

**Appendix D-1. Soil Associations within the Project Study Area for Codington and Grant Counties**

<b>Soil Associations within the Project study area (Codington County)</b>					
<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
Z142B	Barnes-Buse-Svea loams, coteau	1 to 6	All areas are prime farmland	Cropland	576.27
Z171A	Renshaw-Fordville loams, coteau	0 to 2	Prime farmland if irrigated	Cropland	386.36
Z141B	Barnes-Svea loams, coteau	1 to 6	All areas are prime farmland	Cropland	129.54
Z142C	Barnes-Buse-Svea loams, coteau	2 to 9	Farmland of statewide importance	Cropland	123.72
Z141A	Barnes-Svea loams, coteau	0 to 2	All areas are prime farmland	Cropland	97.08
Z143C	Barnes-Buse loams, coteau	6 to 9	Not prime farmland	Cropland	89.49
Z152A	Lamoure silty clay loam, coteau, occasionally flooded	0 to 1	Prime farmland if drained	Cropland	81.74
Z159A	Divide loam, occasionally flooded	0 to 2	Prime farmland if drained	Cropland	79.13
Z116A	McKranz-Hidewood, frequently flooded, silty clay loams	0 to 2	Farmland of statewide importance	Cropland	61.56
Z158A	Marysland loam, occasionally flooded	0 to 1	Prime farmland if drained	Range/ pastureland	53.46
Z172A	Renshaw loam, coteau	0 to 2	Prime farmland if irrigated	Cropland	49.17
Z173B	Renshaw-Sioux complex	2 to 6	Not prime farmland	Cropland	48.85
Z112A	Vallers-Hamerly loams, coteau	0 to 2	Farmland of statewide importance	Cropland	46.63
Z150A	Rauville silty clay loam, coteau, frequently flooded	0 to 1	Not prime farmland	Range/ pastureland	40.30
Z115A	Hamerly-Badger complex, coteau	0 to 2	Farmland of statewide importance	Cropland	36.02
Z199B	Vienna-Barnes-Forestville loams	1 to 6	All areas are prime farmland	Cropland	31.94
Z198A	Vienna-Forestville loams, coteau	0 to 2	All areas are prime farmland	Cropland	28.41
Z145D	Buse-Barnes loams, coteau, very stony	2 to 15	Not prime farmland	Range/ pastureland	26.00
Z171B	Renshaw-Fordville loams, coteau	2 to 6	Prime farmland if irrigated	Cropland	24.08
Z114A	Hamerly-Tonka complex, coteau	0 to 2	Farmland of statewide importance	Cropland	22.35
Z144E	Buse-Barnes loams, coteau	9 to 20	Not prime farmland	Range/ pastureland	13.97
Z153A	Lamoure-Rauville silty clay loams, channeled, frequently flooded	0 to 2	Not prime farmland	Range/ pastureland	8.82
Z146F	Buse-Lamoure, channeled, frequently flooded, complex	0 to 40	Not prime farmland	Range/ pastureland	7.20
Z101A	Tonka silty clay loam	0 to 1	Prime farmland if drained	Cropland	6.03
Z250A	Rauville mucky silty clay loam, ponded, frequently flooded	0 to 1	Not prime farmland	Range/ pastureland	4.25
Z177	Udorthents, coteau (gravel pits)		Not prime farmland	Gravel pit	3.43
Z161A	Spottswood loam, occasionally flooded	0 to 2	All areas are prime farmland	Cropland	3.35
Z173C	Renshaw-Sioux complex	6 to 9	Not prime farmland	Range/ pastureland	2.93
Z107A	Parnell silty clay loam, coteau	0 to 1	Not prime farmland	Range/ pastureland	2.84
Z167A	Renwash loam, rarely flooded	0 to 2	Prime farmland if irrigated	Cropland	2.82
<b>Total</b>					<b>2,087.71</b>

