Appendix A –Design Requirements

Airframe	Support Rider	Fuselage	Weight	12.84 lbs (use 2009-2010 fuse)
			Stiffness	Rigid- Mitigate lateral motion of rider
			Connections in Airframe	Minimize weight due to connections
	Four Rotor	Intermeshing		12” between rotors at closest point
		Geometry	Arm Geometry	28‘ min. between rotor supports (diagonal)
	Truss	Weight		100 lbs (maximum)
				w/out rotos - 60 lbs (maximum)
		Stiffness		12" Deflecting Vertical
				12” Deflection Horizontal
Drivetrain	Foot Pedal Input (use 2009-2010 drivetrain)	Bike Drivetrain	Smoothing	Use flywheel developed from HPH 2009-2010
			Slipping	Must not slip
			Tension (w/ 1 ft radius)	40 lbs (maximum)
		Routing	Guides	Airframe shall not impinge on drivetrain
	Incorporation w/airframe	Rotor Speed		20 rpm (maximum)
Rider	Cadence			90-100 rpm
	Weight			130 lbs
	Height			5’ 8”

Transportation	Limitations			Shall fit in 8x8x40’ enclosed Trailer
Rotors	Cord			3.93 ft
	Height			8.47 in
	Airfoil			TBD
	Length			40 ft diameter
	Weight			10 lbs each (maximum)
	Solidity			13%
	Tip Deflection			12 in vertically