Pemberton Agricultural Parks – Phase 2 Assessment of Suitable Agricultural Activities



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Summary of Feasible Agricultural Activities for Each Site

			Site	
Permitted Use	Activity	A (Airport)	B&C (Harrow Rd)	D (Signal Hill)
	Root vegetables (e.g. potatoes, onions, carrots, radishes, beets)	High	High	High
	Green vegetables (e.g. lettuce, celery, cabbage, broccoli, spinach, herbs,			
	kale, cauliflower)	High	High	High
	Field flowers	High	Moderate	High
	Squash (e.g. pumpkins, squash, melons)	High	Moderate	High
Horticulture	Nightshades (e.g. tomatoes, sweet peppers, eggplants)	Low	Moderate	High
Horticulture	Fruit trees and nut trees	Low	High	Moderate
	Blueberries	Moderate	High	Moderate
	Strawberries	Moderate	High	Moderate
	Raspberries	Moderate	High	Moderate
	Corn	Moderate	Moderate	Low
	Cereal grains and hay	High	Moderate	Low
	Grapes (for wine)	Low	Low	Low
	Honey bees	High	High	High
	Poultry (broilers, layers, turkeys)	Low	Moderate	Low
Livestock, horses,	Horses	Low	Moderate	Low
bees	Cows (beef or dairy)	Low	Low	Low
	Pigs, sheeps, goats	Low	Low	Low
	Llamas, alpacas	Low	Low	Low
6 1 // 11	Hoop houses (cloth or plastic)	Moderate	High	High
Greenhouse/hoth	Poly houses (plastic)	Low	Moderate	Moderate
ouse production	Green houses (glass)	Low	Low	Low
	Farm retail sales	Low	High	High
	Agri-tourism	Low	High	High
Other	Biodiversity conservation	High	High	High
	Open land park	Low	High	High
	Education & research	Moderate	High	High
	Botanical garden	Low	High	Moderate
	Storing, packing, preparing, processing	Low	Moderate	Low
	Large scale compost operations	Low	Moderate	Low
	Petting zoo, pet breeding, and/or kennel	Low	Low	Low

Detail of Potential Agricultural Activities - Site A – Airport

	Airport	Site: Field Crop Production	
Crop	Suitability Ranking	Considerations	Relative Cost of Implementation
Root Vegetables (potato, onion, carrot, radish, beets)	High	 Soil amendments for organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required; Fairly low maintenance. 	Medium-Low
Green Vegetables (Lettuce, celery, cabbage, broccoli, spinach, herbs)	High	 Soil amendments for organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required; Fairly low maintenance; Susceptible to predation by slugs, deer, other wildlife; Some weeding required. 	Medium-Low
Pumpkins, zucchini, squash, melon	High	 Susceptible to frost; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure; Susceptible to predation by slugs, birds, other wildlife; Low maintenance. 	Medium-Low
Field flowers	High	 Good drainage required; Susceptible to predation by slugs, deer, other wildlife; Liming, fertilizer, plants/bulbs are all cost considerations; May require addition/mixing of organic matter for improved structure. 	Medium
Cereal grains, hay	High	 Similar to the status quo; Requires good drainage; Irrigation may be optional; Liming, fertilizer, seeds will be required; May require addition/mixing of organic matter for improved structure; Fairly low maintenance. 	Medium-Low

Raspberries and Strawberries	Moderate	 Soil amendments for organic matter required; Raised beds or hills may be required for production to be feasible; Will require netting or other bird deterrents; May require manure applications; Basic capital investment similar to blueberries and high maintenance. 	Medium
Blueberries	Moderate	 Will require acidic soils – soil amendments for pH more intensive; Pest control required; Predation from birds and small mammals will need to be mitigated through netting, sprinklers, or other deterrents; Blueberry plants may be expensive (depending on age at time of purchase); Total set up costs approx. \$30,000/acre and high maintenance. 	Medium-High
Corn	Moderate	 Requires deep water table; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure. 	Medium-Low
Tomatoes, peppers, eggplant	Low	 Highly susceptible to frost; Summer months may not be warm enough for field tomatoes; High labour to maintain and harvest. 	Low-Medium
Fruit & nut trees (orchards)	Low	 Takes many years to establish and requires a very low water table; Requires deep mineral soils for deep rooting requirements; Height of trees may be inapproporate for the proximity of the landing strip; Pollinators required. 	High
Grape vines (winery)	Low	 Takes many years to establish and requires a very low water table; Climate is too wet and summers not hot enough for most grape varieties to produce well; Susceptible to frost. 	High

