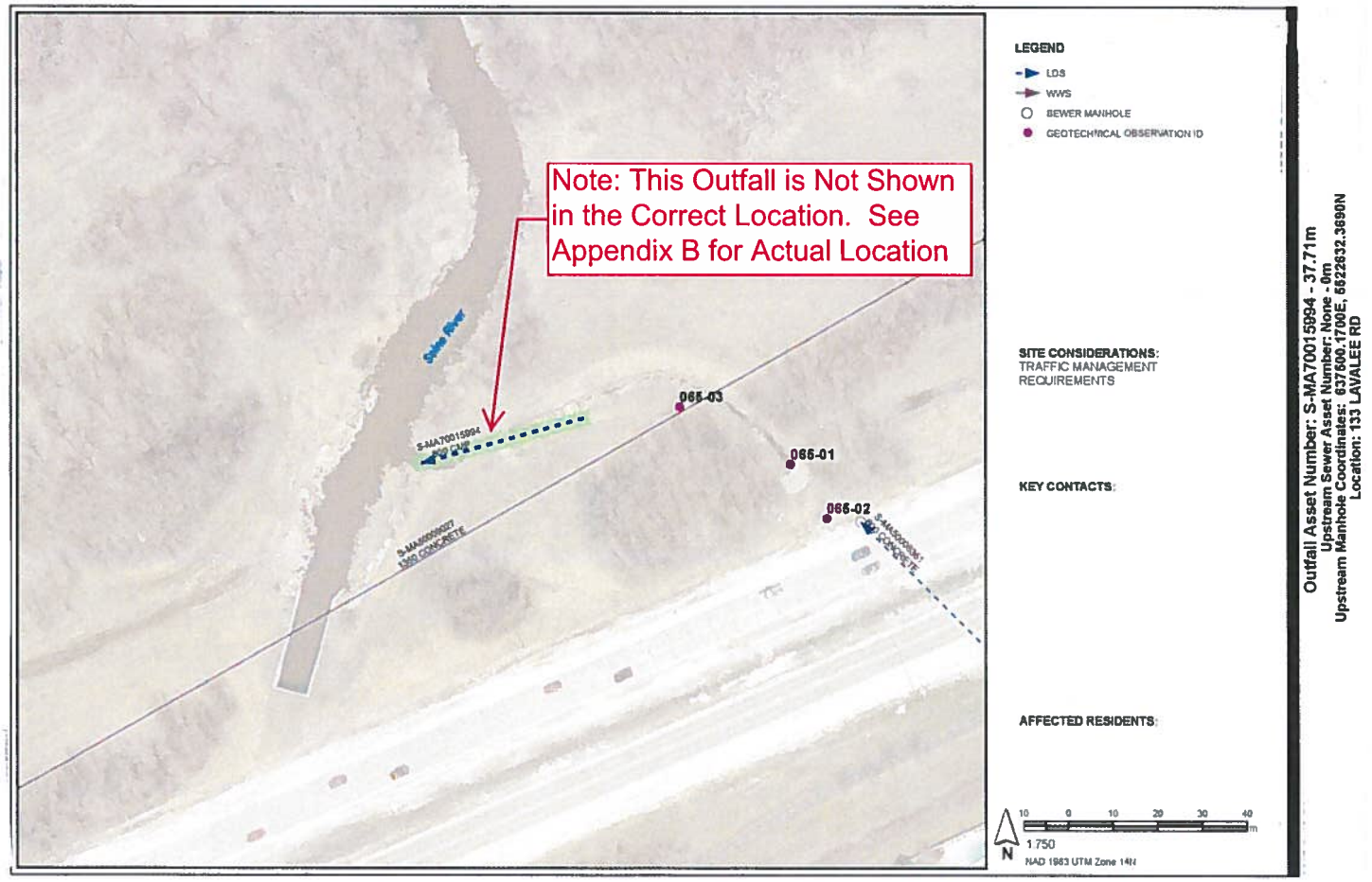
APPENDIX C – OUTFALL SITE INVESTIGATIONS AND GEOTECHNICAL CONDITIONS

BISHOP GRANDIN OUTFALL – (S-MA70015994)

800 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED EAST OF ST. ANNES ROAD AT SEINE RIVER

S-MA70015994

Job Number:	692-2015	Waterway:	Seine River
Map Number:	65	Asset Location:	133 LAVALEE RD
Flow Type:	LDS	Sewer District:	SOUTHDALE
Inspection Date:	2015-11-12	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	860 mm
Length:	37.71 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	Yes
Exit Type:	Straight		
Waterway Shape:	Inland from river		
Sedimentation Level:	25%	Debris in Asset:	
Identified Damage:	Perforated and corroded		
Geotechnical Condition Grades			
Slope Condition Grade:	1	Erosion Condition Grade:	1
Recommended Treatments:		None	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
065-01	Grouted Rip Rap		Surrounding Outfall Only

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location	Upslope of Crest	Wildlife Signs	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site														
065-01														
065-02														
065-03														

