

Building Energy Data Exchange Specification (BEDES) Compliant Mapping

Date	2/16/2016
Implementation	AIA 2030 DDx
Implementation Version	
BEDES Version	V1.2

For more information about BEDES, please visit <https://bedes.lbl.gov/>

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
General Inputs	1. Input Building Specific	Project Name	[text entry]		Project Name Identifier	Identifier Label = "Project" Identifier Label = "Name" Identifier = [value] Identifier Label = "Project"	n/a		
	1. Input Building Specific	Project ID	[auto-generated]		Project Identifier	Identifier = [value] Identifier Label = "Project"	n/a		
	1. Input Building Specific	Project Category			Project Sector Classification	Identifier Label = "Project" Sector Classification = [value] Sector Classification = "Commercial" Sector Classification = "Residential" Sector Classification = "Custom"	n/a		BEDES: Sector Classification does not cover all AIA options
	1. Input Building Specific	Project Phase	Non-Residential Residential Interior-Only		Construction Status	Custom Sector Classification = "Interior Only" Construction Status = [value] Construction Status = "Conceptual design" Construction Status = "Schematic design" Construction Status = "Design development" Construction Status = "Construction documents" Construction Status = "Construction administration" Construction Status = "Occupancy" Construction Status = "Custom" Custom Construction Status = "Closed"	n/a		BEDES: OK, removed "." per BEDES convention of no punctuation characters
	1. Input Building Specific	Reporting Status	in-progress ready to submit submitted		Assessment Recognition Status	Assessment Recognition Status = [value] Assessment Recognition Status = "Started" Assessment Recognition Status = "Custom" Custom Assessment Recognition Status = "Ready to Submit" Assessment Recognition Status = "Submitted"	n/a		BEDES: Sometimes the mapping is selected based more on the available enumerations rather than the term itself. KS: Okay, incorporated "custom" for ready to submit
	1. Input Building Specific	Date of Submission	[mo/day/year]		Submitted Date	Date = [value] Contact Label = "Administrator" Contact Name = [value]	Format: CCYY-MM-DD		AIA: Review Contact Label options for better match
	1. Input Building Specific	Submitted by Whom	[text value]		Administrator Name	Construction Status = "Occupancy" Construction Status Date = [value]	n/a		
	1. Input Building Specific	Year of Occupancy	[numerical value]		Occupancy Construction Status Date	Assessment Program = [value] Assessment Level = [value]	Date Format: YYYY		
	1. Input Building Specific	Target Certification	Designed to Earn the ENERGY STAR ENERGY STAR for Homes Green Globes LEED Platinum LEED Gold LEED Silver LEED Certified Living Building Challenge Living Building Net Zero Certification Passive Haus		Assessment Program And Level	Assessment Program = "Custom" Custom Assessment Program = "Designed to Earn the ENERGY STAR" Assessment Program = "ENERGY STAR Certified Homes" Assessment Program = "Green Globes" Assessment Program = "LEED" Assessment Level = "Platinum" Assessment Program = "LEED" Assessment Level = "Gold" Assessment Program = "LEED" Assessment Level = "Silver" Assessment Program = "LEED" Assessment Level = "Certified" Assessment Program = "Living Building Challenge" Assessment Program = "Living Building Challenge" Assessment Recognition Status = "Net Zero Energy Building Certification" Assessment Program = "Passive House"			KS: OK
	1. Input Building Specific	SITES (Sustainable SITES Initiative)	Other None			Assessment Program = "Custom" Custom Assessment Program = "SITES (Sustainable SITES Initiative)" Assessment Program = "Other" Assessment Program = "None"			
	1. Input Building Specifications	Country	Algeria Angola Benin Botswana Cameroon Congo Cote d'Ivoire Democratic Republic of Congo Egypt Eritrea Ethiopia Gabon Ghana Kenya Libya Morocco Mozambique Namibia Nigeria Other Senegal		Country Name	Country Name = [value] Country Name="Algeria" Country Name=" Angola" Country Name=" Benin" Country Name=" Botswana" Country Name=" Cameroon" Country Name=" Congo" Country Name=" Cote d'Ivoire" Country Name=" Democratic Republic of Congo" Country Name=" Egypt" Country Name=" Eritrea" Country Name=" Ethiopia" Country Name=" Gabon" Country Name=" Ghana" Country Name=" Kenya" Country Name=" Libya" Country Name=" Morocco" Country Name=" Mozambique" Country Name=" Namibia" Country Name=" Nigeria" Country Name=" Other" Country Name=" Senegal"	n/a n/a		

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			South Africa			Country Name*	South Africa*		
			Sudan			Country Name*	Sudan*		
			Togo			Country Name*	Togo*		
			Tunisia			Country Name*	Tunisia*		
			United Republic of Tanzania			Country Name*	United Republic of Tanzania*		
			Zambia			Country Name*	Zambia*		
			Zimbabwe			Country Name*	Zimbabwe*		
			Australia			Country Name*	Australia*		
			Bangladesh			Country Name*	Bangladesh*		
			Brunei Darussalam			Country Name*	Brunei Darussalam*		
			China (including Hong Kong)			Country Name*	China (including Hong Kong)*		
			Chinese Taipei			Country Name*	Chinese Taipei*		
			Dem. People's Republic of Korea			Country Name*	Dem. People's Republic of Korea*		
			India			Country Name*	India*		
			Indonesia			Country Name*	Indonesia*		
			Japan			Country Name*	Japan*		
			Korea			Country Name*	Korea*		
			Malaysia			Country Name*	Malaysia*		
			Myanmar			Country Name*	Myanmar*		
			Nepal			Country Name*	Nepal*		
			New Zealand			Country Name*	New Zealand*		
			Other			Country Name*	Other*		
			Pakistan			Country Name*	Pakistan*		
			Philippines			Country Name*	Philippines*		
			Singapore			Country Name*	Singapore*		
			Sri Lanka			Country Name*	Sri Lanka*		
			Thailand			Country Name*	Thailand*		
			Vietnam			Country Name*	Vietnam*		
			Argentina			Country Name*	Argentina*		
			Bolivia			Country Name*	Bolivia*		
			Brazil			Country Name*	Brazil*		
			Chile			Country Name*	Chile*		
			Colombia			Country Name*	Colombia*		
			Costa Rica			Country Name*	Costa Rica*		
			Cuba			Country Name*	Cuba*		
			Dominican Republic			Country Name*	Dominican Republic*		
			Ecuador			Country Name*	Ecuador*		
			El Salvador			Country Name*	El Salvador*		
			Guatemala			Country Name*	Guatemala*		
			Haiti			Country Name*	Haiti*		
			Honduras			Country Name*	Honduras*		
			Jamaica			Country Name*	Jamaica*		
			Netherlands Antilles			Country Name*	Netherlands Antilles*		
			Nicaragua			Country Name*	Nicaragua*		
			Other			Country Name*	Other*		
			Panama			Country Name*	Panama*		
			Paraguay			Country Name*	Paraguay*		
			Per,			Country Name*	Per,*		
			Trinidad and Tobago			Country Name*	Trinidad and Tobago*		
			Uruguay			Country Name*	Uruguay*		
			Venezuela			Country Name*	Venezuela*		
			Albania			Country Name*	Albania*		
			Armenia			Country Name*	Armenia*		
			Azerbaijan			Country Name*	Azerbaijan*		
			Belarus			Country Name*	Belarus*		
			Bosnia-Herzegovina			Country Name*	Bosnia-Herzegovina*		
			Bulgaria			Country Name*	Bulgaria*		
			Croatia			Country Name*	Croatia*		
			Estonia			Country Name*	Estonia*		
			FYR of Macedonia			Country Name*	FYR of Macedonia*		
			Georgia			Country Name*	Georgia*		
			Kazakhstan			Country Name*	Kazakhstan*		
			Kyrgyzstan			Country Name*	Kyrgyzstan*		
			Latvia			Country Name*	Latvia*		
			Lithuania			Country Name*	Lithuania*		
			Malta			Country Name*	Malta*		
			Other			Country Name*	Other*		
			Republic of Moldova			Country Name*	Republic of Moldova*		
			Romania			Country Name*	Romania*		
			Russia			Country Name*	Russia*		
			Serbia and Montenegro			Country Name*	Serbia and Montenegro*		
			Slovenia			Country Name*	Slovenia*		
			Tajikistan			Country Name*	Tajikistan*		
			Turkmenistan			Country Name*	Turkmenistan*		
			Ukraine			Country Name*	Ukraine*		
			Uzbekistan			Country Name*	Uzbekistan*		
			Austria			Country Name*	Austria*		
			Belgium			Country Name*	Belgium*		
			Czech Republic			Country Name*	Czech Republic*		
			Denmark			Country Name*	Denmark*		
			Finland			Country Name*	Finland*		
			France			Country Name*	France*		
			Germany			Country Name*	Germany*		

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			Gibraltar			Country Name=" Gibraltar"			
			Greece			Country Name=" Greece"			
			Hungary			Country Name=" Hungary"			
			Iceland			Country Name=" Iceland"			
			Ireland			Country Name=" Ireland"			
			Italy			Country Name=" Italy"			
			Luxembourg			Country Name=" Luxembourg"			
			Netherlands			Country Name=" Netherlands"			
			Norway			Country Name=" Norway"			
			Other			Country Name=" Other"			
			Poland			Country Name=" Poland"			
			Portugal			Country Name=" Portugal"			
			Slovak Republic			Country Name=" Slovak Republic"			
			Spain			Country Name=" Spain"			
			Sweden			Country Name=" Sweden"			
			Switzerland			Country Name=" Switzerland"			
			Turkey			Country Name=" Turkey"			
			United Kingdom			Country Name=" United Kingdom"			
			Bahrain			Country Name=" Bahrain"			
			Cyprus			Country Name=" Cyprus"			
			Iraq			Country Name=" Iraq"			
			Islamic Republic of Iran			Country Name=" Islamic Republic of Iran"			
			Israel			Country Name=" Israel"			
			Jordan			Country Name=" Jordan"			
			Kuwait			Country Name=" Kuwait"			
			Lebanon			Country Name=" Lebanon"			
			Oman			Country Name=" Oman"			
			Other			Country Name=" Other"			
			Qatar			Country Name=" Qatar"			
			Saudi Arabia			Country Name=" Saudi Arabia"			
			Syria			Country Name=" Syria"			
			United Arab Emirates			Country Name=" United Arab Emirates"			
			Yemen			Country Name=" Yemen"			
			Canada			Country Name=" Canada"			
			Mexico			Country Name=" Mexico"			
			United States of America			Country Name=" United States of America"			
1. Input Building Specific	State	NA		State		State = [value]		n/a	
		Alabama				State = "AL"			
		Alaska				State = "AK"			
		Arizona				State = "AZ"			
		Arkansas				State = "AR"			
		California				State = "CA"			
		Colorado				State = "CO"			
		Connecticut				State = "CT"			
		Delaware				State = "DE"			
		District of Columbia				State = "DC"			
		Florida				State = "FL"			
		Georgia				State = "GA"			
		Hawaii				State = "HI"			
		Idaho				State = "ID"			
		Illinois				State = "IL"			
		Indiana				State = "IN"			
		Iowa				State = "IA"			
		Kansas				State = "KS"			
		Kentucky				State = "KY"			
		Louisiana				State = "LA"			
		Maine				State = "ME"			
		Maryland				State = "MD"			
		Massachusetts				State = "MA"			
		Michigan				State = "MI"			
		Minnesota				State = "MN"			
		Mississippi				State = "MS"			
		Missouri				State = "MO"			
		Montana				State = "MT"			
		Nebraska				State = "NE"			
		Nevada				State = "NV"			
		New Hampshire				State = "NH"			
		New Jersey				State = "NJ"			
		New Mexico				State = "NM"			
		New York				State = "NY"			
		North Carolina				State = "NC"			
		North Dakota				State = "ND"			
		Ohio				State = "OH"			
		Oklahoma				State = "OK"			
		Oregon				State = "OR"			
		Pennsylvania				State = "PA"			
		Rhode Island				State = "RI"			
		South Carolina				State = "SC"			
		South Dakota				State = "SD"			
		Tennessee				State = "TN"			
		Texas				State = "TX"			
		Utah				State = "UT"			
		Vermont				State = "VT"			