**Soil Associations within the Project study area (Grant County)**

<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
La	LaDelle silt loam		All areas are prime farmland		1,840.59
HcB	Heimdal-Svea loams	2 to 6	All areas are prime farmland		1,467.25
J225B	Forman-Aastad complex	1 to 4			1,420.98
Pd	Peever-Cavour complex		Not prime farmland		912.23
FdB	Forman-Aastad loams	1 to 6	All areas are prime farmland		716.17
PeB	Peever clay loam	2 to 6	All areas are prime farmland		640.49
Db	Castlewood silty clay		Prime farmland if drained		594.30
HbC	Heimdal-Sisseton loams	6 to 9	Farmland of statewide importance		554.98
Z132B	Forman-Buse-Aastad loams, coteau	1 to 6	All areas are prime farmland	Cropland	501.01
Z132C	Forman-Buse-Aastad loams, coteau	2 to 9	Farmland of statewide importance	Cropland	500.56
EaB	Egeland sandy loam	2 to 6	All areas are prime farmland		408.17
Ph	Playmoor silty clay loam		Not prime farmland		404.28
Z132D	Forman-Buse-Aastad loams, coteau	2 to 15	Not prime farmland	Cropland	400.67
Lb	LaDelle silt loam, channeled		Not prime farmland		377.18
Z145F	Buse-Barnes loams, coteau, very stony	9 to 40	Not prime farmland	Range/ pastureland	349.02
HcA	Heimdal-Svea loams	0 to 2	All areas are prime farmland		335.36
BeF	Buse-Forman loams	25 to 40	Not prime farmland		332.64
Z145D	Buse-Barnes loams, coteau, very stony	2 to 15	Not prime farmland	Range/ pastureland	315.70
BfD	Buse-Forman-Aastad loams	4 to 15	Not prime farmland		311.31
PeA	Peever clay loam	0 to 2	All areas are prime farmland		301.75
EaA	Egeland sandy loam	0 to 2	All areas are prime farmland		282.24
Z171A	Renshaw-Fordville loams, coteau	0 to 2	Prime farmland if irrigated	Cropland	276.59
ScD	Sisseton-Heimdal loams	9 to 15	Not prime farmland		274.01
HaE	Hattie clay loam	15 to 40	Not prime farmland		271.10
Bc	Cubden silty clay loam	0 to 2	All areas are prime farmland	Cropland	270.12
SeA	Swenoda fine sandy loam	0 to 2	All areas are prime farmland		266.95
PcB	Peever clay loam, coteau	2 to 6	All areas are prime farmland		258.21
HaD	Hattie clay loam	9 to 15	Not prime farmland		254.01
FdC	Forman-Aastad loams	3 to 9	Farmland of statewide importance		247.23
Ta	Tonka silty clay loam	0 to 1	Prime farmland if drained	Cropland	241.53
PcC	Peever clay loam	6 to 9	Farmland of statewide importance		212.70
Pb	Southam silty clay loam	0 to 1	Not prime farmland	Wildlife habitat	209.79
RbA	Renshaw loam	0 to 2	Prime farmland if irrigated		209.75
Vc	Vallers-Tonka complex		Prime farmland if drained		202.40
Va	Vallers clay loam	0 to 2	Prime farmland if drained		200.37
J217A	Parnell silty clay loam, occasionally ponded	0 to 1	Not prime farmland		176.67

**Soil Associations within the Project study area (Grant County)**

<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
Z137F	Buse-Forman loams, very stony	15-40	Not prime farmland	Range/ pastureland	174.18
Z113A	Vallers-Parnell complex, coteau	0 to 2	Not prime farmland	Range/ pastureland	162.99
Da	Divide loam		All areas are prime farmland		162.42
MaE	Maddock loamy fine sand	6 to 25	Not prime farmland		150.83
Po	Poinsett-Waubay silty clay loams	0 to 2	All areas are prime farmland	Cropland	147.18
J105A	Arvilla sandy loam, Till Prairie	0 to 2	Not prime farmland		132.36
Sd	Svea loam		All areas are prime farmland		126.71
BbB	Hokans-Svea complex	1 to 4	All areas are prime farmland		122.90
Lc	Ludden silty clay		Prime farmland if drained		114.89
FdD	Forman-Aastad loams	4 to 15	Farmland of statewide importance		112.33
W	Water		Not prime farmland		110.53
J209C	Forman-Buse complex, moderately eroded	6 to 12	Farmland of statewide importance		97.63
FbA	Fordville loam	0 to 2	All areas are prime farmland		95.37
Z175D	Renshaw-Sioux complex, very stony	2 to 15	Not prime farmland	Range/ pastureland	92.21
BbD	Barnes-Svea loams	4 to 15	Not prime farmland		89.79
FhE	Forman-Buse extremely stony loams	9 to 40	Not prime farmland		78.44
FgE	Forman-Buse loams	15 to 25	Not prime farmland		77.62
FgC	Forman-Buse loams	6 to 9	Farmland of statewide importance		67.04
Z141B	Barnes-Svea loams, coteau	1 to 6	All areas are prime farmland	Cropland	65.55
Z173B	Renshaw-Sioux complex	2 to 6	Not prime farmland	Cropland	63.23
Ec	Estelline silty clay loam		All areas are prime farmland		61.14
HbB	Esmond-Heimdal-Sisseton complex	2 to 6	All areas are prime farmland		54.28
J49A	Lakepark-Parnell, occasionally ponded, complex	0 to 2	Prime farmland if drained		54.14
Vb	Vallers-Parnell complex		Not prime farmland		50.71
Z107A	Parnell silty clay loam, coteau	0 to 1	Not prime farmland	Range/ pastureland	50.47
RcD	Renshaw-Sioux complex	6 to 15	Not prime farmland		50.43
ReA	Rentill loam	0 to 2	All areas are prime farmland		43.82
Z135D	Forman-Buse loams, very stony	2 to 15	Not prime farmland	Range /pastureland	43.38
RbB	Renshaw loam,	1 to 6	Prime farmland if irrigated		38.33
Z140F	Buse-Langhei complex, coteau	15 to 40	Not prime farmland	Range/ pastureland	37.79
Oa	Overly silty clay loam		All areas are prime farmland		33.70
Pf	Orthents, gravelly		Not prime farmland		33.36
Pa	Parnell silty clay loam		Not prime farmland		31.33
BbC	Barnes-Svea loams	3 to 9	Farmland of statewide importance		31.24
SbE	Sisseton loam	15 to 40	Not prime farmland		29.69

