

# Permaculture Design for Agroforestry Implementation

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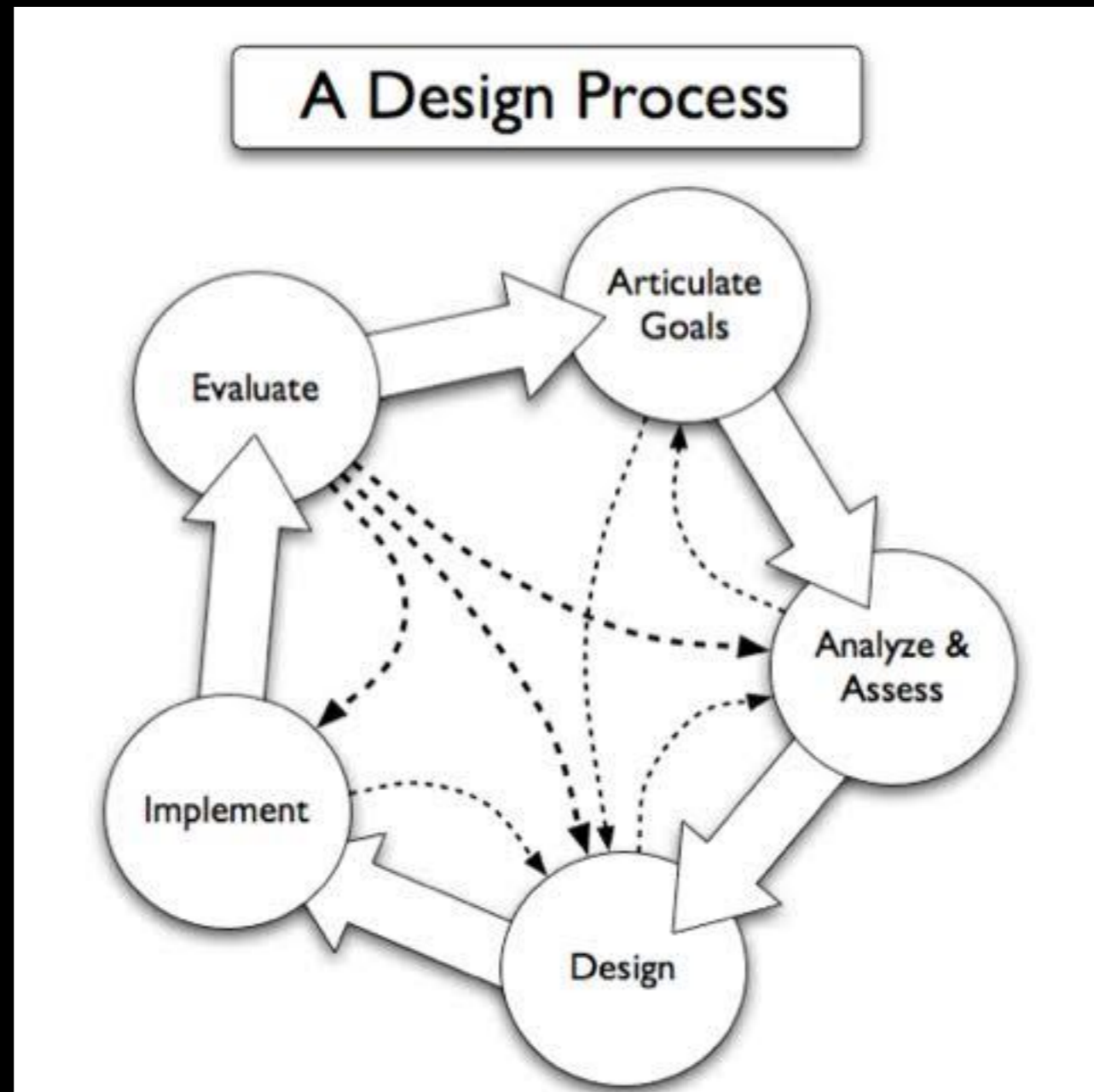
# Agroforestry: A Worldwide Palette of Practices



# A Significant Question:

How to determine what practices are most appropriate on a given piece of land, for a given farm enterprise, in what layouts or arrangements?

# Design Process



# Common Producer Goals

- Profitability
- Production intensification
- Support weak links of enterprise(s)
- Soil/water conservation
- Biodiversity/habitat
- Etc!