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			Virginia			State = "VA"			
			Washington			State = "WA"			
			West Virginia			State = "WV"			
			Wisconsin			State = "WI"			
			Wyoming			State = "WY"			
	1. Input Building Specific	US Zip Code	[numerical value]		Zip Code	Zip Code = [value]	n/a		
	1. Input Building Specific	International City	[text entry]		City	City = [value]	n/a		
	1. Input Building Specific	Reporting Year	[Year Selection]		Assessment Year	Assessment Recognition Status = "Submitted"			
	1. Input Building Specific	Office Location	[text entry]		OR	Date = [value]			
	1. Input Building Specific	Use Type 1			Submitted Year	Date Format = "Year"			
			Bank/Financial Institution		Premises	Contact Label = "Premises"	n/a		
			Courthouse		Spatial Unit Type	Spatial Unit Type = [value]			
			Data Center		Spatial Unit Type	Spatial Unit Type = "Bank/Financial Institution"			
			Education - College/University (campus-level)		Spatial Unit Type	Spatial Unit Type = "Courthouse"			
			Education - General		Spatial Unit Type	Spatial Unit Type = "Data Center"			
			Education - K-12 School		Spatial Unit Type	Spatial Unit Type = "Education - College/University (campus-level)"			
			station)		Spatial Unit Type	Spatial Unit Type = "Education - General"			
			Food Sales - General		Spatial Unit Type	Spatial Unit Type = "Education - K-12 School"			
			Food Sales - Supermarket/Grocery		Spatial Unit Type	Spatial Unit Type = "Food Sales - Convenience Store (w/ or w/out gas station)"			
			Food Service - Fast Food		Spatial Unit Type	Spatial Unit Type = "Food Sales - General"			
			Food Service - General		Spatial Unit Type	Spatial Unit Type = "Food Sales - Supermarket/Grocery"			
			Food Service - Restaurant/Cafeteria		Spatial Unit Type	Spatial Unit Type = "Food Service - Fast Food"			
			Health Care - Clinic		Spatial Unit Type	Spatial Unit Type = "Food Service - General"			
			Health Care - Hospital Inpatient		Spatial Unit Type	Spatial Unit Type = "Food Service - Restaurant/Cafeteria"			
			Health Care - Medical Office		Spatial Unit Type	Spatial Unit Type = "Health Care - Clinic"			
			Health Care - Nursing/Assisted Living		Spatial Unit Type	Spatial Unit Type = "Health Care - Hospital Inpatient"			
			Health Care - Outpatient - General		Spatial Unit Type	Spatial Unit Type = "Health Care - Medical Office"			
			Laboratory		Spatial Unit Type	Spatial Unit Type = "Health Care - Nursing/Assisted Living"			
			Lodging - General		Spatial Unit Type	Spatial Unit Type = "Health Care - Outpatient - General"			
			Lodging - Hotel/Motel		Spatial Unit Type	Spatial Unit Type = "Laboratory"			
			Lodging - Residence Hall/Dormitory		Spatial Unit Type	Spatial Unit Type = "Lodging - General"			
			Mixed Use		Spatial Unit Type	Spatial Unit Type = "Lodging - Hotel/Motel"			
			Office - Small (< 10,000 sf)		Spatial Unit Type	Spatial Unit Type = "Lodging - Residence Hall/Dormitory"			
			Office - Medium (< 100,000 sf)		Spatial Unit Type	Spatial Unit Type = "Mixed Use"			
			Office - Large (> 100,001 sf)		Spatial Unit Type	Spatial Unit Type = "Office - Small (< 10,000 sf)"			
			Public Assembly - Entertainment/Culture		Spatial Unit Type	Spatial Unit Type = "Office - Medium (< 100,000 sf)"			
			Public Assembly - General		Spatial Unit Type	Spatial Unit Type = "Office - Large (> 100,001 sf)"			
			Public Assembly - Library		Spatial Unit Type	Spatial Unit Type = "Public Assembly - Entertainment/Culture"			
			Public Assembly - Recreation		Spatial Unit Type	Spatial Unit Type = "Public Assembly - General"			
			Public Assembly - Social/Meeting		Spatial Unit Type	Spatial Unit Type = "Public Assembly - Library"			
			Public Safety - Fire/Police Station		Spatial Unit Type	Spatial Unit Type = "Public Assembly - Recreation"			
			Public Safety - General		Spatial Unit Type	Spatial Unit Type = "Public Assembly - Social/Meeting"			
			Religious Worship		Spatial Unit Type	Spatial Unit Type = "Public Safety - Fire/Police Station"			
			Residential Mid Rise/High Rise		Spatial Unit Type	Spatial Unit Type = "Public Safety - General"			
			Residential - Mobile Homes		Spatial Unit Type	Spatial Unit Type = "Religious Worship"			
			Residential - Multi-Family, 2 to 4 units		Spatial Unit Type	Spatial Unit Type = "Residential Mid Rise/High Rise"			
			Residential - Multi-Family, 5 or more units		Spatial Unit Type	Spatial Unit Type = "Residential - Mobile Homes"			
			Residential - Single-Family Attached		Spatial Unit Type	Spatial Unit Type = "Residential - Multi-Family, 2 to 4 units"			
			Residential - Single-Family Detached		Spatial Unit Type	Spatial Unit Type = "Residential - Multi-Family, 5 or more units"			
			Retail - Mall		Spatial Unit Type	Spatial Unit Type = "Residential - Single-Family Attached"			
			Retail - Non-mall, Vehicle Dealerships, misc.		Spatial Unit Type	Spatial Unit Type = "Residential - Single-Family Detached"			
			Retail Store		Spatial Unit Type	Spatial Unit Type = "Retail - Mall"			
			Service (vehicle repair/service, postal service)		Spatial Unit Type	Spatial Unit Type = "Retail - Non-mall, Vehicle Dealerships, misc."			
			Storage - Distribution/Shipping Center		Spatial Unit Type	Spatial Unit Type = "Retail Store"			
			Storage - General		Spatial Unit Type	Spatial Unit Type = "Service (vehicle repair/service, postal service)"			
			Storage - Non-refrigerated warehouse		Spatial Unit Type	Spatial Unit Type = "Storage - Distribution/Shipping Center"			
			Storage - Refrigerated warehouse		Spatial Unit Type	Spatial Unit Type = "Storage - General"			
			Warehouse - Self-storage		Spatial Unit Type	Spatial Unit Type = "Storage - Non-refrigerated warehouse"			
			Other		Spatial Unit Type	Spatial Unit Type = "Storage - Refrigerated warehouse"			
					Spatial Unit Type	Spatial Unit Type = "Warehouse - Self-storage"			
					Spatial Unit Type	Spatial Unit Type = "Other"			
	1. Input Building Specific	Use Type 1 Area (GSF)	[numerical value]	ft2	Spatial Unit Type 1 Gross Area	Floor Area Qualifier = "Gross"			
	1. Input Building Specific	Use Type 2	[same selections as Use Type 1]		Spatial Unit Type 2	Area = [value]			
						Spatial Unit Type = [value]			
						Spatial Unit Type = [value]			
						Floor Area Qualifier = "Gross"			
	1. Input Building Specific	Use Type 2 Area (GSF)	[numerical value]	ft2	Spatial Unit Type 2 Gross Area	Area = [value]			
	1. Input Building Specific	Use Type 3	[same selections as Use Type 1]		Spatial Unit Type 3 Gross Area	Spatial Unit Type = [value]			
						Spatial Unit Type = [value]			
						Floor Area Qualifier = "Gross"			
	1. Input Building Specific	Use Type 3 Area (GSF)	[numerical value]	ft2	Spatial Unit Type 3 Gross Area	Area = [value]			

This is an important identifier for the year the project data was submitted. No BEDES terms seem to address this because all of the year fields are related to existing buildings. Could be "Project Phase Year", if "Reporting Year" is not distinct enough.

BEDES: What is the data being submitted for? If assessment of some kind is the purpose then "Assessment Year" is appropriate. If for some other purpose, you could still use Assessment Recognition Status = "Submitted" + Date = [value] + Date Format = "Year" to get "Submitted Date" or "Submitted Year"

KS: Project data per project stage is to be submitted associated with an AIA 2030 Commitment yearly period (Apr. 1 to Mar. 31st). AIA then develops an annual report based on the projects and project phases submitted. No the Reporting Year just defines what AIA reporting year that project phase was submitted

BEDES: Your data structure would have to associate each of multiple Gross Area values with its associated Spatial Unit Type. BEDES does not include methods for defining data structures.

