Three Meadows Food Farm

A FORWARD LOOKING COMMUNITY PROJECT

Prepared By Warwick Hubber, June. 1. 2020

The Community Orchard and Food Forest

FEEDING OUR COMMUNITY WHILE ENHANCING NATURAL ENVIRONMENT

PLANNING TO PLANT FOR THE FUTURE

The idea of a food forest farm is far from new but is one that is seldom considered in todays world of garden design, monoculture cropping and technological food production. The concept I have outlined here will take years to fully implement but it is a starting point for what will be come a valuable asset to the 3M community for decades to come.

The plants have been chosen specifically to offer a biologically diverse ecological system that while not all will produce food or fruit are species that attract beneficial insects, repel pests, increase plant health/vigor and resistance to disease and improve soils. Native plants are an important component to offer refuge, shelter and food for birds, bees, butterflies etc that all participate in the ecological well being of our environment.

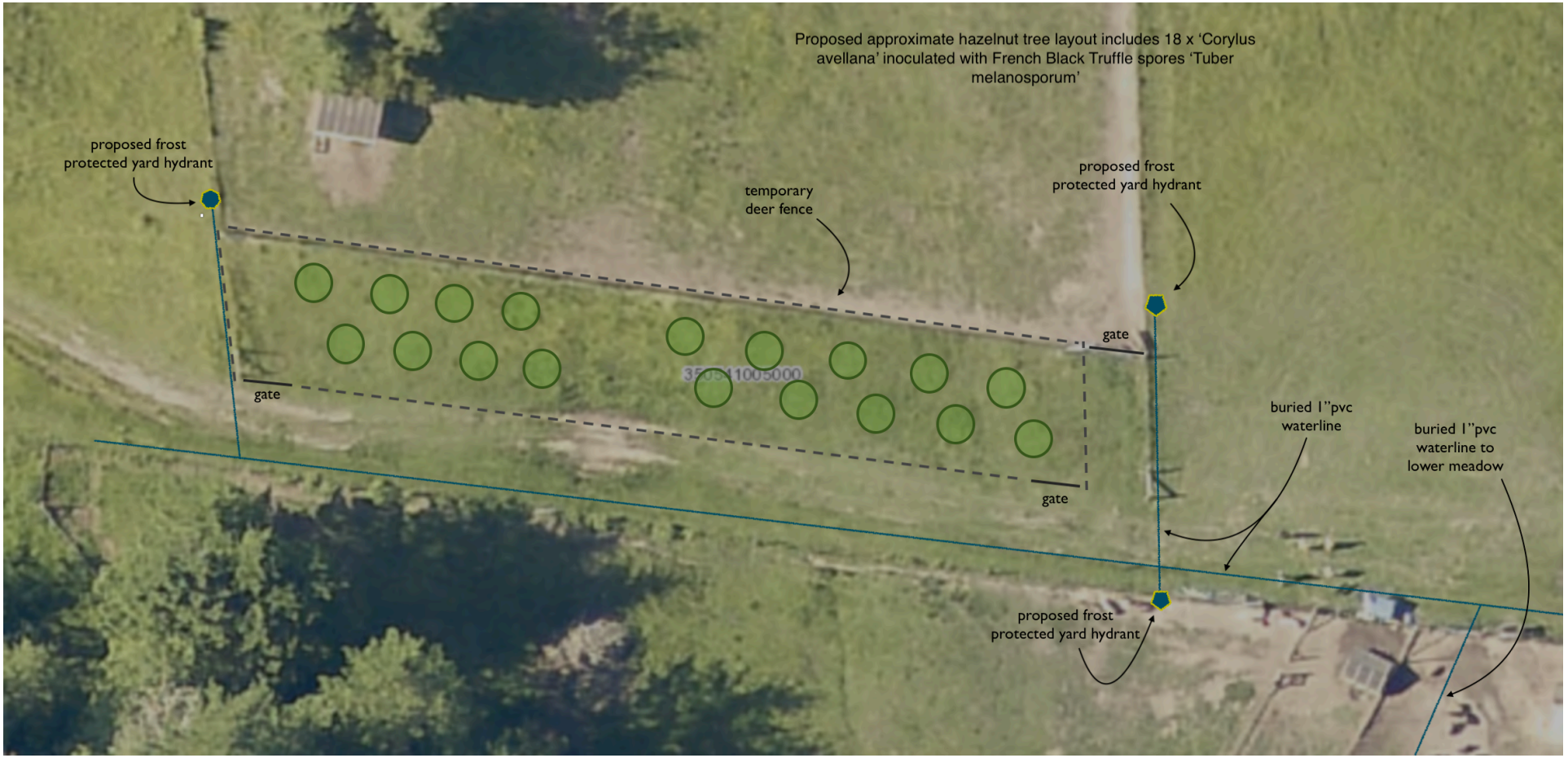
On the preceding page you have seen the preliminary plan and tree layout I have put together. It is a combination of food and fruit baring trees combined with essential habitat trees. Listed on this page are the initial plants I have included and an estimate of the number of each variety we might want to plant.

