard 90.2-1992.

EPA Indoor Air Plus Certificate

EPA Indoor Air Plus Certificate for qualified builders or HERS/BOP providers.

RATING

Home Energy Rating Certificate (HERC)

Provides a home energy rating index and annual energy cost estimate in accordance with the "Mortgage Industry National Home Energy Rating Systems Standards" as promulgated by the Residential Energy Services Network (RESNET).

HERC - Performance Home

Provides a home energy rating index and performance on an existing home in accordance with the "Mortgage Industry National Home Energy Rating Systems Standards" as promulgated by the Residential Energy Services Network (RESNET).

RESNET Standard Disclosure

To be completed for each home that receives a Home Energy Rating. Its purpose is to disclose the Rater's affiliation with the home at the time the final rating is issued.

Builder's Challenge

The U.S. Department of Energy (DOE) has posed a challenge to the homebuilding industry - to build 220,000 high performance homes by 2012. The initiative is called the Builders Challenge. This report can be used to submit a home to qualify for the challenge.