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
	1. Input Building Specific	Total Area (GSF)	[calculated value]	ft2	Total Spatial Unit Type Gross Area	Area = Spatial Unit Type 1 Gross Area + Spatial Unit Type 2 Gross Area + Spatial Unit Type 3 Gross Area			No Mapping. The value is created by adding the areas for the spatial unit types, if applicable. RH: Then what's wrong with a term of Gross Floor Area?
	2. Establish Predicted an	Status of Energy Model	Has been modeled.		Energy Model Temporal Status	Temporal Status = "Custom" Custom Temporal Status = "Modeled"			BEDES: We have a number of "status" terms like "Implementation Status", "Temporal Status", "Account Status", etc., including a generic "Date Status". None of these is specific to Energy Modeling, and they do not have the specific enumerated values you have. If any of the existing status terms fit, you could use Custom to add your specific enums. Otherwise, indicate NO MAPPING. KS: Okay. Proposed a custom approachy.
			Will be modeled in the future. Target EUI has been established.			Temporal Status = "Custom"			
			Will be modeled in the future. Target EUI has not been established.			Custom Temporal Status = "Will be Modeled, EUI established"			
			Will not be modeled.			Temporal Status = "Custom"			
						Custom Temporal Status = "Will be Modeled, EUI Not established"			
	2. Establish Predicted an	Design Energy Code			Building Energy Code Or Standard	Custom Temporal Status = "Custom" Building Energy Code Or Standard = [value] Building Energy Code Or Standard Version = [value] Building Energy Code Year = [value] Building Energy Code Or Standard = "ASHRAE" Building Energy Code Or Standard Version = "90.1" Building Energy Code Year = 1999 Building Energy Code Or Standard = "ASHRAE" Building Energy Code Or Standard Version = "90.1" Building Energy Code Year = 2001 Building Energy Code Or Standard = "ASHRAE" Building Energy Code Or Standard Version = "90.1" Building Energy Code Year = 2004 Building Energy Code Or Standard = "ASHRAE" Building Energy Code Or Standard Version = "90.1" Building Energy Code Year = 2007 Building Energy Code Or Standard = "ASHRAE" Building Energy Code Or Standard Version = "90.1" Building Energy Code Year = 2010 Building Energy Code Or Standard = "ASHRAE" Building Energy Code Or Standard Version = "90.1" Building Energy Code Year = 2013 Building Energy Code Or Standard = "California Title 24" Building Energy Code Or Standard Version = "High Rise Residential" Building Energy Code Year = 2005 Building Energy Code Or Standard = "California Title 24" Building Energy Code Or Standard Version = "Single Family Residential" Building Energy Code Year = 2005 Building Energy Code Or Standard = "California Title 24" Building Energy Code Year = 2008 Building Energy Code Or Standard = "California Title 24" Building Energy Code Year = 2010 Building Energy Code Or Standard = "California Title 24" Building Energy Code Or Standard Version = "Non-Residential" Building Energy Code Year = 2008 Building Energy Code Or Standard = "California Title 24" Building Energy Code Or Standard Version = "Residential" Building Energy Code Year = 2005 Building Energy Code Or Standard = "California Title 24" Building Energy Code Or Standard Version = "Residential" Building Energy Code Year = 2008 Building Energy Code Or Standard = "IECC" Building Energy Code Year = 2003 Building Energy Code Or Standard = "IECC" Building Energy Code Year = 2006 Building Energy Code Or Standard = "IECC" Building Energy Code Year = 2009 Building Energy Code Or Standard = "IECC" Building Energy Code Year = 2012 Building Energy Code Or Standard = "Older than 1999" Building Energy Code Or Standard = "Oregon Energy Efficiency Specialty Code" Building Energy Code Year = 2010 Building Energy Code Or Standard = "Oregon Energy Code" Building Energy Code Or Standard = "Washington State Energy Code" Building Energy Code Year = 2012 Building Energy Code Or Standard = "Washington Energy Code"	n/a n/a Year Format from Metadata		
			ASHRAE 90.1-1999						
			ASHRAE 90.1-2001						
			ASHRAE 90.1-2004						
			ASHRAE 90.1-2007						
			ASHRAE 90.1-2010						
			ASHRAE 90.1-2013						
			California Title 24 2005 for high rise residential						
			California Title 24 2005 for single family residential						
			California Title 24 2008						
			California Title 24 2010						
			California Title 24 Non-Residential 2008						
			California Title 24 Residential 2005						
			California Title 24 Residential 2008						
			IECC 2003						
			IECC 2006						
			IECC 2009						
			IECC 2012						
			Older than 1999						
			Oregon Energy Efficiency Specialty Code 2010						
			Oregon Energy Code						
			Washington State Energy Code 2012						
			Washington Energy Code						
	2. Establish Predicted an	Will Energy Use Data be Collected	[Yes/No]		Energy Modeler	Contact Label = "Energy Modeler" Energy Modeler = [value] Energy Modeler = "Architecture Team" Energy Modeler = "Design Engineer" Energy Modeler = "Modeling Consultant" Energy Modeler = "Other"			
	2. Establish Predicted an	Responsible Party for Energy Model							
			Architecture Team						
			Design Engineer						
			Modeling Consultant						
			Other						
	2. Establish Predicted an	Energy Modeling Tool	DOE-2.1E/EnergyPro		Energy Software Tool	Energy Software Tool = [value]	n/a		

DOx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			DOE-2.1E/VisualDOE			Energy Software Tool = "DOE-2.1E/VisualDOE"			
			DOE-2.1E/Other			Energy Software Tool = "DOE-2.1E/Other"			
			DOE-2.2/eQuest			Energy Software Tool = "DOE-2.2/eQuest"			
			DOE-2.2/GreenBuildingStudio			Energy Software Tool = "DOE-2.2/GreenBuildingStudio"			
			DOE-2.2/Vasari			Energy Software Tool = "DOE-2.2/Vasari"			
			DOE-2.2/Other			Energy Software Tool = "DOE-2.2/Other"			
			Ecotect			Energy Software Tool = "Ecotect"			
			EnergyPlus/AECOSim Energy Simulator			Energy Software Tool = "EnergyPlus/AECOSim Energy Simulator"			
			EnergyPlus/DesignBuilder			Energy Software Tool = "EnergyPlus/DesignBuilder"			
			EnergyPlus/gEnergy			Energy Software Tool = "EnergyPlus/gEnergy"			
			EnergyPlus/Hevacomp			Energy Software Tool = "EnergyPlus/Hevacomp"			
			EnergyPlus/IDF Editor			Energy Software Tool = "EnergyPlus/IDF Editor"			
			EnergyPlus/OpenStudio			Energy Software Tool = "EnergyPlus/OpenStudio"			
			EnergyPlus/N++			Energy Software Tool = "EnergyPlus/N++"			
			EnergyPlus/Sefaira Architecture			Energy Software Tool = "EnergyPlus/Sefaira Architecture"			
			EnergyPlus/Sefaira Systems			Energy Software Tool = "EnergyPlus/Sefaira Systems"			
			EnergyPlus/Smimery			Energy Software Tool = "EnergyPlus/Smimery"			
			EnergyPlus/Other			Energy Software Tool = "EnergyPlus/Other"			
			ESP-r			Energy Software Tool = "ESP-r"			
			HAP			Energy Software Tool = "HAP"			
			IDA Indoor Climate and Energy			Energy Software Tool = "IDA Indoor Climate and Energy"			
			TAS			Energy Software Tool = "TAS"			
			TRACE 700			Energy Software Tool = "TRACE 700"			
			TRNSYS			Energy Software Tool = "TRNSYS"			
			Virtual Environment			Energy Software Tool = "Virtual Environment"			
			Other energy simulation tool			Energy Software Tool = "Other energy simulation tool"			
			30% design/retrofit guide			Energy Software Tool = "30% design/retrofit guide"			
			50% design/retrofit guide			Energy Software Tool = "50% design/retrofit guide"			
			Other design/retrofit guide			Energy Software Tool = "Other design/retrofit guide"			
2. Establish Predicted an	Time Spent on Energy Modeling				Modeled Interval Duration	Derivation Method = "Modeled" Interval Duration = [value] Unit Of Measure = hours	hours		Set up as a "custom" label BEDES: Modeled Interval Duration would be a decimal value rather than constrained list of enums. So this may be NO MAPPING KS: Included. Set Interval Duration to upper limit for each range. Unit of measure is hours
			0-20			Interval Duration = "20"			
			20-40			Interval Duration = "40"			
			40-120			Interval Duration = "120"			
			120-300			Interval Duration = "300"			
			300+			Interval Duration = "301"			
2. Establish Predicted an	Electricity Produced Off-site (kWh/yr)	[numerical value]		kWh/yr	Annual Offsite Electricity Resource Value	Interval Frequency = "Annual" Resource Boundary = "Offsite" Resource = "Electricity" Resource Value = [value] Unit Of Measure = "kWh"	kWh		AIA: May not require Delivered qualifier? Agree that this qualifier is not required KS: "Delivered" was pulled
2. Establish Predicted an	(therms/yr)	[numerical value]		therms/yr	Annual Onsite Natural Gas Resource Value	Interval Frequency = "Annual" Resource Boundary = "Onsite" Resource = "Natural gas" Resource Value = [value] Unit Of Measure = "therms"	therms		
2. Establish Predicted an	District Steam (MBTU/yr)	[numerical value]		MBTU/yr	Annual District Steam Resource Value	Interval Frequency = "Annual" Resource = "District steam" Resource Value = [value] Unit Of Measure = "MMBtu"	MMBtu		AIA: Do you really need qualifiers like Onsite? Consider consistency across these values. Value, and Unit Of Measure
2. Establish Predicted an	District Hot Water (MBTU/yr)	[numerical value]		MBTU/yr	Annual District Hot Water Resource Value	Interval Frequency = "Annual" Resource = "District Hot Water" Resource Value = [value] Unit Of Measure = "MMBtu"	MMBtu		
2. Establish Predicted an	District Chilled Water (MBTU/yr)	[numerical value]		MBTU/yr	Annual District Chilled Water Resource Value	Interval Frequency = "Annual" Resource = "District Chilled Water" Resource Value = [value] Unit Of Measure = "MMBtu"	MMBtu		
2. Establish Predicted an	Chiller Type			Chiller Type	Chiller Compressor Driver	HVAC = "Chiller Compressor Driver" Chiller Compressor Driver = [value] Chiller Compressor Driver = "Electric Driven" Chiller Compressor Driver = "Nat. Gas Absorption" Chiller Compressor Driver = "Nat. Gas Engine Driven"			
2. Establish Predicted an	Diesel (MBTU/yr)	[numerical value]	Electric Driven Nat. Gas Absorption Nat. Gas Engine Driven	MBTU/yr	Annual Fuel Oil No. 1 Resource Value	Interval Frequency = "Annual" Resource = "Fuel Oil no 1" Resource Value = [value] Unit Of Measure = N/A			How to vary this for project types of residential? KS: Including all fuel oil options RH: If it's called "Diesel" in AIA, why not just go with Resource = "Diesel"?
					Annual Fuel Oil No. 2 Resource Value	Interval Frequency = "Annual" Resource = "Fuel Oil no 2" Resource Value = [value] Unit Of Measure = N/A			
					Annual Fuel Oil No. 4 Resource Value	Interval Frequency = "Annual" Resource = "Fuel Oil no 4" Resource Value = [value] Unit Of Measure = N/A			
					Annual Fuel Oil No. 5 and No. 6 Resource Value	Interval Frequency = "Annual" Resource = "Fuel Oil no 5 and no 6"			