# Landscape & Site Analysis

- Climate
- Landform
- Subsoils
- Water Systems
- Access & Circulation
- Infrastructure
- Vegetation & Wildlife
- Microclimates
- Topsoil Fertility

“Scale of Permanence”



Jackson Hill Road

2 Silos

Old Barn Location

Open Field 3 ac

Forest 2 ac

Open Field 21 ac

Farm Pond

Sharon Mountain Rd

Open Field 9 ac

Farm Pond

Vernal Pool

Open Field 3 ac

Wetland

Forest 11 ac

Young Forest / Old Pasture 13 ac

Old Mill Pond

Mill Brook



# SAA Quella Batsan SLOPES

SITE ANALYSIS + ASSESSMENT



• Saddle  
• Flat (Wetland)  
• why is it flat?  
• was this a pond at some point?  
• High in landscape @ 1040 ft  
• Base of Access to Road.  
• 6000 Fush leaves - wetland Agriculture  
• dry a pond!

• Hill top, Rocky  
• 1010-1099 - Highest Point on land  
• Good views from here to all sides  
• Slopes down in all directions  
• Sacred space - do not touch!  
• Header tanks for water here  
• Bring trails to here.

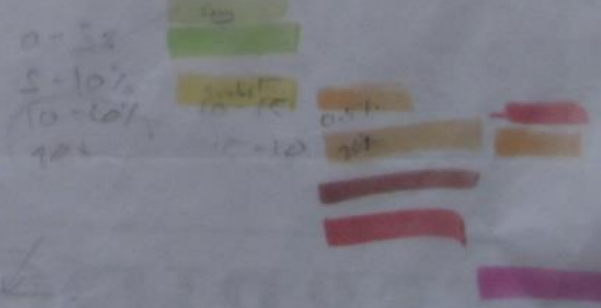
steep, south facing 16%  
• 1 of 2 steepest slopes on property  
• side of a hill - top on property  
• high in landscape  
• good for food production  
• Excellent Home site for passive solar  
• site climbs that west heat + wind protection

• observations  
• Interpretation  
• design direction

## Overall A+A

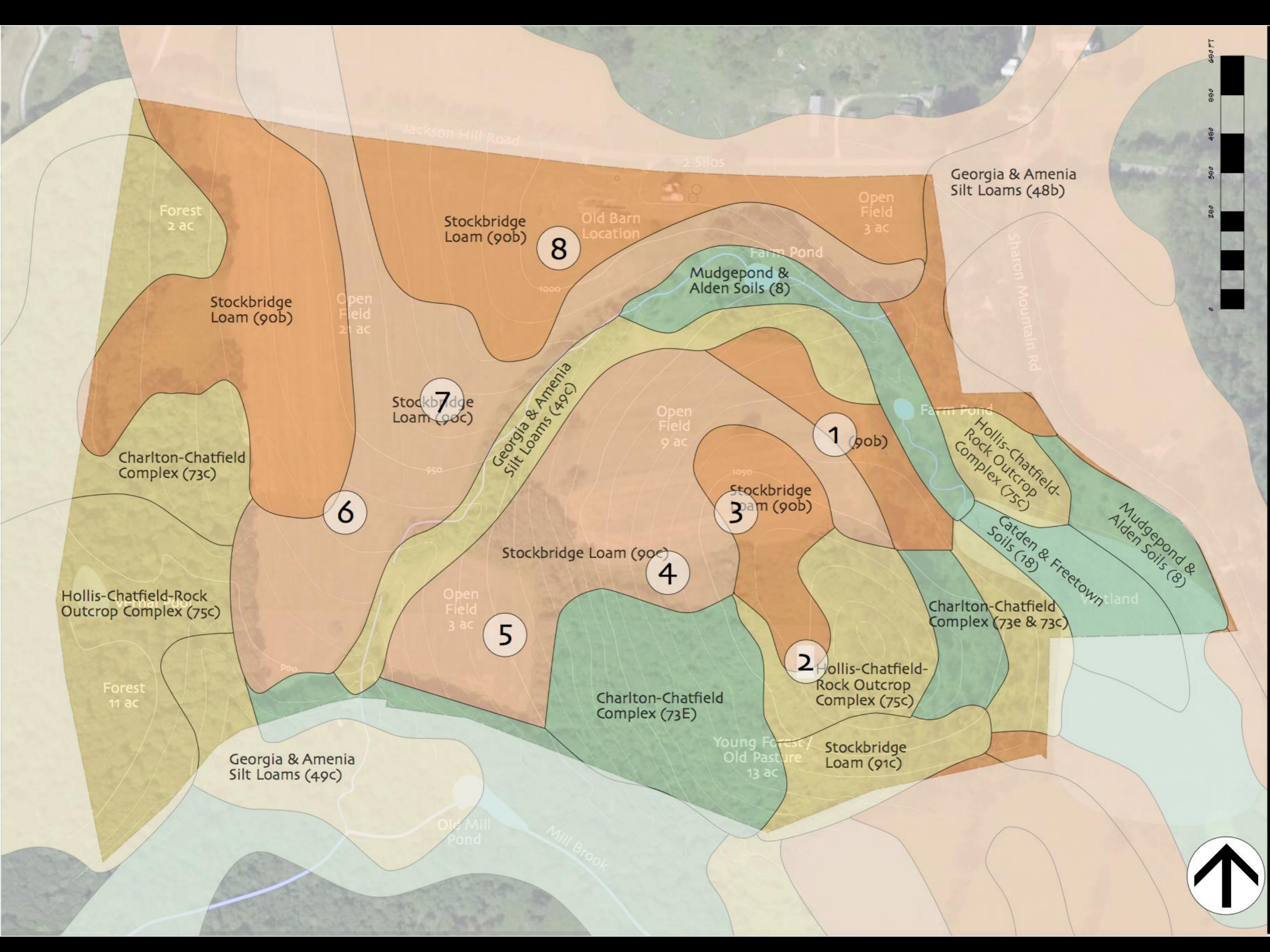
- diversity of slopes - 2-32%  
• Most slopes have SW aspect
- 65% of land is flat or gently sloping  
• low vegetation - look reasonable  
• many possibilities for house siting
- Significant sloping headwater Mill race prop.  
• Barrier to access  
• → 2 fence ways into site  
• → create access across Barrier (e.g. Road wall)
- steeper to E, flatter to W
- lowest flat here are in SW + SE corners  
• ~ 200m restricted road, 1/2 of distance + wetland