**Soil Associations within the Project study area (Grant County)**

<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
Z136F	Buse-Langhei complex, very stony	9 to 40	Not prime farmland	Range/ pastureland	28.88
PcA	Peever clay loam, coteau	0 to 2	All areas are prime farmland		27.59
Mb	Marysland loam	0 to 2	Prime farmland if drained		27.34
Z150A	Rauville silty clay loam, coteau, frequently flooded	0 to 1	Not prime farmland	Range/ pastureland	26.57
Aa	Aastad-Flom complex		Prime farmland if drained		26.31
Z174D	Sioux-Renshaw complex, coteau	9 to 15	Not prime farmland	Rangeland	25.43
Z179F	Sioux-Renshaw complex, very stony	15 to 40	Not prime farmland	Rangeland	25.19
FdA	Forman-Aastad loams	0 to 2	All areas are prime farmland		21.94
Z205B	Mauvais clay loam, occasionally ponded, extremely stony	2 to 6	Not prime farmland	Range/ pastureland	20.21
J105B	Arvilla sandy loam, Till Prairie	2 to 6	Not prime farmland		19.31
Z153A	Lamoure-Rauville silty clay loams, channeled, frequently flooded	0 to 2	Not prime farmland	Range/ pastureland	16.79
Z152A	Lamoure silty clay loam, coteau, occasionally flooded	0 to 1	Prime farmland if drained	Cropland	15.49
SaE	Sioux-Renshaw complex	15 to 40	Not prime farmland		15.09
Ra	Rauville silty clay loam		Not prime farmland		14.04
Pe	Peever-Tonka complex		Farmland of statewide importance		10.52
Z114A	Hamerly-Tonka complex, coteau	0 to 2	Farmland of statewide importance	Cropland	8.40
Z131B	Forman-Aastad loams, coteau	1 to 6	All areas are prime farmland	Cropland	6.18
FeC	Forman-Aastad extremely stony complex	0 to 9	Not prime farmland		5.69
Fa	Flom clay loam		Prime farmland if drained		5.28
Z143C	Barnes-Buse loams, coteau	6 to 9	Not prime farmland	Cropland	3.46
Z110A	Vallers loam, coteau	0 to 1	Farmland of statewide importance	Range/ pastureland	3.39
Z119A	Hamerly-Balaton loams, coteau	0 to 3	All areas are prime farmland	Cropland	3.38
Z112A	Vallers-Hamerly loams, coteau	0 to 2	Farmland of statewide importance	Cropland	3.24
FcB	Fordville-Renshaw loams	2 to 6	Prime farmland if irrigated		3.14
Z146F	Buse-Lamoure, channeled, frequently flooded, complex	0 to 40	Not prime farmland	Range/ pastureland	2.11
Z159A	Divide loam, occasionally flooded	0 to 2	Prime farmland if drained	Cropland	0.00
<b>Total</b>					<b>19,791.26</b>
<b>Total Codington County and Grant County</b>					<b>21,878.98</b>