065-01

065-01

065-01

065-02

065-03

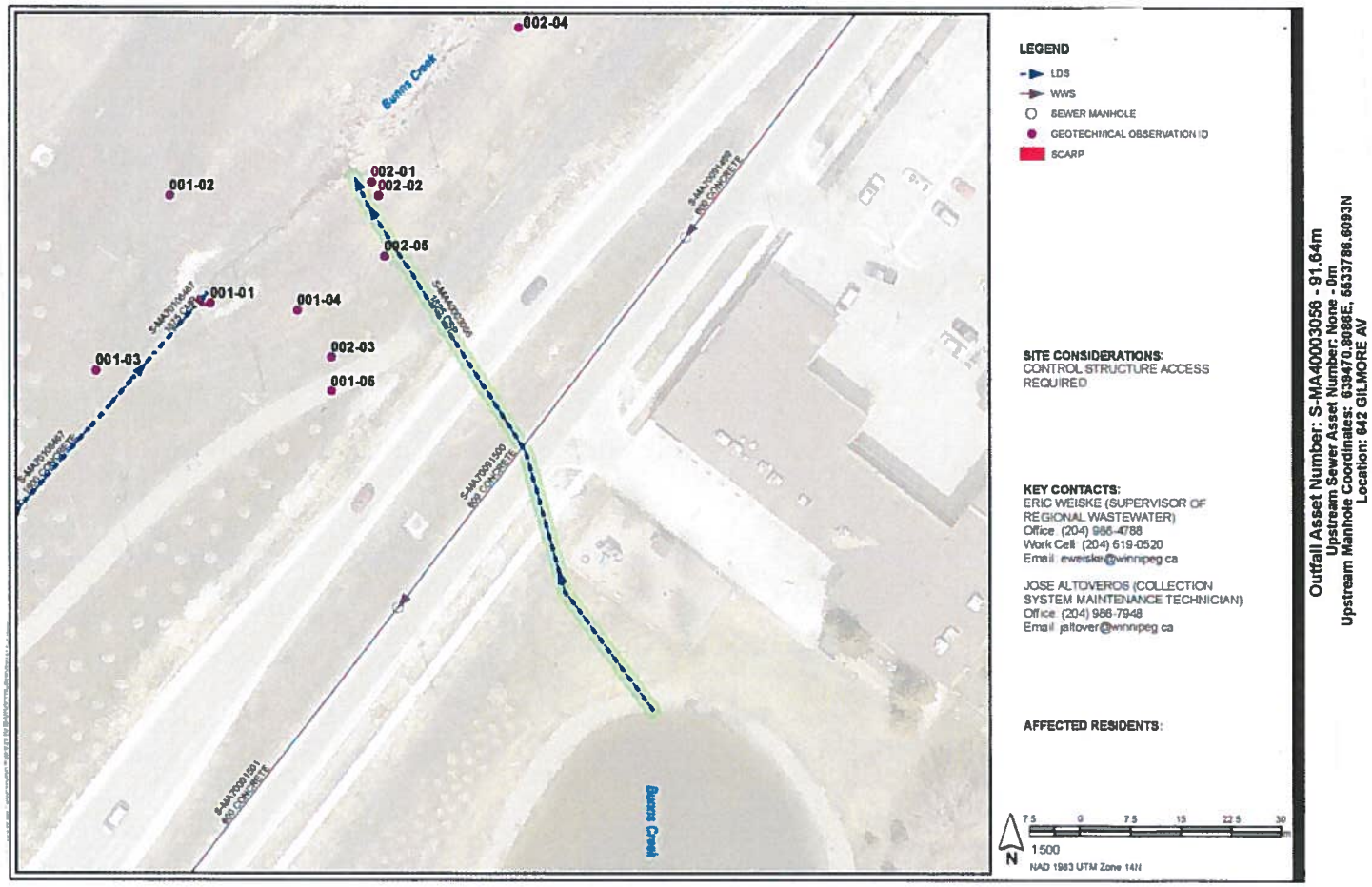
065-03

GATEWAY ROAD OUTFALL – (S-MA40003056)

1825 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED ADJACENT TO 1501 GATEWAY ROAD AT BUNNS CREEK

S-MA40003056

Job Number:	692-2015	Waterway:	Bunn's Creek
Map Number:	2	Asset Location:	642 GILMORE AV
Flow Type:	LDS	Sewer District:	AREA 1(NE)
Inspection Date:	2015-11-13	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	mm
Length:	91.64 m	Material:	CMP
Grating Type:	Vertical and Horizontal Bars	Exit Submerged:	Yes
Exit Type:	Straight		
Waterway Shape:	Straight		
Sedimentation Level:	%	Debris in Asset:	Garbage
Identified Damage:	Perforated and crushed		
Geotechnical Condition Grades			
Slope Condition Grade:	3	Erosion Condition Grade:	3
Recommended Treatments:		Erosion Protection	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Slump	002-01	Toe	Moderate	Grass Natural	Graded

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	002-01	1200	Toe	Moderate	Grass Natural	

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil
	002-01	1200	1200	Toe	Moderate	Grass Natural	

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location	Upslope of Crest	Wildlife Signs	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site						**Y**	**Y**				**Y**			
002-01						Y	Y							
002-02														
002-03														
002-04														
002-05											Y			

002-01

002-01

002-01

002-04

002-05

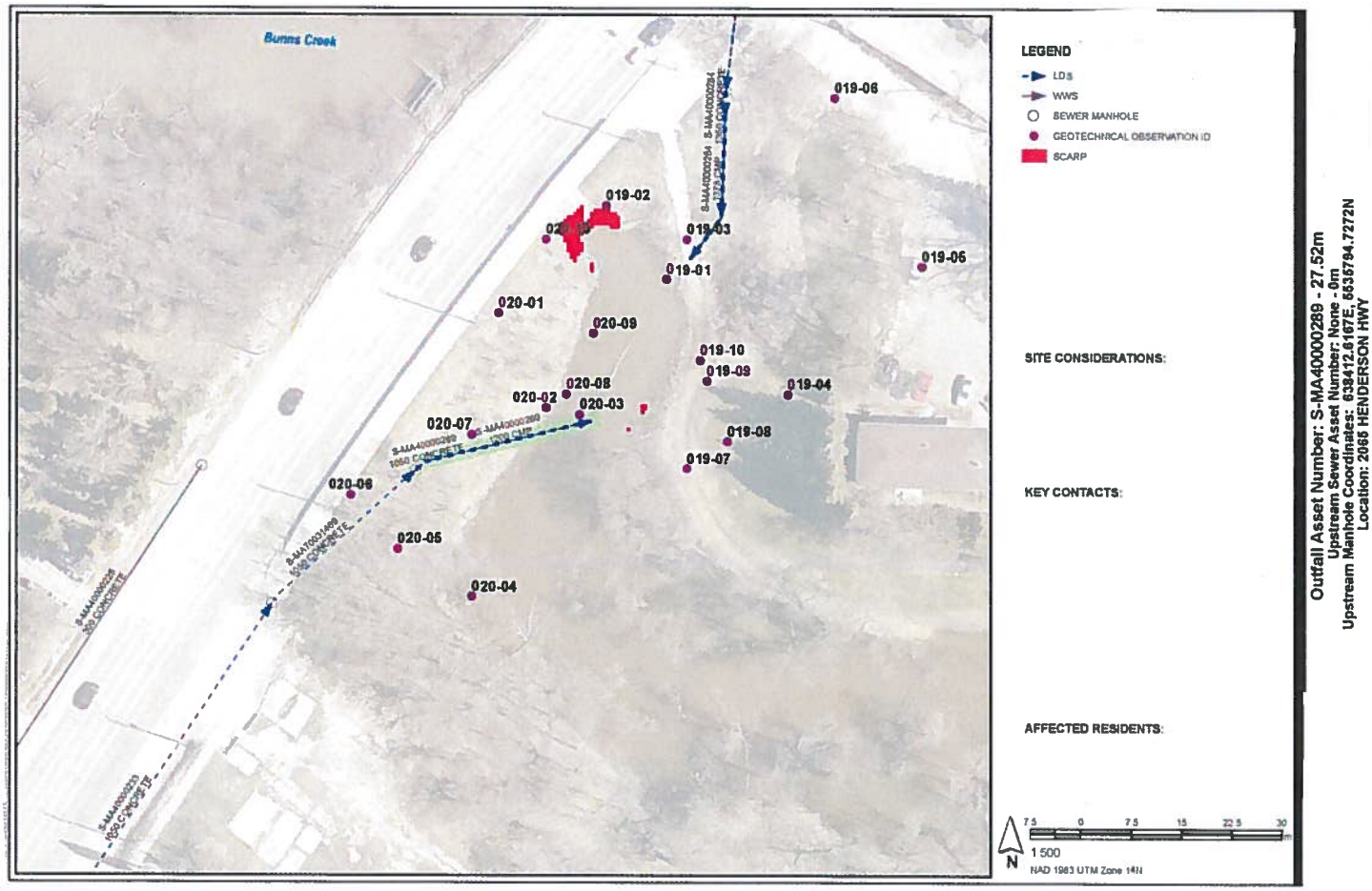
002-05

HENDERSON HIGHWAY OUTFALL – (S-MA40000289)

1200 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED ADJACENT TO 2033 HENDERSON HIGHWAY AT BUNNS CREEK

S-MA40000289

Job Number:	692-2015	Waterway:	Bunn's Creek
Map Number:	20	Asset Location:	2065 HENDERSON HWY
Flow Type:	LDS	Sewer District:	AREA 1(NE)
Inspection Date:	2015-10-28	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	1200 mm
Length:	27.52 m	Material:	CMP
Grating Type:	Horizontal Bars	Exit Submerged:	Yes
Exit Type:	Bevelled		
Waterway Shape:	Inside Bend		
Sedimentation Level:	%	Debris in Asset:	
Identified Damage:			
Geotechnical Condition Grades			
Slope Condition Grade:	4	Erosion Condition Grade:	1
Recommended Treatments:			
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Rotation	020-05	Mid Slope	Steep	Small Trees	Graded