I suggest we plant the trees and plants over a period of years following installation of adequate and efficient watering system and temporary deer protection.

Proposed plants included in the food forest plan	
Canopy Trees	
4	Dunstan Chestnut Trees
3	Linden Trees
5	Black Locust Trees
3	Black Walnut Trees
18	Hazelnut Trees *see following page detail
Stone Fruit, Pome Fruits and other	
18	Assorted Common Fruit Trees, Apple Pear, Plum, Peach etc
3	Fig Trees (assorted varieties)
5	Mulberry (assorted varieties)
Native Plant Selection, many more could be included than listed here	
18	Red Osier Dogwood
5	Pacific Crabapple
12	Serviceberry
12	Flowering Currant

HAZELNUT GROVE

Illustrated below is a potential layout for the integrated 3M hazelnut grove. Also shown are the irrigation water and animal water source improvements in the form of buried 1" PVC water lines with freeze protected yard hydrants which temporary irrigation timers can be connected as required. I propose that the hazelnuts we plant are the European variety, which are blight resistant and have been inoculated with French Black Truffles for an added bonus . Initially the trees will need to be protected from the deer but once the trees mature I see removing the fences to allow deer to browse the lower branches of the trees and assist in pruning and shaping as shown in the image on the following page.



Hazelnut Nature

I have been planting orchards and backyards full of hazelnuts in the San Juan Island's ever since I first saw them being grown commercially in Northern Italy. The tree is perfectly suited to our climate and environment and thrives here. They are a perfect habitat tree for our bees, birds and wildlife and the fall leaf drop can compliment an earnest composting system or maybe simply left on the ground for insect habitat and in-place mulching of the hazelnut trees themselves. Being that these trees bloom through winter and into early spring they are a very good source of pollen for bees in the early spring. Trees grow to an average height of 15-18ft, growing fast at about 24" per year.

