

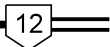

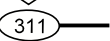
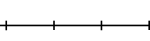
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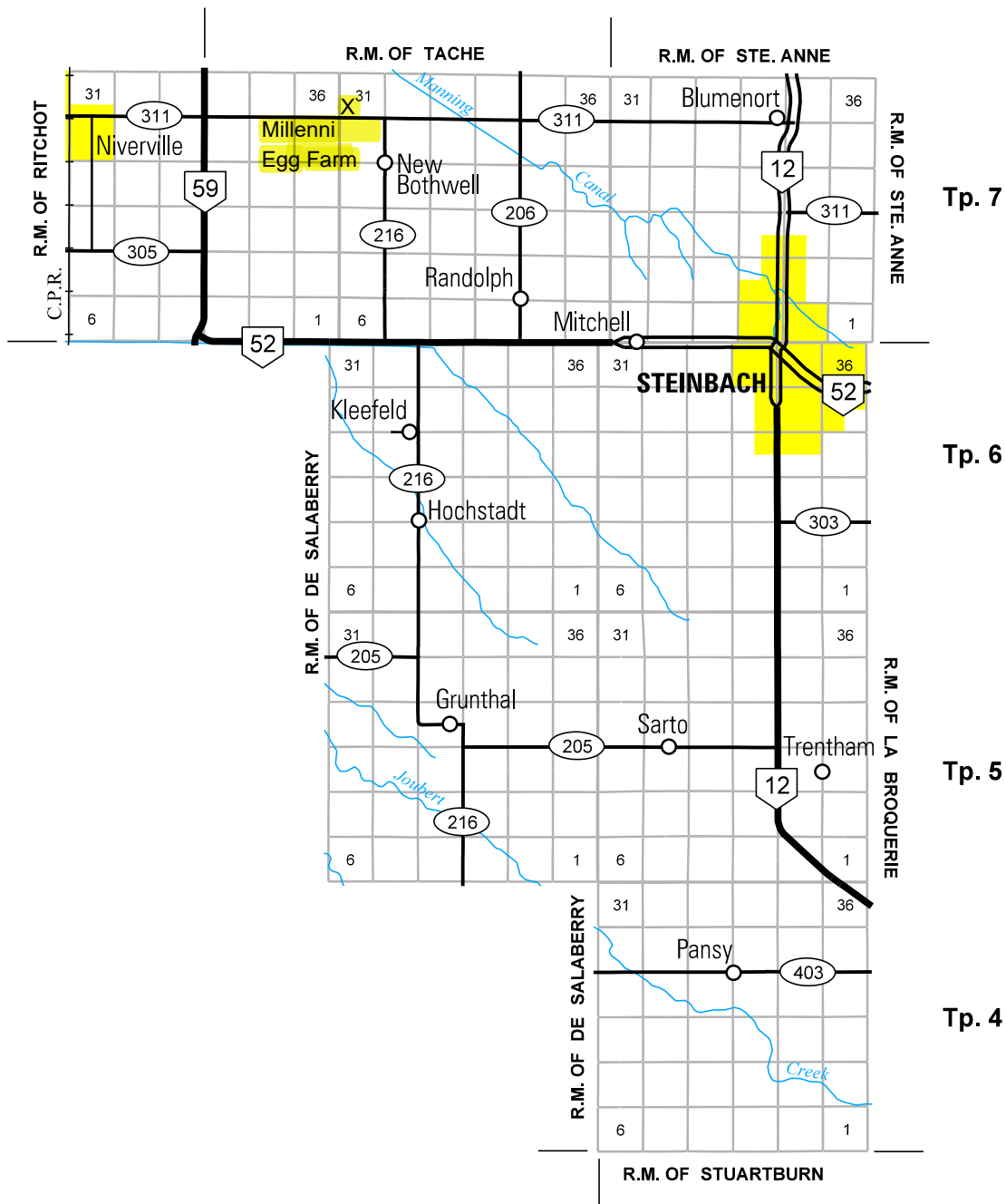


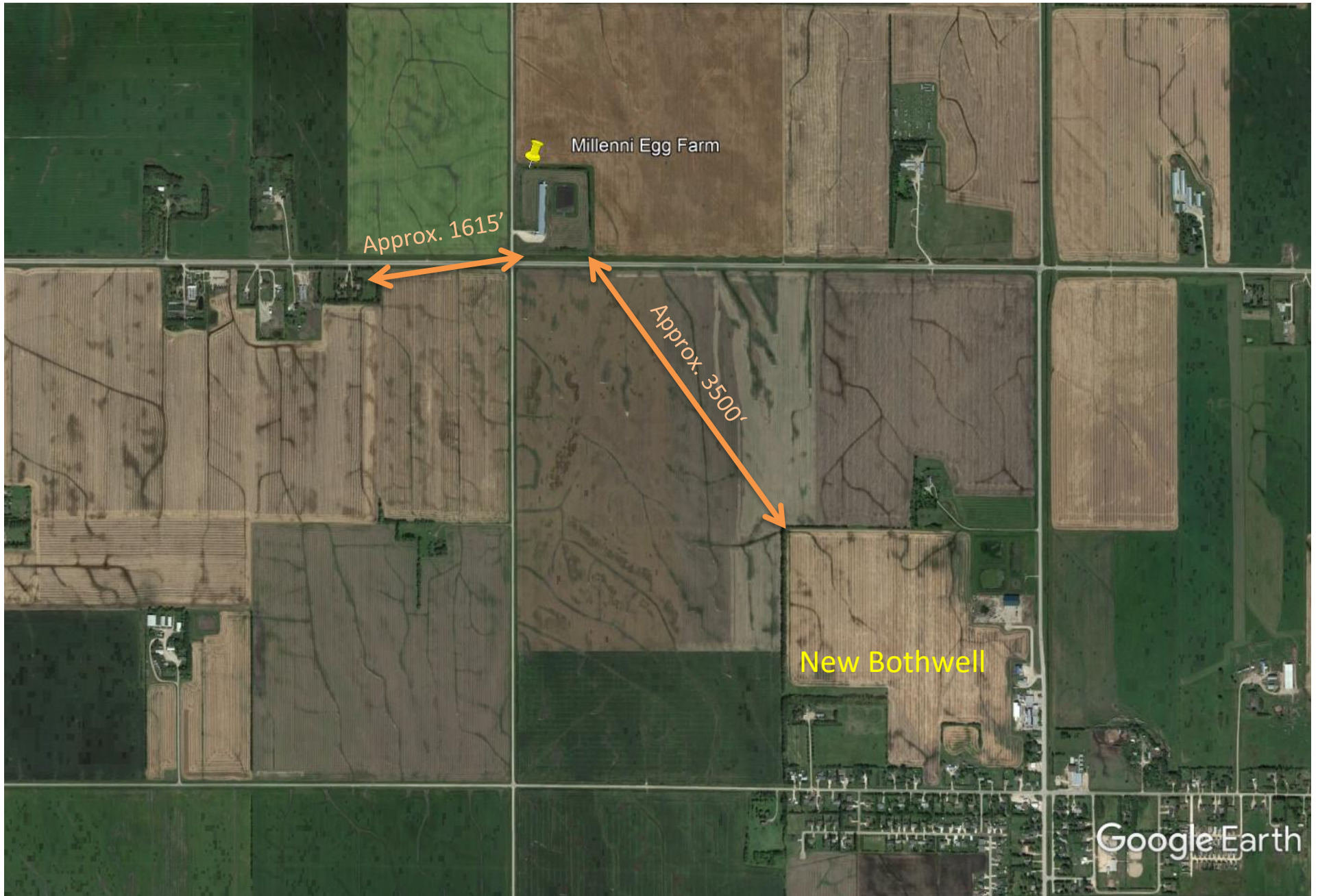
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SCALE IN KILOMETRES

PROVINCE OF MANITOBA
INFRASTRUCTURE
HIGHWAY PLANNING AND DESIGN BRANCH
GEOGRAPHIC & RECORDS MANAGEMENT SECTION
WINNIPEG
JANUARY 2015

LEGEND

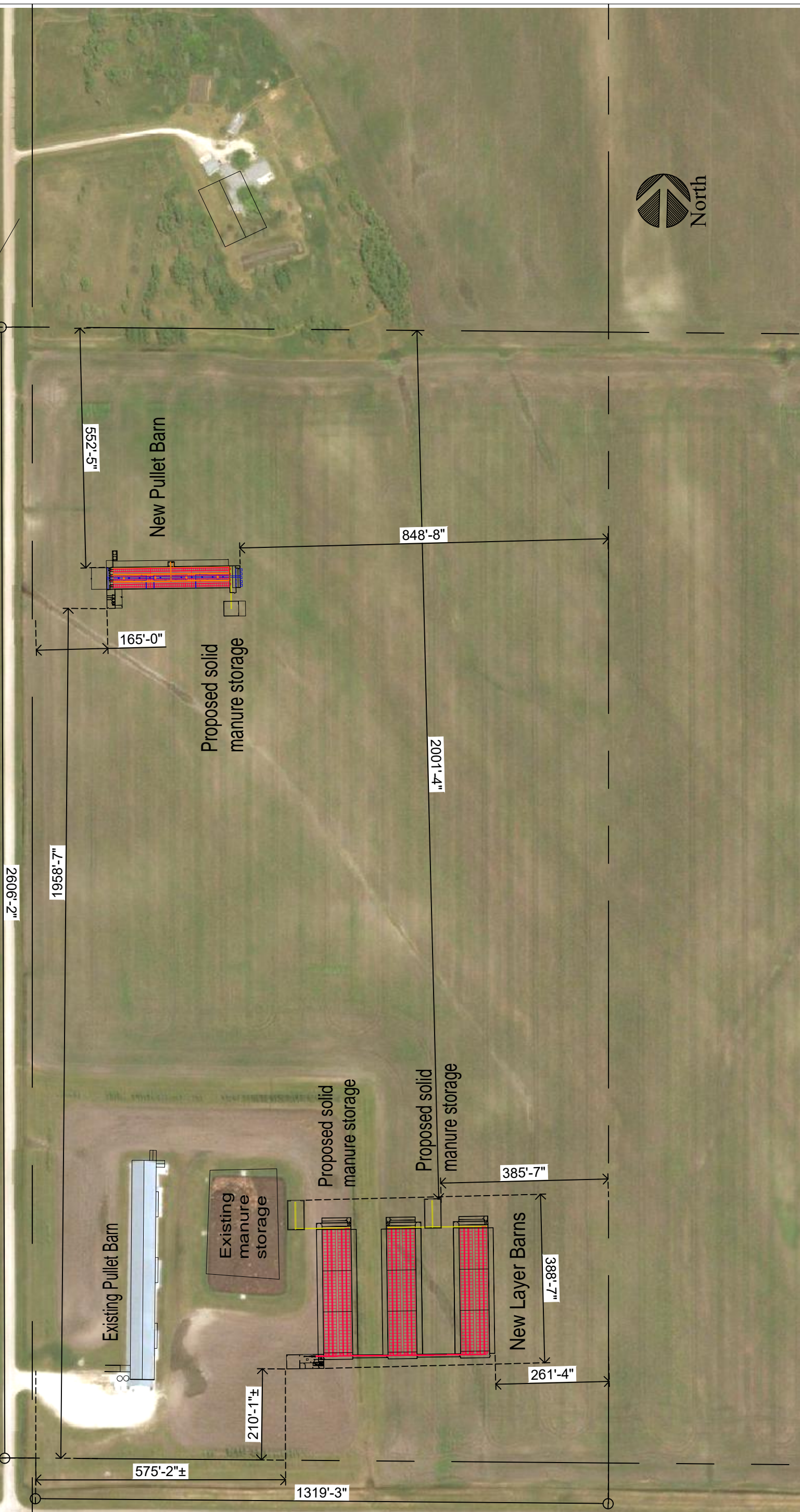
PROVINCIAL TRUNK HIGHWAYS  12 ACCESS ROADS 
 PROVINCIAL ROADS  311 RAILWAYS 





Millenni Egg Farm Site Location

Millenni Egg Farm Site Plan



Animal Units Calculator

A	B	C	Current Operation		Proposed Operation	
			D	E	F	G
Operation Type	Animal Categories	Animal Units per Head	Current Number of Animals ¹	Current Animal Units	Proposed Number of Animals ²	Proposed Number of Animal Units
Dairy ³	Mature cows (lactating and dry) including associated livestock	2		-		-
	Mature cows (lactating and dry)	1.35		-		-
	Heifers (0 to 3 months)	0.16		-		-
	Heifers (4 to 13 months)	0.41		-		-
	Heifers (> 13 months)	0.87		-		-
	Bulls	1.35		-		-
	Veal calves	0.13		-		-
Beef	Beef cows including associated livestock	1.25		-		-
	Backgrounder	0.5		-		-
	Summer pasture / replacement heifers	0.625		-		-
	Feeder cattle	0.769		-		-
Pigs	Sows - farrow to finish (234-254 lbs)	1.25		-		-
	Sows - farrow to weaning (up to 11 lbs)	0.25		-		-
	Sows - farrow to nursery (51 lbs)	0.313		-		-
	Boars (artificial insemination units)	0.2		-		-
	Weanlings, Nursery (11-51 lbs)	0.033		-		-
	Growers / Finishers (51-249 lbs)	0.143		-		-
Chickens	Broilers	0.005		-		-
	Roasters	0.01		-		-
	Layers	0.0083		-	135,000	1,121
	Pullets	0.0033	166,000	548	45,000	149
	Broiler breeder pullets	0.0033		-		-
	Broiler breeder hens	0.01		-		-
Turkeys	Broilers	0.01		-		-
	Heavy Toms	0.02		-		-
	Heavy Hens	0.01		-		-
Horses	Mares	1.333		-		-
Sheep	Ewes	0.2		-		-
	Feeder lambs	0.063		-		-
Other Livestock	Type:			-		-
	Type:			-		-
Total Current:				548	Total Proposed:	1,269

Footnotes:

¹ Enter the current number of animals on the farm based on the operation's capacity (animal places) or previous Conditional Use Approval.

² Enter the total number of animals associated with the operation post construction or expansion.

³ There are 2 methods for calculating animal units for dairy (Farm Practices Guidelines for Dairy Producers in Manitoba, 1995). You can enter the total number of mature cows in the milking herd under the "Mature cows (lactating and dry) including associated livestock" category and the animal units will be calculated by multiplying this number by 2. This calculation assumes 85 lactating, 15 dry, 12 heifers (0 to 3 months), 36 heifers (4 to 13 months) and 50 heifers (> 13 months) for an operation with 100 mature cows. "Associated livestock" includes all of the heifer calves and replacement heifers. Alternatively, you can enter animal numbers in the individual categories (mature cows, heifers (0 to 3 months), heifers (4 to 13 months) and heifers (> 13 months)) and they will be summed at the bottom of the table. Bulls and veal calves are always calculated separately.

For all other livestock or operation types please inquire with [Manitoba Agriculture and Resource Development](#)

Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
Beef/Dairy/Bison *				
Feeder/heifer/steer (600 lb.)		5	9	-
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry milking cow **		10	12	-
Lactating cow **		25	30	-
Bison		8	10	-
Horses				
Horses		8	11	-
Hogs				
Sow (Farrow/wean)		5.5		-
Dry Sow/Boar		4		-
Feeder		2		-
Nursery (33 lb.)		1		-
Chickens				
Broilers		0.035		-
Roasters/Pullets	45,000	0.04		1,800
Layers	135,000	0.055		7,425
Breeders		0.07		-
Turkeys				
Turkey Growers		0.13		-
Turkey Heavies		0.16		-
Sheep/Goats				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
TOTAL (IG/day)				9,225
***				TOTAL with 10% wash water
				10,148

* For beef, dairy, bison and horse enterprises:
Use summer numbers if appropriate for the operation. Otherwise base projections on winter values. Always use the greater of the two values.

** For intensive Dairy operations, please use the Dairy Barn Water Requirement Calculator found on separate sheet.

*** 10% of the total is added to allow for wash water

Other consumption:
Normal household consumption:
60-75 IG/day per person or
(272-340 l/day/person)

Unit Conversions		
Total per day	Total per year	Unit
10,148	3,703,838	IG
41,937	15,306,950	litres
0.042	15	cubic decametres (dam³)

Conversion Factor: 1 IGPM = 4.546 l/m

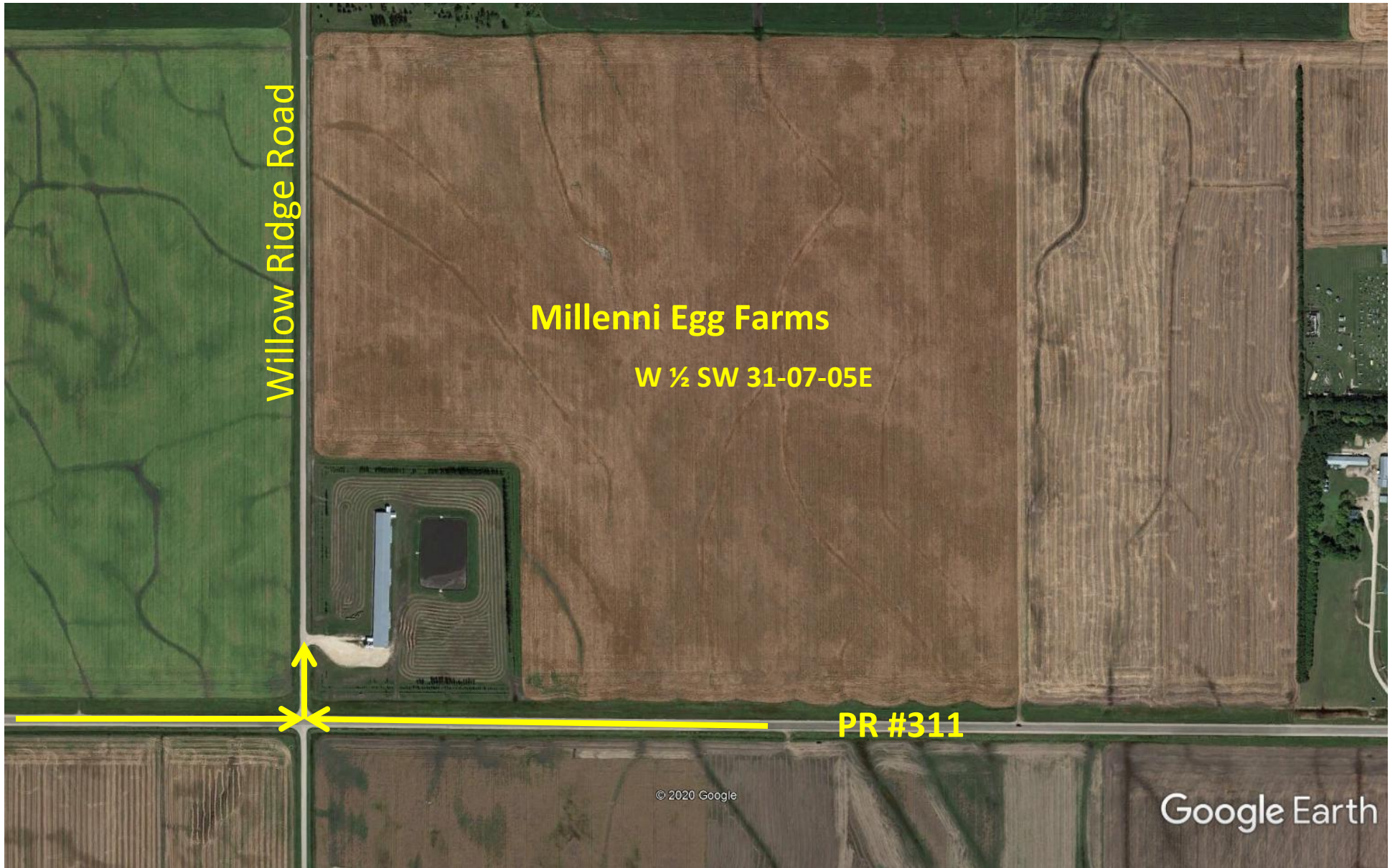
Please note that the Water Requirement Calculator is an estimation only.