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
020-02	Loose Rip Rap	Yes	
020-03	Loose Rip Rap	Yes	Surrounding Outfall and Along River Length
020-04	Loose Rip Rap		
020-09	Loose Rip Rap	Yes	

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil

Other Structures Engaged

ID	Structure Type	Crack Width
020-05	Manhole	
020-07	Gas line test post	

Miscellaneous

Roadway Location	Upslope of Crest	Wildlife Signs	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site	**Y**	**Y**	**Y**				**Y**							
020-01														
020-02														
020-03	Y	Y												
020-04	Y	Y												
020-05			Y				Y							
020-06														
020-07	Y	Y	Y											
020-08	Y	Y												
020-09	Y	Y												
020-10	Y													

020-03

020-03

020-03

020-04

020-07

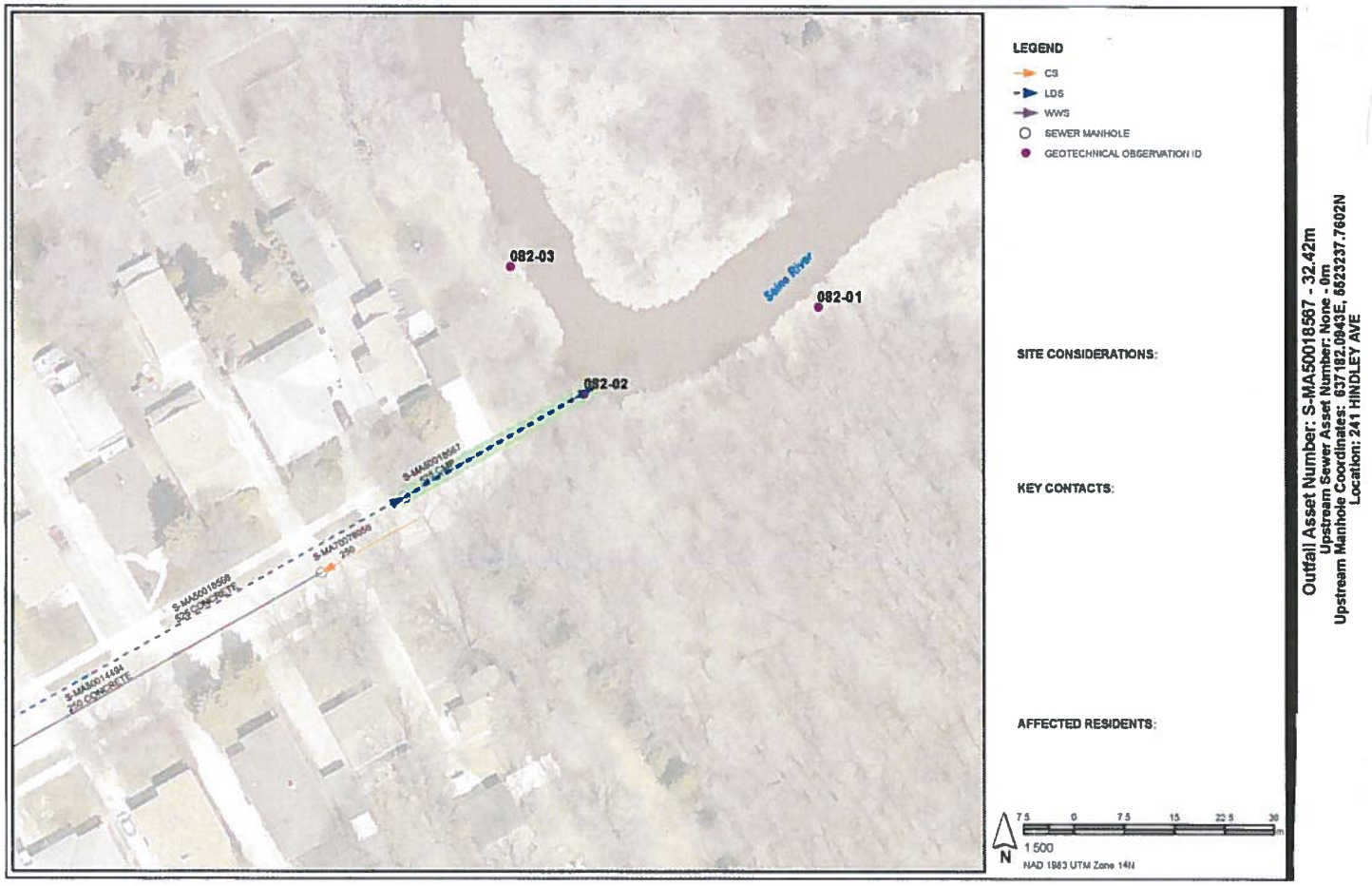
020-09

HINDLEY AVENUE OUTFALL – (S-MA50018567)

525 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED AT THE EAST END OF HINDLEY AVENUE AT SEINE RIVER

S-MA50018567

Job Number:	692-2015	Waterway:	Seine River
Map Number:	82	Asset Location:	241 HINDLEY AVE
Flow Type:	LDS	Sewer District:	MAGER
Inspection Date:	2015-11-05	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	540 mm
Length:	32.42 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	Yes
Exit Type:	Bevelled		
Waterway Shape:	Outside Bend		
Sedimentation Level:	%	Debris in Asset:	Trees
Identified Damage:	Separation		
Geotechnical Condition Grades			
Slope Condition Grade:	4	Erosion Condition Grade:	5
Recommended Treatments:		Erosion Protection	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Rotation	082-03	Toe	Steep	Grass Natural	Hummocky
Slump	082-02	Toe	Steep	Small Trees	Graded

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
082-02	Concrete-filled sandbags	No	Surrounding Outfall Only
082-03	Concrete Rubble		

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	082-02	1000	Toe	Steep	Small Trees	Clay
	082-03	1200	Toe	Steep	Grass Natural	Clay

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location	Upslope of Crest	**Wildlife Signs**	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site	**Y**	**Y**		**Y**	**Y**	**Y**	**Y**							**Y**
082-01														
082-02	Y	Y		Y	Y	Y	Y							Y
082-03	Y	Y		Y	Y		Y							