Slope	% of Landscape
0-5%	~20%
5-10%	~45%
10-15%	~5%
15-30%	~30%









# QUELLA BATSON SUMMARY SITE ANALYSIS + ASSESSMENT



**"Farm of Forgotten Waters"**

- Strong water - 140m wide as measured in the 1800s
- In 1800s, the stream was used for water power
- → defunct, but, or, could be used for water - potential waterworks

**"Farm of Forgotten Waters"**

- Beautiful, Farm water is at the core of the farm
- Physically, and ecologically, but - has been in use
- → High level, present, and future water & the stream of water
- → Built on, water, and future water & the stream of water
- → please to stream, use water whether possible!

**Maple Woodlot**

- 300m wide
- → 100m wide
- → 100m wide
- → 100m wide

**"Farm of Open Fields"**

- Many of the largest expanses of
- positive people in the area
- → some of the best
- → treasure and being for views
- → the need to create a welcoming
- → sense of community & calm
- → bring the fields to green and vibrant
- → sense of unity with the landscape
- → sense of unity with the landscape

**Damaged Soils**

- 10 years of overgrazing and tillage
- → 10 years of overgrazing and tillage
- → 10 years of overgrazing and tillage
- → 10 years of overgrazing and tillage

**Oak Woodland**

- 80+ year old forest, native
- → 80+ year old forest, native
- → 80+ year old forest, native
- → 80+ year old forest, native

**Existing Access**

- → adding a path and
- → adding a path and
- → adding a path and
- → adding a path and

**Stream Dikes Property**

- → Develop access strategies to help
- → Develop access strategies to help
- → Develop access strategies to help
- → Develop access strategies to help

**Potential Home Sites**

- → 100m wide
- → 100m wide
- → 100m wide
- → 100m wide

**Young forest/old pasture**

- The site is currently used as pasture
- → The site is currently used as pasture
- → The site is currently used as pasture
- → The site is currently used as pasture

**South-facing Slopes**

- → dense of oak & pine trees
- → dense of oak & pine trees
- → dense of oak & pine trees
- → dense of oak & pine trees