Animal Type (A)	Animal Sub-type (B)	Daily Manure Production				Production Period ² (Days) (G)	Number of Animals ³ (Capacity) (H)	Total Manure Volume (ft ³) (F _X G _X H)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)	
		References (C)	Manure Type (D)	Default Manure Production (ft ³ /animal/day) (E)	Operation Manure Production ¹ (ft ³ /animal/day) (F)					
Dairy (milking cows ⁴ and associated livestock)	Free Stall	Table 6, pg 59, FPGs for Dairy 1995	Semi-Solid ⁵	3.5				-	0.0	
			Solid	3.4				-		
			Liquid ⁵	3.5				-	0.0	
	Tie Stall		Semi-Solid ⁵	3.6					-	0.0
			Solid	3.5					-	
			Liquid ⁵	3.6					-	0.0
	Loose Housing			Solid	3.0				-	
Milking Parlour Manure and Washwater		Liquid	0.5							
Beef	Beef cows including associated livestock	pg 117, FPGs for Hogs 1998	Solid	1.2				-		
	Backgrounder (200 day)		Solid	0.73				-		
	Summer pasture / replacement heifers		Solid	0.85				-		
	Feeder cattle		Solid	1.1				-		
Pigs	Sows - farrow to finish (234 - 254 lbs)	MAFRI website, FPGs for Pigs 2007	Liquid	2.3				-	0.0	
	Sows - farrow to wean (up to 11 lbs)		Liquid	0.8				-	0.0	
	Sows - farrow to nursery (51 lbs)		Liquid	1				-	0.0	
	Weanlings, Nursery (11 - 51 lbs)		Liquid	0.1				-	0.0	
	Grower / Finisher (51 - 249 lbs)		Liquid	0.25				-	0.0	
Animal Type	Type of Operation	Yearly Manure Production		Production Period ² (Days)	Number of Birds ³ (Capacity)	Total Manure Volume (ft ³) (F/365xGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)			
		Default Manure Production (ft ³ /year/bird space)	Operation Manure Production ¹ (ft ³ /year/bird space)							
Chickens	Broilers – floor ⁶	Table 3, pg 85, FPGs for Poultry 2000		1.23				-		
	Broiler breeder hens ⁷			2.3				-		
	Broiler breeder pullets ⁶			0.99				-		
	Roasters – floor ⁶			1.16				-		
	Layers – cage ⁸			2.33				-	0.0	
	Layers – floor ⁷			1.68	1.68	365	135,000	226,800		
	Layers – solid pack ⁹								-	
	Pullets – cage ⁸			0.71					-	0.0
	Pullets – floor ⁶			0.75	0.75	365	45,000	33,750		
Turkeys	Broilers ⁶	Table 3, pg 85, FPGs for Poultry 2000		2.83				-		
	Heavy toms ⁶			5.58				-		
	Heavy hens ⁶			3.32				-		

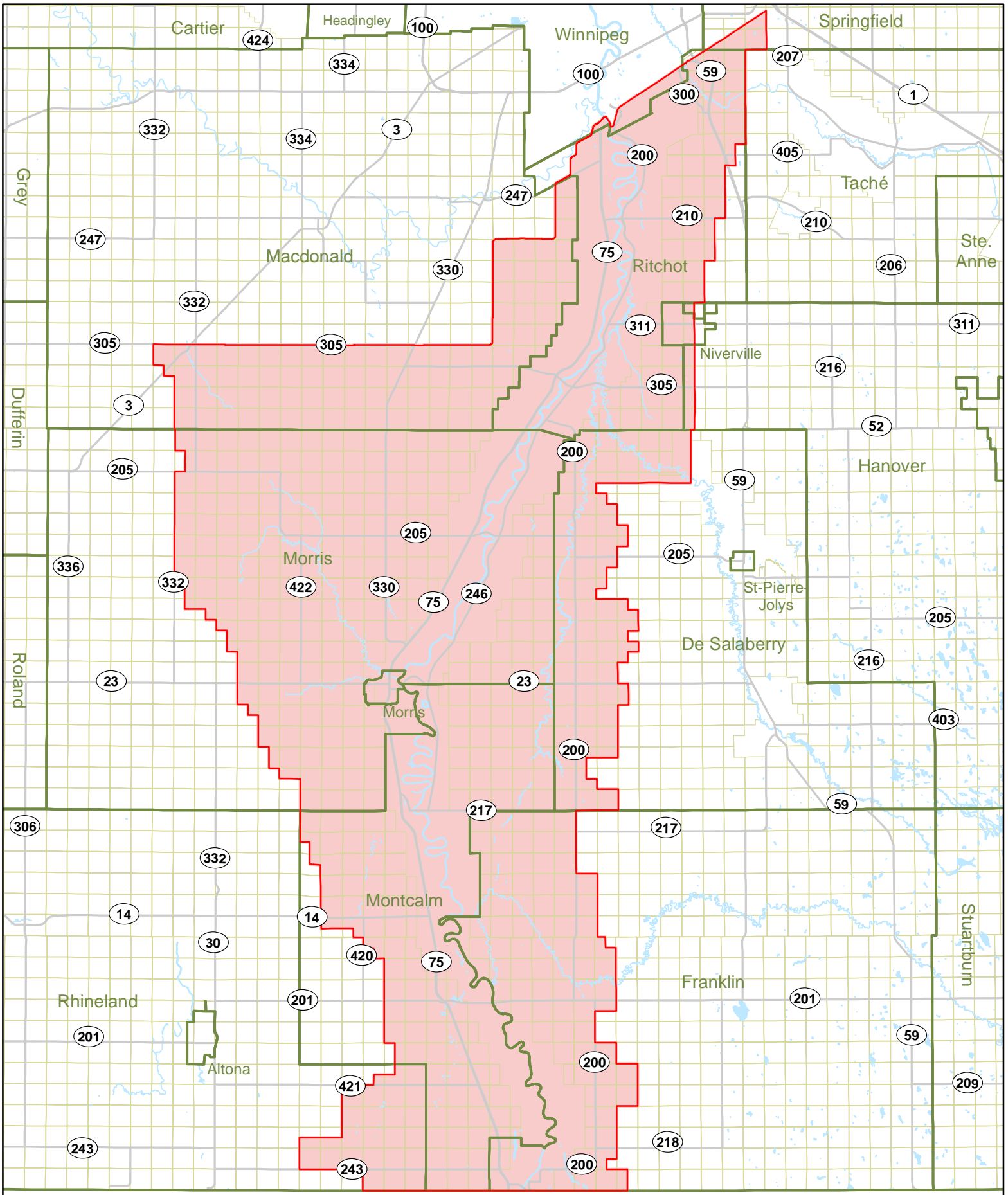
Sizing of a manure storage facility in accordance with all requirements of the *Livestock Manure and Mortalities Management Regulation (M.R. 42/98)* is the responsibility of the operator.

Instructions and footnotes:

- ¹ ENTER the manure production estimate for your operation. If no estimate is available, use the default value provided in column E. References for default daily and yearly manure production are provided in column C.
- ² ENTER the number of days worth of manure that will be produced. For earthen manure storage facilities the minimum storage requirement is 400 days. For steel and concrete manure storage facilities the minimum storage requirement is 250
- ³ ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity).
- ⁴ Milking cows includes all lactating and dry cows.
- ⁵ Default manure production estimates for semi-solid and liquid dairy manure include manure and washwater from the milking parlour.
- ⁶ 2 inches of wood shavings or 4 inches of straw placed on floor. Manure and litter removed from barn at 25% moisture content, with a density of 20 lb/ft³
- ⁷ One-third litter floor, two-thirds slatted floor. Manure and litter removed from barn at 40% moisture content, with a density of 25 lb/ft³
- ⁸ Manure removed from barn at 90% moisture content with a density of 59 lb/ft³
- ⁹ Poultry operations using litter (solid pack) must provide an estimate of yearly manure production



Millenni Egg Farm Truck Route



Upper Red River Designated Flood Area

-  Municipal Boundaries
-  Provincial Roadways
-  Designated Flood Area



2020 Apr 02

WELL INFORMATION REPORT



Well PID: 108838

Location: SW31-7-5E

UTMX:651240.6 UTM Y:5497318 XY Accuracy:No Accuracy

Owner: PENNER FARM SERVICE

Driller: Echo Drilling Ltd.

Well Name:

Date Completed: 1998 Dec 10

Well Use: PRODUCTION

WATER USE: Domestic, Livestock

Well Status: ACTIVE Aquifer: LIMESTONE OR DOLOMITE

REMARKS:

WELL LOG (Imperial units)

From	To (ft.)	Log
0.0	2	FILL
2.0	4	BLACK LOAM
4.0	68	CLAY
68.0	92	TILL
92.0	120	LIMESTONE

WELL CONSTRUCTION

From	To (ft)	Const.Method	Inside Dia. (in)	Outside Dia. (in)	Slot Size (in)	Type	Material
0.0	95.0	CASING	5.0			INSERT	PVC
95.0	120.0	OPEN HOLE	4.0				
35.0	55.0	CASING GROUT					CEMENT

Top of Casing: 2.5 ft above ground

PUMPING TEST

Date : 1998 Dec 10 Pumping 50.0 Imp. gallons/minute

Water level before test : 5.0 ft below ground

Water level at end of test : 75.0 ft below ground

Test duration:

Test Zone: from 95.0 ft to 120.0 ft

1e - Poultry										
Operation Name: 										
Species / Commodity	Type of Operation	Storage Type	Volatilization	Bird Places	Weight in kg	Weight out kg	Days on Feed	Cycles per Year	N Excreted	
									Adjusted for N Loss lb/flock/yr	P205 Excreted lb/flock/yr
Chickens	Light Broilers	Solid Manure Shed	20%		0.043	1.8	30	7	0	0
Chickens	Broilers	Solid Manure Shed	20%		0.043	2.275	35	7	0	0
Chickens	Broiler Breeder Pullets	Solid Manure Shed	20%		0.040	2.975	168	2	0	0
Chickens	Broiler Breeder Hens	Solid Manure Shed	20%		2.975	3.950	245	1	0	0
Eggs	White Layer Pullets	Solid Manure Shed	20%	45000	0.040	1.355	133	2	15450	11157
Eggs	White Layer Hens	Solid Manure Shed	20%	135000	1.355	1.875	357	1	142878	118180
Eggs	White Breeder Pullets	Solid Manure Shed	20%		0.040	1.240	119	2	0	0
Eggs	White Breeder Hens	Solid Manure Shed	20%		1.240	1.670	350	1	0	0
Eggs	Brown Layer Pullets	Solid Manure Shed	20%		0.040	1.630	133	2	0	0
Eggs	Brown Layer Hens	Solid Manure Shed	20%		1.630	2.025	357	1	0	0
Eggs	Brown Breeder Pullets	Solid Manure Shed	20%		0.040	1.407	119	2	0	0
Eggs	Brown Breeder Hens	Solid Manure Shed	20%		1.407	1.950	350	1	0	0
Turkey	Broiler Turkey (0-9 wks)	Solid Manure Shed	20%		0.070	4.950	63	5	0	0
Turkey	Hen Turkey (0-11 wks)	Solid Manure Shed	20%		0.070	6.650	77	4	0	0
Turkey	Heavy Hens (0-14 wks)	Solid Manure Shed	20%		0.070	9.750	98	3	0	0
Turkey	Toms (0-14 wks)	Solid Manure Shed	20%		0.070	13.000	98	3	0	0
Turkey	Breeding Hen Growers (0-30 wks)	Solid Manure Shed	20%		0.070	12.900	210	1	0	0
Turkey	Breeding Hens (31-End of Lay)	Solid Manure Shed	20%		12.900	12.400	252	1	0	0
Turkey	Breeding Tom Grower (0-17 wks)	Solid Manure Shed	20%		0.070	15.770	119	1	0	0
Turkey	Breeding Tom Grower (17-30 wks)	Solid Manure Shed	20%		15.770	25.000	91	1	0	0
Turkey	Breeding Tom (31-End of Lay)	Solid Manure Shed	20%		25.000	28.180	252	1	0	0

Last Revised November 26, 2019

2 - Crop Rotation

Operation Name:

Enter the operation name on the livestock tab(s)

Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P2O5	N	N	Units				P2O5 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu		bu/ac		-	-	-
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	42.9	bu/ac	460	20523	38087	62951
Corn Grain	0.44	0.97	1.53	lb/bu	132	bu/ac	460	26717	58898	92902
Corn Silage	12.7	31.2	31.2	lb/ton		tons/ac		-	-	-
Dry Edible Beans	1.39	4.17		lb/cwt		cwt/ac		-	-	-
Fababeans	1.79	5.02	8.4	lb/cwt		cwt/ac		-	-	-
Flax	0.65	2.13	2.88	lb/bu		bu/ac		-	-	-
Grass Hay	10	34.2	34.2	lb/ton		tons/ac		-	-	-
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu		bu/ac		-	-	-
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac		-	-	-
Peas	0.69	2.34	3.06	lb/bu		bu/ac		-	-	-
Potatoes	0.09	0.32	0.57	lb/cwt		cwt/ac		-	-	-
Rye	0.45	1.06	1.67	lb/bu		bu/ac		-	-	-
Soybeans	0.84	3.87	5.2	lb/bu	38.1	bu/ac	460	14722	67826	91135
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	60.4	bu/ac	461	16428	41767	58752
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
Total Acres							1841	78390	206577	305740
Estimated Average Removal/Uptake (lb/ac)								42.6	112.2	166.1
Acres in Hanover and La Broquerie							444			
Proportion in Hanover or La Broquerie							24%			
Additional Acres										
Crop Planned on Additional Acres										
Total Acreage							1841			
*Notes:	Enter the number of acres that are in the RM's of Hanover or La Broquerie in cell H26. Additional acres include acres for which crop removal or soil data is limited or unavailable.									

3 - Farm Excretion

Operation Name: Enter the operation name on the livestock tab(s)

Species	Animal Category/Operation type	N (lb/year)	P2O5 (lb/year)
Pigs	Boars	0	0
	Weanlings/Nursery	0	0
	Growers/Finishers	0	0
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	0	0
Beef	Mature Cows and Bred Heifers, plus associated livestock	0	0
	Feedlot Cattle - long keep	0	0
	Feedlot Cattle - short keep	0	0
	Backgrounders - pasture	0	0
	Backgrounders - confined	0	0
Dairy	Lactating cow	0	0
	Lactating First Calf Heifer	0	0
	Dry cow	0	0
	Calf, 0-3 months	0	0
	Calf, 4-13 months	0	0
	Replacements, >13 months	0	0
	Mature Cows, plus assoc livestock	0	0
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Light Broilers	0	0
	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	White Layer Pullets	15450	11157
	White Layer Hens	142878	118180
	White Breeder Pullets	0	0
	White Breeder Hens	0	0
	Brown Layer Pullets	0	0
	Brown Layer Hens	0	0
	Brown Breeder Pullets	0	0
	Brown Breeder Hens	0	0
Turkeys	Broiler Turkey (0-9 wks)	0	0
	Hen Turkey (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	0	0
	Toms (0-14 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (31-End of Lay)	0	0
	Breeding Tom Grower (0-17 wks)	0	0
	Breeding Tom Grower (17-30 wks)	0	0
	Breeding Tom (31-End of Lay)	0	0
Total		158328	129337

Note: Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.

4 - Land Base Summary**Operation Name:** Enter the operation name on the livestock tab(s)

Nutrients Excreted	lbs
Nitrogen	158328
Phosphorus (P2O5)	129337
Crop Nutrient Use	
	lb/ac
Average Crop N Uptake	166.1
Average Crop Phosphorus (P2O5) Removal	42.6
Operation-specific Phosphorus (P2O5) Allowance	74.9
Land Available	
	1841
Land Base Required	
	acres
Acres for Nitrogen	953
Acres for Phosphorus (P2O5)	1727
Phosphorus Balance	
	acres
Acres for Phosphorus Balance (1X)	3037

Note: For lands located in Hanover and/or La Broquerie, the acres required for phosphorus are based on phosphorus balance (1X). For other lands, the acres required for phosphorus are based on twice crop phosphorus removal (2X). Land requirements for operations with lands inside and outside Hanover and/or La Broquerie are based on a weighted average.

Last revised November 26, 2019

CROP ROTATION TABLE

A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
Argentine Canola	460	42.9	Bu./Acre	MASC Fertilizer Data Browser
Grain Corn	460	131.2	Bu./Acre	MASC Fertilizer Data Browser
Soybeans	460	38.5	Bu./Acre	MASC Fertilizer Data Browser
Red Spring Wheat	461	60.4	Bu./acre plus straw removal	MASC Fertilizer Data Browser
Total Net Acreage for Manure Application	1841			

- A. List all of the crop(s) to be grown in the rotation on the acreage that will receive manure.
- B. Indicate the average acreage for each crop over the rotation. For example, if there are 720 suitable acres available for manure and approximately 40 these acres will be used to grow canola, enter 288. The total of column B should add up to Total Net Acreage for Manure Application provided in the Manure Application Field Characteristic Table.
- C. Enter the historical yield average for each crop. Long-term yield averages can be determined using MASC data (<http://www.masc.mb.ca/masc.nsf/index.html?OpenPage>) or on-farm yield records. If on-farm yield records are used, please provide copies.
- D. Enter the units for the yields provided (e.g. bu/acre, tons/acre).
- E. Enter the source of the historical yield average provided.