082-01

082-02

082-02

082-02

082-02

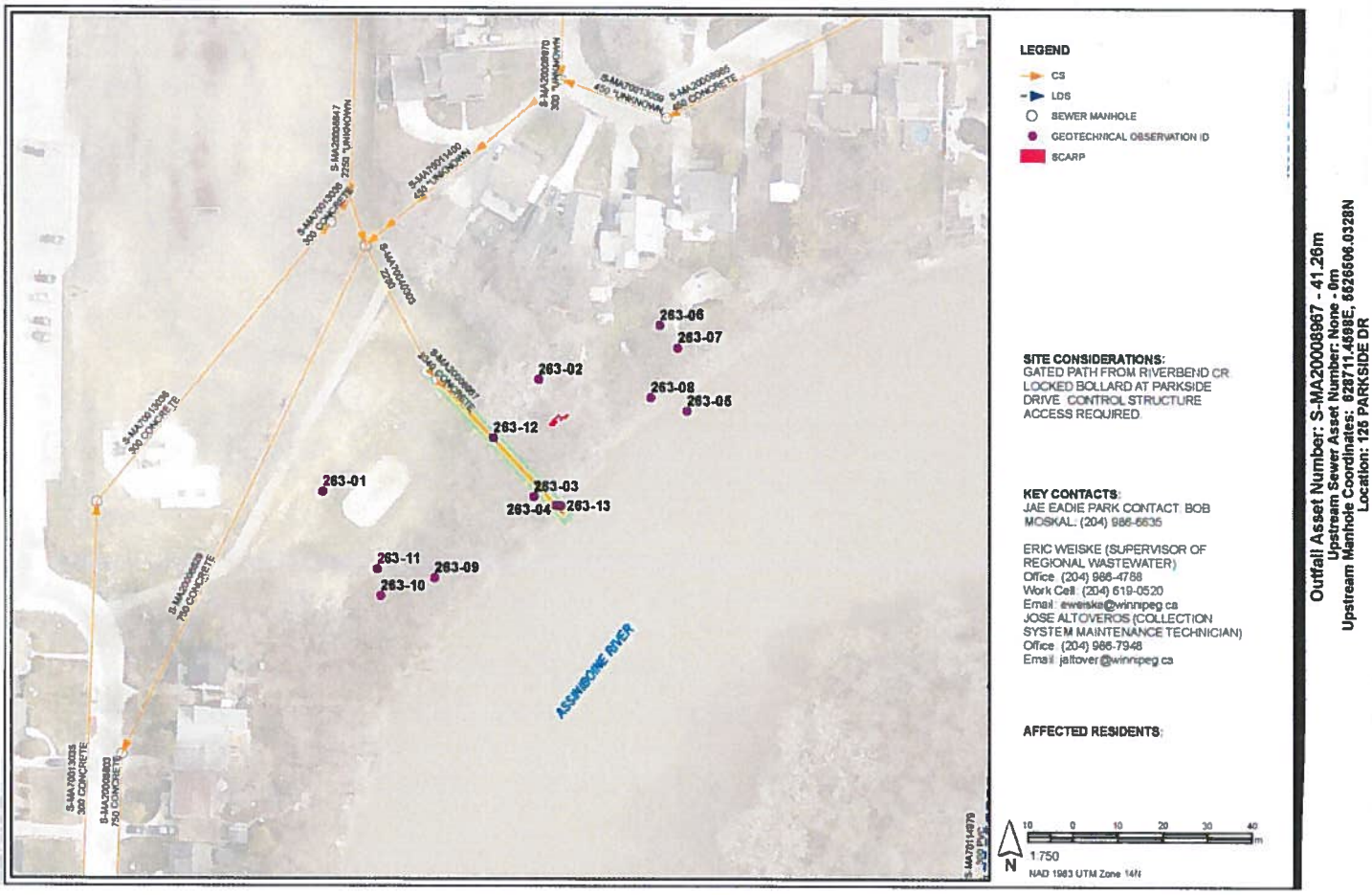
082-03

JAE EADIE PARK OUTFALL – (S-MA20008967)

2340 MILLIMETER DIAMETER COMBINED SEWER OUTFALL LOCATED BEHIND 146 RIVERBEND CRESCENT AT ASSINIBOINE RIVER

S-MA20008967

Job Number:	692-2015	Waterway:	Assiniboine River
Map Number:	263	Asset Location:	125 PARKSIDE DR
Flow Type:	CS	Sewer District:	RIVERBEND
Inspection Date:	2015-10-13	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	mm
Length:	41.26 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	Yes
Exit Type:	Bevelled		
Waterway Shape:	Outside Bend		
Sedimentation Level:	%	Debris in Asset:	
Identified Damage:	Crushed		
Geotechnical Condition Grades			
Slope Condition Grade:	4	Erosion Condition Grade:	5
Recommended Treatments:		Erosion Protection	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Retrogressive	263-10	Crest	Steep	Small Trees	Natural
Slump	263-04	Toe	Steep	Large Trees	Natural
Slump	263-09	Mid Slope	Steep	Large Trees	Natural

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
263-04	Loose Rip Rap	No	Invert and Sides

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	263-04	3000	Toe	Steep	Large Trees	
	263-05	1800	Toe	Vertical	Small Trees	
	263-07	6000	Crest			
	263-09	3000	Mid Slope	Steep	Large Trees	
	263-10	1000	Crest	Steep	Small Trees	

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil
	263-11	150	400	Crest	Steep	Grass Natural	

Other Structures Engaged

ID	Structure Type	Crack Width
263-06	Retaining Wall	
263-07	Fence	

Miscellaneous

Roadway Location	Downslope of Crest	**Wildlife Signs**	
Bank Debris	Trees Lumber		

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site	**Y**	**Y**		**Y**	**Y**	**Y**	**Y**							**Y**
263-01														
263-02	Y													
263-03														
263-04	Y				Y		Y							Y
263-05					Y		Y							
263-06														
263-07							Y							
263-08														
263-09	Y	Y		Y	Y		Y							
263-10							Y							
263-11						Y								
263-12														
263-13														

263-04

263-04

263-05

263-07

263-09

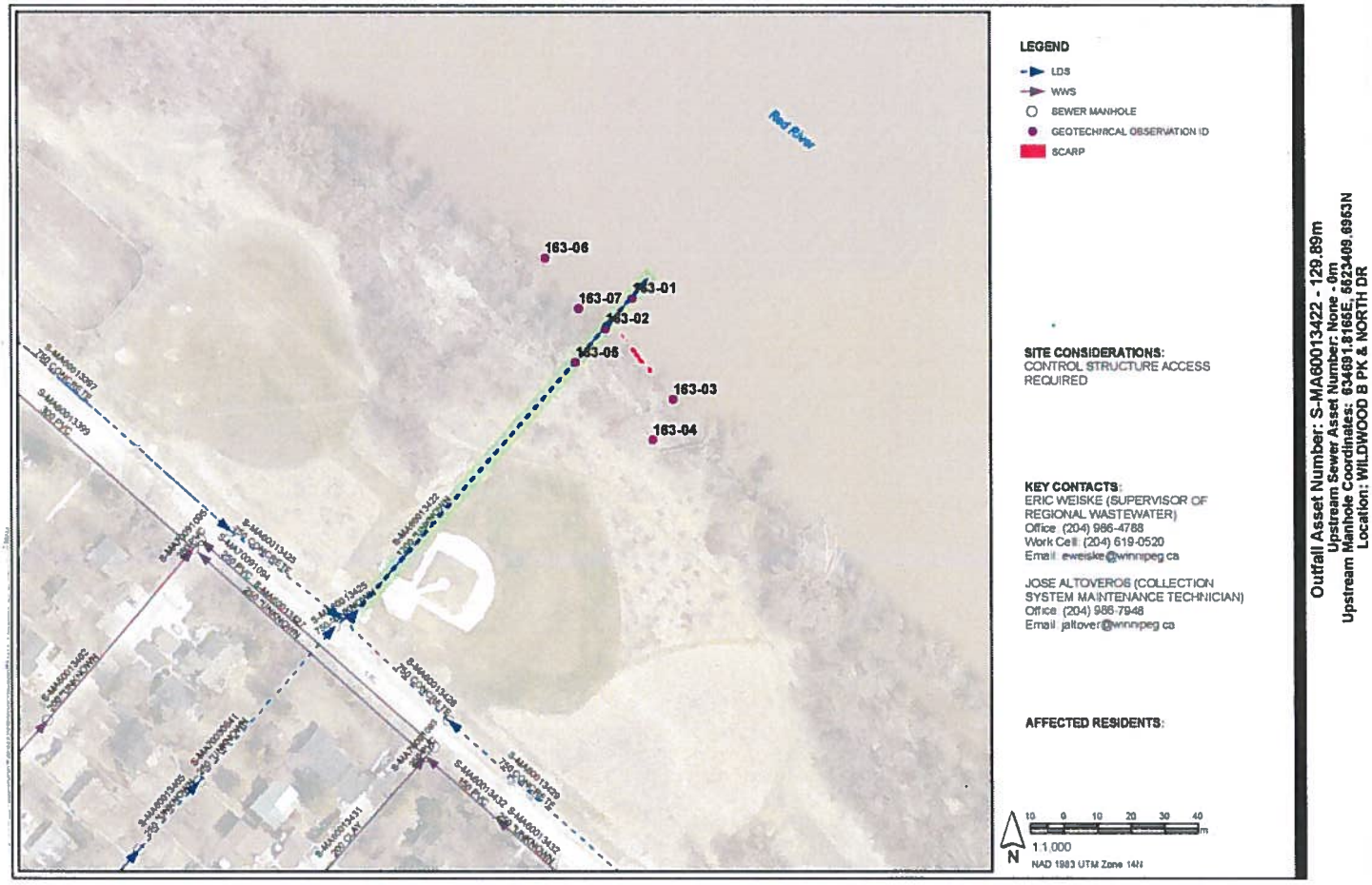
263-10

NORTH DRIVE OUTFALL – (S-MA60013422)