Airport Site: Animals (Poultry/Livestock/Horse/Bee) Production					
Livestock	Suitability Ranking	Considerations	Relative Cost of Implementation		
Honey bees	High	 Will require electric fencing or similar security to deter wildlife; Will benefit agricultural and non-agricultural plants through increased presence of pollinators. 	Medium-low		
Poultry (broilers, layers, turkeys)	Low	 Coops and fencing would be required – not suitable to the site; Caretaker would be required 24/7 – not suitable to the site. 	Medium		
Large animals: Horses	Low	 Stables, fencing, and outbuildings would be required – not suitable to the site; Caretaker would be required 24/7 – not suitable to the site. 	High		
Large animals: Cattle (dairy and/or beef)	Low	 Barns, fencing, and outbuildings would be required - not suitable to the site; Caretaker would be required 24/7 – not suitable to the site. 	High		
Medium sized animals: Pigs, sheep, goats	Low	 Barns, fencing, and outbuildings would be required - not suitable to the site; Caretaker would be required 24/7 – not suitable to the site. 	High		
Other animals: Llamas, alpacas, emus, deer	Low	 Barns, fencing, and outbuildings would be required - not suitable to the site; Caretaker would be required 24/7 – not suitable to the site. 	High		

		Airport Site: Greenhouse Production	
Structure	Suitability Ranking	Considerations	Relative Cost of Implementation
Hoop houses	Moderate	 Good for greens, strawberries, and a variety of starter plants; Fertilizer demands and green waste produced may be high, depending on crops grown; Ideally a caretaker will be on site 24/7 to prevent theft and/or vandalism; Set up and maintenance costs may be high; Irrigation infrastructure may be required. 	Medium-Low
Poly houses	Low	Cost and size unsuitable to the site.	Medium-High
Glass houses	Low	Cost and size unsuitable to the site.	Very High

	A	Airport Site: C	Other Uses Permitted on Agricultural Land	
	Use	Suitability Ranking	Considerations	Relative Cost of Implementation
	Biodiversity conservation, passive recreation, heritage, wildlife and scenery viewing purposes	High	Similar to the status quo.	Medium-Low
The state of the s	Education and research	Moderate	 Opportunities exist for partnerships with local and regional education institutions; The site could be used for crop trials (potato varieties, flower varieties); Parking and access will likely be required. 	Medium
	Farm retail sales	Low	Not suitable for the site due to the location of the airport.	Medium
	Agri-tourism	Low	Not suitable for the site due to location of the airport.	Medium
	Botanical garden	Low	 Hoop housing required to grow nursery stock; Expensive maintenance costs; On-site water, energy, and waste systems; Heating and irrigation infrastructure required. 	Medium
	Storing, packing, preparing, or processing	Low	Not suitable to the site due to location of airport.	High
	Large scale compost operations	Low	Not suitable to the site due to location of airport.	High
	Petting zoo, pet breeding and/or kennel	Low	Not suitable to the site due to location of airport.	High

Detail of Potential Agricultural Activities - Site B&C - Harrow Rd.

Harrow Rd: Field Crop Production – Site B&C						
Crop	Suitability Ranking	Considerations	Relative Cost of Implementation			
Root Vegetables (potato, onion, carrot, radish, beets)	High	 Soil amendments for pH and organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required. 	Medium-Low			
Green Vegetables (Lettuce, celery, cabbage, broccoli, spinach, herbs)	High	 Soil amendments for pH and organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required. 	Medium-Low			
Blueberries	High	 Will require acidic soils; Pest control required; Predation from birds and small mammals will need to be mitigated through netting, sprinklers, or other deterrents; Total set up costs approx. \$30,000/acre. 	Medium-High			
Raspberries and Strawberries	High	 Soil amendments for pH and organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required; Raised beds or hills may be required for production to be feasible; Will require netting or other bird deterrents; Basic capital investment similar to blueberries. 	Medium			
Fruit trees (orchards)	High	 Takes many years to establish and requires a very low water table; Requires deep mineral soils for deep rooting requirements. Pollinators required. 	High			
Tomatoes, peppers, eggplant	Moderate	Highly susceptible to frost.	Low-Medium			