MANURE APPLICATION FIELD CHARACTERISTICS TABLE

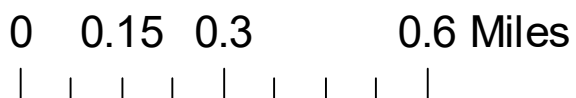
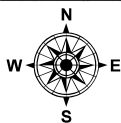
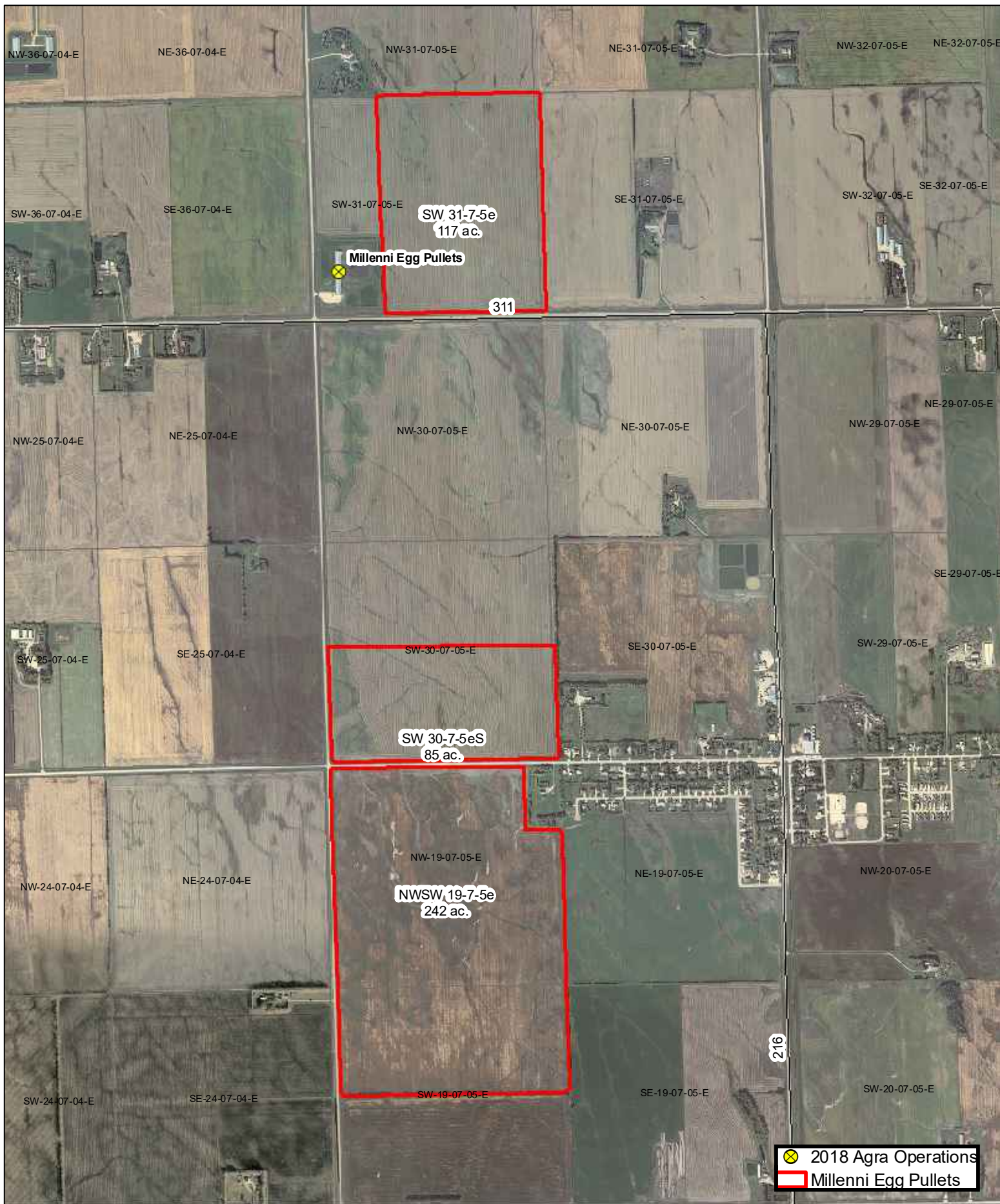


Field	A Legal Description	B Rural Municipality	C O/C/L/ A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	SW 31-7-5e	Hanover	A	117	Accounted For	117	2w	21	2417-18, Agriculture 1 Policy Area	2171, Agricultural Zone
2	SW 30-7-5eS	Hanover	A	85	Accounted For	85	2w2w, 2w	9	2417-18, Agriculture 2 Policy Area	2171, Rural Zone
3	NWSW 19-7-5e	Hanover	A	242	Accounted For	242	2w2w, 2w	12	2417-18, Agriculture 2 Policy Area	2171, Rural Zone
4	E 2-8-4e	Tache	A	287	Accounted For	287	2w2w	11	5-2016, Agriculture	10-2017, Agriculture General Zone
5	W 2-8-4e	Tache	A	312	Accounted For	312	2w2w, 3w2w2w	35	5-2016, Agriculture	10-2017, Agriculture General Zone
6	SENE 3-8-4e	Tache	A	215	Accounted For	215	2w2w, 3w2w2w	11	5-2016, Agriculture	10-2017, Agriculture General Zone
7	SE 12-8-4e	Tache	A	126	Accounted For	126	3w, 2w	4	5-2016, Agriculture	10-2017, Agriculture General Zone
8	NE 12-8-4eS	Tache	A	75	Accounted For	75	3w, 2w	4	5-2016, Agriculture	10-2017, Agriculture General Zone
9	SE 14-8-4e	Tache	A	140	Accounted For	140	3w	9	5-2016, Agriculture	10-2017, Agriculture General Zone
10	NWNE 29-8-6e	Ste. Anne	A	242	Accounted For	242	3w2w	15	13-2007, Rural Agriculture Area	10-2010, Agriculture Zone
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

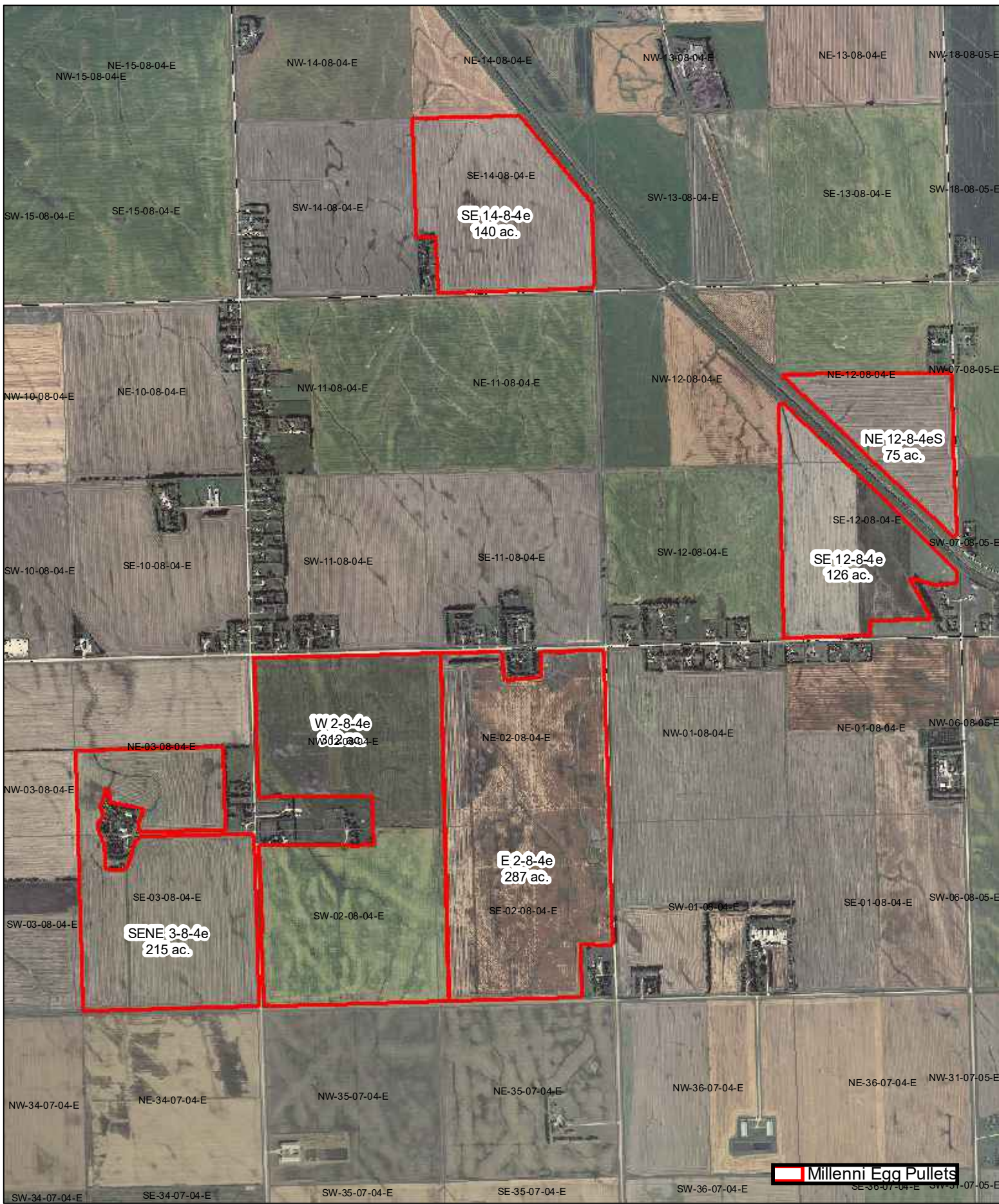
Total Net Acreage for Manure Application: 1841

- A. _____ Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
- B. _____ Identify the Rural Municipality in which the parcel is located.
- C. _____ Indicate how the land has been secured for manure application: O – Own / C-Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- D. _____ Enter the total acreage for the parcel.
- E. _____ Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).
- F. _____ Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.
- G. _____ Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
- H. _____ Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
- I. _____ Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).
- J. _____ Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).

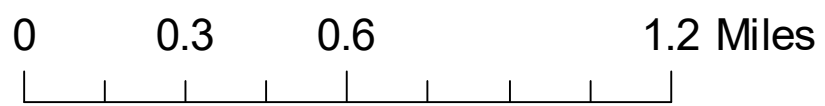
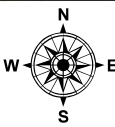
Millenni Egg Spread Fields A, March 24, 2020



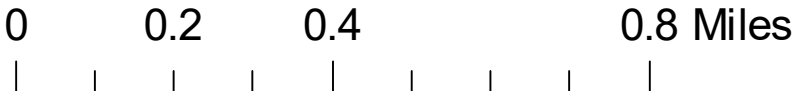
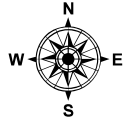
Millenni Egg Spread Fields B, March 24, 2020



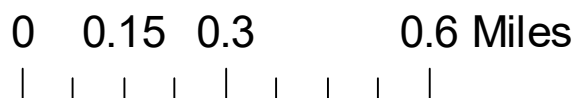
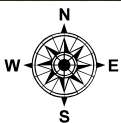
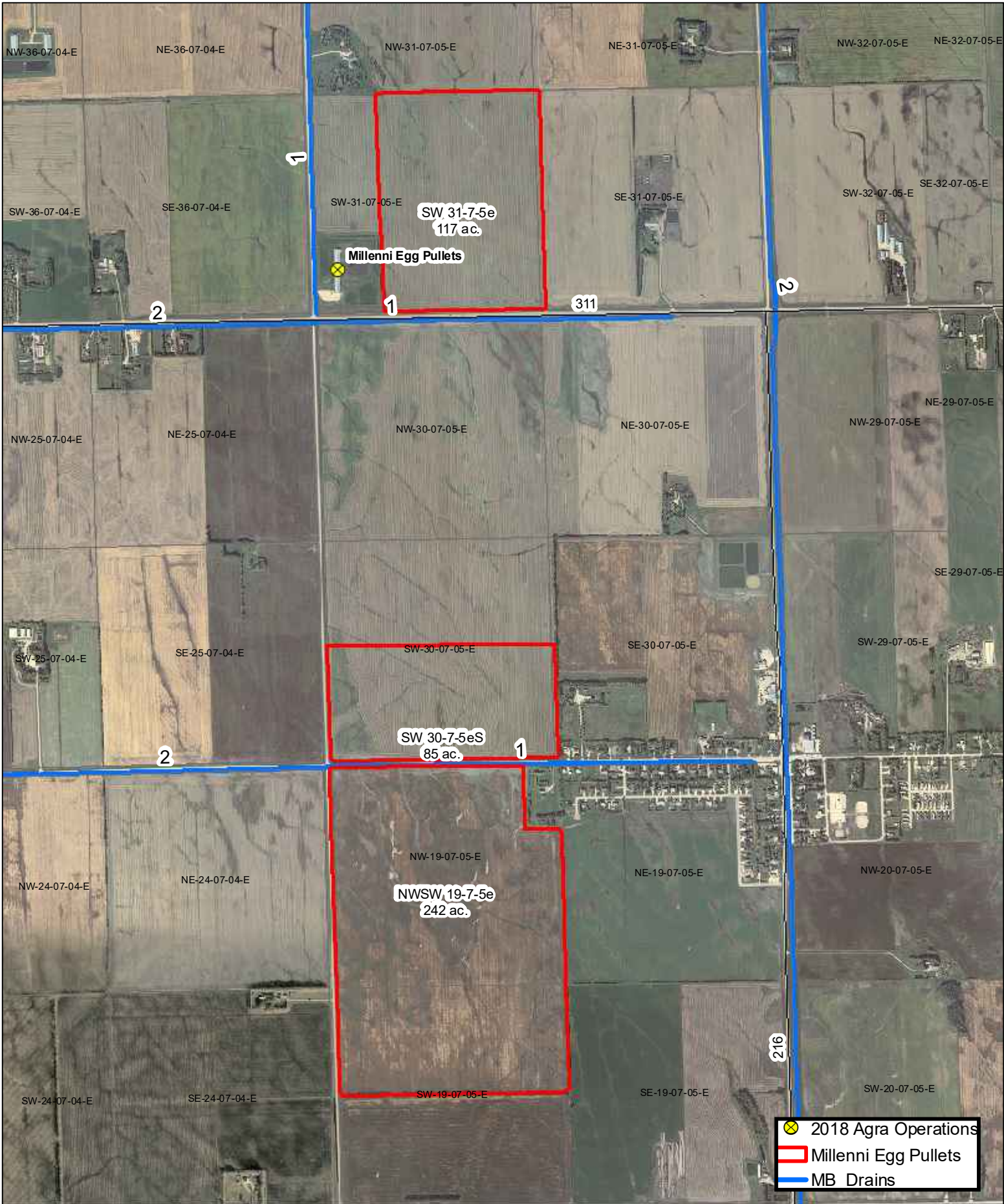
 Millenni Egg Pullets



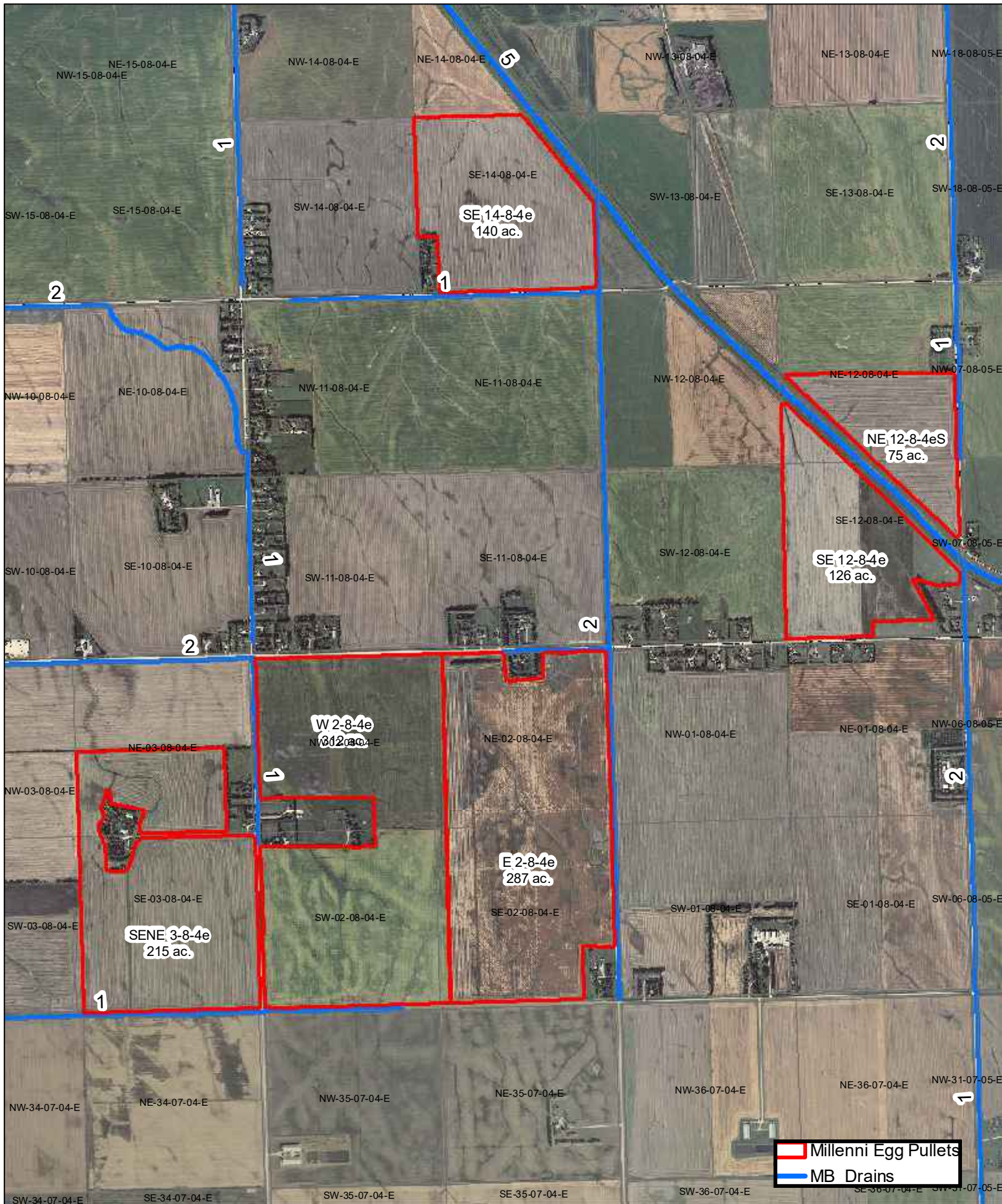
Millenni Egg Spread Fields C, March 24, 2020



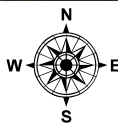
Millenni Egg Drains Map A, March 24, 2020