1200 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED NORTH OF WILDWOOD PARK B AT RED RIVER

S-MA60013422

Job Number:	692-2015	Waterway:	Red River
Map Number:	163	Asset Location:	WILDWOOD B PK & NORTH DR
Flow Type:	LDS	Sewer District:	WILLOW
Inspection Date:	2015-10-22	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	1200 mm
Length:	129.89 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	Yes
Exit Type:	Bevelled		
Waterway Shape:	Straight		
Sedimentation Level:	40%	Debris in Asset:	
Identified Damage:	Corroded and perforated.		
Geotechnical Condition Grades			
Slope Condition Grade:	5	Erosion Condition Grade:	3
Recommended Treatments:		Erosion and Stabilization	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Planar	163-03	Mid Slope	Moderate	Large Trees	Natural
Retrogressive	163-01	Toe	Vertical	Large Trees	Natural
Retrogressive	163-06	Mid Slope	Steep	Large Trees	Natural
Retrogressive	163-07	Mid Slope	Moderate	Large Trees	Natural
Rotation	163-04	Mid Slope	Moderate	Large Trees	Natural

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
163-01	Concrete Rubble	No	Surrounding Outfall Only

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	163-01	300	Toe	Vertical	Large Trees	Clay
	163-02	1200	Mid Slope	Steep	Large Trees	
	163-03	300	Mid Slope	Moderate	Large Trees	Clay
	163-04	1800	Mid Slope	Moderate	Large Trees	
	163-05	1500	Mid Slope	Moderate	Large Trees	
	163-06	300	Mid Slope	Steep	Large Trees	
	163-07	300	Mid Slope	Moderate	Large Trees	

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil
	163-07	50	Mid Slope	Moderate	Large Trees	

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location		**Wildlife Signs**	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site	**Y**	**Y**		**Y**	**Y**		**Y**							**Y**
163-01	Y	Y			Y		Y							Y
163-02	Y				Y									
163-03	Y	Y					Y							
163-04	Y						Y							
163-05	Y	Y					Y							
163-06	Y				Y		Y							
163-07				Y	Y		Y							Y

163-01

163-01

163-01

163-01

163-06

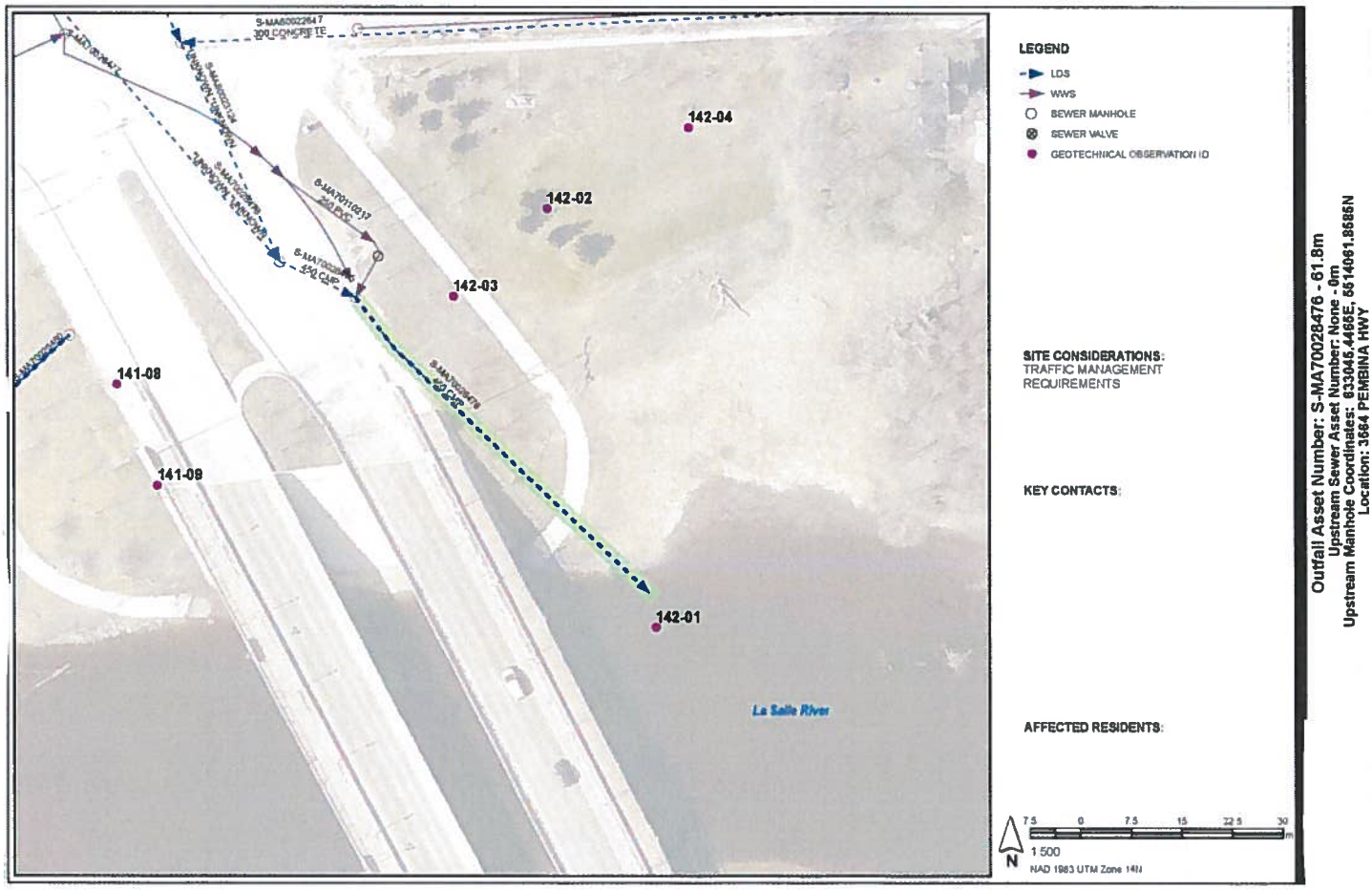
163-07

PEMBINA HIGHWAY OUTFALL – (S-MA70028476)