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
	2. Establish Predicted an	(MBTU/yr)	[numerical value]	MBTU/yr	Annual Onsite Renewable Electricity Resource Value	Resource Value = [value] Unit Of Measure = N/A			
	2. Establish Predicted an	(kBtu/sf/yr)	[numerical value]	kBtu/sf/yr	Annual Site Energy Resource Intensity	Interval Frequency = "Annual" Resource Boundary = "Onsite" Resource Generation = "Renewable" Resource = "Electricity" Resource Value = [value] Unit Of Measure = "kWh" Interval Frequency = "Annual" Resource Boundary = "Site" Resource = "Energy" Resource Intensity = [value] Unit Of Measure = "kBtu/ft2"	kBtu/ft2	Multiply by 3412.14	Converting from kWh to Million Btu
	2. Establish Predicted an	(kBtu/sf/yr)	[numerical value]	kBtu/sf/yr	Annual Source Energy Resource Intensity	Interval Frequency = "Annual" Resource Boundary = "Source" Resource = "Energy" Resource Intensity = [value] Unit Of Measure = "kBtu/ft2"	kBtu/ft2		
	2. Establish Predicted an	CO2e/sf/yr)	[numerical value]	MT CO2e/sf/yr	Direct Annual CO2e Emissions Value	Interval Frequency = "Annual" Emission Boundary = "Direct" Emission Gas Type = "CO2e" Emissions Value = [value] Unit Of Measure = "kg CO2e"	kg CO2e		
	2. Establish Predicted an	Design GHG Emissions Intensity (MBTU/yr)	[numerical value]	MBTU/yr	Direct Annual CO2e Emissions Intensity	Emission Boundary = "Direct" Emission Gas Type = "CO2e" Emissions Intensity = [value] Unit Of Measure = "kg CO2e/ft"	kg CO2e/f		
	2. Establish Predicted an	Define Baseline Approach			Baseline	Temporal Status = "Baseline" Baseline = "Custom"			Does this need to be set up as a "custom" label? KS: I believe so RH: You can't technically use custom Baseline values like this. You need to ident
			National/Regional Avg./Median from ENERGY STAR® Target Finder National Average Other Regional Average User defined- special cases ASHRAE 90.1-2007			Custom Baseline = "ENERGY STAR Target Finder" Custom Baseline = "National Average" Custom Baseline = "User Defined" Custom Baseline = "Reginal Average" Custom Baseline = "User defined -special cases" Custom Baseline = "ASHRAE 90.1-2007"			
	2. Establish Predicted an	% PEUI Reduction	[numerical value]	%					
	2. Establish Predicted an	PREDICTED EUI (kBtu/sf/yr)	[numerical value]	kBtu/sf/yr	Estimated Annual Energy Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Design Target" Interval Frequency = "Annual" Resource = "Energy" Resource Intensity = [value] Unit Of Measure = "kBtu/ft2"	kBtu/ft2		Should Derivation Method be "modeled" for projects with energy models? Does "site" need to be specified to differentiate from "source"
	2. Establish Predicted an	Baseline EUI (kBtu/sf/yr)	[numerical value]	kBtu/sf/yr	Estimated Annual Energy Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Baseline" Interval Frequency = "Annual" Resource = "Energy" Resource Intensity = [value] Unit Of Measure = "kBtu/ft2"	kBtu/ft2		
	2. Establish Predicted an	Goal EUI (kBtu/sf/yr)	[numerical value]	kBtu/sf/yr	Estimated Annual Energy Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Target" Interval Frequency = "Annual" Resource = "Energy" Resource Intensity = [value] Unit Of Measure = "kBtu/ft2"	kBtu/ft2		Not sure if this is structured correctly
	2. Establish Predicted an	% LPD Reduction	[numerical value]	%	Lighting Electric Power Resource Savings	Resource Intensity = [value] Unit Of Measure = "kBtu/ft2" Load Category = "Lighting" Resource = "Electric power" Resource Savings = [value] Unit of Measure = "Percent"			
	2. Establish Predicted an	PREDICTED LPD	[numerical value]	W/sf	Estimated Design Target Lighting Electric Power Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Design Target"			
	2. Establish Predicted an	BASELINE LPD	[numerical value]	W/sf	Estimated Baseline Lighting Electric Power Resource Intensity	Load Category = "Lighting" Resource = "Electric power" Resource Intensity = [value] Unit Of Measure = "W/ft2"	W/ft2		
	2. Establish Predicted an	GOAL LPD	[numerical value]	W/sf	Estimated Target Lighting Electric Power Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Baseline"			
						Load Category = "Lighting" Resource = "Electric power" Resource Intensity = [value] Unit Of Measure = "W/ft2"	W/ft2		
	3. Additional Inputs	Lighting Power Density (W/sf)	[numerical value]	W/sf	Lighting Electric Power Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Target"			Same as PREDICTED LPD. An option for whole building projects
						Load Category = "Lighting" Resource = "Electric power" Resource Intensity = [value] Unit Of Measure = "W/ft2"	W/ft2		
	3. Additional Inputs	Window to Wall Ratio %	[numerical value]	%	Window to Wall Ratio	Envelope = "Window to Wall Ratio"	N/A		

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes	
	3. Additional Inputs	Occupancy Sensors Included	[Yes/No]		Occupancy Sensor Type	Window to Wall Ratio = [value] Controls and Operations = "Sensor Type" Sensor Type = [value]	N/A			
	3. Additional Inputs	Daylighting Sensors Included	[Yes/No]		Photosensor Sensor Type	Controls and Operations = "Sensor Type" Sensor Type = [value]	N/A			
	3. Additional Inputs	Renewables Type			Energy Generation Technology	Generation and Storage Equipment = "Energy Generation Technology" Energy Generation Technology = [value] Energy Generation Technology = "Photovoltaic" Energy Generation Technology = "Turbine" Energy Generation Technology = "Solar Thermal System Collector" Energy Generation Technology = "None"	N/A			
			PV							
			Wind Turbine							
			Solar Thermal							
			None							
	3. Additional Inputs	Water: Reduction in potable water per LEED	[Yes/No]			No Mapping			BEDES: This seems like it should be a constrained list of Water Measures. That said, BEDES does not have a term like that. BEDES: BEDES chose not to list Measures explicitly due to unlimited possibilities.	
	3. Additional Inputs	Water: Only non-potable used for irrigation (or no irrigation)	[Yes/No]			No Mapping				
	3. Additional Inputs	Water: Any water collected for reuse	[Yes/No]		Reclaimed Water System	No Mapping			Water Storage Technology: Reclaimed Water System - custom value for Yes/No? KS: Currently it is a Yes/No, so listing as "No Mapping"	
	3. Additional Inputs	Model	[numerical value]	kBtu/sf/yr	Estimated Baseline Annual Energy Resource Intensity	Derivation Method = "Estimated" Temporal Status = "Baseline" Interval Frequency = "Annual" Resource = "Energy" Resource Intensity = [value] Unit Of Measure = "kBtu/ft2" Contact = "Full Name" Full Name = [value]				
	4. Inputs Responsibility	Inputs Responsibility	[selection from firm user list]		Contact	Conditioning Status = "Conditioned" Area = [value] Envelope = "Footprint Shape" Footprint Shape = [value] Footprint Shape = "Rectangular" Footprint Shape = "L-shape" Footprint Shape = "H-shape" Footprint Shape = "T-shape" Footprint Shape = "U-shape" Footprint Shape = "Custom" Custom Footprint Shape = "Freeform" Footprint Shape = "Other" Width = [value] Length = [value] Spatial Unit Type = [value] Floor Area Qualifier = "Gross" Area = [value] Spatial Unit Type = "Floor" Location = "Above grade" Quantity = [value] Occupant Quantity Type = "Peak total occupants" Quantity = [value] Azimuth = [value] Spatial Unit Type = "Floor" Location = "Below grade" Quantity = [value] Schedule Day = "Weekday" Day Start Time = [value] Schedule Day = "Weekday" Day End Time = [value] Schedule Day = "Saturday" Day Start Time = [value] Schedule Day = "Saturday" Day End Time = [value] Schedule Day = "Saturday" Occupant Quantity Type = "Capacity Percentage" Quantity = [value] Schedule Day = "Sunday" Day Start Time = [value] Schedule Day = "Sunday" Day End Time = [value] Schedule Day = "Sunday" Occupant Quantity Type = "Capacity Percentage" Quantity = [value] Capacity Percentage = [value] Height = [value] Interval Measure = "Average" Floor Height Measurement = "Floor to ceiling height" Height = [value] Location = "Ground floor" Opaque surface = "Floor" Material = [value] Material = "concrete"				
BUILDING ENVELOPE (Non-Res)	1. Building (Non-Res)	Conditioned Area(Use Type 1)	[numerical value]	ft2	Conditioned Area		ft2			
	1. Building (Non-Res)	Footprint Shape(Use Type 1)			Footprint Shape	Envelope = "Footprint Shape" Footprint Shape = [value] Footprint Shape = "Rectangular" Footprint Shape = "L-shape" Footprint Shape = "H-shape" Footprint Shape = "T-shape" Footprint Shape = "U-shape" Footprint Shape = "Custom" Custom Footprint Shape = "Freeform" Footprint Shape = "Other"	N/A			
			Rectangle							
			L-shape							
			H-shape							
			T-shape							
			U-shape							
			Freeform						Custom Value	
			Other							
	1. Building (Non-Res)	Bounding Box Width(Use Type 1)	[numerical value]	ft	Width	Width = [value]	ft			
	1. Building (Non-Res)	Bounding Box Length(Use Type 1)	[numerical value]	ft	Length	Length = [value] Spatial Unit Type = [value] Floor Area Qualifier = "Gross" Area = [value]				
	1. Building (Non-Res)	Area(Use Type 1)	[numerical value]	ft2	Spatial Unit Type 1 Gross Area	Spatial Unit Type = "Floor" Location = "Above grade" Quantity = [value]	n/a			
	1. Building (Non-Res)	Stories Above ground(Use Type 1)	[numerical value]		Floor Above Grade Quantity	Occupant Quantity Type = "Peak total occupants" Quantity = [value] Azimuth = [value]	n/a			
	1. Building (Non-Res)	Occupants(Use Type 1)	[numerical value]		Peak Total Occupants Quantity	Spatial Unit Type = "Floor" Location = "Below grade" Quantity = [value]	n/a			
	1. Building (Non-Res)	Orientation(Use Type 1)	[numerical value]	degrees from North	Azimuth	Azimuth = [value]	degrees			
	1. Building (Non-Res)	Stories Below ground(Use Type 1)	[numerical value]		Floor Below Grade Quantity	Spatial Unit Type = "Floor" Location = "Below grade" Quantity = [value]	n/a			
	1. Building (Non-Res)	Weekdays Open Time(Use Type 1)	[24 hour selection]	hour	Weekday Start Time	Schedule Day = "Weekday" Day Start Time = [value]	Format: Military Time			
	1. Building (Non-Res)	Weekdays Close Time(Use Type 1)	[24 hour selection]	hour	Weekday End Time	Schedule Day = "Weekday" Day End Time = [value]	Format: Military Time			
	1. Building (Non-Res)	Saturdays Open Time(Use Type 1)	[24 hour selection]	hour	Saturday Start Time	Schedule Day = "Saturday" Day Start Time = [value]	Format: Military Time			
	1. Building (Non-Res)	Saturdays Close Time(Use Type 1)	[24 hour selection]	hour	Saturday End Time	Schedule Day = "Saturday" Day End Time = [value]	Format: Military Time			
	1. Building (Non-Res)	Saturdays Occupancy(Use Type 1)	[numerical value]	%	Saturday Occupant Capacity Percentage	Schedule Day = "Saturday" Occupant Quantity Type = "Capacity Percentage" Quantity = [value]	%			
	1. Building (Non-Res)	Sundays Open Time(Use Type 1)	[24 hour selection]	hour	Sunday Start Time	Schedule Day = "Sunday" Day Start Time = [value]	Format: Military Time			
	1. Building (Non-Res)	Sundays Close Time(Use Type 1)	[24 hour selection]	hour	Sunday End Time	Schedule Day = "Sunday" Day End Time = [value]	Format: Military Time			
	1. Building (Non-Res)	Sundays Occupancy(Use Type 1)	[numerical value]	%	Sunday Occupant Capacity Percentage	Schedule Day = "Sunday" Occupant Quantity Type = "Capacity Percentage" Quantity = [value] Capacity Percentage = [value]	%			
	1. Building (Non-Res)	Floor to Floor Height(Use Type 1)	[numerical value]	ft	Floor To Floor Height	Floor Height Measurement = "Floor to floor height" Height = [value]	ft			
	1. Building (Non-Res)	Average Floor to Ceiling Height(Use Type 1)	[numerical value]	ft	Average Floor to Ceiling Height	Interval Measure = "Average" Floor Height Measurement = "Floor to ceiling height" Height = [value]	ft			
	2. Envelope (Non-Res)	Ground Floor(Use Type 1)			Ground Floor Floor Material	Location = "Ground floor" Opaque surface = "Floor" Material = [value] Material = "concrete"				
			Concrete							