Millenni Egg Drains Map B, March 24, 2020

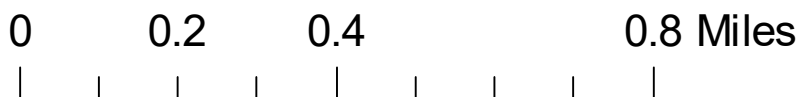
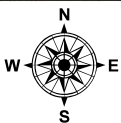
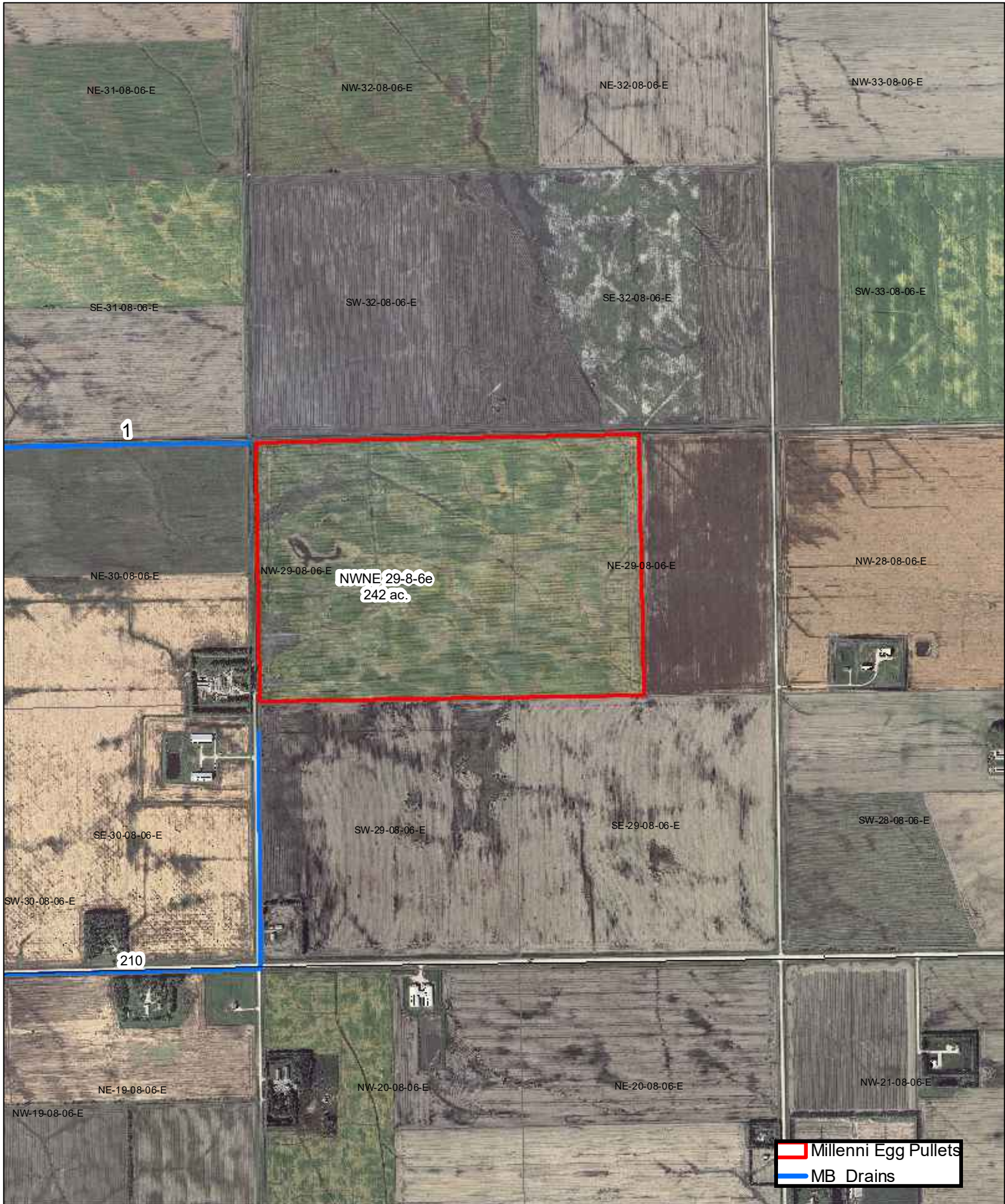


Millenni Egg Pullets
 MB Drains

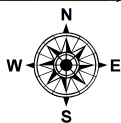
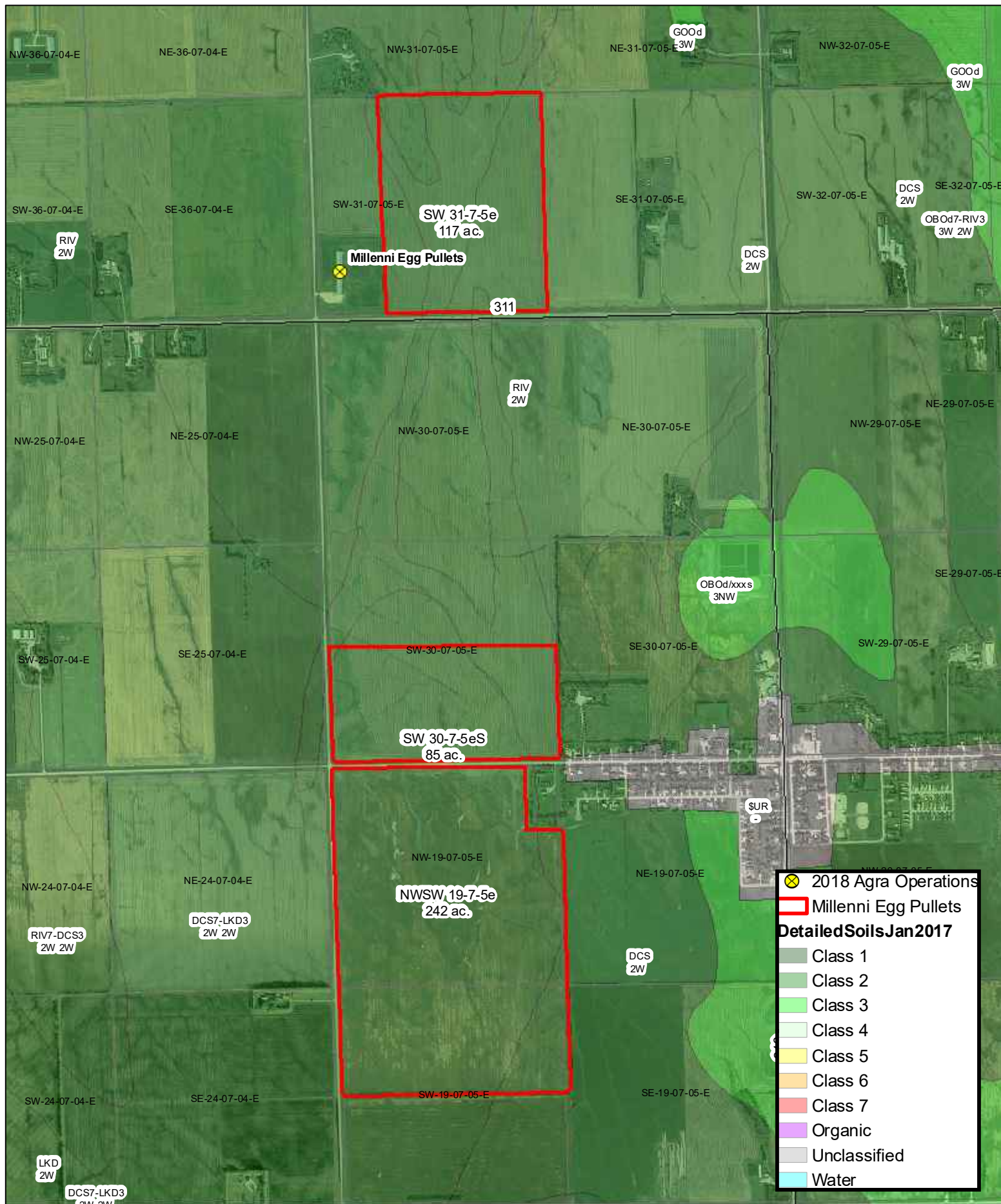


0 0.3 0.6 1.2 Miles

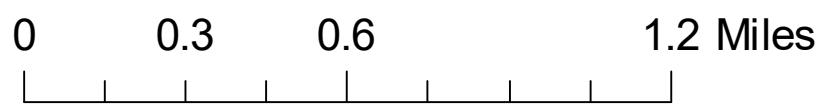
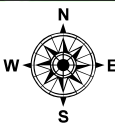
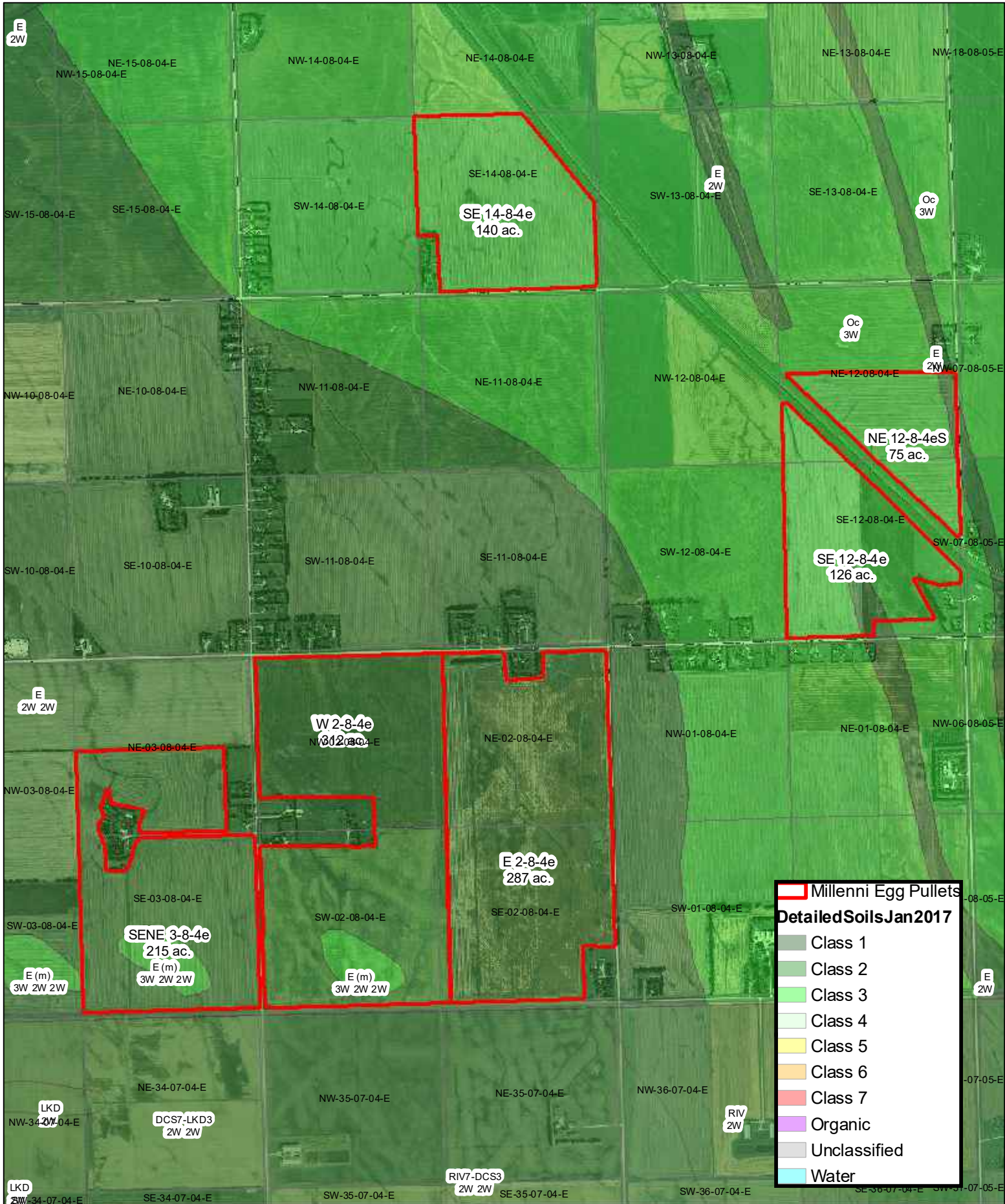
Millenni Egg Drains Map C, March 24, 2020



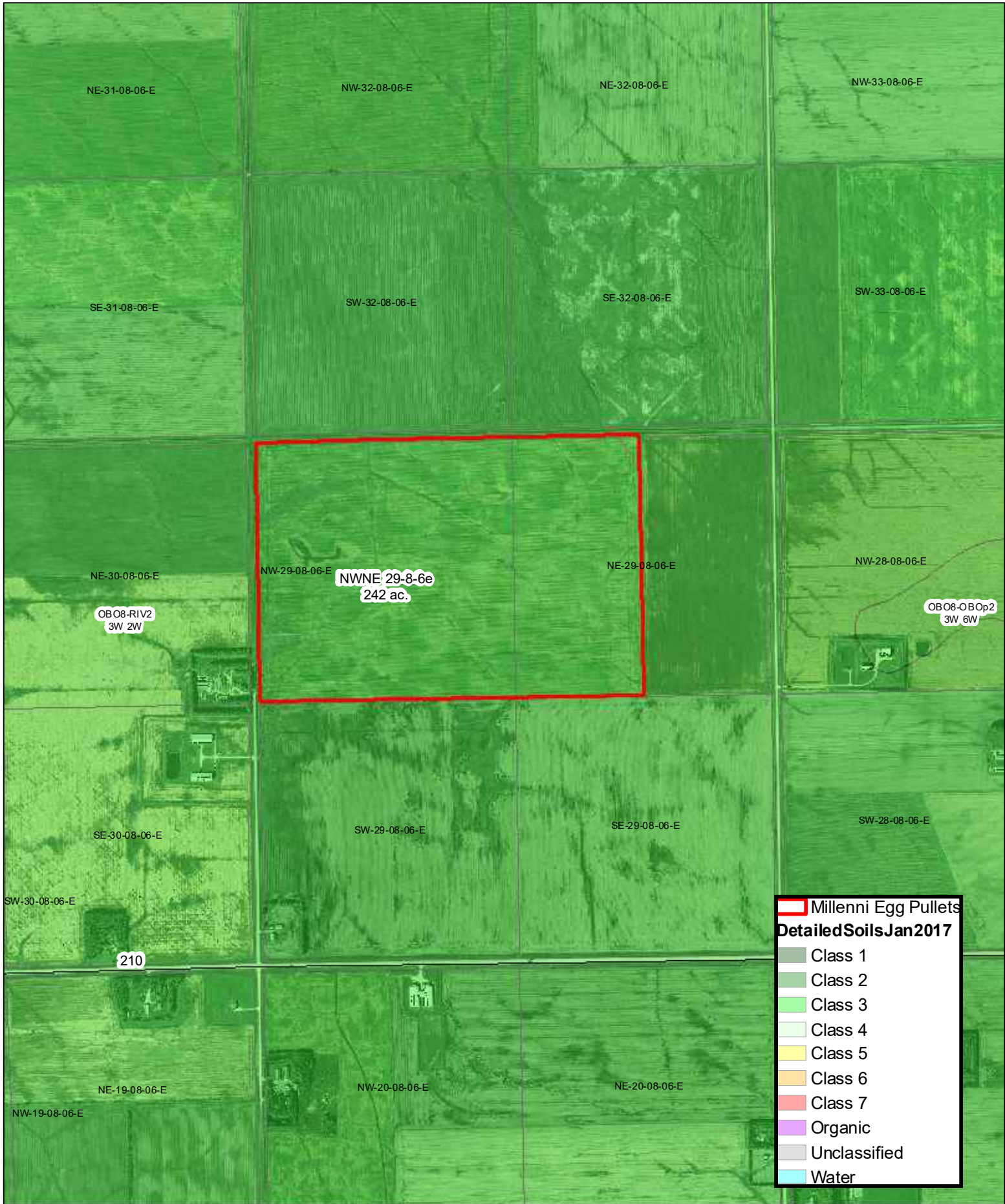
Millenni Egg Soils Map A, March 24, 2020



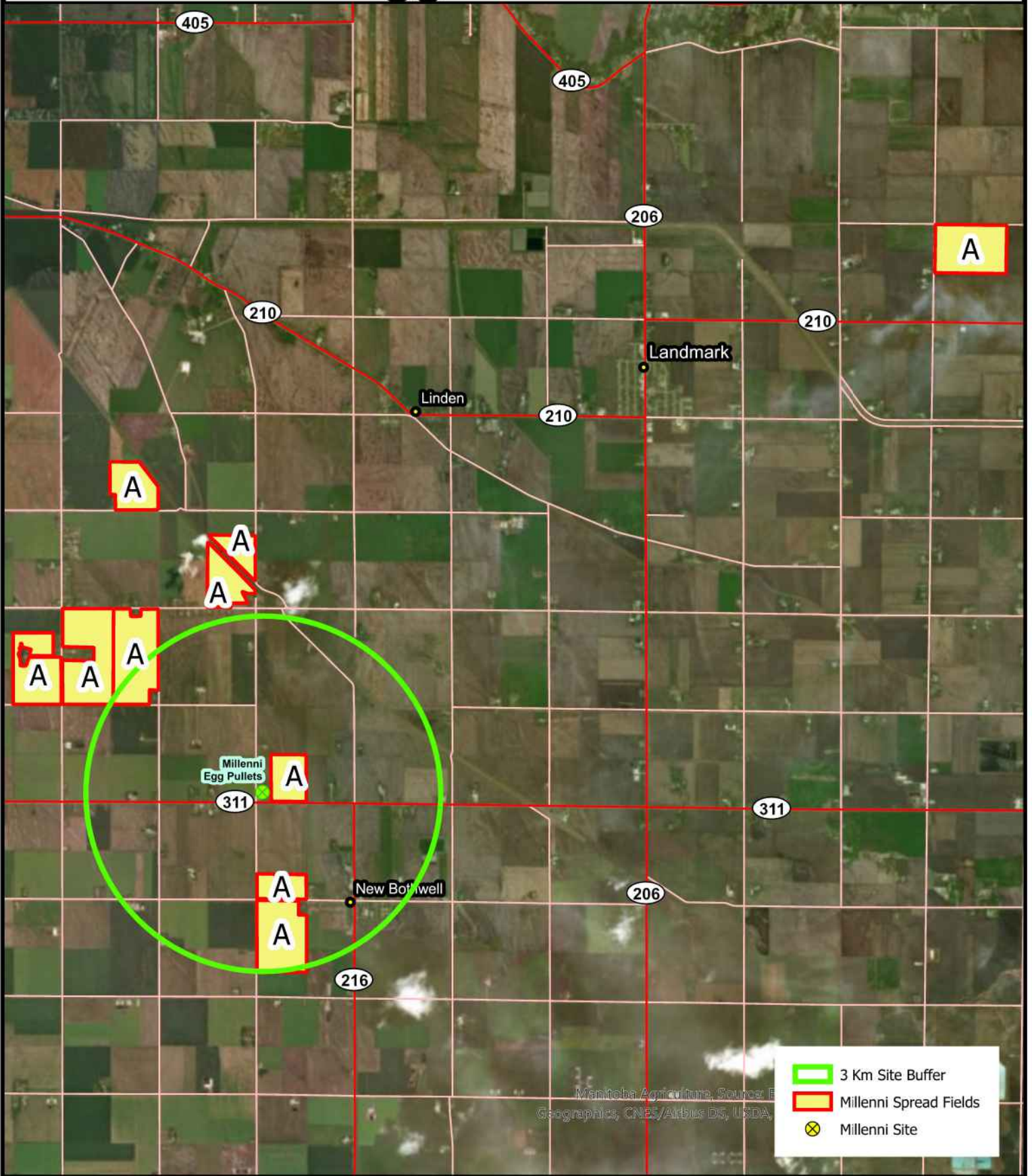
Millenni Egg Soils Map B, March 24, 2020



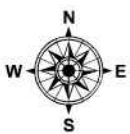
Millenni Egg Soils Map C, March 24, 2020