450 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED SOUTH OF DE L'EGLISE AVENUE AT LA SALLE RIVER

S-MA70028476

Job Number:	692-2015	Waterway:	La Salle River
Map Number:	142	Asset Location:	3564 PEMBINA HWY
Flow Type:	LDS	Sewer District:	ST NORBERT
Inspection Date:	2015-10-20	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	450 mm
Length:	61.8 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	
Exit Type:	Straight		
Waterway Shape:	Outside Bend		
Sedimentation Level:	0%	Debris in Asset:	
Identified Damage:	Corroded and perforated		
Geotechnical Condition Grades			
Slope Condition Grade:	2	Erosion Condition Grade:	1
Recommended Treatments:		None	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
142-01	Loose Rip Rap	No	Surrounding Outfall and Along River Length

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location	Upslope of Crest	Wildlife Signs	
Bank Debris			

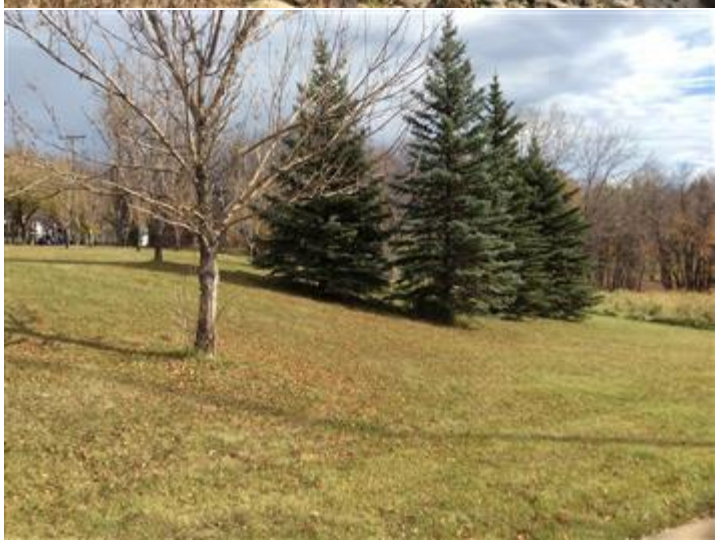
Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	Leaning Trees	Bent Trees Creep	Leaning Infrastructure	Toe Bulge	Erosion	Surficial Erosion	Slump Block	Slickenside	Seepage	Softened	Settlement	Standing Water	Instability Coincides with Structure	Instability Coincides with Pipe
Site		**Y**				**Y**								
142-01						Y								
142-02		Y												
142-03														
142-04														

142-01

142-01

142-02



142-03

142-03

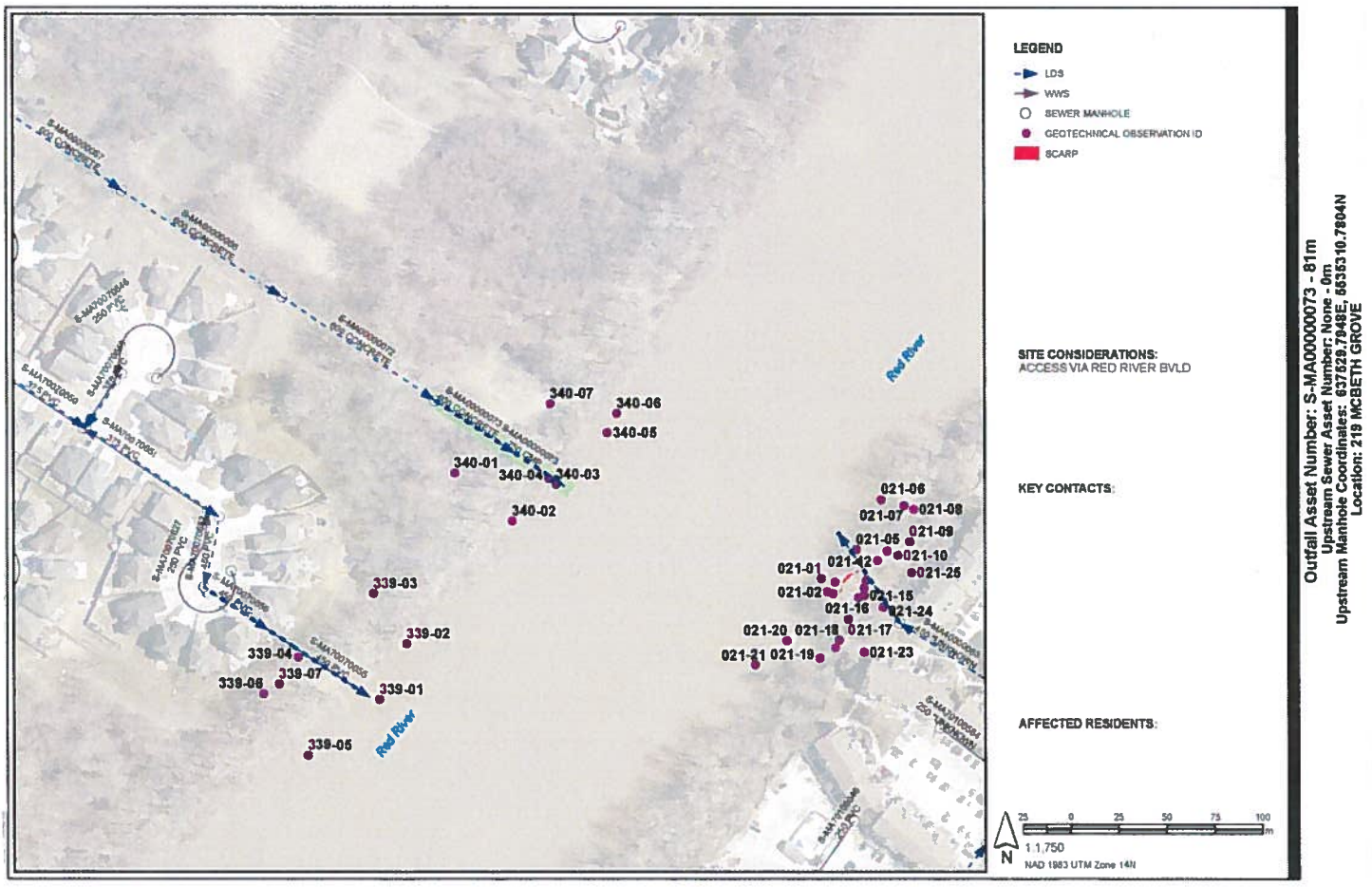
142-04

RED RIVER BOULEVARD OUTFALL – (S-MA00000073)

750 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED AT THE EAST END OF RED RIVER BOULEVARD AT RED RIVER

S-MA00000073

Job Number:	692-2015	Waterway:	Red River
Map Number:	340	Asset Location:	219 MCBETH GROVE
Flow Type:	LDS	Sewer District:	AREA 9.1
Inspection Date:	2015-10-28	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	mm	Size 2 / Width:	750 mm
Length:	81 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	Yes
Exit Type:	Bevelled		
Waterway Shape:	Inside Bend		
Sedimentation Level:	40%	Debris in Asset:	
Identified Damage:			
Geotechnical Condition Grades			
Slope Condition Grade:	3	Erosion Condition Grade:	2
Recommended Treatments:		None	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Creep	340-02	Mid Slope	Moderate	Large Trees	Natural
Planar	340-05	Toe	Moderate	Large Trees	Natural
Planar	340-06	Toe	Moderate	Large Trees	Natural

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
340-03	Grouted Rip Rap	Not Observed	Surrounding Outfall Only

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	340-02	800	Mid Slope	Moderate	Large Trees	Silt
	340-05	1000	Toe	Moderate	Large Trees	Silt
	340-06	800	Toe	Moderate	Large Trees	Silt