**Appendix D-2. Soil Associations within the Project Construction Easement for Codington and Grant Counties**

<b>Soil Associations within the Construction Easement (Codington County)</b>					
<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
Z142B	Barnes-Buse-Svea loams, coteau	1 to 6	All areas are prime farmland	Cropland	22.40
Z171A	Renshaw-Fordville loams, coteau	0 to 2	Prime farmland if irrigated	Cropland	14.47
Z152A	Lamoure silty clay loam, coteau, occasionally flooded	0 to 1	Prime farmland if drained	Cropland	10.79
Z116A	McKranz-Hidewood, frequently flooded, silty clay loams	0 to 2	Farmland of statewide importance	Cropland	4.85
Z141A	Barnes-Svea loams, coteau	0 to 2	All areas are prime farmland	Cropland	4.73
Z159A	Divide loam, occasionally flooded	0 to 2	Prime farmland if drained	Cropland	2.85
Z158A	Marysland loam, occasionally flooded	0 to 1	Prime farmland if drained	Range/pastureland	1.86
Z144E	Buse-Barnes loams, coteau	9 to 20	Not prime farmland	Range/pastureland	1.75
Z171B	Renshaw-Fordville loams, coteau	2 to 6	Prime farmland if irrigated	Cropland	1.60
Z115A	Hamerly-Badger complex, coteau	0 to 2	Farmland of statewide importance	Cropland	1.18
Z142C	Barnes-Buse-Svea loams, coteau	2 to 9	Farmland of statewide importance	Cropland	1.18
Z143C	Barnes-Buse loams, coteau	6 to 9	Not prime farmland	Cropland	1.09
Z173B	Renshaw-Sioux complex	2 to 6	Not prime farmland	Cropland	1.04
Z101A	Tonka silty clay loam	0 to 1	Prime farmland if drained	Cropland	0.09
Z198A	Vienna-Forestville loams, coteau	0 to 2	All areas are prime farmland	Cropland	0.07
<b>Total</b>					<b>69.96</b>
<b>Soil Associations within the Construction Easement (Grant County)</b>					
<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
La	LaDelle silt loam		All areas are prime farmland		60.63
J225B	Forman-Aastad complex	1 to 4			47.36
Pd	Peever-Cavour complex		Not prime farmland		32.87
HcB	Heimdal-Svea loams	2 to 6	All areas are prime farmland		32.79
FdB	Forman-Aastad loams	1 to 6	All areas are prime farmland		25.82
HaE	Hattie clay loam	15 to 40	Not prime farmland		23.66
PeB	Peever clay loam	2 to 6	All areas are prime farmland		23.46
HbC	Heimdal-Sisseton loams	6 to 9	Farmland of statewide importance		22.89
Ph	Playmoor silty clay loam		Not prime farmland		22.04
Z145F	Buse-Barnes loams, coteau, very stony	9 to 40	Not prime farmland	Range/pastureland	18.93
BeF	Buse-Forman loams	25 to 40	Not prime farmland		17.93
SeA	Swenoda fine sandy loam	0 to 2	All areas are prime farmland		16.48
EaB	Egeland sandy loam	2 to 6	All areas are prime farmland		14.90
Lb	LaDelle silt loam, channeled		Not prime farmland		14.30
Z132D	Forman-Buse-Aastad loams, coteau	2 to 15	Not prime farmland	Cropland	14.05