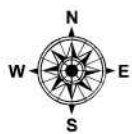
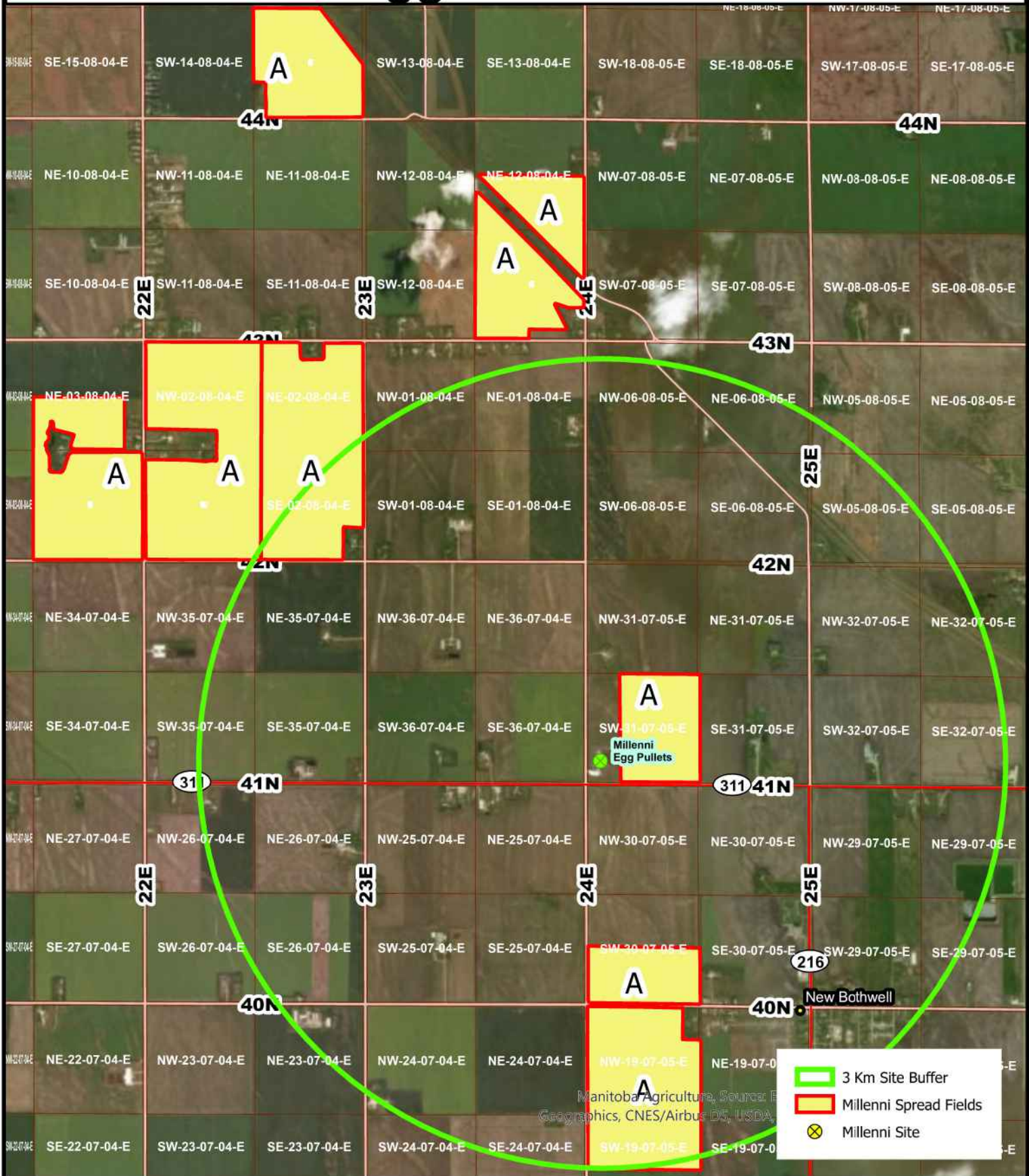
Millenni Egg Pullets: Land Use



Manitoba Agriculture, Source: E
Geographics, CNRS/Albus DS, USDA

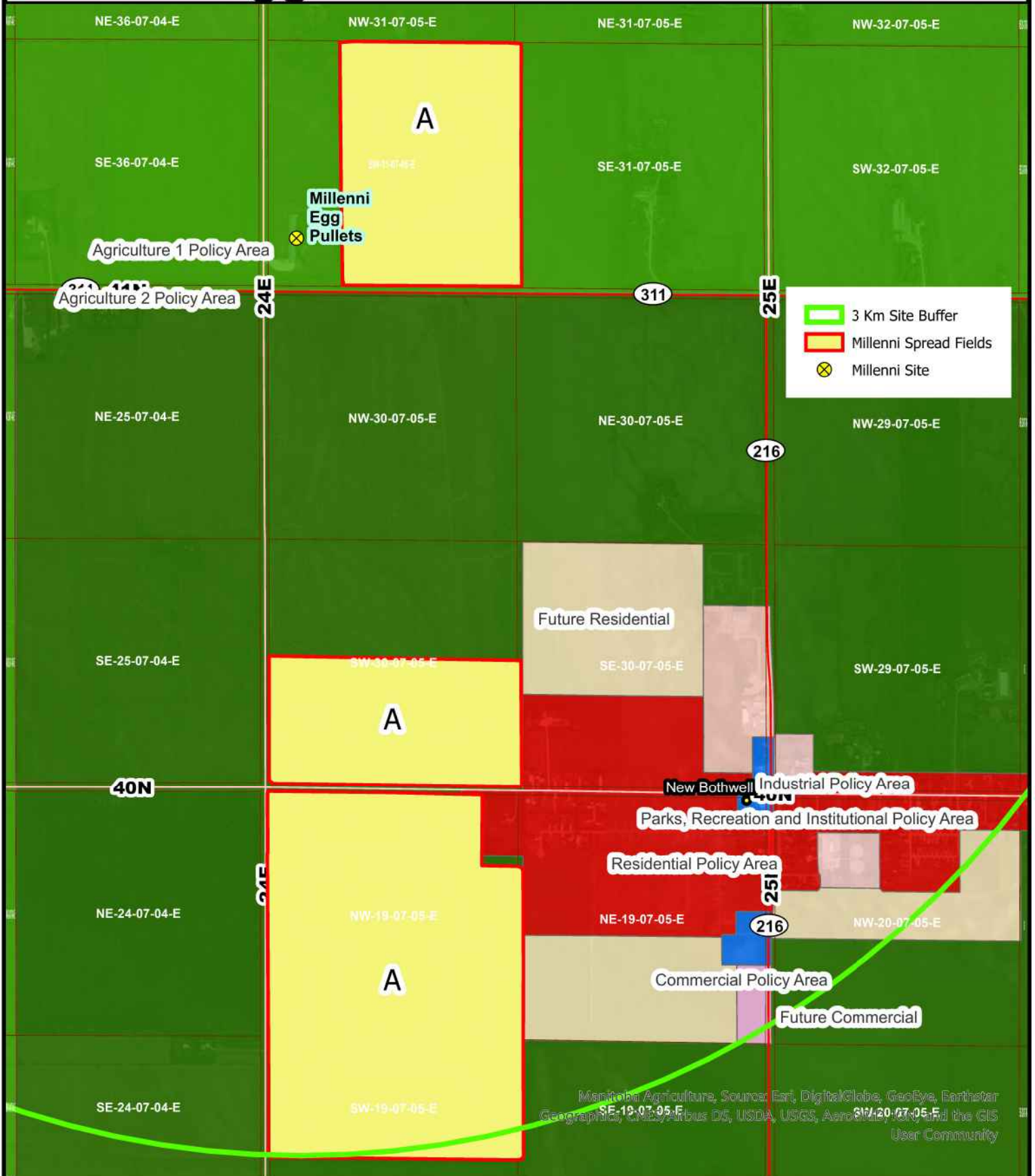


Millenni Egg Pullets: Land Use



Manitoba Agriculture, Source: F
Geographics, CNES/Airbus-DS, USDA

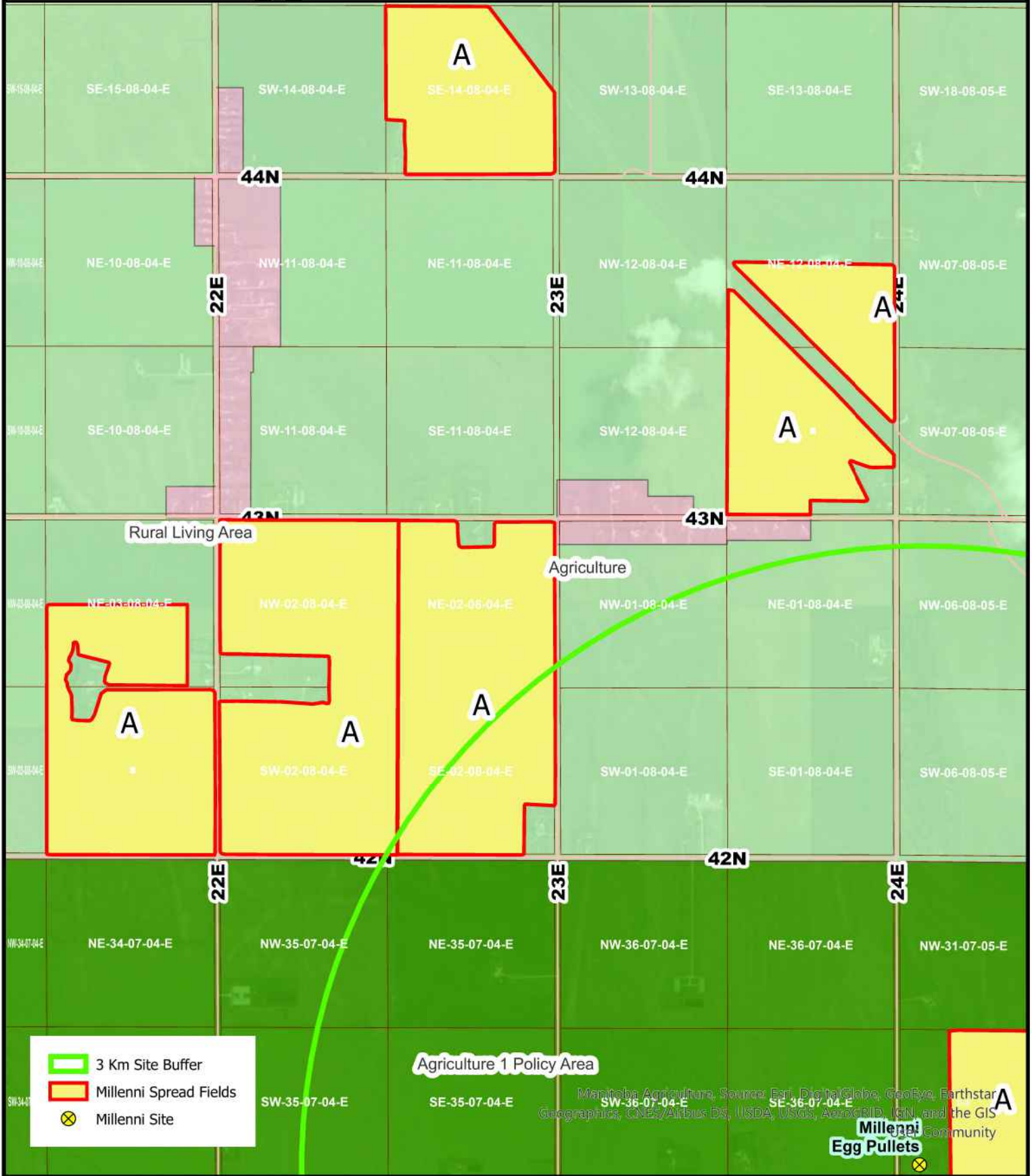
Millenni Egg Pullets: Land Use - Dev. Plan



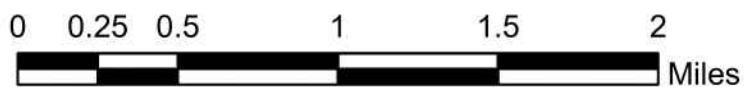
Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



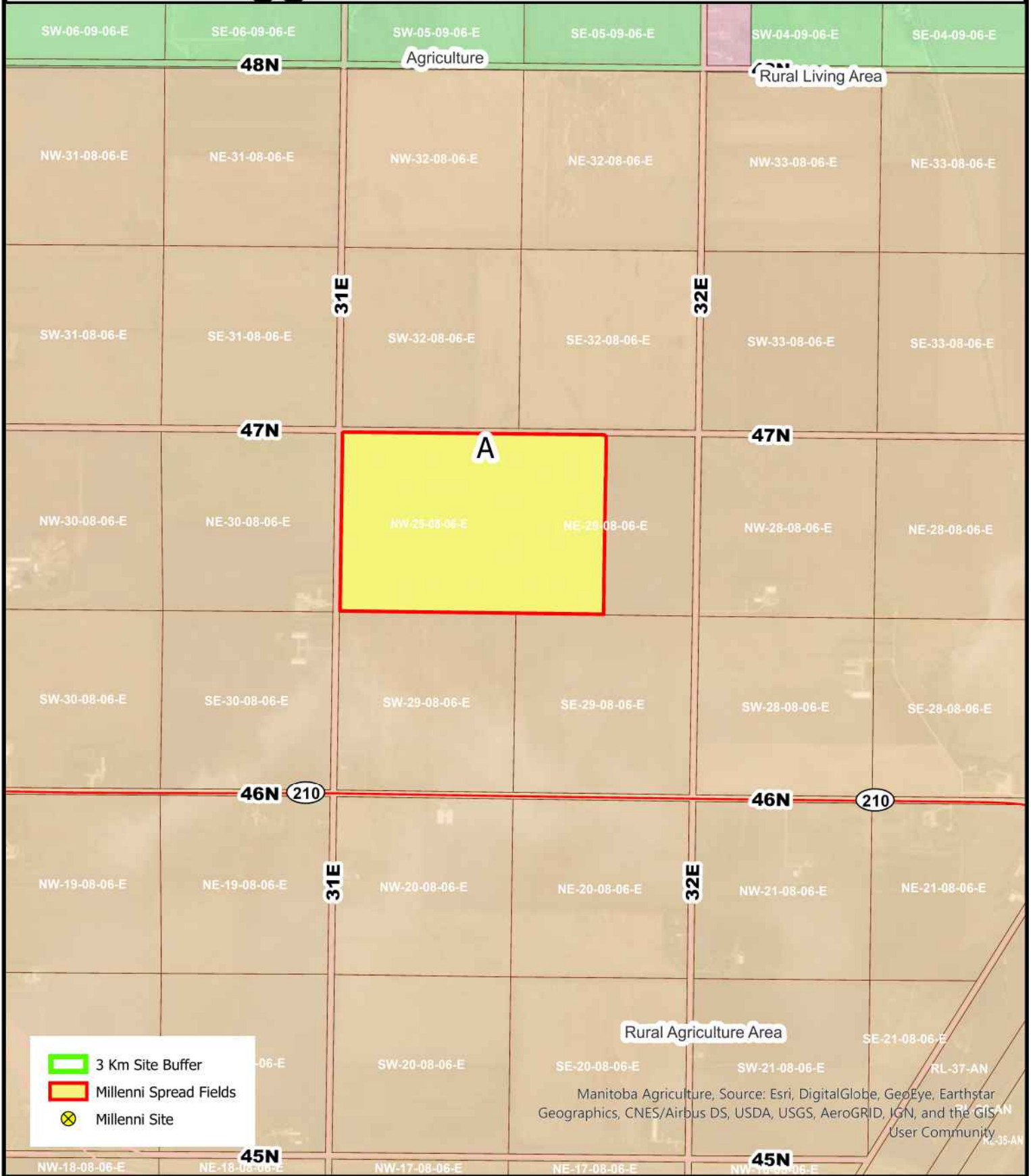
Millenni Egg Pullets: Land Use - Dev. Plan



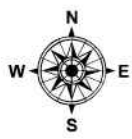
Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Millenni Egg Pullets



Millenni Egg Pullets: Land Use - Dev. Plan



Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

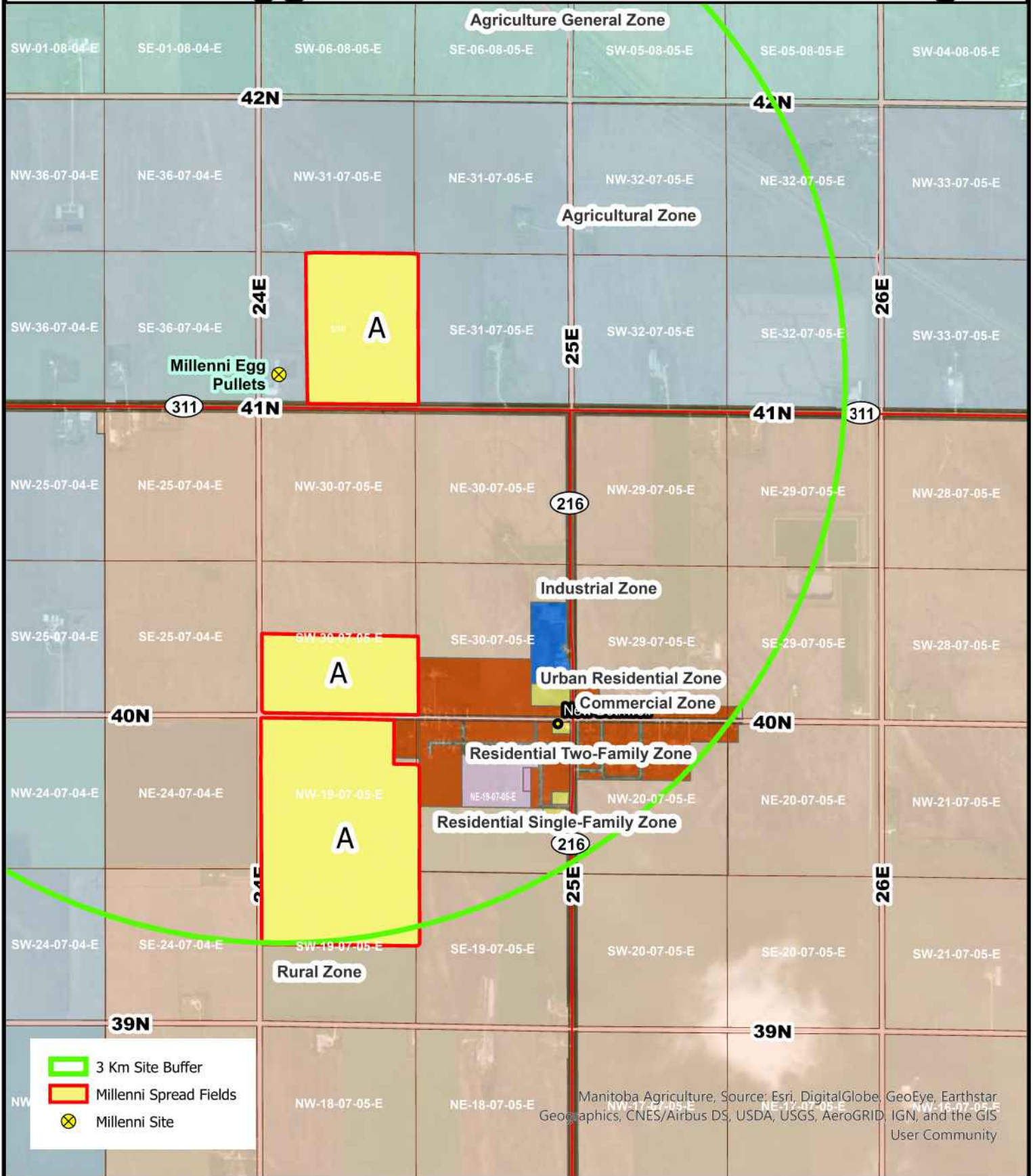


Millenni Egg Pullets: Land Use - Dev. Plan



Manitoba Agriculture, Soil and Water Quality, Eye, Earthstar Geographics, CNES/Airbus-DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