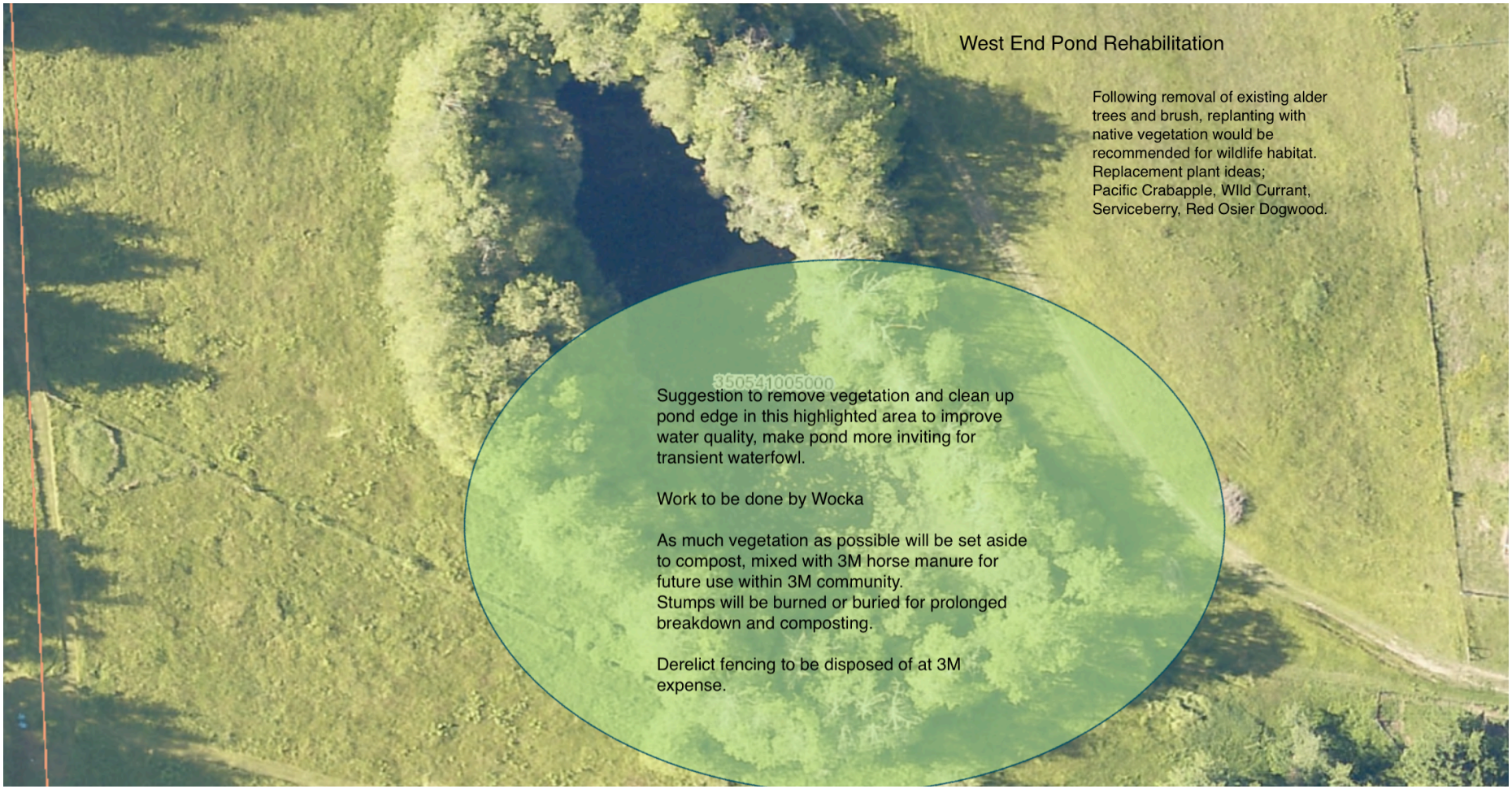
Hazelnut grove during Fall months in Piemonte, Northern Italy

The trees will require supplemental watering through the summer season. Initially the water requirement will be approximately 4 gals per plant per week (or 2 gallons per plant every 3 days in mid summer) which could be expected to average out to 10 - 15 gals of water per month in their 2nd and 3rd year of growth after which an established root system will be developed well enough to maintain adequate water supply without an exponential increase of supplemental water as the trees grow and mature.

The trees themselves are not high maintenance. Nuts are typically harvested after they fall from the tree and picked off the ground. The trees can be shaken to allow the nuts to fall and it may take several weeks for a tree to let go of all the nuts. Mature trees will provide up to 25 pounds of hazelnuts per year.