**Soil Associations within the Construction Easement (Grant County)**

<b>MUSYM</b>	<b>Soil Type</b>	<b>Percent Slope</b>	<b>Farmland</b>	<b>Landuse</b>	<b>Acreage</b>
EaA	Egeland sandy loam	0 to 2	All areas are prime farmland		12.70
Z145D	Buse-Barnes loams, coteau, very stony	2 to 15	Not prime farmland	Range/pastureland	12.34
Db	Castlewood silty clay		Prime farmland if drained		11.66
Z132C	Forman-Buse-Aastad loams, coteau	2 to 9	Farmland of statewide importance	Cropland	11.55
ScD	Sisseton-Heimdal loams	9 to 15	Not prime farmland		10.80
HcA	Heimdal-Svea loams	0 to 2	All areas are prime farmland		10.49
PeA	Peever clay loam	0 to 2	All areas are prime farmland		10.15
J217A	Parnell silty clay loam, occasionally ponded	0 to 1	Not prime farmland		10.08
Z171A	Renshaw-Fordville loams, coteau	0 to 2	Prime farmland if irrigated	Cropland	9.91
BfD	Buse-Forman-Aastad loams	4 to 15	Not prime farmland		8.94
HaD	Hattie clay loam	9 to 15	Not prime farmland		8.64
Z137F	Buse-Forman loams, very stony	15-40	Not prime farmland	Range/pastureland	8.09
MaE	Maddock loamy fine sand	6 to 25	Not prime farmland		7.92
Z132B	Forman-Buse-Aastad loams, coteau	1 to 6	All areas are prime farmland	Cropland	7.61
Po	Poinsett-Waubay silty clay loams	0 to 2	All areas are prime farmland	Cropland	7.28
Ta	Tonka silty clay loam	0 to 1	Prime farmland if drained	Cropland	6.73
J209C	Forman-Buse complex, moderately eroded	6 to 12	Farmland of statewide importance		6.41
Lc	Ludden silty clay		Prime farmland if drained		5.07
Z113A	Vallers-Parnell complex, coteau	0 to 2	Not prime farmland	Range/pastureland	4.83
Vb	Vallers-Parnell complex		Not prime farmland		4.42
Vc	Vallers-Tonka complex		Prime farmland if drained		4.24
Bc	Cubden silty clay loam	0 to 2	All areas are prime farmland	Cropland	4.20
J105B	Arvilla sandy loam, Till Prairie	2 to 6	Not prime farmland		4.00
Va	Vallers clay loam	0 to 2	Prime farmland if drained		3.75
PcC	Peever clay loam	6 to 9	Farmland of statewide importance		3.56
Z140F	Buse-Langhei complex, coteau	15 to 40	Not prime farmland	Range/pastureland	3.48
Sd	Svea loam		All areas are prime farmland		2.95
FdC	Forman-Aastad loams	3 to 9	Farmland of statewide importance		2.90
Da	Divide loam		All areas are prime farmland		2.79
PcB	Peever clay loam, coteau	2 to 6	All areas are prime farmland		2.70
J105A	Arvilla sandy loam, Till Prairie	0 to 2	Not prime farmland		2.42
Z136F	Buse-Langhei complex, very stony	9 to 40	Not prime farmland	Range/pastureland	2.40
FgC	Forman-Buse loams	6 to 9	Farmland of statewide importance		2.23
Z141B	Barnes-Svea loams, coteau	1 to 6	All areas are prime farmland	Cropland	2.20

Soil Associations within the Construction Easement (Grant County)					
MUSYM	Soil Type	Percent Slope	Farmland	Landuse	Acreage
Ra	Rauville silty clay loam		Not prime farmland		1.99
FbA	Fordville loam	0 to 2	All areas are prime farmland		1.98
Z175D	Renshaw-Sioux complex, very stony	2 to 15	Not prime farmland	Range/pastureland	1.91
HbB	Esmond-Heimdal-Sisseton complex	2 to 6	All areas are prime farmland		1.86
ReA	Rentill loam	0 to 2	All areas are prime farmland		1.60
FdD	Forman-Aastad loams	4 to 15	Farmland of statewide importance		1.54
Oa	Overly silty clay loam		All areas are prime farmland		1.48
RbA	Renshaw loam	0 to 2	Prime farmland if irrigated		1.29
Z135D	Forman-Buse loams, very stony	2 to 15	Not prime farmland	Range/pastureland	1.21
Z107A	Parnell silty clay loam, coteau	0 to 1	Not prime farmland	Range/pastureland	1.19
FdA	Forman-Aastad loams	0 to 2	All areas are prime farmland		1.13
Z179F	Sioux-Renshaw complex, very stony	15 to 40	Not prime farmland	Rangeland	0.91
BbB	Hokans-Svea complex	1 to 4	All areas are prime farmland		0.91
Pb	Southam silty clay loam	0 to 1	Not prime farmland	Wildlife habitat	0.90
Z114A	Hamerly-Tonka complex, coteau	0 to 2	Farmland of statewide importance	Cropland	0.61
BbD	Barnes-Svea loams	4 to 15	Not prime farmland		0.52
Z205B	Mauvais clay loam, occasionally ponded, extremely stony	2 to 6	Not prime farmland	Range/pastureland	0.52
RbB	Renshaw loam,	1 to 6	Prime farmland if irrigated		0.31
Pe	Peever-Tonka complex		Farmland of statewide importance		0.28
BbC	Barnes-Svea loams	3 to 9	Farmland of statewide importance		0.21
Aa	Aastad-Flom complex		Prime farmland if drained		0.20
FgE	Forman-Buse loams	15 to 25	Not prime farmland		0.15
Ec	Estelline silty clay loam		All areas are prime farmland		0.14
J49A	Lakepark-Parnell, occasionally ponded, complex	0 to 2	Prime farmland if drained		0.09
Pa	Parnell silty clay loam		Not prime farmland		0.08
W	Water		Not prime farmland		0.07
Z173B	Renshaw-Sioux complex	2 to 6	Not prime farmland	Cropland	0.01
<b>Total</b>					<b>630.62</b>
<b>Total for Codington County and Grant County</b>					<b>700.58</b>

Source: SSURGO dataset for Codington and Grant Counties, South Dakota