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			Slab on Grade			Material = "concrete" Location = "On grade"			
			Steel			Material = "Steel"			
			Wood			Material = "Wood"			
2. Envelope (Non-Res)	Ground Floor R Value(Use Type 1)	[numerical value]		°F-ft ² -h/RTU	Ground Floor Floor R Value	Location = "Ground floor" Opaque surface = "Floor" R Value = [value]	°F-ft ² -h/RTU		
2. Envelope (Non-Res)	Exterior Walls(Use Type 1)				Exterior Wall Construction Method And Finish	Location = "Exterior" Opaque surface = "Wall" Construction Method = [value] Finish = [value] Construction Method = "Concrete masonry unit" Finish = "Brick" Construction Method = "Steel frame" Finish = "Brick" Construction Method = "Wood frame" Finish = "Brick" Construction Method = "Custom" Custom Construction Method = "Curtain Wall" Finish = "Custom" Custom Finish = "Metal Panel" Construction Method = "Steel Frame" Finish = "Custom" Custom Finish = "Siding" Construction Method = "Steel Frame" Finish = "Custom" Custom Finish = "Rainscreen" Construction Method = "Wood Frame" Finish = "Custom" Custom Finish = "Siding" Construction Method = "Wood Frame" Finish = "Custom" Custom Finish = "Rainscreen"	°F-ft ² -h/RTU		
			Brick/stone on Masonry			Construction Method = "Concrete masonry unit"			
			Brick/stone on Steel Frame			Finish = "Brick"			
			Brick/stone on Wood Frame			Construction Method = "Steel frame"			
			Metal Panel/Curtain Wall			Finish = "Brick"			
			Siding on Steel Frame			Construction Method = "Wood frame"			
			Rainscreen on Steel Frame			Finish = "Brick"			
			Siding on Wood Frame			Construction Method = "Custom"			
			Rainscreen on Wood Frame			Custom Construction Method = "Curtain Wall"			
						Finish = "Custom"			
						Custom Finish = "Metal Panel"			
						Construction Method = "Steel Frame"			
						Finish = "Custom"			
						Custom Finish = "Siding"			
						Construction Method = "Steel Frame"			
						Finish = "Custom"			
						Custom Finish = "Rainscreen"			
						Construction Method = "Wood Frame"			
						Finish = "Custom"			
						Custom Finish = "Siding"			
						Construction Method = "Wood Frame"			
						Finish = "Custom"			
						Custom Finish = "Rainscreen"			
2. Envelope (Non-Res)	Exterior Walls R Value(Use Type 1)	[numerical value]		°F-ft ² -h/RTU	Exterior Wall R Value	Location = "Exterior" Opaque Surface = "Wall" R Value = [value]	°F-ft ² -h/RTU		
2. Envelope (Non-Res)	Roof(Use Type 1)				Roof Construction Method Material And Finish	Opaque Surface = "Roof" Construction Method = [value] Finish = [value] Construction Method = "Built-up" Material = "Concrete" Finish = "Plastic Rubber Synthetic Sheeting" Construction Method = "Built-up" Material = "Steel" Finish = "Plastic Rubber Synthetic Sheeting" Construction Method = "Built-up" Material = "Wood" Finish = "Plastic Rubber Synthetic Sheeting" Construction Method = "Steel Frame" Material = "XPS" Finish = "Metal Panel Standing Seam" Construction Method = "Wood Frame" Material = "Cellulose" Finish = "Shingles"	°F-ft ² -h/RTU		
			Built-up/EPDM with Concrete Deck			Construction Method = "Built-up"			
			Built-up/EPDM with Metal Deck			Material = "Concrete"			
			Built-up/EPDM with Wood Deck			Finish = "Plastic Rubber Synthetic Sheeting"			
			Metal Surfacing			Construction Method = "Built-up"			
			Shingles/Shakes			Material = "Steel"			
						Finish = "Plastic Rubber Synthetic Sheeting"			
						Construction Method = "Steel Frame"			
						Material = "XPS"			
						Finish = "Metal Panel Standing Seam"			
						Construction Method = "Wood Frame"			
						Material = "Cellulose"			
						Finish = "Shingles"			
2. Envelope (Non-Res)	Roof R Value(Use Type 1)	[numerical value]		°F-ft ² -h/RTU	Roof R Value	Opaque surface = "Roof" R Value = [value]	°F-ft ² -h/RTU		
2. Envelope (Non-Res)	Window Glazing(Use Type 1)				Fenestration Glazing	Fenestration Glass Layer Description = [value] Fenestration Glazing Type = [value] Fenestration Gas Fill = [value] Fenestration Glass Layer Description = "single pane" Fenestration Glass Layer Description = "double pane" Fenestration Glass Layer Description = "double pane" Fenestration Gas Fill = "Argon"	°F-ft ² -h/RTU		Fenestration Glazing is a somewhat arbitrary extraction of BEDES Mapping combi
			Single-pane		Single Pane	Fenestration Glass Layer Description = "single pane"			
			Double-pane		Double Pane	Fenestration Glass Layer Description = "double pane"			
			Double-pane w/ inert gas fill		Double Pane Argon	Fenestration Glass Layer Description = "double pane" Fenestration Gas Fill = "Argon"			
			Double-pane w/ Low-E		Double Pane Low e Air	Fenestration Glass Layer Description = "double pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Air"			
			Double-pane w/ Low-E + inert gas fill		Double Pane Low e Argon	Fenestration Glass Layer Description = "double pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Argon"			
			Triple pane		Triple Pane Clear Uncoated Air	Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "clear uncoated" Fenestration Gas Fill = "Air"			
			Triple pane w/ inert gas fill		Triple Pane Clear Uncoated Argon	Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "clear uncoated" Fenestration Gas Fill = "Argon"			
			Triple pane w/ Low-E		Triple Pane Low e Air	Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Air"			
			Triple pane w/ Low-E + inert gas fill		Triple Pane Low e Argon	Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Argon"			
2. Envelope (Non-Res)	Window U-Factor(Use Type 1)	[numerical value]			Window U Factor	Fenestration = "Window" U Factor = [value]	Btu/hr-ft ² -F		