WESTSIDE POND REHABILITATION

The 3M West Side Pond is in a bad state and requires cleaning out in the form of tree and brush removal, and extraction of an old farm fence that has become entangled in the thicket. My approach would be to initially clear out approximately 50% of the over growth on the southern end of the pond and perhaps do some thinning and opening up of the remaining half with the potential of leaving that section intact but in an improved condition. Following the leaning and clearing we should replant the lower (southern) end of the pond with native vegetation that will not overwhelm the pond again in the future. This is a project I think I could do at some point this summer. I also see the water in this pond being used as an irrigation source for the Food Forest on the adjacent slope.

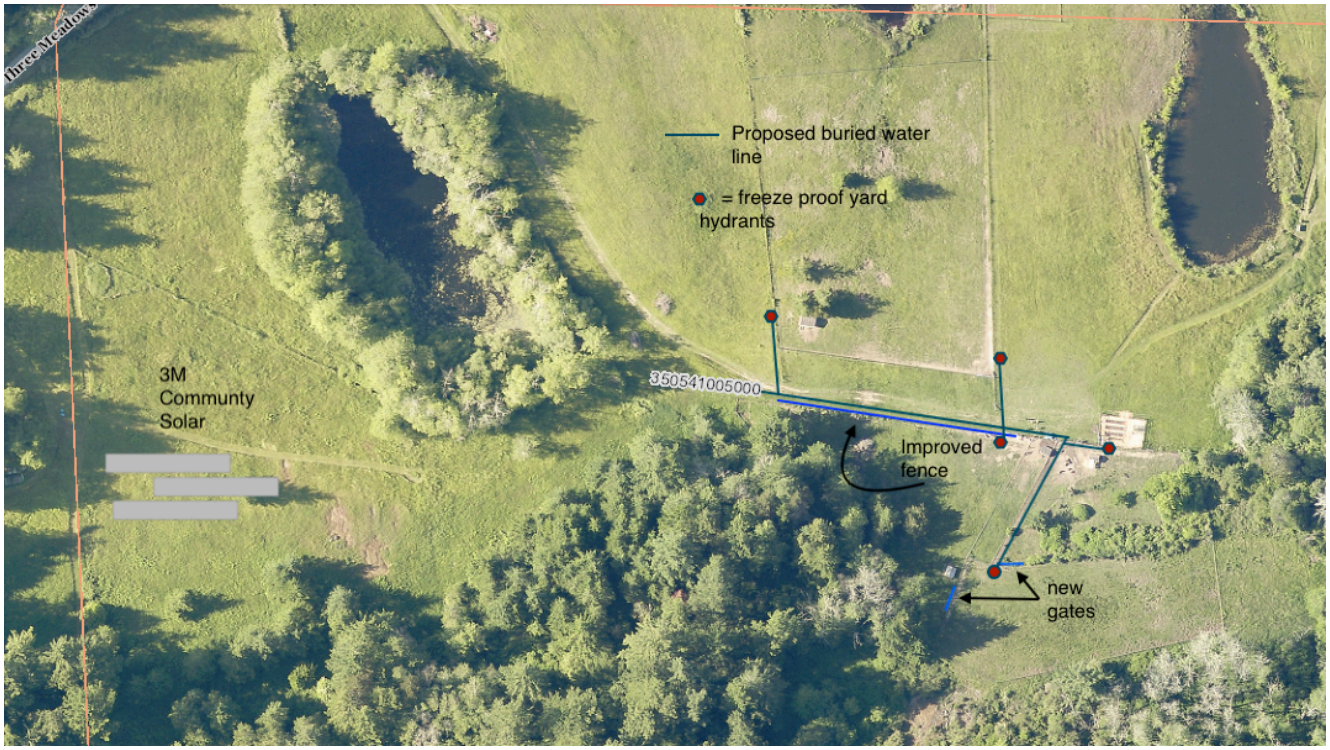


UTILITY IMPROVEMENTS

As mentioned in my initial Food Farm Plan, I would like to make improvements to the water system in forms of burying it underground and installing winter protected hydrants in the areas (4) shown on the image below. The one section of existing fence will be removed and replaced with new fencing and two new gates will be install in the locations shown in the lower paddock.

