

P fF dco#i lhag#F dp sxy  
K holgrup v

ex lag lq j #v | w h p v

H d h f u l f # k l j k w l q j # v | w h p v # i h o | # c q # S Y #  
s d q h o v # p r x q v h g # c q # k k h #  
d i r u h p h q w l r q h g # k d g l q j # g h y l f n v i #  
H ( f n v v # h q h u j | # v # i u r x w h g # l q w # w a r u d j h #  
e d w h u l n v # p r x q v h g # z l k l q # k k h #  
e x q n v # l q # k k h # K h o l g r u p v 1

w a r u d j h # e d w h u | # l q v l g h # e x q n v

z l u l q j # l q w d o d w l r q # i u # d p s v

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U d l q z d w h # d g g # v q r z p h a w l u x q r i i # l v #  
f r o d f w h g # d g g # l o w h u g # k u r x j k # i #  
s d l u # i # k 3 3 O j d o a r q # f l w h u q v i k # l u k h u #  
v l g h # i # k k h # K h o l g r u p 1 # D # j x w h u #  
v | w h p # i u r x w h v # k k h # z d w h # # f k d l q #  
j x w h u # g u d l q v # l q w # # k k h # f l w h u q v #  
z k l f k # d u h # k k h g # d l q n h g # # z # k k h # e d w k #  
k r x v h v # d g g # h y l q j # p d f k l q h l

y l h z # i # f l w h u q # i u r p # d w k z d j

f k d l q # j x w h u # g u d l q # v | w h p

P fF dco#i lhag#F dp sxy  
K holgrup v

ex lag lq j #v | w h p v

W k h # f r x u w # d u g # d l q g # d u w k # e h u p  
v | w h p # d o a z # d j u h d w h u # h q v h # i #  
f r q q h f w l r q # z l k # k k h # v h # d g g # d o a z #  
i r u # d # f r q y h q l h q w # q r z # # w a r u d j h # d u h d #  
g x u l q j # z l q v n u # p r q w k v # i # s h u d w l r q 1 # #  
G x u l q j # x p p h u # p r q w k v # k k h #  
f r x u w # d u g # g y l i i x v h v # d g g # u h i c h f w #  
g d | a l j k w # l q w # # k k h # K h o l g r u p 1

u h i c h f w g # d l j k w # i u r p # f r x u w # d u g

d h u l d o t y l h z # i # f r x u w # d u g

P fF dco#i lhag#F dp sxy  
K holgrup v

ex lag lq j #v | w h p v

W k h # K h o l g r u p x v h v # d # f r a g # i u r r i # k # p r g h u d w # u h h # h g d p d j h # d g g # p r l w x u h #  
l q i l o u d w l r g # g x u l q j # z l q v n u # p r q w k v 1 # # E | # d o a z z l q j # d l u # # # f l u f x o d w h k u r x j k # k k h #  
u r r i # # w a x f w x u # # l u f h g d p p l q j # e v # p l q p l h g # l i t g r w # h o l p l q d w h g 1 # # h k h x s s h u g r p #  
v h u y h v # d y # d l q l u k l q j # z l q w # i u r u # k k h # p r g x o d u # i u r r i # d g g # d o a z # s u r y l g h v # d g # h v f d s h # i u r #  
k h d w h g # d l u # l q # e r w k # x p p h u # d g g # z l q w h u l


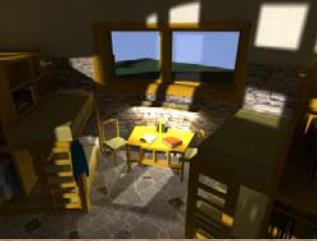

K h o l g r u p f r a g # i u r r i # k # f d w l r q

P f f d o a f i l h a g # f d p s x v  
K h a d g r u p v

**l q w h u l r u y l h z s r l q w**

W k h # k h a l r g r u p d o x # k v h # O H G # k j k w l q j # k #  
d f f r p s a l v k # k h # j r d o v # i k z # ( h q h u j | # k v h #  
d g g # i i l f l h q f | # # v k h v h # d p s v k v h # c g o | # c q h #  
z d w # # s u r g x f h # 8 # c x p h q v # i k j k w l q j #  
s r z h u # i d g g # i u h # ( f h s w r q d o o | # g x u d e d #  
z l k # i l h v s d q v r i # h q v # i # k r x v d g g # i #  
k r x u v l

W k h v h # y l h z v # k r z # k h # d v n # i d g g # h d g l q j #  
a d p s v # s r z # h u g # k u r x j k # S Y # s d q h o # i d g g #  
w a r u h g # e d w h u | # s r z # h u # i r u # c a r x g | # g d | # c u #  
q l j k w l p h # w x g | # c u # h d g l q j l

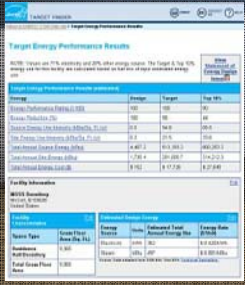
P f f d o a f i l h a g # f d p s x v  
K h a d g r u p v

**ex l o g l q j # s h u i r u p d q f n**

X v l q j # k h # k h u j | # v d u # d o f x a d w e u # k h # e x l o g l q j # e d v # i d q d o | h g # i r u # i i l f l h q f | # # w k h #  
j r d o h # i r u # k l v s u r n # f w t e d v # i k 3 ( # h q h u j | # k v h # h u g x f w l r g # t h y h a l