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
	2. Envelope (Non-Res)	Window SHGC(Use Type 1)	[numerical value]		Window Solar Heat Gain Coefficient	Fenestration = "Window" Solar Heat Gain Coefficient = [value]	%		
	2. Envelope (Non-Res)	Window Tvis(Use Type 1)	[numerical value]	%	Window Visible Transmittance	Fenestration = "Window" Visible Transmittance = [value]	Percent		
	2. Envelope (Non-Res)	Window Frame(Use Type 1)			Window Fenestration Frame Material	Fenestration = "Window" Fenestration Frame Material = [value] Fenestration Frame Material = "Wood" Fenestration Frame Material = "Vinyl" Fenestration Frame Material = "Fiberglass" Fenestration Frame Material = "Aluminum no thermal break" Fenestration Frame Material = "Aluminum thermal break"			
			wood/vinyl/fiberglass						
			metal						
			metal w/ thermal breaks						
	2. Envelope (Non-Res)	Window Frame U-Factor(Use Type 1)	[numerical value]		Window Framing U Factor	Fenestration = "Window" Material Qualifier = "Framing" U Factor = [value]	Btu/hr.ft2.F		
	2. Envelope (Non-Res)	1)	[numerical value]	ft	Exterior Overhang Depth	Location = "Exterior" Shading System = "Overhang" Depth = [value]	ft		
	2. Envelope (Non-Res)	1)	[numerical value]	ft	Exterior Overhang Height	Location = "Exterior" Shading System = "Overhang" Height = [value]	ft		
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Exterior Overhang Elevation	Location = "Exterior" Shading System = "Overhang" Elevation = [value]	ft		BEDES: Elevation is normally above sea level. What does AIA mean by Elevation?
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Exterior Overhang Spacing	Location = "Exterior" Shading System = "Overhang" Spacing = [value]	ft		
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Exterior Fin Depth	Location = "Exterior" Shading System = "Fin" Depth = [value]	ft		
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Exterior Fin Height	Location = "Exterior" Shading System = "Fin" Height = [value]	ft		
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Exterior Fin Elevation	Location = "Exterior" Shading System = "Fin" Elevation = [value]	ft		
	2. Envelope (Non-Res)	1)	[numerical value]	ft	Interior Light Shelf Depth	Location = "Interior" Shading System = "Light shelf" Depth = [value]	ft		
	2. Envelope (Non-Res)	1)	[numerical value]	ft	Interior Light Shelf Height	Location = "Interior" Shading System = "Light shelf" Height = [value]	ft		
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Interior Light Shelf Elevation	Location = "Interior" Shading System = "Light shelf" Elevation = [value]	ft		
	2. Envelope (Non-Res)	Type 1)	[numerical value]	ft	Interior Light Shelf Spacing	Location = "Interior" Shading System = "Light shelf" Spacing = [value]	ft		BEDES: Not sure what the point of this Field is.
	2. Envelope (Non-Res)	Interior Shading Lightshelf			Interior Light Shelf Depth	Location = "Interior" Shading System = "Light shelf"			
	2. Envelope (Non-Res)	Skylight Glazing(Use Type 1)			Skylight Fenestration Glazing Type	Fenestration = "Skylight" Fenestration Glazing Type = [value] Fenestration Glazing Type = "Clear uncoated" Fenestration Glazing Type = "Plastic"	N/A		
			Glass						
			Plastic						
	2. Envelope (Non-Res)	Skylight Glazing U-Factor(Use Type 1)	[numerical value]		Skylight U Factor	Fenestration = "Skylight" U Factor = [value]	Btu/hr.ft2.F		
	2. Envelope (Non-Res)	Skylight Glazing SHGC(Use Type 1)	[numerical value]		Skylight Solar Heat Gain Coefficient	Fenestration = "Skylight" Solar Heat Gain Coefficient = [value]	%		
	2. Envelope (Non-Res)	Skylight Glazing Tvis(Use Type 1)	[numerical value]		Skylight Visible Transmittance	Fenestration = "Skylight" Visible Transmittance = [value]	Percent		
	2. Envelope (Non-Res)	Skylight to Roof(Use Type 1)	[numerical value]	%	Percent Skylight Area	Percent Skylight Area = [value]	Percent		
	2. Envelope (Non-Res)	Skylight Frame(Use Type 1)			Skylight Fenestration Frame Material	Fenestration = "Skylight" Fenestration Frame Material = [value] Fenestration Frame Material = "Wood" Fenestration Frame Material = "Vinyl" Fenestration Frame Material = "Fiberglass" Fenestration Frame Material = "Aluminum no thermal break" Fenestration Frame Material = "Aluminum thermal break"			
			wood/vinyl/fiberglass						
			metal						
			metal w/ thermal breaks						
	2. Envelope (Non-Res)	Skylight Frame U-Factor(Use Type 1)	[numerical value]		Skylight Framing U Factor	Fenestration = "Skylight" Material Qualifier = "Framing" U Factor = [value]	Btu/hr.ft2.F		
BUILDING ENVEL 1. Building (RES)	Orientation (Front)(Use Type 1)	[numerical value]		degrees from North	Azimuth	Azimuth = [value]	degrees		
1. Building (RES)	Stories Above ground(Use Type 1)	[numerical value]		number	Floor Above Grade Quantity	Spatial Unit Type = "Floor" Location = "Above grade" Quantity = [value]	NA		
1. Building (RES)	Stories Below ground(Use Type 1)	[numerical value]		number	Floor Below Grade Quantity	Spatial Unit Type = "Floor" Location = "Below grade" Quantity = [value]	NA		
1. Building (RES)	Conditioned Area(Use Type 1)	[numerical value]		ft2	Conditioned Area	Conditioning Status = "Conditioned" Area = [value]	ft2		
1. Building (RES)	Floor To Floor Height (Use Type 1)	[numerical value]		ft	Floor To Floor Height	Floor Height Measurement = "Floor to floor height" Height = [value]	ft		
1. Building (RES)	Occupants (Use Type 1)	[numerical value]		number	Peak Total Occupants Quantity	Occupant Quantity Type = "Peak total occupants" Quantity = [value]	n/a		

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
2. Envelope (RES)	Foundation(Use Type 1)				Foundation Wall Location And Conditioning Status	Opaque surface = "Foundation wall" Location = [value] Conditioning Status = [value] Location = "Slab" Location = "On grade" Conditioning Status = "Conditioned" Location = "Basement" Conditioning Status = "Unconditioned" Location = "Basement" Conditioning Status = "Ventilated" Location = "Crawlspace" Conditioning Status = "Unventilated" Location = "Crawlspace"	n/a		
		Slab-on-grade							
		Conditioned Basement							
		Unconditioned Basement							
		Vented Crawlspace							
		Unvented Crawlspace							
2. Envelope (RES)	Foundation Insulation(Use Type 1)		[numerical value]		Foundation Wall R Value	Opaque surface = "Foundation wall" R Value = [value]	"F-R2-h/BTU"		
2. Envelope (RES)	Crawlspace(Use Type 1)		[numerical value]	"F-R2-hBTU"	Basement Floor R Value	Location = "Basement" Opaque surface = "Floor" R Value = [value]	"F-R2-h/BTU"		
2. Envelope (RES)	Exterior Walls (Use Type 1)				Exterior Wall Construction Method And Finish	Location = "Exterior" Opaque surface = "Wall" Construction Method = [value] Finish = [value] Construction Method = "Concrete masonry unit" Finish = "Brick" Construction Method = "Steel frame" Finish = "Brick" Construction Method = "Wood frame" Finish = "Brick" Construction Method = "Custom" Custom Construction Method = "Curtain Wall" Finish = "Custom" Custom Finish = "Metal Panel" Construction Method = "Steel Frame" Finish = "Custom" Custom Finish = "Siding" Construction Method = "Steel Frame" Finish = "Custom" Custom Finish = "Rainscreen" Construction Method = "Wood Frame" Finish = "Custom" Custom Finish = "Siding" Construction Method = "Wood Frame" Finish = "Custom" Custom Finish = "Rainscreen"			
		Brick/stone on Masonry							
		Brick/stone on Steel Frame							
		Brick/stone on Wood Frame							
		Metal Panel/Curtain Wall							
		Siding on Steel Frame							
		Rainscreen on Steel Frame							
		Siding on Wood Frame							
		Rainscreen on Wood Frame							
2. Envelope (RES)	Exterior Walls Insulation(Use Type 1)		[numerical value]	"F-R2-hBTU"	Exterior Wall R Value	Location = "Exterior" Opaque Surface = "Wall" R Value = [value]	"F-R2-h/BTU"		
2. Envelope (RES)	Exterior Walls Air Sealing?(Use Type 1)		[Yes/No]		Exterior Wall Air Infiltration Description	Location = "Exterior" Opaque Surface = "Wall" Air Infiltration Description = [value] Air Infiltration Description = "Tight" Air Infiltration Description = "Leaky"			KS: Defined "Yes" selection as "Tight" KS: Defined "No" selection as "Leaky"
		[Yes]							
		[No]							
2. Envelope (RES)	Roof (Use Type 1)				Exterior Roof Construction Method Material And Finish	Location = "Exterior" Opaque surface = "Roof" Construction Method = [value] Material = [value] Finish = [value] Construction Method = "Built up" Material = "Concrete" Material = "XPS" Finish = "Plastic Rubber Synthetic Sheeting" Construction Method = "Built-up" Material = "Steel" Material = "XPS" Finish = "Plastic Rubber Synthetic Sheeting" Construction Method = "Built-up" Material = "Wood" Material = "XPS" Finish = "Plastic Rubber Synthetic Sheeting" Construction Method = "Steel Frame" Material = "XPS" Finish = "Metal Panel Standing Seam" Construction Method = "Wood Frame" Material = "Cellulose" Finish = "Shingles"			
		Built-up/EPDM with Concrete Deck							
		Built-up/EPDM with Metal Deck							
		Built-up/EPDM with Wood Deck							
		Metal Surfacing							
		Shingles/Shakes							
2. Envelope (RES)	Roof Insulation(Use Type 1)		[numerical value]	"F-R2-hBTU"	Exterior Roof R Value	Location = "Exterior" Opaque Surface = "Wall" R Value = [value]	"F-R2-h/BTU"		KS: Yes/No in this case is only handled if the value = YES. A NO value does not get included
2. Envelope (RES)	Roof Expanded Polystyrene?(Use Type 1)		[Yes/No]			Location = "Exterior" Opaque surface = "Roof" Material = [value] Material = "EPS"			
		[Yes]							