A bigger question;

Could 3M instal a Solar Array and sell power as a means to generate passive income for our community? While discussing utilities I also think we should be talking about our ability to provide for the wider community while generating passive income for our own community which is why I have included and show 3 photovoltaic solar panels on the orchard plan. The area located is not visible from the 3M road or any private properties, the ground in this area is mostly bedrock and would be an ideal location site several solar array systems which would be linked back to the main power line at Egg Lake road. As a landscape designer contractor my company has been incorporating these systems into private properties all over the island for over 15 years. I think it is time our 3M community took a close look at the feasibility of this program.



Materials cost estimate 8 / 11 / 2020

Lists below represent planned projects initiating the 3M Community Food Forest/ Farm Project to be started in the near-ish future and includes the estimated costs associated with the initiation of the plan presented.

Timing for this work is contingent on the Hubber's availability to take on these projects. As listed items A and B will be financed by the Hubber's at a time when it is convenient for them to do the work. Items C and D will be covered by the 3M community as these items pertain specifically to the Community Food Forest Project.

It is recommended that of the community projects listed and described in detail in the Implementation and Design Plan document that we initiate two of the projects prior to this Winter, ie; November 2020. These projects A) West End Pond Clearing, B) Hazelnut Grove at south end of main pig pasture. Would ensure timely sequencing enabling the ability to burn pond debris and waste through the coming winter and with regards to the hazelnuts gets us an immediate head start on the planting plan without need for orchard infrastructure since fencing is mostly in place in this area.

required budget for immediate community projects - Fall 2020	
Pond Clearing : includes equipment (approximately 20 hours of machine time) This will complete a first phase of pond clearing, fence and debris removal.	$1,340.50
Hazelnut Grove : includes trees, additional fencing, irrigation components	$2000.00
Total	**$3340.50**
summary of estimated shared expenses for food forrest/farm project to carry through until 2022	
3M Community Expenses	$6690.50
Hubber's Expenses	$2836.82
Total	**$9527.32**

Materials cost estimate 8 / 11 / 2020

Description	Qty	Unit Price	Cost
A) BURY WATER SYSTEM FOR PIGS WATER SUPPLY : TO BE FINANCED BY THE HUBBER'S AS IT RELATES TO THEIR HOBBY PIG FARM			
This work will be financed by the Hubber's as it relates to their hobby pig farm			
PVC Pipe, associated fittings	800	$0.75	$600.00
Assorted PVC fittings & cement	1	$125.00	$125.00
Yard hydrants	5	$125.00	$625.00
Equipment; Trencher	1	$450.00	$450.00
Labor	1	$0.00	$0.00
		subtotal	$1,800.00
B) REMOVE AND REPLACE FENCING, ADD GATES : TO BE FINANCED BY THE HUBBER'S AS IT RELATES TO THEIR HOBBY PIG FARM.			
Fencing	1	$339.00	$339.00
T-Posts	18	$11.79	$212.22
Gates	2	$145.00	$290.00
Gate Posts	4	$48.90	$195.60
Labor	1	$0.00	$0.00
		subtotal	$1,036.82
C) POND CLEARING : COMMUNITY PROJECT WITH EQUIPMENT SUPPLIED BY HUBBER'S MINI EXCAVATOR AND BOBCAT IF NEEDED.			
Equipment; Approximately 20 hours of machine time. This will complete a first phase of pond clearing, fence and debris removal.	20	$65.00	$1,300.00
Fuel; gallons (approx)	15	$2.70	$40.50
		subtotal	$1,340.50
D) FOOD FOREST INFRASTRUCTURE :			
Trees	1	$500.00	$500.00
Irrigation Materials. **Water to be pumped from West End pond.	1	$3,800.00	$3,800.00
Fencing and deer protection of trees.	1	$1,000.00	$1,000.00
Fertilizers and amendments	1	$50.00	$50.00
Labor	1	$0.00	$0.00
		subtotal	$5,350.00
		Total	**$9,527.32**