	Pumpkins, zucchini, squash, melon	Moderate	 Susceptible to frost; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure; Raised beds may be required for production to be feasible. 	Medium-Low
	Corn	Moderate	 Requires deep water table; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure. 	Medium-Low
	Cereal grains	Moderate	 Requires deep water table; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure. 	Medium-Low
A THE STREET OF THE STREET	Field flowers	Moderate	 Perennials may suffer in high water tables – most flowers do not tolerate water logging; Growing flowers in raised beds may help boost production; Susceptible to predation by slugs; Liming, fertilizer, plants; May require addition/mixing of organic matter for improved structure; Raised beds may be required for production to be feasible. 	Medium
	Grape vines (winery)	Low	 Takes many years to establish and requires a very low water table; Climate and soils may not be suitable; Grower skills must be high. 	High

Harrow Rd: Animals (Poultry/Livestock/Horse/Bee) Production – Site B&C						
Livestock	Suitability Ranking	Considerations	Relative Cost of Implementation			
Honey bees	High	 Will require electric fencing or similar security to deter wildlife; Will benefit agricultural and non-agricultural plants through increased presence of pollinators. 	Medium-low			
Poultry	Moderate	 Risk of possible predation by wildlife is high (coyotes, hawks, etc) - will require electric fencing or similar security to deter wildlife; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism; Coops, shelters, fencing, drinking water, heating, costs of purchasing birds; Odour and dust emissions (may affect agricultural crops). 	Medium			
Large animals: Horses	Moderate	 Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism; Development of fencing, stables, riding rings; May require trail development; Drinking water, heating for shelters, grass, hay, alfalfa, or other grazing; Costs of purchasing animals or managing those that belong to others. 	High			
Large animals: Cattle (dairy and/or beef)	Low	 Not suitable due to relative size of pasture/grazing required; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High			
Medium sized animals: Pigs, sheep, goats	Low	 Not suitable due to relative size of pasture/grazing required; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High			
Other animals: Llamas, alpacas, emus, deer	Low	 Not suitable due to relative size of pasture/grazing required; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High			

Harrow Rd: Greenhouse Production – Site B&C						
Structure	Suitability Ranking	Considerations	Relative Cost of Implementation			
Hoop houses	High	 Good for greens, strawberries, and a variety of starter plants; Fertilizer demands and green waste produced may be high, depending on crops grown; Ideally a caretaker will be on site 24/7 to prevent theft and/or vandalism; Set up and maintenance costs; Irrigation infrastructure may be required. 	Medium-Low			
Poly houses	Moderate	 Ideal crops include: greens, strawberries, nursery stock, vine vegetables (tomatoes, cucumbers, peppers), and/or flowers; Fertilizer demands and green waste produced may be high, depending on crops grown; Ideally a caretaker will be on site 24/7 to prevent theft and/or vandalism; Set up and maintenance costs; Excavation and fill may be required; Heating and irrigation infrastructure required; Waste management/composting systems may be required. 	Medium-High			
Glass houses	Low	 High tech glass greenhouses and associated infrastructure can cost approximately \$1 million per acre; Excavation and fill required; Heating and irrigation infrastructure required; Waste management/composting systems required 	Very High			