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location		Wildlife Signs	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site	**Y**	**Y**		**Y**	**Y**		**Y**							
340-01														
340-02	Y	Y			Y									
340-03	Y													
340-04	Y													
340-05	Y	Y			Y		Y							
340-06	Y	Y		Y	Y		Y							
340-07	Y													

340-02

340-03

340-03

340-03

340-03

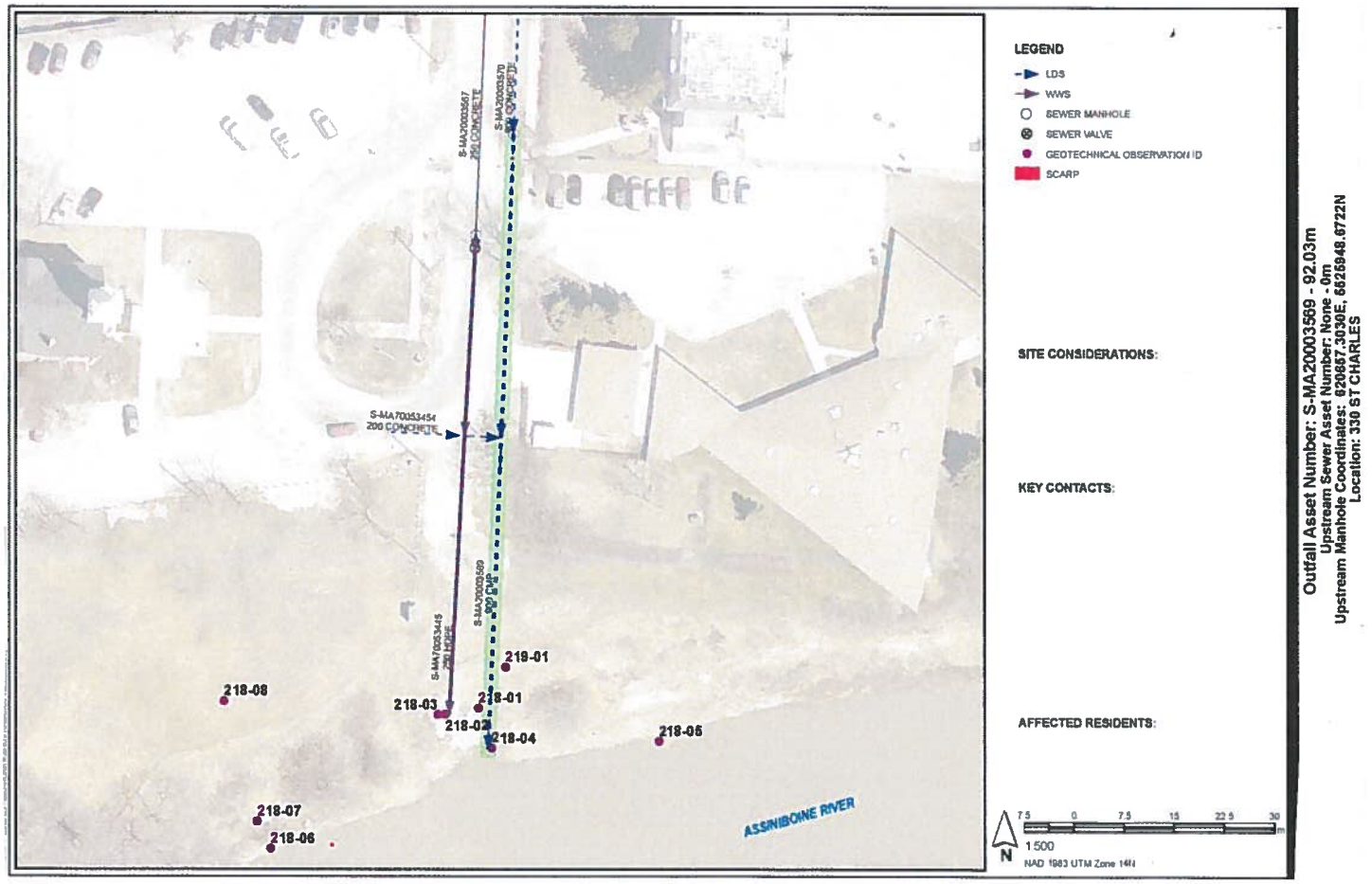
340-05

ST. CHARLES STREET OUTFALL – (S-MA20003569)

900 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED AT THE SOUTH END OF ST. CHARLES STREET AT ASSINIBOINE RIVER

S-MA20003569

Job Number:	692-2015	Waterway:	Assiniboine River
Map Number:	219	Asset Location:	330 ST CHARLES
Flow Type:	LDS	Sewer District:	ST CHARLES
Inspection Date:	2015-10-07	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	900 mm	Size 2 / Width:	900 mm
Length:	92.03 m	Material:	CMP
Grating Type:	Not Present	Exit Submerged:	
Exit Type:	Straight		
Waterway Shape:	Outside Bend		
Sedimentation Level:	0%	Debris in Asset:	
Identified Damage:			
Geotechnical Condition Grades			
Slope Condition Grade:	2	Erosion Condition Grade:	3
Recommended Treatments:		Erosion Protection	
Comments:			



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location
218-01	Grouted Rip Rap		Surrounding Outfall Only
218-02	Grouted Rip Rap	Not Observed	Surrounding Outfall Only
218-04	Loose Rip Rap	No	Invert Only

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	218-05	1100	Toe	Vertical	Grass Natural	Clay
	218-06	1200	Toe	Vertical	Grass Natural	
	218-07	900	Mid Slope	Moderate	Grass Natural	

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil
	218-04	700	2100	Toe	Moderate	Grass Natural	Clay

Other Structures Engaged

ID	Structure Type	Crack Width

Miscellaneous

Roadway Location		Wildlife Signs	
Bank Debris			

Site Condition Summary

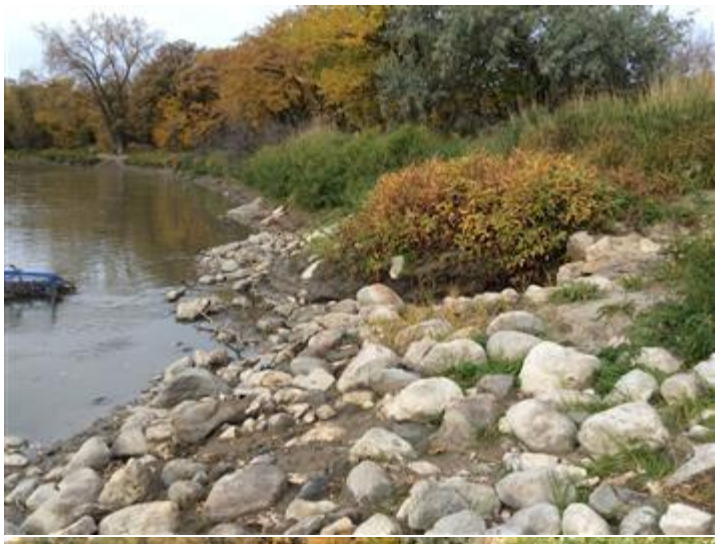
	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site					**Y**	**Y**	**Y**							
218-01														
218-02														
218-03														
218-04					Y	Y								
218-05					Y									
218-06														
218-07							Y							
218-08														