**Low-quality Woodland**

- → 100m wide
- → 100m wide
- → 100m wide
- → 100m wide

**Wetland Corridor + Wetland**

- → 100m wide
- → 100m wide
- → 100m wide
- → 100m wide

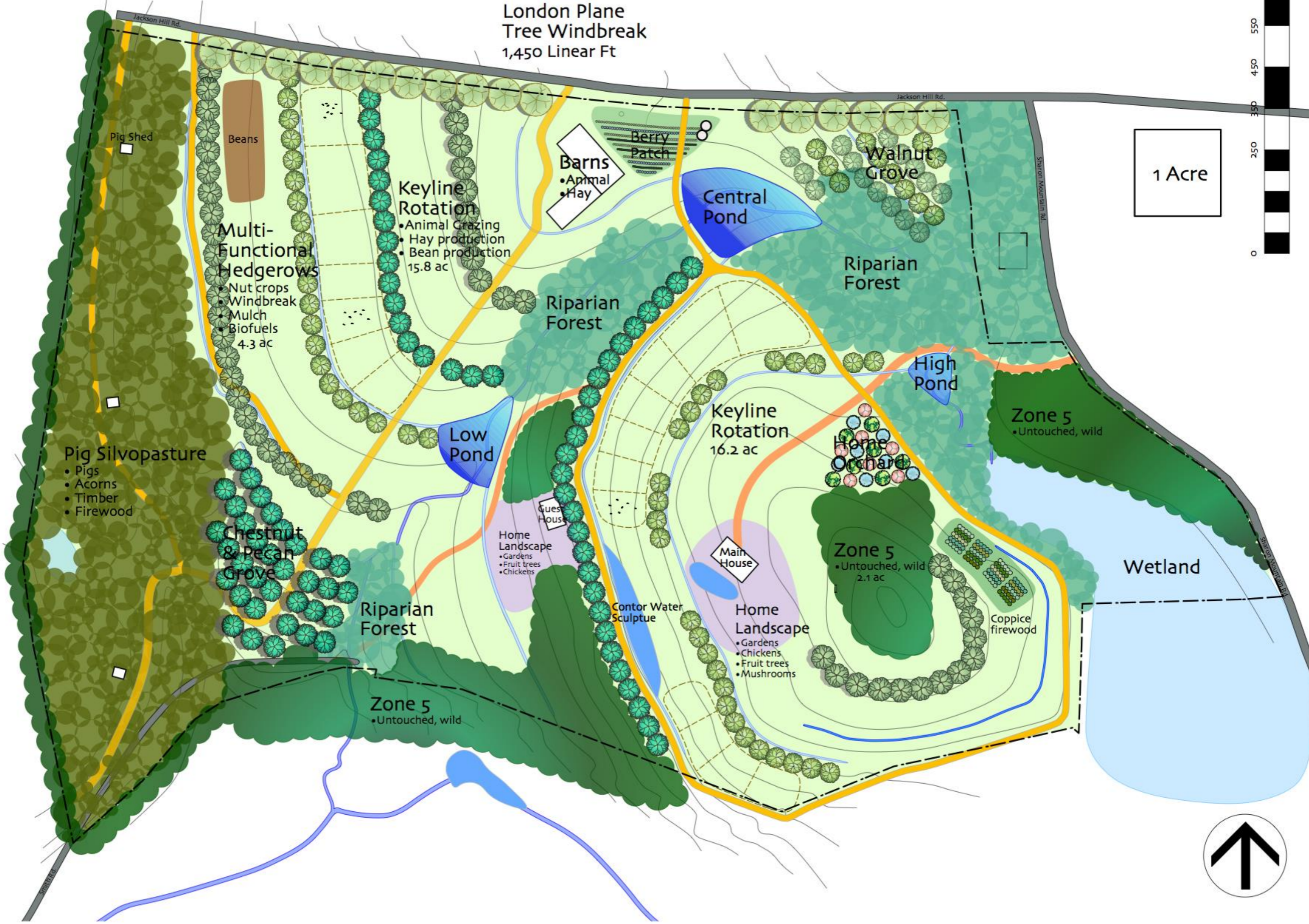
**"Farm of Last Treasures"**

- → 100m wide
- → 100m wide
- → 100m wide
- → 100m wide

# Agroforestry Systems Design

- Design emerges out of the synergies and tensions between producer/landowner goals, and existing site conditions.

London Plane  
Tree Windbreak  
1,450 Linear Ft



Pig Shed

Beans

Barns  
• Animal  
• Hay

Berry Patch

Walnut Grove

Central Pond

Multi-  
Functional  
Hedgerows  
• Nut crops  
• Windbreak  
• Mulch  
• Biofuels  
4.3 ac

Keyline  
Rotation  
• Animal Grazing  
• Hay production  
• Bean production  
15.8 ac

Riparian  
Forest

Riparian  
Forest

High Pond

Zone 5  
• Untouched, wild

Pig Silvopasture  
• Pigs  
• Acorns  
• Timber  
• Firewood

Low Pond

Keyline  
Rotation  
16.2 ac

Home  
Orchard

Chestnut  
& Pecan  
Grove

Guest  
House

Home  
Landscape  
• Gardens  
• Fruit trees  
• Chickens

Main  
House

Home  
Landscape  
• Gardens  
• Chickens  
• Fruit trees  
• Mushrooms

Zone 5  
• Untouched, wild  
2.1 ac

Coppice  
firewood

Riparian  
Forest

Zone 5  
• Untouched, wild

Contor Water  
Sculptue

Wetland

# Adaptive Implementation & Evaluation



As Planned: Chestnut-Hazel Shelterbelts

Google earth



Evolution of Plan: Silvopasture Conversion



# Questions?

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