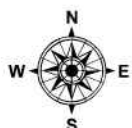
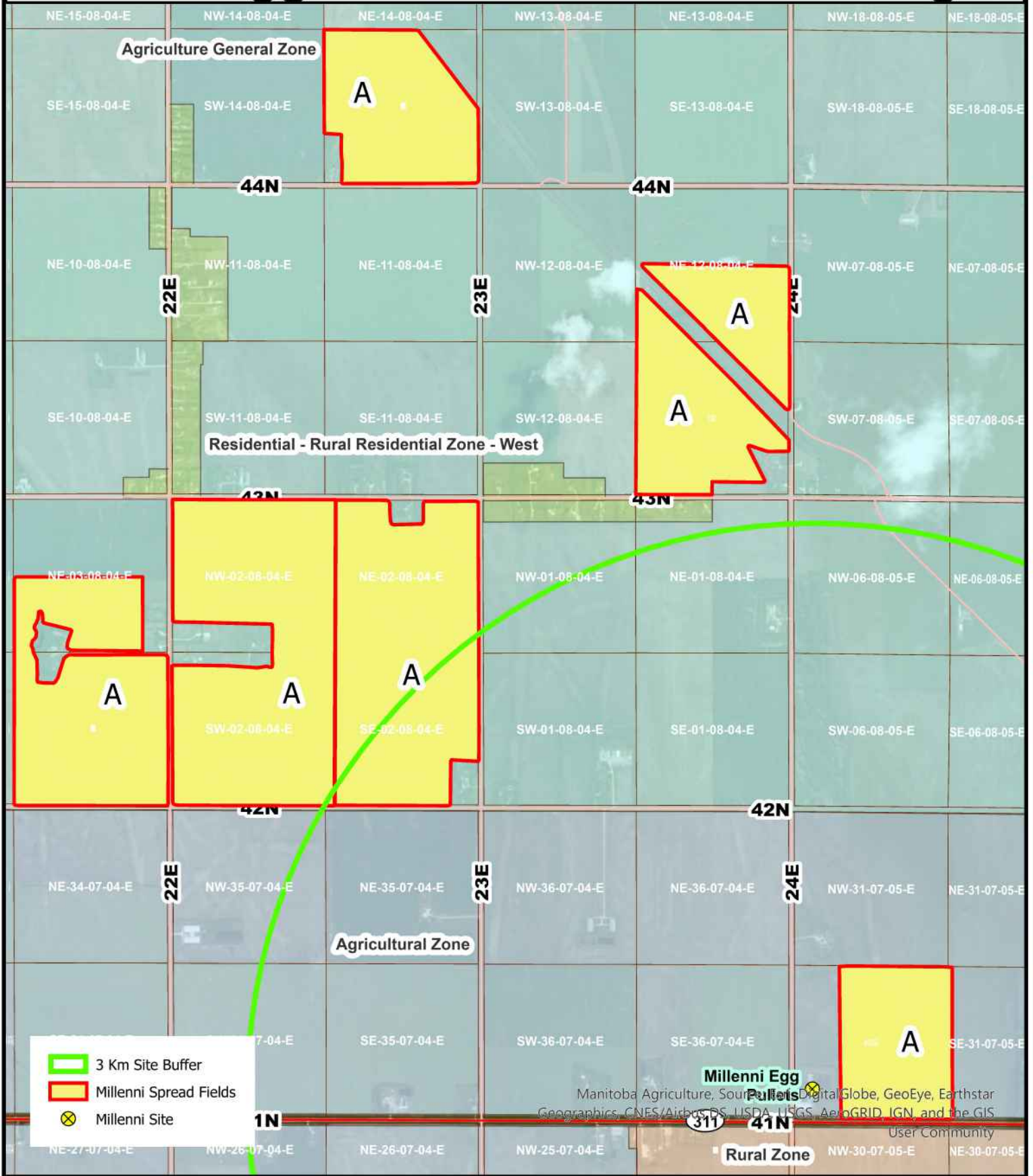
Millenni Egg Pullets: Land Use - Zoning



Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

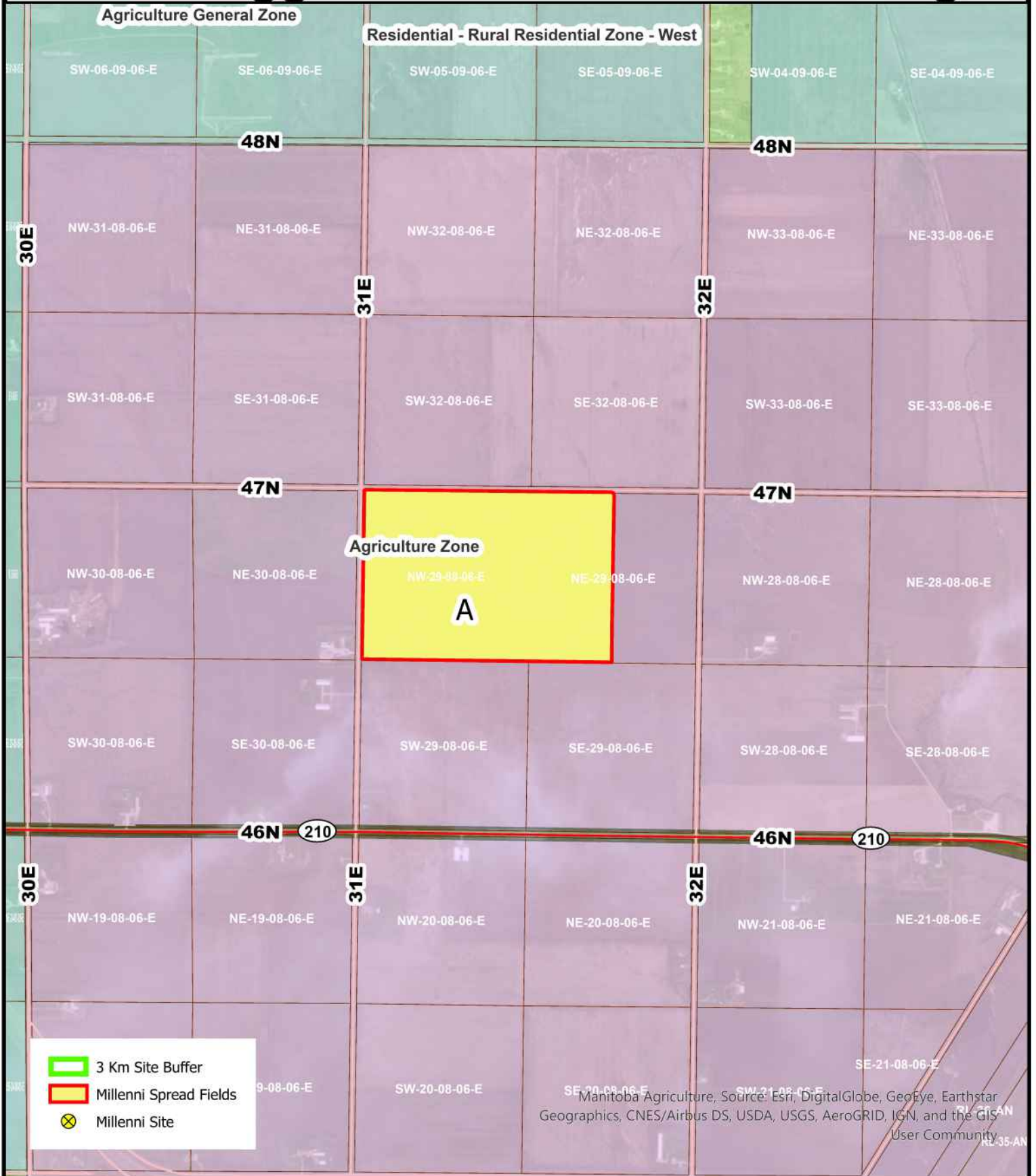


Millenni Egg Pullets: Land Use - Zoning



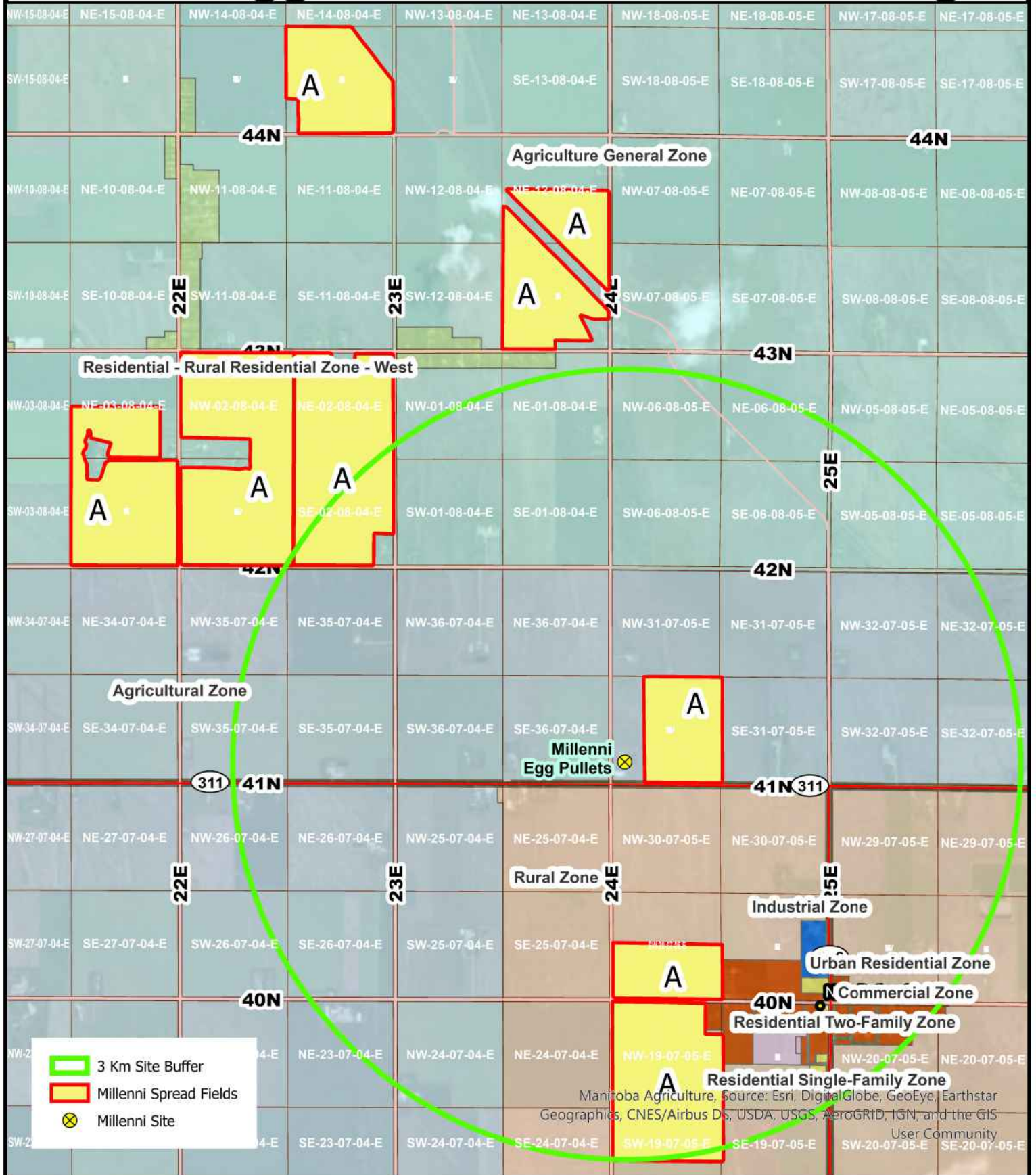
Manitoba Agriculture, Source: DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Millenni Egg Pullets: Land Use - Zoning



Manitoba Agriculture, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Millenni Egg Pullets: Land Use - Zoning

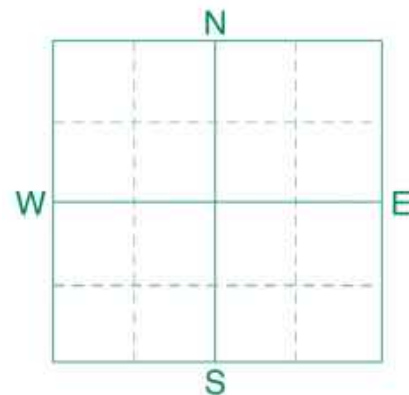




SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
<http://www.agvise.com>
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

FIELD ID 1
 SAMPLE ID **UGCB19**
 FIELD NAME **Chicken Barn**
 COUNTY
 TWP RANGE
SW-
 SECTION QTR **31-7-** ACRES **150**
5E



SUBMITTED FOR:
Uli Gehrer

SUBMITTED BY: **S07394**
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB **ROA 1E0**

REF # **2704612** BOX # **1380**
 LAB # **NW72164**

Date Sampled _____ Date Received **09/19/2019** Date Reported **9/30/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"					Canola-bu		Soybeans		Corn-Grain				
						YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24"					40 BU		40 BU		160 BU				
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band/Maint.		Band/Maint.		Band/Maint.				
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen 21 ppm					N 29		N ***		N 81				
Potassium	340 ppm					P ₂ O ₅ 36	Band *	P ₂ O ₅ 30	Band *	P ₂ O ₅ 59	Band *			
Chloride	0-24" 540 lb/ac					K ₂ O 0		K ₂ O 0		K ₂ O 10	Band (2x2) *			
	0-6" 6-24" 46 lb/ac 360 +lb/ac					Cl	Not Available	Cl 0		Cl	Not Available			
Sulfur	2.4 ppm					S 10	Band	S 0		S 0				
Boron	1.09 ppm					B 0		B 0		B 0				
Iron	19.5 ppm					Zn 0		Zn 0		Zn 0				
Manganese	1.9 ppm					Fe 0		Fe 0		Fe 0				
Copper	1.88 ppm					Mn 0		Mn 0		Mn 0				
Magnesium	2036 ppm					Cu 0		Cu 0		Cu 0				
Calcium	5841 ppm					Mg 0		Mg 0		Mg 0				
Sodium	214 ppm					Lime		Lime		Lime				
Org.Matter	4.9 %					Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)	8.0 %					Buffer pH				% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 0.58 mmho/cm					0-6" 8.5		48.0 meq		(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
	6-24" 1.31 mmho/cm					6-24" 8.6			60.9	35.4	1.8	1.9	0.0	

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

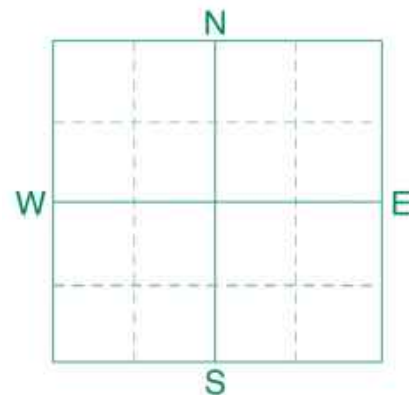
Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 59 K2O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
<http://www.agvise.com>
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

FIELD ID 2
 SAMPLE ID **UGNB519**
 FIELD NAME **Opa**
 COUNTY
 TWP RANGE
SW-
 SECTION QTR **30-7-** ACRES **80**
5E



SUBMITTED FOR:
Uli Gehrer

SUBMITTED BY: **S07394**
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2704622** BOX # **1426**
 LAB # **NW72166**

Date Sampled

Date Received **09/19/2019**

Date Reported **9/30/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 11 lb/ac					Canola-lb		Corn-Grain		Soybeans				
	6-24" 51 lb/ac					YIELD GOAL		YIELD GOAL		YIELD GOAL				
		*****	*****			2200 LBS		160 BU		40 BU				
	0-24" 62 lb/ac					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band/Maint.		Band/Maint.		Band/Maint.				
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen 9 ppm	*****	*****			N 92		N 130		N ***				
Potassium	269 ppm	*****	*****	*****	*****	P ₂ O ₅ 40	Band *	P ₂ O ₅ 59	Band *	P ₂ O ₅ 30	Band *			
Chloride	0-24" 936 lb/ac	*****	*****	*****	*****	K ₂ O 0		K ₂ O 10	Band (2x2) *	K ₂ O 0				
	0-6" 26 lb/ac	*****	*****	*****	*****	Cl	Not Available	Cl	Not Available	Cl 0				
Sulfur	6-24" 360 +lb/ac	*****	*****	*****	*****	S 15	Band	S 0		S 5	Band (Trial)			
Boron	2.8 ppm	*****	*****	*****	*****	B 0		B 0		B 0				
Zinc	0.65 ppm	*****	*****	*****	*****	Zn 0		Zn 1	Band	Zn 0				
Iron	13.9 ppm	*****	*****	*****	*****	Fe 0		Fe 0		Fe 0				
Manganese	1.8 ppm	*****	*****	*****	*****	Mn 0		Mn 0		Mn 0				
Copper	1.11 ppm	*****	*****	*****	*****	Cu 0		Cu 0		Cu 0				
Magnesium	1893 ppm	*****	*****	*****	*****	Mg 0		Mg 0		Mg 0				
Calcium	6192 ppm	*****	*****	*****	*****	Lime		Lime		Lime				
Sodium	257 ppm	*****	*****	*****	*****									
Org.Matter	6.1 %	*****	*****	*****	*****									
Carbonate(CCE)	7.6 %	*****	*****	*****	*****	Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
										% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 0.53 mmho/cm	*****	*****	*****	*****	0-6" 8.6		48.5 meq		(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
	6-24" 1.27 mmho/cm	*****	*****	*****	*****	6-24" 8.8				63.8	32.5	1.4	2.3	0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P₂O₅ = 40 K₂O = 20 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P₂O₅ = 59 K₂O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

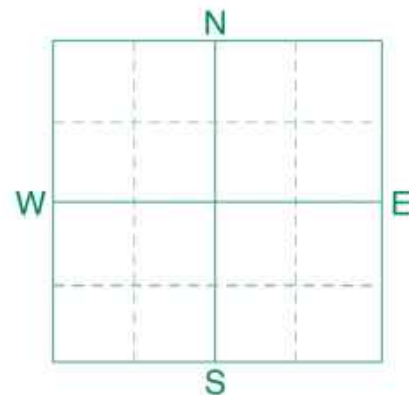
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P₂O₅ = 30 K₂O = 47 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
<http://www.agvise.com>
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

FIELD ID 3
 SAMPLE ID UGCONTI19
 FIELD NAME Conti
 COUNTY
 TWP RANGE
 NW-
 SECTION QTR 19-7- ACRES 240
 SE



SUBMITTED FOR:
Uli Gehrer

SUBMITTED BY: **S07394**
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2704618** BOX # **1426**
 LAB # **NW72165**

Date Sampled

Date Received **09/19/2019**

Date Reported **9/30/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	17 lb/ac 30 lb/ac				Canola-bu	Corn-Grain	Soybeans					
						YIELD GOAL	YIELD GOAL	YIELD GOAL					
			*****			44 BU	160 BU	40 BU					
	0-24"	47 lb/ac				SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES					
						Band/Maint.	Band/Maint.	Band/Maint.					
					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	12 ppm	*****			N 107	N 145	N ***					
Potassium		255 ppm	*****			P ₂ O ₅ 40 Band *	P ₂ O ₅ 59 Band *	P ₂ O ₅ 30 Band *					
Chloride	0-24"	1464 lb/ac	*****			K ₂ O 0	K ₂ O 10 Band (2x2) *	K ₂ O 0					
Sulfur	0-6" 6-24"	118 lb/ac 360 +lb/ac	*****			Cl	Not Available	Cl	Not Available	Cl	0		
Boron		2.7 ppm	*****			S 10 Band	S 0	S 0					
Zinc		0.70 ppm	*****			B 0	B 0	B 0					
Iron		14.7 ppm	*****			Zn 0	Zn 1 Band	Zn 0					
Manganese		1.5 ppm	*****			Fe 0	Fe 0	Fe 0					
Copper		1.22 ppm	*****			Mn 0	Mn 0	Mn 0					
Magnesium		2061 ppm	*****			Cu 0	Cu 0	Cu 0					
Calcium		5931 ppm	*****			Mg 0	Mg 0	Mg 0					
Sodium		362 ppm	*****			Lime	Lime	Lime					
Org.Matter		5.5 %	*****										
Carbonate(CCE)		6.1 %	*****										
Sol. Salts	0-6"	0.8 mmho/cm	*****			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24"	1.92 mmho/cm	*****			0-6" 8.5		49.1 meq	% Ca	% Mg	% K	% Na	% H
						6-24" 8.6			(65-75) 60.4	(15-20) 35.0	(1-7) 1.3	(0-5) 3.2	(0-5) 0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 40 K2O = 20 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 59 K2O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