Harrow Rd: Other Uses Permitted on Agricultural Land – Site B&C							
Use	Suitability Ranking	Considerations	Relative Cost of Implementation				
Farm retail sales and agritourism	High	 A farm stand could offer products grown on the site for sale; Staffing the booth may be required to reduce theft and vandalism; Integration of site-based agriculture, education, and/or recreation could result in successful agri-tourism initiatives such as tours, slow food hikes/cycles, culinary events, and local food celebrations (Feast of Fields, etc.); Electricity and water servicing may be required; Parking will likely be required; 	Medium				
Biodiversity conservation, passive recreation, heritage, wildlife and scenery viewing	High	 The area occupied by associated buildings and structures must not exceed 100 m² unless otherwise approved by the Agricultural Land Commission; Habitat restoration may be required, incl. invasive species management; Trail/boardwalk construction, interpretive signage; Parking, monitoring for vandalism and dumping. 	Medium-Low				
Botanical garden	High	 Hoop housing required to grow nursery stock; On-site water, energy, and waste systems will need to be considered; Heating and irrigation infrastructure required; Parking will likely be required; 	Medium				
Education and research	High	 Partnerships with local and regional education institutions; The area occupied by associated buildings and structures must not exceed 100 m² unless otherwise approved by the Agricultural Land Commission; Electricity and water servicing, Parking will likely be required. 	Medium				
Storing, packing, preparing, or processing	Moderate	 Location may not be suitable due to proximity to residential and commercial areas (zoning); Electricity and other servicing will be required; 	High				
Large scale compost operations	Moderate	 Location may not be suitable due to proximity to residential and commercial areas and the inherent noise and odour involved in large scale composting operations. 	High				
Petting zoo, pet breeding and/or kennel	Low	Not suitable without a 24/7 caretaker.	High				

Potential Agricultural Activities - Site D – Adjacent to Signal Hill Elementary

Signal Hill: Field Crop Production – Site D				
	Crop	Suitability Ranking	Considerations	Relative Cost of Implementation
	Root Vegetables (potato, onion, carrot, radish, beets)	High	 Soil amendments for pH and organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required; May be suitable as part of a community garden layout/design. 	Medium-Low
	Green Vegetables (Lettuce, celery, cabbage, broccoli, spinach, herbs)	High	 Soil amendments for pH and organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required; May be suitable as part of a community garden layout/design 	Medium-Low
	Field flowers	High	 Perennials may suffer in high water tables – most flowers do not tolerate water logging; Susceptible to predation by slugs; Initial costs of perennials, bulbs, may be high. May be suitable as part of a community garden layout/design. 	Medium
	Pumpkins, zucchini, squash, melon	High	 Susceptible to frost; Main cost will be seeds; May require addition/mixing of organic matter; Raised beds may be required for production to be feasible. 	Low
	Tomatoes, peppers, eggplant	High	 Highly susceptible to frost; May be suitable as part of a community garden layout/design. 	Low-Medium
	Fruit trees (orchards)	Moderate	 Takes many years to establish and requires a very low water table; Requires deep mineral soils for deep rooting requirements. Pollinators required; Predation from birds, small mammals, bears will need to be mitigated; May be most appropriate in small numbers; Height suitability under hydro wires must be considered. 	High

Blueberries	Moderate	 Will require acidic soils; Pest control required; Predation from birds, small mammals, bears will need to be mitigated through netting, sprinklers, or other deterrents; Total set up costs approx. \$30,000/acre; May be most appropriate in small numbers. 	Medium-High
Raspberries and Strawberries	Moderate	 Soil amendments for pH and organic matter required; Annual soil fertility testing and nutrient program recommended; Drainage and irrigation required; Raised beds or hills may be required for production to be feasible; Will require netting or other predator deterrents; Basic capital investment similar to blueberries. 	Medium
Corn	Low	 Requires deep water table; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure. 	Medium-Low
Cereal grains	Low	 Requires deep water table; Liming, fertilizer, seeds; May require addition/mixing of organic matter for improved structure. 	Medium-Low
Grape vines (winery)	Low	 Takes many years to establish and requires a very low water table; Climate and soil may not be attuned to most grape varieties; Skill level of grower must be high. 	High