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			[No]			No Mapping			
2. Envelope (RES)	Roof Radiant Barrier?(Use Type 1)		[Yes/No]			Location = "Exterior" Envelope = "Radiant Barrier" Radiant Barrier = [value] Radiant Barrier = "Foil backed material" Radiant Barrier = "No radiant barrier"			KS: Handling Yes/No option using the two options provided on Envelope: Radiant Barrier
2. Envelope (RES)	Roof Attic / Ceiling(Use Type 1)		[Yes] [No]		Ceiling Configuration And Conditioning Status	Ceiling Configuration = [value] Conditioning Status = [value] Attic Conditioned Conditioning Status = "Attic" Attic Unconditioned Conditioning Status = "Conditioned" Cathedral Ceiling Conditioning Status = "Unconditioned"			
2. Envelope (RES)	Roof Attic Insulation(Use Type 1)		[numerical value]	"F-ft2-BTU"	Cathedral Attic Roof R Value	Ceiling Configuration = "Cathedral" Location = "Attic" Opaque Surface = "Roof" R Value = [value]	"F-ft2-h/BTU"		
2. Envelope (RES)	Window Glazing(Use Type 1)				Fenestration Glass Layer Description Glazing Type And Gas F	Fenestration Glass Layer Description = [value] Fenestration Glazing Type = [value] Fenestration Gas Fill = [value] Single-pane Fenestration Glass Layer Description = "Single pane" Fenestration Glazing Type = "clear uncoated" Double-pane Fenestration Glass Layer Description = "Double pane" Fenestration Glazing Type = "clear uncoated" Fenestration Gas Fill = "Air" Double-pane w/ inert gas fill Fenestration Glass Layer Description = "Double pane" Fenestration Glazing Type = "clear uncoated" Fenestration Gas Fill = "Argon" Double-pane w/ Low-E Fenestration Glass Layer Description = "Double pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Air" Double-pane w/ Low-E + inert gas fill Fenestration Glass Layer Description = "Double pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Argon" Triple pane Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "clear uncoated" Fenestration Gas Fill = "Air" Triple pane w/ inert gas fill Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "clear uncoated" Fenestration Gas Fill = "Argon" Triple pane w/ Low-E Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Air" Triple pane w/ Low-E + inert gas fill Fenestration Glass Layer Description = "Triple pane" Fenestration Glazing Type = "Low e" Fenestration Gas Fill = "Argon"			
2. Envelope (RES)	Window Gas Filled?(Use Type 1)		[Yes/No]			No Mapping (included above)			
	Window Frame (Use Type 1)		wood/vinyl/fiberglass		Fenestration Frame Material	Fenestration Frame Material = [value] Fenestration Frame Material = "wood" Fenestration Frame Material = "vinyl" Fenestration Frame Material = "fiberglass" Aluminum no thermal break Fenestration Frame Material = "aluminum no thermal break" Aluminum with thermal break Fenestration Frame Material = "aluminum with thermal break"			
2. Envelope (RES)	Window Surface Area-Front(Use Type 1)		[numerical value]	ft2		Cardinal Direction = [value] Fenestration = "Window" Area = [value]	ft2		KS: BEDES contains Envelope: Percent Glazing, but there isn't a variable that does window area? It would seem of more value to know the Cardinal Direction of window areas rather than Front, Back, Left, Right
2. Envelope (RES)	Window Surface Area-Back(Use Type 1)		[numerical value]	ft2		Cardinal Direction = [value] Fenestration = "Window" Area = [value]	ft2		
2. Envelope (RES)	Window Surface Area-Left(Use Type 1)		[numerical value]	ft2		Cardinal Direction = [value] Fenestration = "Window" Area = [value]	ft2		
2. Envelope (RES)	Window Surface Area-Right(Use Type 1)		[numerical value]	ft2		Cardinal Direction = [value] Fenestration = "Window" Area = [value]	ft2		
HVAC SYSTEMS (1. Plant	Zone Configuration		Core and Perimeter Single Zone		Thermal Zone Layout	Thermal Zone Layout = [value] Thermal Zone Layout = "Core and Perimeter" Thermal Zone Layout = "Single Zone"			
1. Plant	Heating type		Boiler Boiler-Other Draft District Hot Water None I don't know		Heating Type	Heating Type = [value] Heating Type = "Boiler" Heating Type = "Other" Heating Type = "District Hot Water" Heating Type = "No Heating" Heating Type = "Unknown"			
1. Plant	Heating Fuel		Natural Gas Electricity Other		Heating Resource	HVAC Category = "Heating" Resource = [value] Resource = "natural gas" Resource = "electricity" Resource = "other"			
1. Plant	Heating Capacity		[numerical value]		Heating Capacity	HVAC Category = "Heating" Capacity = [value]			

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
1. Plant		Heating Efficiency	[numerical value]		Heating Efficiency Value	Unit Of Measure = MMBtu HVAC Category = "Heating" Efficiency Value = [value]	MMBtu		
1. Plant		Cooling Type			Cooling Type	Cooling Type = [value] Condenser Type = [value]			
		Air-cooled, scroll or screw chiller			Air cooled scroll screw chiller	Condenser Type = "Air cooled" Chiller Compressor Type = "Scroll" Chiller Compressor Type = "Screw" Cooling Type = "Custom" Custom Cooling Type = "Chiller" Condenser Type = "Air cooled"			BEDES: Need to add "Chiller" enum to Cooling Type
		Air-cooled, reciprocating			Air cooled reciprocating chiller	Chiller Compressor Type = "Reciprocating" Cooling Type = "Custom" Custom Cooling Type = "Chiller"			
		Air-cooled, centrifugal chiller			Air cooled centrifugal chiller	Condenser Type = "Air cooled" Chiller Compressor Type = "Centrifugal" Cooling Type = "Custom" Custom Cooling Type = "Chiller"			
		Water-cooled, scroll or screw chiller			Water cooled scroll screw chiller	Condenser Type = "Custom" Custom Condenser Type = "Water cooled" Chiller Compressor Type = "Scroll" Chiller Compressor Type = "Screw" Cooling Type = "Custom" Custom Cooling Type = "Chiller"			BEDES: Need to add "Water cooler" enum to CondenserType
		Water-cooled, reciprocating			Water cooled reciprocating chiller	Condenser Type = "Custom" Custom Condenser Type = "Water cooled" Chiller Compressor Type = "Reciprocating" Cooling Type = "Custom" Custom Cooling Type = "Chiller"			
		Water-cooled, centrifugal chiller			Water cooled centrifugal chiller	Condenser Type = "Custom" Custom Condenser Type = "Water cooled" Chiller Compressor Type = "Centrifugal" Cooling Type = "Custom" Custom Cooling Type = "Chiller"			
1. Plant		Cooling Capacity	[numerical value]	tons	District chilled water Cooling Capacity	Cooling Type = "District chilled water" HVAC Category = "Cooling" Capacity = [value] Unit Of Measure = tons	tons		
1. Plant		Cooling Efficiency	[numerical value]	COP	Cooling COP Efficiency Value	HVAC Category = "Cooling" Efficiency Metric Qualifier = "COP" Efficiency Value = [value]			
2. Air Handling Units		Distribution			Zoning System Type	Zoning System Type = [value]			
		Single Zone			Single zone	Zoning System Type = "Single zone"			
		Multi-Zone			Multi zone	Zoning System Type = "Multi zone"			
		To be determined			Unknown	Zoning System Type = "Unknown"			
2. Air Handling Units		Fan System			HVAC Flow Control Type	HVAC = "Flow Control Type" Flow Control Type = [value]			
		Constant Volume				Flow Control Type = "constant volume"			
		Variable Air Volume				Flow Control Type = "variable air volume"			
		To Be Determined				Flow Control Type = "Custom" Custom Flow Control Type = "to be determined"			
2. Air Handling Units		Fan Motor Efficiency	[numerical value]	%	Fan Motor Efficiency	Efficiency Qualifier = "Fan" Efficiency Qualifier = "Motor" Efficiency Value = [value]	Percent		
2. Air Handling Units		Economizer	[Yes/No]		Air Side Economizer	HVAC = "Air Side Economizer" Air Side Economizer = [value] Air Side Economizer = "is present" Air Side Economizer = "is nto present"			
		Yes							
		No							
2. Air Handling Units		Heating Equipment			Heating Type	Heating Type = [value]			Seems a bit of a combination of heating type, heat delivery type
		Furnace				Heating Type = "Furnace"			
		Hot Water Coil				Heating Type = "Custom" Custom Heating Type = "Hot water coil"			appears to be packaged into different equipment type definitions
		Air-Source Heat Pump				Heating Type = "Packaged unitary heat pump" Heat Pump Sink Source Type = "Outside air" Heating Type = "Packaged unitary heat pump" Heat Pump Sink Source Type = "Ground source heat exchanger"			BEDES: I am not really happy with heat pump enums in BEDES. There are other issues with HVAC that have not been dealt with either. All HVAC terms came originally from BuildingSync.
		Ground Source-Heat Pump Plant				Heating Type = "Custom" Custom Heating Type = "Plant"			
		No Heating				Heating Type = "No Heating"			
		To Be Determined				Heating Type = "Custom" Custom Heating Type = "To be determined"			
2. Air Handling Units		Heating Equipment Fuel			Heating Resource	HVAC Category = "Heating" Resource = [value]			
		Natural Gas				Resource = "Natural gas"			
		Electricity				Resource = "Electricity"			
		Other				Resource = "Other"			
2. Air Handling Units		Heating Equipment Capacity	[numerical value]	kBtu/hr	Heating Capacity	HVAC Category = "Heating" Capacity = [value]			
2. Air Handling Units		Heating Equipment Efficiency	[numerical value]	%	Heating Efficiency Value	Unit Of Measure = MMBtu HVAC Category = "Heating" Efficiency Value = [value]	kBtu/hr		
2. Air Handling Units		Cooling equipment			Cooling Type	Cooling Type = [value]			