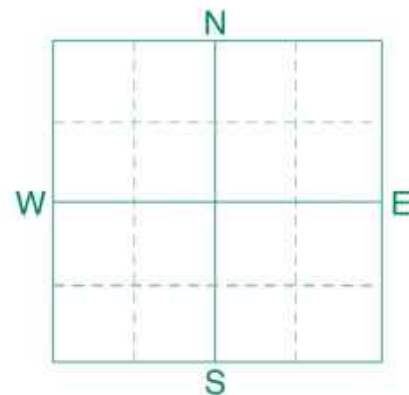
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID 4
 SAMPLE ID UGNB919
 FIELD NAME Neufeld
 COUNTY
 TWP RANGE
 SECTION QTR **E-2-8-4E** ACRES **285**
 PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
Uli Gehrler

SUBMITTED BY: **S07394**
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2704678** BOX # **1324**
 LAB # **NW72177**

Date Sampled

Date Received **09/19/2019**

Date Reported **9/30/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	18 lb/ac 54 lb/ac	*****	*****	*****	Canola-bu	Soybeans	Corn-Grain					
	0-24"	72 lb/ac				YIELD GOAL	YIELD GOAL	YIELD GOAL					
						40 BU	40 BU	160 BU					
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES					
						Band/Maint.	Band/Maint.	Band/Maint.					
Phosphorus	Olsen	11 ppm	*****	*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Potassium		282 ppm	*****	*****	N	68	N	***	N	120			
Chloride	0-24"	264 lb/ac	*****	*****	P ₂ O ₅	36 Band *	P ₂ O ₅	30 Band *	P ₂ O ₅	59 Band *			
	0-6" 6-24"	52 lb/ac 360 +lb/ac	*****	*****	K ₂ O	0	K ₂ O	0	K ₂ O	10 Band (2x2) *			
Sulfur			*****	*****	Cl	Not Available	Cl	0	Cl	Not Available			
Boron		1.9 ppm	*****	*****	S	10 Band	S	0	S	0			
Zinc		2.05 ppm	*****	*****	B	0	B	0	B	0			
Iron		17.0 ppm	*****	*****	Zn	0	Zn	0	Zn	0			
Manganese		2.0 ppm	*****	*****	Fe	0	Fe	0	Fe	0			
Copper		1.93 ppm	*****	*****	Mn	0	Mn	0	Mn	0			
Magnesium		1764 ppm	*****	*****	Cu	0	Cu	0	Cu	0			
Calcium		5567 ppm	*****	*****	Mg	0	Mg	0	Mg	0			
Sodium		91 ppm	*****	*****	Lime		Lime		Lime				
Org.Matter		4.6 %	*****	*****	Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)		7.4 %	*****	*****					% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6"	0.65 mmho/cm	*****	*****	0-6"	8.3	43.7 meq		(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
	6-24"	1.55 mmho/cm	*****	*****	6-24"	8.3			63.8	33.7	1.7	0.9	0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

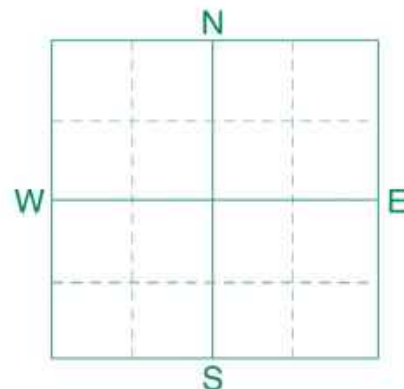
Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 59 K2O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID 5
 SAMPLE ID UGNB82019
 FIELD NAME West 284
 COUNTY
 TWP RANGE
 SECTION QTR **W-2-8-4E** ACRES 310
 PREV. CROP Soybeans



SUBMITTED FOR:
Uli Gehrler

SUBMITTED BY: **SO7394**
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2756934** BOX # **4096**
 LAB # **NW101796**

Date Sampled _____ Date Received **10/18/2019** Date Reported **10/28/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"					Canola-bu		Corn-Grain		Wheat-Spring				
						YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24"					40 BU		160 BU		60 BU				
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band/Maint.		Band/Maint.		Band/Maint.				
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen Phosphorus	35 ppm					N	0	N	10	N	10			
Potassium	334 ppm					P ₂ O ₅	36 Band *	P ₂ O ₅	59 Band *	P ₂ O ₅	38 Band *			
Chloride	0-24" 44 lb/ac					K ₂ O	0	K ₂ O	10 Band (2x2) *	K ₂ O	10 Band (Starter) *			
Sulfur	0-6" 6-24" 10 lb/ac 60 lb/ac					Cl	Not Available	Cl	Not Available	Cl	0			
Boron	2.1 ppm					S	17 Band	S	7 Band (Trial)	S	7 Band (Trial)			
Zinc	1.70 ppm					B	0	B	0	B	0			
Iron	18.8 ppm					Zn	0	Zn	0	Zn	0			
Manganese	2.4 ppm					Fe	0	Fe	0	Fe	0			
Copper	1.78 ppm					Mn	0	Mn	0	Mn	0			
Magnesium	1698 ppm					Cu	0	Cu	0	Cu	0			
Calcium	6492 ppm					Mg	0	Mg	0	Mg	0			
Sodium	58 ppm					Lime		Lime		Lime				
Org.Matter	5.5 %					Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)	4.7 %					Buffer pH				% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24" 0.65 mmho/cm 0.55 mmho/cm					0-6" 8.1		47.7 meq		(65-75) 68.0	(15-20) 29.7	(1-7) 1.8	(0-5) 0.5	(0-5) 0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 30 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 59 K2O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

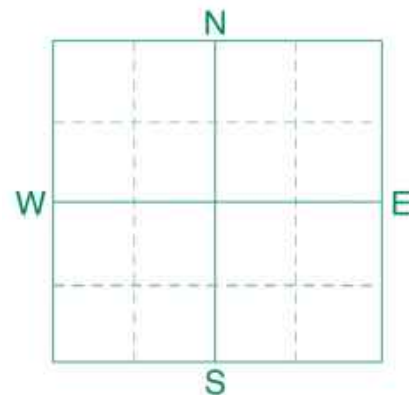
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
<http://www.agvise.com>
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

FIELD ID 6
 SAMPLE ID UGNB72019
 FIELD NAME Walter Yard
 COUNTY
 TWP RANGE
 SECTION QTR SE-3-8-4E ACRES 210
 PREV. CROP Soybeans



SUBMITTED FOR:
Uli Gehrer

SUBMITTED BY: S07394
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB R0A 1E0

REF # **2786534** BOX # **5353**
 LAB # **NW117686**

Date Sampled

Date Received **10/31/2019**

Date Reported **11/4/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High											
Nitrate	0-6" 12 lb/ac					Canola-bu			Soybeans			Wheat-Spring				
	6-24" 18 lb/ac					YIELD GOAL			YIELD GOAL			YIELD GOAL				
		*****				40 BU			40 BU			60 BU				
	0-24" 30 lb/ac					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Band/Maint.			Band/Maint.			Band/Maint.				
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Phosphorus	Olsen 11 ppm	*****	*****	*****	*****	N	95		N	***		N	117			
Potassium	241 ppm	*****	*****	*****	*****	P ₂ O ₅	36	Band *	P ₂ O ₅	30	Band *	P ₂ O ₅	38	Band *		
Chloride	0-24" 24 lb/ac	*****				K ₂ O	18	Band *	K ₂ O	47	Band *	K ₂ O	23	Band *		
	0-6" 56 lb/ac	*****				Cl		Not Available	Cl	0		Cl	16	Broadcast		
Sulfur	6-24" 216 lb/ac	*****				S	10	Band	S	0		S	0			
Boron	2.3 ppm	*****				B	0		B	0		B	0			
Zinc	0.53 ppm	*****				Zn	1	Band	Zn	1	Band	Zn	0			
Iron	13.8 ppm	*****				Fe	0		Fe	0		Fe	0			
Manganese	1.6 ppm	*****				Mn	0		Mn	0		Mn	0			
Copper	1.39 ppm	*****				Cu	0		Cu	0		Cu	0			
Magnesium	2015 ppm	*****				Mg	0		Mg	0		Mg	0			
Calcium	6176 ppm	*****				Lime			Lime			Lime				
Sodium	65 ppm	*****				Soil pH			Cation Exchange Capacity			% Base Saturation (Typical Range)				
Org.Matter	5.1 %	*****				Buffer pH			Capacity			% Ca	% Mg	% K	% Na	% H
Carbonate(CCE)	10.2 %	*****				0-6" 8.3			48.6 meq			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
Sol. Salts	0-6" 0.48 mmho/cm	*****				6-24" 8.7						63.6	34.6	1.3	0.6	0.0
	6-24" 0.57 mmho/cm	*****														

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is high based on the salt and carbonate levels. Crop Removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

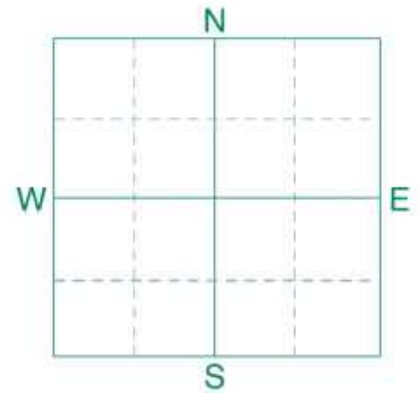
Crop 3: 35 lbs of 0-0-60 = 16 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

FIELD ID 7
 SAMPLE ID SVS2019
 FIELD NAME Voth South
 COUNTY
 TWP RANGE
 SECTION QTR SE-12-8-4E ACRES 130
 PREV. CROP Soybeans



SUBMITTED FOR:
Steve Voth

SUBMITTED BY: SO7394
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2804415** BOX # **1102**
 LAB # **NW135818**

Date Sampled _____ Date Received **11/07/2019** Date Reported **11/12/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-24"	10 lb/ac 21 lb/ac				Canola-bu		Corn-Grain		Wheat-Spring			
						YIELD GOAL		YIELD GOAL		YIELD GOAL			
	0-24"	31 lb/ac				44 BU		160 BU		70 BU			
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band/Maint.		Band/Maint.		Band/Maint.			
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Olsen	4 ppm					N 108		N 131		N 143			
Phosphorus						P ₂ O ₅ 46	Band *	P ₂ O ₅ 73	Band *	P ₂ O ₅ 50	Band *		
Potassium	270 ppm					K ₂ O 0		K ₂ O 10	Band (2x2) *	K ₂ O 10	Band (Starter) *		
Chloride	0-24" 20 lb/ac					Cl	Not Available	Cl	Not Available	Cl 20	Broadcast		
Sulfur	0-6" 6-24" 10 lb/ac 120 lb/ac					S 17	Band	S 0		S 0			
Boron	1.5 ppm					B 0		B 0		B 0			
Zinc	0.53 ppm					Zn 1	Band	Zn 2	Band	Zn 0			
Iron	18.3 ppm					Fe 0		Fe 0		Fe 0			
Manganese	1.4 ppm					Mn 0		Mn 0		Mn 0			
Copper	1.85 ppm					Cu 0		Cu 0		Cu 0			
Magnesium	1783 ppm					Mg 0		Mg 0		Mg 0			
Calcium	5861 ppm					Lime		Lime		Lime			
Sodium	87 ppm												
Org.Matter	3.6 %												
Carbonate(CCE)	7.4 %												
Sol. Salts	0-6" 6-24" 0.3 mmho/cm 0.33 mmho/cm					Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						0-6" 8.4		45.2 meq	% Ca (65-75)	% Mg (15-20)	% K (1-7)	% Na (0-5)	% H (0-5)
						6-24" 8.6			64.8	32.8	1.5	0.8	0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 40 K2O = 20 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 30 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 59 K2O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

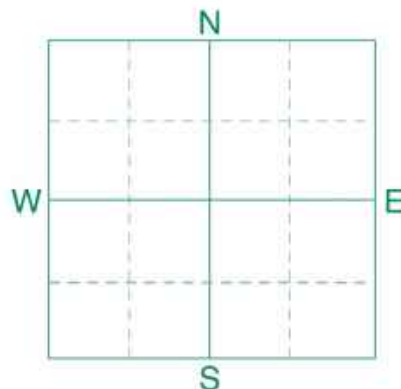
Crop 3: 44 lbs of 0-0-60 = 20 lbs of Chloride * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID 8
 SAMPLE ID **SVN2019**
 FIELD NAME **Voth North**
 COUNTY
 TWP RANGE
 SECTION QTR **NE-12-8-4E** ACRES **75**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Steve Voth

SUBMITTED BY: S07394
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2804416** BOX # **1138**
 LAB # **NW135819**

Date Sampled

Date Received **11/07/2019**

Date Reported **11/12/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 6-24"	13 lb/ac 18 lb/ac				Canola-bu	Corn-Grain		Wheat-Spring					
						YIELD GOAL	YIELD GOAL		YIELD GOAL					
	0-24"	31 lb/ac	*****			44 BU	160 BU		70 BU					
						SUGGESTED GUIDELINES	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES					
						Band/Maint.	Band/Maint.		Band/Maint.					
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen Phosphorus	4 ppm	*****			N	108		N	131	N	143			
Potassium	223 ppm	*****			P ₂ O ₅	46	Band *	P ₂ O ₅	73	P ₂ O ₅	50			
											Band *			
Chloride	0-24" 4 lb/ac	*			K ₂ O	20	Band *	K ₂ O	37	K ₂ O	26			
											Band *			
Sulfur	0-6" 6-24" 10 lb/ac 24 lb/ac	*****			Cl		Not Available	Cl		Cl	36			
											Broadcast			
Boron	1.6 ppm	*****			S	17	Band	S	7	S	7			
Zinc	0.32 ppm	*****			B	0		B	0	B	0			
Iron	9.4 ppm	*****			Zn	1	Band	Zn	2	Zn	0			
Manganese	1.1 ppm	*****			Fe	0		Fe	0	Fe	0			
Copper	1.16 ppm	*****			Mn	0		Mn	0	Mn	0			
Magnesium	1677 ppm	*****			Cu	0		Cu	0	Cu	0			
Calcium	6314 ppm	*****			Mg	0		Mg	0	Mg	0			
Sodium	46 ppm	*****			Lime			Lime		Lime				
Org.Matter	4.4 %	*****												
Carbonate(CCE)	8.1 %	*****												
Sol. Salts	0-6" 0.51 mmho/cm	*****			Soil pH	8.4		Cation Exchange Capacity	46.3 meq	% Base Saturation (Typical Range)				
	6-24" 0.64 mmho/cm	*****				8.6				% Ca	% Mg	% K	% Na	% H
										(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
										68.2	30.2	1.2	0.4	0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 40 K2O = 20 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 30 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 59 K2O = 37 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

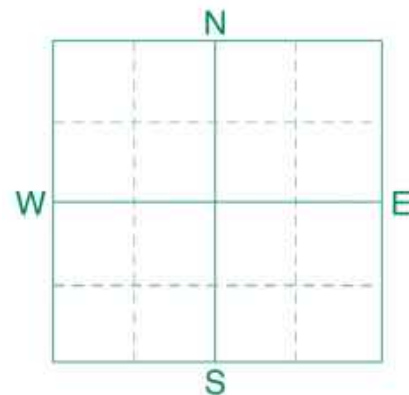
Crop 3: 79 lbs of 0-0-60 = 36 lbs of Chloride" * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 44 K2O = 26 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



SOIL TEST REPORT

Soil Analysis by Agvise Laboratories
<http://www.agvise.com>
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

FIELD ID 9
 SAMPLE ID UGNB102019
 FIELD NAME Plett
 COUNTY
 TWP RANGE
 SECTION QTR SE-14-8-4E ACRES 140
 PREV. CROP Soybeans



SUBMITTED FOR:
Uli Gehrer

SUBMITTED BY: S07394
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2786538** BOX # **5322**
 LAB # **NW117687**

Date Sampled

Date Received **10/31/2019**

Date Reported **11/4/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High									
Nitrate	0-6" 25 lb/ac					Canola-bu		Soybeans		Wheat-Spring				
	6-24" 18 lb/ac					YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24" 43 lb/ac	*****				40 BU		40 BU		60 BU				
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band/Maint.		Band/Maint.		Band/Maint.				
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen 9 ppm	*****				N 82		N ***		N 104				
Potassium	324 ppm	*****				P ₂ O ₅ 36	Band *	P ₂ O ₅ 30	Band *	P ₂ O ₅ 38	Band *			
Chloride	0-24" 68 lb/ac	*****				K ₂ O 0		K ₂ O 0		K ₂ O 10	Band (Starter)*			
Sulfur	0-6" 26 lb/ac	*****				Cl	Not Available	Cl 0		Cl 0				
	6-24" 360 +lb/ac	*****				S 15	Band	S 5	Band (Trial)	S 0				
Boron	1.7 ppm	*****				B 0		B 0		B 0				
Zinc	0.64 ppm	*****				Zn 0		Zn 0		Zn 0				
Iron	15.9 ppm	*****				Fe 0		Fe 0		Fe 0				
Manganese	1.4 ppm	*****				Mn 0		Mn 0		Mn 0				
Copper	1.36 ppm	*****				Cu 0		Cu 0		Cu 0				
Magnesium	1904 ppm	*****				Mg 0		Mg 0		Mg 0				
Calcium	6147 ppm	*****				Lime		Lime		Lime				
Sodium	70 ppm	*****												
Org.Matter	5.1 %	*****												
Carbonate(CCE)	5.7 %	*****												
Sol. Salts	0-6" 0.46 mmho/cm	*****				Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24" 0.87 mmho/cm	*****				0-6" 8.4		47.7 meq		% Ca	% Mg	% K	% Na	% H
						6-24" 8.5				(65-75) 64.4	(15-20) 33.2	(1-7) 1.7	(0-5) 0.6	(0-5) 0.0

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is high based on the salt and carbonate levels. Crop Removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

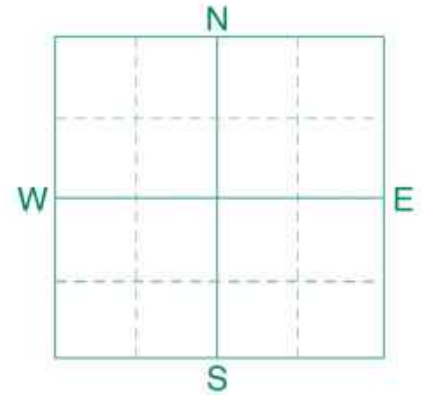
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID 10
 SAMPLE ID **UGL118**
 FIELD NAME **Landmark**
 COUNTY
 TWP RANGE
 NW-
 SECTION QTR **29-8-** ACRES **250**
 6E



SUBMITTED FOR:
Uli Gehrer

SUBMITTED BY: **S07394**
SHUR-GRO-NIVERVILLE
21039 PREFONTAINE RD
PO BOX 642
NIVERVILLE, MB ROA 1E0

REF # **2345195** BOX # **1639**
 LAB # **NW52688**

Date Sampled

Date Received **08/31/2018**

Date Reported **9/6/2018**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
		VLow	Low	Med	High						
Nitrate	0-6" 6-24"	12 lb/ac 21 lb/ac				Canola-bu	Soybeans	Corn-Grain			
						YIELD GOAL	YIELD GOAL	YIELD GOAL			
			*****			40 BU	40 BU	180 BU			
	0-24"	33 lb/ac				SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES			
						Broadcast	Broadcast	Broadcast			
					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Phosphorus	Olsen	15 ppm	*****	*****	*****	N 107	N ***	N 183			
Potassium		301 ppm	*****	*****	*****	P ₂ O ₅ 44 Broadcast	P ₂ O ₅ 32 Broadcast	P ₂ O ₅ 74 Broadcast			
Chloride	0-24"	16 lb/ac	*****			K ₂ O 0	K ₂ O 0	K ₂ O 10 Band (2x2) *			
Sulfur	0-6" 6-24"	112 lb/ac 222 lb/ac	*****	*****	*****	Cl Not Available	Cl 0	Cl Not Available			
Boron		1.5 ppm	*****	*****	*****	S 10 Broadcast	S 0	S 0			
Zinc		0.77 ppm	*****	*****	*****	B 0	B 0	B 0			
Iron		27.0 ppm	*****	*****	*****	Zn 2 Broadcast	Zn 2 Broadcast	Zn 5 Broadcast			
Manganese		1.0 ppm	*****	*****	*****	Fe 0	Fe 0	Fe 0			
Copper		1.54 ppm	*****	*****	*****	Mn 0	Mn 0	Mn 0			
Magnesium		1223 ppm	*****	*****	*****	Cu 0	Cu 0	Cu 0			
Calcium		7783 ppm	*****	*****	*****	Mg 0	Mg 0	Mg 0			
Sodium		41 ppm	*****			Lime	Lime	Lime			
Org.Matter		8.0 %	*****	*****	*****						
Carbonate(CCE)		2.4 %	*****	*****	*****						
Sol. Salts	0-6"	0.81 mmho/cm	*****	*****	*****	Soil pH 8.0	Cation Exchange Capacity 50.1 meq		% Base Saturation (Typical Range)		
	6-24"	0.77 mmho/cm	*****	*****	*****	6-24" 8.2	% Ca 77.7	% Mg 20.4	% K 1.5	% Na 0.4	% H (0-5)

General Comments: Texture is not estimated on high pH soils.