219-01

219-04

219-04

219-04



219-05

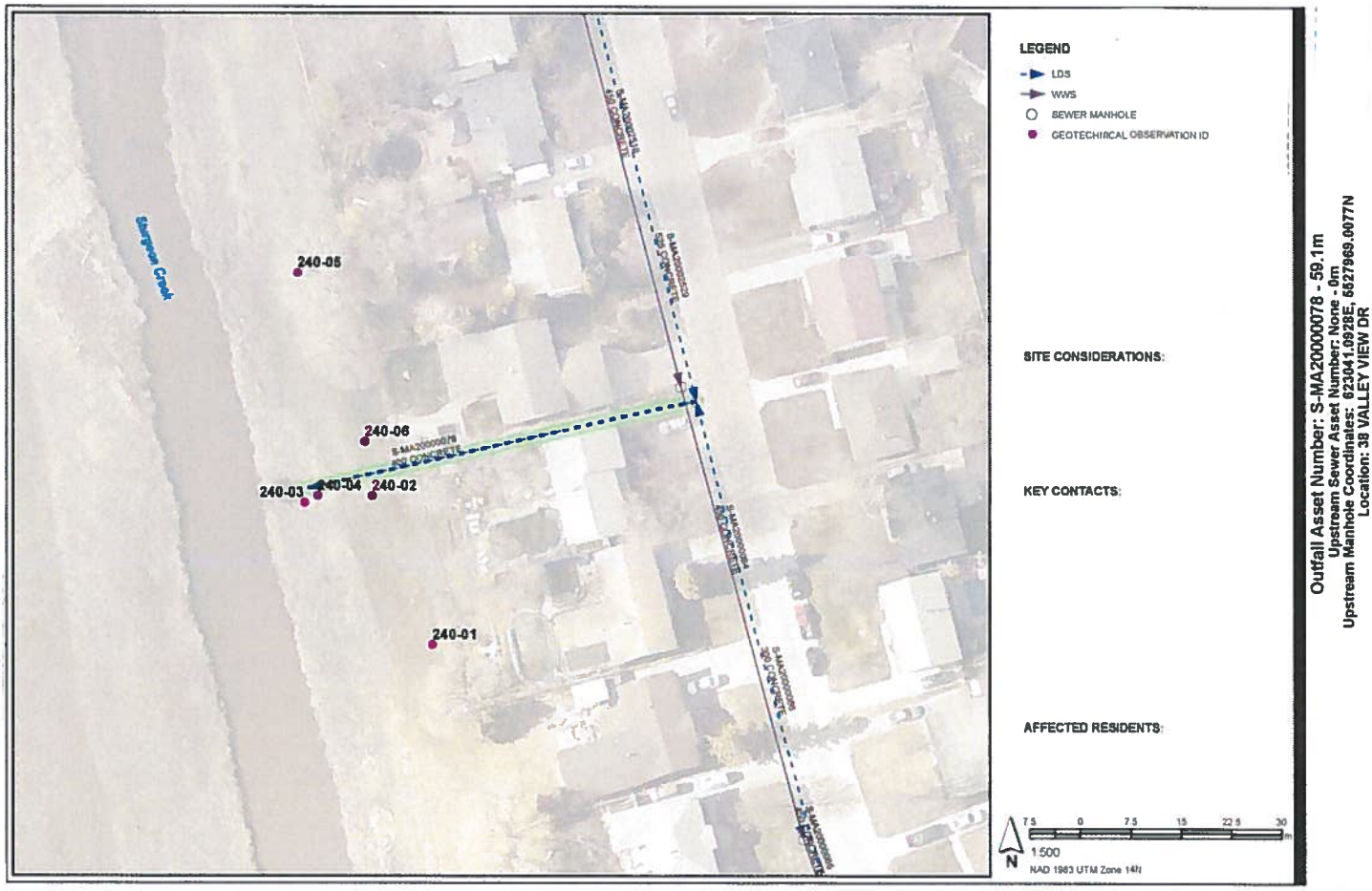
219-06

VALLEY VIEW DRIVE OUTFALL – (S-MA20000078)

400 MILLIMETER DIAMETER LAND DRAINAGE SEWER OUTFALL LOCATED BETWEEN 40 AND 38 VALLEY VIEW DRIVE AT STURGEON CREEK (ABANDONMENT)

S-MA20000078

Job Number:	692-2015	Waterway:	Sturgeon Creek
Map Number:	240	Asset Location:	38 VALLEY VIEW DR
Flow Type:	LDS	Sewer District:	HERITAGE
Inspection Date:	2015-10-08	Surveyed By:	Darren Yarechewski
Physical Details at Time of Inspection			
Size 1 / Height:	475 mm	Size 2 / Width:	475 mm
Length:	59.1 m	Material:	AC
Grating Type:	Not Present	Exit Submerged:	
Exit Type:	Straight		
Waterway Shape:	Straight		
Sedimentation Level:	0%	Debris in Asset:	
Identified Damage:	Missing End Section		
Geotechnical Condition Grades			
Slope Condition Grade:	1	Erosion Condition Grade:	5
Recommended Treatments:		Erosion Protection	
Comments:	Two pipe lengths undermined, separated, and sank in erosion gulley.		



Slope Instability

Instability Type	ID	Location	Angle	Vegetation	Terrain
Slump	240-03	Toe	Small	Grass Natural	Graded

Existing Rip Rap

ID	Rip Rap Type	Geotextile	Rip Rap Location

Scarps

	ID	Height	Location	Angle	Vegetation	Surface Soil
	240-03	1300	Toe	Small	Grass Natural	Clay

Tension Cracking

	ID	Width	Location	Angle	Vegetation	Surface Soil

Gully Erosion

	ID	Depth	Width	Location	Angle	Vegetation	Surface Soil
	240-03	700	2700	Toe	Small	Grass Natural	Clay

Other Structures Engaged

ID	Structure Type	Crack Width
240-01	Fence	

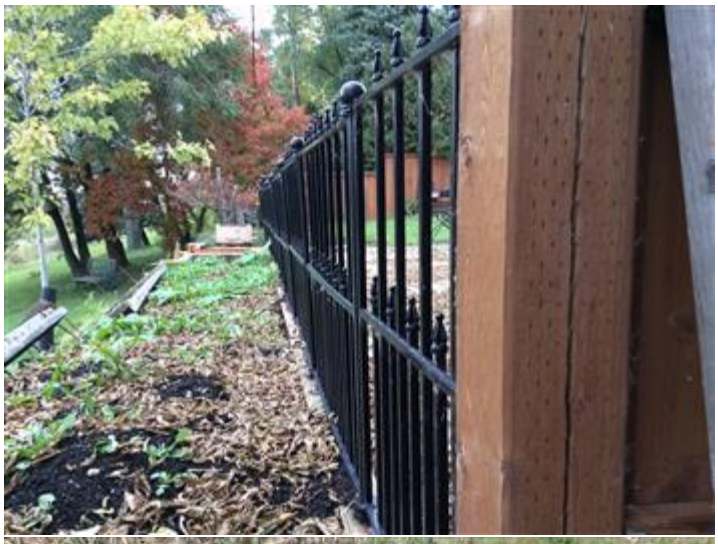
Miscellaneous

Roadway Location		Wildlife Signs	
Bank Debris			

Site Condition Summary

	Terrain			Geotechnical									Structures	
ID	**Leaning Trees**	**Bent Trees Creep**	**Leaning Infrastructure**	**Toe Bulge**	**Erosion**	**Surficial Erosion**	**Slump Block**	**Slickenside**	**Seepage**	**Softened**	**Settlement**	**Standing Water**	**Instability Coincides with Structure**	**Instability Coincides with Pipe**
Site	**Y**	**Y**			**Y**		**Y**							**Y**
240-01														
240-02														
240-03					Y									Y
240-04														
240-05	Y	Y												
240-06							Y							

240-02



240-03

240-03

240-04

240-04

240-05