W k h # h v l j q # i v # # w a d g g v # u d u g # 3 3 ( # h q h u j | # h u g x f w l r g # k v l q j # S Y # h q h u j | # i r u #  
h d n # a l f d o s r z # h u d g g # w h d p # i r u # k k # e f d p s x v i e l r o b x h o s a d q w i r u # k h # u d g l d q w # i a r u #  
v | w h p 1

I r u # 3 # i # k h v # k h a l r g r u p v # h q r x j k # s d f h # #  
k r x v h # 5 3 # w a g h q w # k h # w h d p d w h g # h d u o | # f r w #  
r i # h a f w l f d o d g g # w h d p # s r z # h u # i r p h v a # i #  
p h u h # 8 5 # g r o d u v l

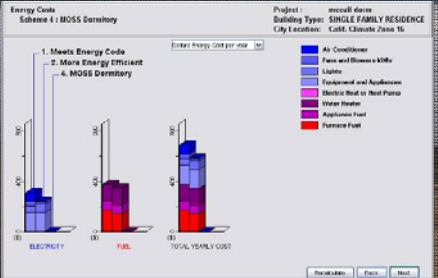


P f f d o a f i l h a g # f d p s x v  
K h a d g r u p v

**ex l o g l q j # s h u i r u p d q f n**

X v l q j # k h # k H G # s u r j u d p # s u r y h g # e # h # e k d a h g j l q j l # # P | # l q w d o g h v l j q # e d v i u d w h g #  
8 5 ( # p r u h # h q h u j | # i i l f l h q w # k d w # k h # d o l i r u q l d # h q h u j | # f r g h / # e x w i d i w h # u y l v l r q v # k l v #  
q x p e h u t e d v # u d l w h # e # 3 3 ( # p r u h # i i l f l h q w # # d p # k h v l d q w # e # i f f h s w # k l v # g x p e h u #  
i r u # h y h u d a h d v r q v l

K H G # l v # r # w z # h o o l x l w h g # e # k h # d o h u g d w # y h # e x l o g l q j # w | d v # s u h v h g w h g # k h u h / # e x w i l w  
k d v # j l y h q # h # i | f h a d h g w # i d g g # e s w l p l w l f # f r p s d u l v r q # g d w l



P f f d o a f i l h a g # f d p s x v  
K h a d g r u p v

**f d u e r q # f r w w**

i r u # k l v s u r n # f w # f d u e r q # f r w w # e h u # h # w l p d w h g # e v l q j # p e r g l h g # h q h u j | # i # w d g g d u g # e x l o g l q j #  
s u r g x f w # e # w l p d w h # f v w i w l p d q x i d f w e u # i d g g # g x u l q j # k h # i l h w h r i # k h # e x l o g l q j l

W u d g v s r u d w l r q # f r w w # h u h g # w h p l q h g # e | # k h # i g l w d g f h # e w z h g # # s u r g x f w # e # r l q w # i r u l j # l q g #  
w k h # P f f d o a f i p s x v l

System Category	Material Type	Production Cost	Transport Cost	Lifetime Cost	Methodology Outline
Structure	Engineered Structural Members	High	Low	Low	Recycled and culled wood used in glulam process.
	Recycled Lumber	Low	Very Low	Very Low	Old lumber used in framing or fascia applications.
	Ply/Asb Concrete	High	Med	Low	Low-emission fly ash used as aggregate in bearings.
Insulation	#3 Reinforcing Bars	Med	Low	Med	Simple steel rebar used in concrete construction.
	Osborn® Strand Board	Med	Low	Med	Simple engineered wood sheathing for roof panels.
HVAC	Straw Bales	Med	Low	Very Low	Processed straw used as heat, sound reduction, and
	Insulated Panel Systems	High	High	Low	Physioacoustic insulation backed by OSB.
	Advanced Heat Freeze System	High	Med	Low	Water used in radiating floor slab.
Plumbing	Photocatalytic Panels, Rigid	High	High	Low	Solar energy collecting/tracking devices over windows.
	Photocatalytic Film, Flexible	High	High	Low	Parabolic films attached to roof cladding.
	Heat Pump Steam Calentary System	Med	Low	Low	Heat exchanger in campus kitchen plant.
Roofing	Roof Vents	Med	Low	Low	Ductwork to assist in flushing excess heat.
	Steel Systems w/ Green Filtration System	High	Med	Very Low	Two 500 gallon tanks, steel construction.
	Rainoff Collection System	Med	Low	Very Low	Metal gutter system, steel construction.
Sheathing	Long Machine Lintage	High	High	Low	Steel shoring system, grade-lead.
	Structural Brick	Med	Low	Very Low	Locally quarried rock used as thermal mass.
	Shooco/Pfister	Med	Low	Low	2-coat systems used to seal straw bales.
Doors/Windows	Oxygen Based	Low	Low	Low	Interior roofing finish system.
	Steel Roof Cladding, 16Ga	High	High	Low	Basic steel roof cladding to allow for rainoff collection.
	Polycarbonate Corium Slating Windows	High	High	Very Low	Custom fit glazing for system/rainoff reduction.
Lighting	Double Pane Windows, Fixed and Operable	High	Low	Low	Argon-filled to reduce heat loss/gain and UV exposure.
	Wood Frame Cladded Double Doors	Med	Low	Low	Moderate heat loss/gain and UV exposure.
	LED Task Lights, Recessed Recessed/Recessed	Med	Med	Low	High-efficiency, small scale task/ambient lamps.
	Glossary Glazements for LED systems	High	Med	Low	Glazing for PV panel energy gain, integrated onto basis.



P fF dco#I lhog#E dp sxv  
K hnlrg ruf v

wkdqn #|rx#iru#|rxu#wlp h  
dq |#xhwlrqv#fuh#z hofrp h