Crop 1: ** Chloride yield data is limited for this crop. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

Crop 2: Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 35 K2O = 60 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 72 K2O = 49 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.




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Risk Areas

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the  icon to clear all selected items.

RISK AREA 12 

Select Crop(s)

ARGENTINE CANOLA 

Select Soil Type(s)

3 selected 

Select Year Range



Search Summary

30 records returned

4,163 farm varieties grown on **816,413.3** acres

Average Yield

0.972 Tonnes (**42.9** Bushels) per acre

Average Fertilizer Application

Nitrogen: **114.1** lbs per acre

Phosphorus: **34.2** lbs per acre

Potassium: **5.7** lbs per acre

Sulphur: **13.5** lbs per acre

Summary includes aggregate data from 'below minimum tolerance' records

Fertilizer Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2017	RISK AREA 12	ARGENTINE CANOLA	D	115	22,836.0	54.5 Bushels	124.7	39.7
2017	RISK AREA 12	ARGENTINE CANOLA	C	133	26,562.0	54.4 Bushels	124.5	38.3
2018	RISK AREA 12	ARGENTINE CANOLA	D	146	30,378.0	51.4 Bushels	123.0	40.1

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2014	RISK AREA 12	ARGENTINE CANOLA	C	153	28,577.0	51.1 Bushels	119.1	36.9
2017	RISK AREA 12	ARGENTINE CANOLA	E	68	16,363.0	51.1 Bushels	115.8	40.2
2018	RISK AREA 12	ARGENTINE CANOLA	C	145	32,348.0	51.1 Bushels	126.7	40.4
2014	RISK AREA 12	ARGENTINE CANOLA	D	138	24,328.0	49.8 Bushels	119.6	37.6
2013	RISK AREA 12	ARGENTINE CANOLA	C	172	31,472.0	49.3 Bushels	118.0	33.6
2014	RISK AREA 12	ARGENTINE CANOLA	E	78	14,411.0	48.4 Bushels	109.1	31.6
2018	RISK AREA 12	ARGENTINE CANOLA	E	83	16,465.0	48.1 Bushels	112.3	35.1
2013	RISK AREA 12	ARGENTINE CANOLA	D	164	29,602.5	47.5 Bushels	113.6	34.8
2009	RISK AREA 12	ARGENTINE CANOLA	E	111	18,111.0	45.4 Bushels	96.7	26.4
2015	RISK AREA 12	ARGENTINE CANOLA	C	159	31,804.0	45.1 Bushels	125.6	38.2
2013	RISK AREA 12	ARGENTINE CANOLA	E	115	22,205.0	43.9 Bushels	106.7	29.8
2009	RISK AREA 12	ARGENTINE CANOLA	D	178	34,981.0	43.8 Bushels	100.8	30.9
2015	RISK AREA 12	ARGENTINE CANOLA	D	138	25,990.0	43.8 Bushels	118.7	39.9
2010	RISK AREA 12	ARGENTINE CANOLA	D	174	32,581.0	43.4 Bushels	109.1	32.5
2016	RISK AREA 12	ARGENTINE CANOLA	E	76	15,187.0	42.6 Bushels	111.6	31.6
2010	RISK AREA 12	ARGENTINE CANOLA	E	125	21,360.0	42.1 Bushels	104.4	30.1
2009	RISK AREA 12	ARGENTINE CANOLA	C	186	37,929.0	41.7 Bushels	105.8	29.6
2015	RISK AREA 12	ARGENTINE CANOLA	E	93	15,542.0	39.2 Bushels	110.4	32.1

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2010	RISK AREA 12	ARGENTINE CANOLA	C	192	40,011.6	38.9 Bushels	111.1	31.2
2016	RISK AREA 12	ARGENTINE CANOLA	D	135	26,375.0	38.7 Bushels	120.2	38.8
2016	RISK AREA 12	ARGENTINE CANOLA	C	128	24,522.0	36.4 Bushels	122.6	36.6
2011	RISK AREA 12	ARGENTINE CANOLA	D	204	44,320.2	36.3 Bushels	110.2	32.4
2011	RISK AREA 12	ARGENTINE CANOLA	C	197	45,700.0	33.8 Bushels	113.9	31.7
2012	RISK AREA 12	ARGENTINE CANOLA	C	157	31,355.0	33.1 Bushels	113.8	32.3
2012	RISK AREA 12	ARGENTINE CANOLA	D	159	29,581.0	32.6 Bushels	115.7	34.3
2011	RISK AREA 12	ARGENTINE CANOLA	E	129	27,857.0	31.7 Bushels	103.3	29.2
2012	RISK AREA 12	ARGENTINE CANOLA	E	112	17,659.0	31.5 Bushels	107.9	29.0

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Risk Areas

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RISK AREA 12 

Select Crop(s)

GRAIN CORN 

Select Soil Type(s)

3 selected 

Select Year Range



Search Summary

30 records returned

2,999 farm varieties grown on **582,358.9** acres

Average Yield

3.333 Tonnes (**131.2** Bushels) per acre

Average Fertilizer Application

Nitrogen: **122.1** lbs per acre

Phosphorus: **38.3** lbs per acre

Potassium: **15.2** lbs per acre

Sulphur: **6.1** lbs per acre

Summary includes aggregate data from 'below minimum tolerance' records

Fertilizer Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2016	RISK AREA 12	GRAIN CORN	C	111	26,380.8	160.5 Bushels	133.3	41.6
2016	RISK AREA 12	GRAIN CORN	E	83	14,097.0	158.1 Bushels	125.3	41.6
2016	RISK AREA 12	GRAIN CORN	D	122	22,299.0	154.4 Bushels	132.4	46.2

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2013	RISK AREA 12	GRAIN CORN	D	142	26,165.0	153.7 Bushels	121.7	38.7
2017	RISK AREA 12	GRAIN CORN	D	124	25,054.0	151.6 Bushels	130.2	43.3
2017	RISK AREA 12	GRAIN CORN	C	108	26,245.0	151.0 Bushels	138.2	41.4
2017	RISK AREA 12	GRAIN CORN	E	81	16,033.0	151.0 Bushels	128.6	41.2
2015	RISK AREA 12	GRAIN CORN	C	79	16,752.0	149.9 Bushels	132.4	38.6
2015	RISK AREA 12	GRAIN CORN	D	99	16,989.0	149.8 Bushels	124.0	42.1
2013	RISK AREA 12	GRAIN CORN	C	122	27,048.0	149.0 Bushels	125.0	35.9
2018	RISK AREA 12	GRAIN CORN	E	73	14,485.0	146.3 Bushels	126.3	41.1
2013	RISK AREA 12	GRAIN CORN	E	92	15,614.0	144.7 Bushels	117.0	36.9
2015	RISK AREA 12	GRAIN CORN	E	79	12,406.0	140.7 Bushels	121.5	37.0
2012	RISK AREA 12	GRAIN CORN	C	109	25,016.0	136.4 Bushels	120.5	34.5
2012	RISK AREA 12	GRAIN CORN	E	99	16,587.0	135.6 Bushels	114.3	33.7
2014	RISK AREA 12	GRAIN CORN	C	104	21,285.0	135.0 Bushels	126.5	42.0
2010	RISK AREA 12	GRAIN CORN	D	91	15,765.0	134.9 Bushels	105.9	34.4
2012	RISK AREA 12	GRAIN CORN	D	134	25,498.0	134.2 Bushels	117.2	37.9
2018	RISK AREA 12	GRAIN CORN	D	129	27,677.0	134.1 Bushels	137.9	45.8
2010	RISK AREA 12	GRAIN CORN	C	96	20,743.0	132.1 Bushels	110.9	32.0
2018	RISK AREA 12	GRAIN CORN	C	109	26,138.0	131.4 Bushels	135.9	44.1

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2014	RISK AREA 12	GRAIN CORN	D	113	21,584.0	129.0 Bushels	123.4	40.8
2014	RISK AREA 12	GRAIN CORN	E	79	12,958.0	127.3 Bushels	117.0	37.2
2010	RISK AREA 12	GRAIN CORN	E	62	10,834.0	127.2 Bushels	110.1	30.5
2011	RISK AREA 12	GRAIN CORN	E	74	10,329.0	117.1 Bushels	110.9	32.4
2011	RISK AREA 12	GRAIN CORN	D	117	21,329.0	110.1 Bushels	112.5	33.5
2011	RISK AREA 12	GRAIN CORN	C	94	19,529.1	108.1 Bushels	112.3	31.9
2009	RISK AREA 12	GRAIN CORN	E	73	10,025.0	60.6 Bushels	98.0	31.3
2009	RISK AREA 12	GRAIN CORN	D	107	17,146.0	30.3 Bushels	103.6	32.5
2009	RISK AREA 12	GRAIN CORN	C	94	20,348.0	24.9 Bushels	101.6	31.0

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Risk Areas


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RISK AREA 12 

Select Crop(s)

SOYBEANS 

Select Soil Type(s)

3 selected 

Select Year Range



Search Summary

30 records returned

1,798 farm varieties grown on **316,786.0** acres

Average Yield

1.047 Tonnes (**38.5** Bushels) per acre

Average Fertilizer Application

Nitrogen: **6.0** lbs per acre

Phosphorus: **34.3** lbs per acre

Potassium: **5.7** lbs per acre

Sulphur: **1.8** lbs per acre

Summary includes aggregate data from 'below minimum tolerance' records

Fertilizer Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

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Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2016	RISK AREA 12	SOYBEANS	C	105	20,433.0	46.3 Bushels	7.5	34.6
2016	RISK AREA 12	SOYBEANS	E	45	6,915.0	46.3 Bushels	4.4	33.6
2013	RISK AREA 12	SOYBEANS	C	72	14,210.0	43.5 Bushels	6.0	32.4

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2013	RISK AREA 12	SOYBEANS	D	63	10,287.0	43.5 Bushels	5.5	32.7
2016	RISK AREA 12	SOYBEANS	D	103	18,776.0	42.9 Bushels	5.1	38.3
2010	RISK AREA 12	SOYBEANS	E	14	1,625.0	41.5 Bushels	10.5	17.7
2010	RISK AREA 12	SOYBEANS	C	38	6,406.0	40.3 Bushels	9.1	25.3
2015	RISK AREA 12	SOYBEANS	D	105	18,090.0	39.4 Bushels	2.7	37.8
2014	RISK AREA 12	SOYBEANS	C	108	22,812.0	39.0 Bushels	4.0	34.3
2010	RISK AREA 12	SOYBEANS	D	43	7,240.0	38.9 Bushels	6.9	24.7
2014	RISK AREA 12	SOYBEANS	D	93	16,441.0	38.9 Bushels	5.2	35.7
2015	RISK AREA 12	SOYBEANS	C	106	19,924.0	38.9 Bushels	4.3	34.8
2012	RISK AREA 12	SOYBEANS	E	24	2,820.0	38.7 Bushels	8.2	23.5
2012	RISK AREA 12	SOYBEANS	C	47	7,442.0	38.6 Bushels	10.2	26.8
2013	RISK AREA 12	SOYBEANS	E	28	3,431.0	38.5 Bushels	6.2	24.7
2009	RISK AREA 12	SOYBEANS	C	23	3,136.0	38.1 Bushels	11.6	24.0
2017	RISK AREA 12	SOYBEANS	C	105	24,359.0	37.9 Bushels	7.5	36.5
2018	RISK AREA 12	SOYBEANS	E	38	5,228.0	37.6 Bushels	4.8	41.6
2017	RISK AREA 12	SOYBEANS	D	100	19,137.0	36.9 Bushels	4.0	38.1
2012	RISK AREA 12	SOYBEANS	D	63	9,071.0	36.8 Bushels	3.9	29.1
2017	RISK AREA 12	SOYBEANS	E	60	8,966.0	36.6 Bushels	4.1	37.4

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2015	RISK AREA 12	SOYBEANS	E	38	5,382.0	36.4 Bushels	5.3	31.3
2009	RISK AREA 12	SOYBEANS	E	20	2,109.0	35.8 Bushels	18.3	20.1
2014	RISK AREA 12	SOYBEANS	E	55	6,521.0	35.4 Bushels	4.7	30.4
2009	RISK AREA 12	SOYBEANS	D	26	3,643.0	35.0 Bushels	11.9	22.7
2011	RISK AREA 12	SOYBEANS	D	45	5,033.0	33.6 Bushels	6.3	27.7
2011	RISK AREA 12	SOYBEANS	C	33	5,033.0	33.2 Bushels	11.9	23.3
2011	RISK AREA 12	SOYBEANS	E	13	1,678.0	31.9 Bushels	21.9	22.9
2018	RISK AREA 12	SOYBEANS	C	100	22,782.0	31.4 Bushels	8.5	38.9
2018	RISK AREA 12	SOYBEANS	D	85	17,856.0	31.0 Bushels	4.3	42.4

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Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the  icon to clear all selected items.

Select Crop(s)

Select Soil Type(s)

Select Year Range



Search Summary

30 records returned

3,496 farm varieties grown on **593,648.6** acres

Average Yield

1.643 Tonnes (**60.4** Bushels) per acre

Average Fertilizer Application

Nitrogen: **102.1** lbs per acre

Phosphorus: **34.1** lbs per acre

Potassium: **7.4** lbs per acre

Sulphur: **3.4** lbs per acre

Summary includes aggregate data from 'below minimum tolerance' records

Fertilizer Data

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Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2017	RISK AREA 12	RED SPRING WHEAT	D	92	16,821.0	78.2 Bushels	112.5	41.1
2017	RISK AREA 12	RED SPRING WHEAT	C	97	17,468.0	77.9 Bushels	116.3	38.8

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2017	RISK AREA 12	RED SPRING WHEAT	E	57	9,185.0	73.8 Bushels	102.6	37.6
2018	RISK AREA 12	RED SPRING WHEAT	C	128	21,880.0	69.6 Bushels	116.3	38.5
2014	RISK AREA 12	RED SPRING WHEAT	C	114	21,138.0	68.5 Bushels	110.3	38.1
2018	RISK AREA 12	RED SPRING WHEAT	D	123	19,084.0	67.8 Bushels	113.2	40.7
2014	RISK AREA 12	RED SPRING WHEAT	D	120	19,057.0	67.7 Bushels	105.3	38.1
2018	RISK AREA 12	RED SPRING WHEAT	E	78	14,826.0	66.9 Bushels	106.8	37.6
2013	RISK AREA 12	RED SPRING WHEAT	D	135	26,265.0	65.6 Bushels	102.2	38.3
2013	RISK AREA 12	RED SPRING WHEAT	C	131	22,333.0	65.1 Bushels	102.6	32.7
2012	RISK AREA 12	RED SPRING WHEAT	C	130	22,154.8	63.3 Bushels	105.1	33.3
2015	RISK AREA 12	RED SPRING WHEAT	C	146	24,434.0	62.5 Bushels	110.7	36.0
2009	RISK AREA 12	RED SPRING WHEAT	E	104	14,509.0	62.3 Bushels	83.8	27.2
2015	RISK AREA 12	RED SPRING WHEAT	D	138	24,279.0	61.8 Bushels	112.0	38.0
2014	RISK AREA 12	RED SPRING WHEAT	E	80	12,640.0	61.7 Bushels	95.7	32.4
2012	RISK AREA 12	RED SPRING WHEAT	D	131	23,117.0	61.4 Bushels	100.4	32.4

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)
2013	RISK AREA 12	RED SPRING WHEAT	E	86	11,335.0	61.4 Bushels	95.6	30.0
2009	RISK AREA 12	RED SPRING WHEAT	C	149	27,267.0	60.5 Bushels	93.7	30.2
2009	RISK AREA 12	RED SPRING WHEAT	D	159	25,824.5	60.3 Bushels	85.9	30.3
2012	RISK AREA 12	RED SPRING WHEAT	E	71	12,539.0	58.3 Bushels	92.4	28.2
2016	RISK AREA 12	RED SPRING WHEAT	E	76	11,755.0	56.4 Bushels	101.0	35.1
2015	RISK AREA 12	RED SPRING WHEAT	E	86	13,335.0	55.9 Bushels	103.2	32.8
2016	RISK AREA 12	RED SPRING WHEAT	C	114	20,548.0	55.6 Bushels	114.0	37.5
2010	RISK AREA 12	RED SPRING WHEAT	D	162	29,979.2	54.3 Bushels	94.8	33.4
2016	RISK AREA 12	RED SPRING WHEAT	D	124	18,725.0	54.0 Bushels	109.6	38.9
2010	RISK AREA 12	RED SPRING WHEAT	C	149	28,587.0	52.5 Bushels	99.7	31.4
2010	RISK AREA 12	RED SPRING WHEAT	E	104	16,348.0	51.6 Bushels	88.0	27.5
2011	RISK AREA 12	RED SPRING WHEAT	D	152	24,386.0	46.5 Bushels	92.1	30.3
2011	RISK AREA 12	RED SPRING WHEAT	C	147	29,885.1	45.1 Bushels	101.9	30.7
2011	RISK AREA 12	RED SPRING WHEAT	E	113	13,944.0	41.2 Bushels	89.3	26.3