Signal Hill: Animals (Poultry/Livestock/Horse/Bee) Production – Site D				
	Livestock	Suitability Ranking	Considerations	Relative Cost of Implementation
	Honey bees	High	 Will require electric fencing or similar security to deter wildlife; Will benefit agricultural and non-agricultural plants through increased presence of pollinators. 	Medium-low
	Poultry (broilers, layers, turkeys)	Low	 Risk of possible predation by wildlife is high (coyotes, hawks, etc); Will require electric fencing or similar security to deter wildlife; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism; Coops, shelters, fencing, drinking water, heating, purchasing birds; Odour and dust emissions (may affect agricultural crops). 	Medium
	Large animals: Horses	Low	 Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism; Development of fencing, stables, riding rings; trail development; Drinking water, heating for shelters; grass, hay, alfalfa, or other for grazing; Odour; Costs of purchasing animals or managing those that belong to others. 	High
	Large animals: Cattle (dairy and/or beef)	Low	 Not suitable due to relative size of pasture/grazing required; Costs of purchasing and maintaining health of animals will be high; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High
	Medium sized animals: Pigs, sheep, goats	Low	 Not suitable due to relative size of pasture/grazing required; Costs of purchasing and maintaining health of animals will be high; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High
	Other animals: Llamas, alpacas, emus, deer	Low	 Not suitable due to relative size of pasture/grazing required; Costs of purchasing and maintaining health of animals will be high; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High

Signal Hill: Greenhouse Production – Site D				
	Structure	Suitability Ranking	Considerations	Relative Cost of Implementation
	Hoop houses	High	 Good for greens, strawberries, and a variety of starter plants; Fertilizer demands and green waste produced may be high, depending on crops grown; Ideally a caretaker will be on site 24/7 to prevent theft and/or vandalism; Set up and maintenance costs; Irrigation infrastructure may be required. 	Medium-Low
	Poly houses	Moderate	 Ideal crops include: greens, strawberries, nursery stock, vine vegetables (tomatoes, cucumbers, peppers), and/or flowers; Fertilizer demands and green waste produced may be high, depending on crops grown; Ideally a caretaker will be on site 24/7 to prevent theft and/or vandalism; Set up and maintenance costs; Excavation and fill may be required; Heating and irrigation infrastructure required; Waste management/composting systems may be required. 	Medium-High
	Glass houses	Low	 Ideal crops include: nursery stock, vine vegetables (tomatoes, cucumbers, peppers), and/or flowers; High yield production may be in excess of seasonal market demand; Glass house floors may be soil-based (organic production) or concrete; Caretaker will be required on site 24/7 to prevent theft and/or vandalism; High tech glass greenhouses and associated infrastructure can cost approximately \$1 million per acre; Excavation and fill required; Heating and irrigation infrastructure required; Waste management/composting systems required 	Very High

Signal Hill: Other Uses Permitted on Agricultural Land – Site D				
	Use	Suitability Ranking	Considerations	Relative Cost of Implementatio n
	Farm retail sales and agritourism	High	 A farm stand could offer products grown on the site for sale; Integration of site-based agriculture, education, and/or recreation could result in tours, slow food hikes/cycles, culinary events etc; Staffing the booth may be required to reduce theft and vandalism; Electricity and water servicing may be required; parking. 	Medium
	Biodiversity conservation, recreation, heritage, wildlife viewing purposes	High	 The area occupied by associated buildings and structures must not exceed 100 m² unless otherwise approved by the Agricultural Land Commission; Habitat restoration may be required, incl. invasive species management; Trail/boardwalk construction; interpretive signage; Parking, monitoring for vandalism and dumping. 	Medium-Low
The state of the s	Education and research	High	 Partnerships with local education institutions; The area occupied by associated buildings and structures must not exceed 100 m² unless otherwise approved by the Agricultural Land Commission; Electricity and water servicing; parking will likely be required. 	Medium
	Botanical garden	Moderate	 Hoop housing required to grow nursery stock; On-site water, energy, and waste systems will need to be considered; Heating and irrigation infrastructure required; Parking will likely be required; 	Medium
	Storing, packing, preparing, or processing	Low	 Truck/large vehicle access will need to be considered; Excavation and fill of the building site will be required; On-site water, energy, and waste systems will need to be considered. 	High
	Large scale compost operations	Low	 Location may not be suitable due to proximity to residential and commercial areas and the inherent noise and odour involved in large scale composting operations; Truck/large vehicle access will need to be considered 	High
	Petting zoo, pet breeding and/or kennel	Low	 Predation by wildlife is possible; Location is not suitable due to proximity to residential and commercial areas and the inherent noise involved in kennel and breeding operations; Caretaker will be required on site 24/7 for animal well-being and to prevent theft and/or vandalism. 	High