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			Chilled Water Coil			Cooling Type = "packaged terminal air conditioner"			
			DX Coil			Cooling Type = "split DX air conditioner"			
			Air-Source Heat Pump			Cooling Type = "packaged unitary heat pump"			
			Ground Source-Heat Pump			Heat Pump Sink Source Type = "Outside air"			
						Cooling Type = "split heat pump"			
			Plant			Heat Pump Sink Source Type = "Ground source heat exchanger"			
			No Cooling			Cooling Type = "district chilled water"			
			To be determined			Cooling Type = "no cooling"			
						Cooling Type = "unknown"			
2. Air Handling Units	Cooling equipment Capacity	(numerical value)		tons	Cooling Capacity	HVAC Category = "Cooling" Capacity = [value]	Cooling ton		
						Unit Of Measure = "Cooling ton"			
2. Air Handling Units	Cooling equipment Efficiency	(numerical value)		COP	Cooling COP Efficiency Value	HVAC Category = "Cooling" Efficiency Metric Qualifier = "COP"			
						Efficiency Value = [value]	n/a		
3. Service Hot Water	Fuel				Domestic Hot Water Resource	End Use = "Domestic hot water" Resource = [value]			
						Resource = "Natural gas"			
						Resource = "Electricity"			
						Resource = "other"			
3. Service Hot Water	Tank insulation	[Yes/No]			Domestic Hot Water Storage Tank Insulation Application	End Use = "Domestic hot water" Domestic Hot Water Type = "Storage tank"			
						Insulation Application = [value]			
			[Yes]			Insulation Application = "Insulation jacket"			
			[No]			Insulation Application = "None"			
3. Service Hot Water	Tank Capacity	(numerical value)		gal	Domestic Hot Water Storage Tank Volume	End Use = "Domestic hot water" Domestic Hot Water Type = "Storage tank"			
						Capacity Qualifier = "Volume"			
						Capacity = [value]	gallons		
						Unit Of Measure = "gallons"			
3. Service Hot Water	Tank Efficiency	(numerical value)		%	Domestic Hot Water Storage Tank Efficiency Value	End Use = "Domestic hot water" Domestic Hot Water Type = "Storage tank"			
						Efficiency Value = [value]	Percent		
						Unit Of Measure = "Percent"			
3. Service Hot Water	Insulation R-Value	(numerical value)		ft ² -hr/Btu	Domestic Hot Water Storage Tank R Value	End Use = "Domestic hot water" Domestic Hot Water Type = "Storage tank"			
						R Value = [value]	hr-ft ² /Btu		
						Unit Of Measure = "hr-ft ² /Btu"			
3. Service Hot Water	Solar Assist	[Yes/No]			Domestic Hot Water Indirect Tank Heating Source	End Use = "Domestic hot water"			
			Yes			Indirect Tank Heating Source = [value]			
			No			Indirect Tank Heating Source = "Solar"			
						Indirect Tank Heating Source = "None"			
4. Zone Equipment	Ventilation				Ventilation Type	Ventilation Type = [value]			BEDES should revisit enum list for Ventilation Type
						Ventilation Type = "Custom"			
			Mechanical			Custom Ventilation Type = "Mechanical"			
			Natural			Custom Ventilation Type = "Natural"			
			Mixed Mode			Custom Ventilation Type = "Mixed mode"			
			Night Flushing			Custom Ventilation Type = "Night flushing"			
4. Zone Equipment	Distribution								BEDES separates Heating and Cooling Delivery types
			Overhead Diffusers						
			Displacement Ventilation						
			Underfloor Air						
4. Zone Equipment	Zone Heating				Thermal Zone Heating Delivery Type	Premises Level = "Thermal Zone"			
			Baseboard			HVAC Category = "Heating"			
			Radiator			Heating Delivery Type = "Perimeter Baseboard"			
			Active Radiant Beam			Heating Delivery Type = "Radiator"			
						Heating Delivery Type = "Custom"			
			Passive Radiant Ceiling			Custom Heating Delivery Type = "Active Radiant Beam"			
						Heating Delivery Type = "Radiant Floor or Ceiling"			
			Radiant Floor			Heating Delivery Type = "Radiant Floor or Ceiling"			
			Radiant Surface			Heating Delivery Type = "Radiant Floor or Ceiling"			
			Packaged Terminal Heat Pump (PTHP)			Heating Type = "Packaged terminal heat pump"			
			Terminal Variable Refrigerant Flow (VRF) Unit			Heating Delivery Type = "VRF terminal units"			
			Terminal Reheat			Heating Delivery Type = "VAV terminal box fan powered with reheat"			
			Terminal Hot Water Coil			Heating Delivery Type = "VAV terminal box fan powered with reheat"			
			Fan Coil Unit			Heating Delivery Type = "Fan coil 2 pipe"			
			Fan Powered Induction			Heating Delivery Type = "Induction units"			
			Mini-Split			Heating Delivery Type = "Mini split"			
			Multi-Split			Heating Delivery Type = "Multi split"			
			Unit Heater			Heating Delivery Type = "Custom"			
						Custom Heating Delivery Type = "Unit Heater"			
4. Zone Equipment	Zone Heating Capacity	(numerical value)		kBtu/hr	Thermal Zone Heating Capacity	Premises Level = "Thermal Zone"			
						HVAC Category = "Heating"			
						Capacity = [value]	kBtu/hr		
						Unit Of Measure = "kBtu/hr"			
4. Zone Equipment	Zone Heating Efficiency	(numerical value)		%	Thermal Zone Heating Efficiency Value	Premises Level = "Thermal Zone"			
						HVAC Category = "Heating"			
						Efficiency Value = [value]	Percent		
						Unit Of Measure = "Percent"			
4. Zone Equipment	Zone Cooling				Thermal Zone Cooling Delivery Type	Premises Level = "Thermal Zone"			
			Active Radiant Beam			Cooling Delivery Type = [value]			
			Passive Radiant Ceiling			Cooling Delivery Type = "chilled beam"			
			Radiant Floor			Cooling Delivery Type = "radiant ceiling"			
						Cooling Delivery Type = "Custom"			

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes																																				
HVAC & APPLIAN	1. Appliances	Radiant Surface				Custom Cooling Delivery Type = "Radiant Floor"																																							
			Packaged Terminal Heat Pump (PTHP)			Cooling Delivery Type = "radiant ceiling"																																							
			Packaged Terminal Air Conditioner (PTAC)			Cooling Type = "Packaged terminal heat pump"																																							
			Terminal Variable Refrigerant Flow (VRF) Unit			Cooling Delivery Type = "VAV terminal box fan powered"																																							
			Terminal Chilled Water Coil			Cooling Delivery Type = "vrf terminal units"																																							
			4. Zone Equipment	Zone Cooling Capacity	(numerical value)	tons	Thermal Zone Cooling Capacity	Premises Level = "Thermal Zone"																																					
								Custom Cooling Delivery Type = "Terminal Chilled Water Coil"																																					
								Cooling Delivery Type = "Custom"																																					
								Custom Cooling Delivery Type = "Terminal DX"																																					
								Cooling Delivery Type = "fan coil 2 pipe"																																					
								Cooling Delivery Type = "Custom"																																					
								Custom Cooling Delivery Type = "Fan Powered Induction Unit"																																					
								Cooling Delivery Type = "mini-split"																																					
								Cooling Delivery Type = "multi-split"																																					
								HVAC Category = "Cooling"																																					
								Capacity = [value]		Cooling ton																																			
								Unit Of Measure = "Cooling ton"																																					
								Premises Level = "Thermal Zone"																																					
								HVAC Category = "Cooling"																																					
								Efficiency Metric Qualifier = "COP"																																					
								Efficiency Value = [value]		COP																																			
								1. Appliances	Clothes Washers	(numerical value)	Clothes Washer Quantity	Laundry Appliance Type = "Clothes washer"																																	
												Quantity = [value]		n/a																															
												1. Appliances	Number of Refrigerators	(numerical value)	Refrigerator Quantity	Refrigeration Type = "Refrigerator"																													
																Quantity = [value]		n/a																											
																2. Equipment	Equipment Heating	Resource Heating Type	Electricity Split Heat Pump	Resource = [value]																									
																				Heating Type = [value]																									
																				Resource = "Electricity"																									
																				Heating Type = "Split heat pump"																									
																				2. Equipment	Electric Heat Pump	Natural Gas Furnace	Natural Gas Individual Space Heater	Resource = "Natural gas"																					
																								Heating Type = "Furnace"																					
																								Resource = "Natural gas"																					
																								Heating Type = "Individual space heater"																					
																								2. Equipment	Propane Furnace	Fuel Oil Furnace	Electric Furnace	Resource = "Propane"																	
																												Heating Type = "Furnace"																	
																												Resource = "Fuel oil"																	
																												Heating Type = "Furnace"																	
																												2. Equipment	Oil Furnace	Electric Furnace	Gas Boiler	Resource = "Electricity"													
																																Heating Type = "Furnace"													
																																Resource = "Natural gas"													
Heating Type = "Furnace"																																													
2. Equipment	Gas Boiler	Fuel Oil Boiler																														Electric Baseboard Heaters	Resource = "Natural gas"												
																																	Heating Type = "Boiler"												
																																	Resource = "Fuel oil"												
																																	Heating Type = "Boiler"												
			2. Equipment	None	Electric Baseboard Heaters	None	Resource = "Electricity"																																						
							Heating Type = "Individual space heater"																																						
							Heating Type = "None"																																						
							Resource = [value]																																						
							Resource = "Electricity"																																						
							Resource = "Natural gas"																																						
							Resource = "Liquid propane"																																						
							Resource = "Fuel oil"																																						
							Resource = "Solar"																																						
							2. Equipment																										Heating Efficiency	(numerical value)	AFUE	Annual Heating AFUE Efficiency Value	Efficiency Qualifier = "Annual heating"								
																																					Efficiency Metric Qualifier = "AFUE"								
																																					Efficiency Value = [value]		percent						
																																					Duct Insulation R Value = [value]		R2-F/hr/Btu						
																																					2. Equipment	Duct Insulation	Yes	Duct Insulation R Value	Duct Conditioning Status Location	HVAC Category = "Duct"			
																																										Conditioning Status = [value]			
																																										Location = [value]			
								Conditioning Status = "Conditioned"																																					
								Location = "Interior"																																					
								Conditioning Status = "Unconditioned"																																					
								Location = "Interior"																																					
								Conditioning Status = "Ventilated"																																					
								Location = "Crawspace"																																					
								Conditioning Status = "Unventilated"																																					
								Location = "Crawspace"																																					
								Conditioning Status = "Unconditioned"																																					
								Location = "Attic"																																					
								Location = "Unknown"																																					
								Heating Type = "Boiler"																																					
								Pipe Characteristic = [value]																																					
								Pipe Characteristic = "Insulated pipe"																																					
								Pipe Characteristic = "Non insulated pipe"																																					
								Pipe Characteristic = "Not applicable"																																					
								Pipe Characteristic = "Unknown"																																					
								2. Equipment	Boiler Pipe Insulation	Unknown/NA	Unknown	Boiler Pipe Characteristic	NO MAPPING																																
													NO MAPPING																																
													Cooling Type = [value]																																
Cooling Type = "single package vertical air conditioner"																																													
Cooling Type = "packaged terminal air conditioner"																																													
2. Equipment	Equipment Solar Assist	[Yes/No]											NO MAPPING	NO MAPPING																															
			2. Equipment	Equipment Cooling	Room Air Conditioner	Central Air Conditioner									Cooling Type	Cooling Type = [value]																													
																Cooling Type = "single package vertical air conditioner"																													
																Cooling Type = "packaged terminal air conditioner"																													

AIA: This seems redundant since fuel is part of each heating equipment type

BEDES: we need something like Foundation Perimeter Insulation generalized for

DDx Screen	Implementation Table/Section Name	Implementation Field	Implementation Value	Implementation Units	BEDES Term	BEDES Mapping	BEDES Unit	Unit Conversion	Notes
			Electric Heat Pump None			Cooling Type = "packaged Terminal heat pump" Cooling Type = "no cooling"			
2. Equipment		Cooling efficiency	[numerical value]	EER	Annual Cooling EER Efficiency Value	Efficiency Qualifier = "Annual cooling" Efficiency Metric Qualifier = "EER" Efficiency Value = [value]	Btu/Wh		
3. Service Hot Water		Fuel			Resource	Resource = [value] Resource = "Electricity" Resource = "Natural gas" Resource = "Liquid propane" Resource = "Fuel oil" Resource = "Solar"			
3. Service Hot Water		Tank Capacity	[numerical value]	kBtu/hr	Storage Tank Capacity	Domestic Hot Water Type = "Storage tank" Capacity = [value] Unit Of Measure = "kBtu/hr"	kBtu/hr		
3. Service Hot Water		Tank Efficiency	[numerical value]	%	Storage Tank Efficiency Value	Domestic Hot Water Type = "Storage tank" Efficiency Value = [value]	Percent		
3. Service Hot Water		Tank Insulation	[Yes/No]		Storage Tank Insulation Application	Domestic Hot Water Type = "Storage tank" Insulation Application = [value] Insulation Application = "Insulation jacket" Insulation Application = "None"			
3. Service Hot Water		Hot Water Solar Assist	[Yes/No]		Indirect Tank Heating Source	Indirect Tank Heating Source = [value] Indirect Tank Heating Source = "Solar" Indirect Tank Heating Source = "None"			