Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Site Specific Liability Assessment (SSLA) in Saskatchewan

"Quantification of Site Specific Liability for Complex Upstream Oil And Gas Contaminated Facilities and Application of Site Specific Risk Assessment and Risk Based Novel Remediation Action Plan at Salt Impacted Sites in Saskatchewan "

Remediation Technologies Symposium 2018

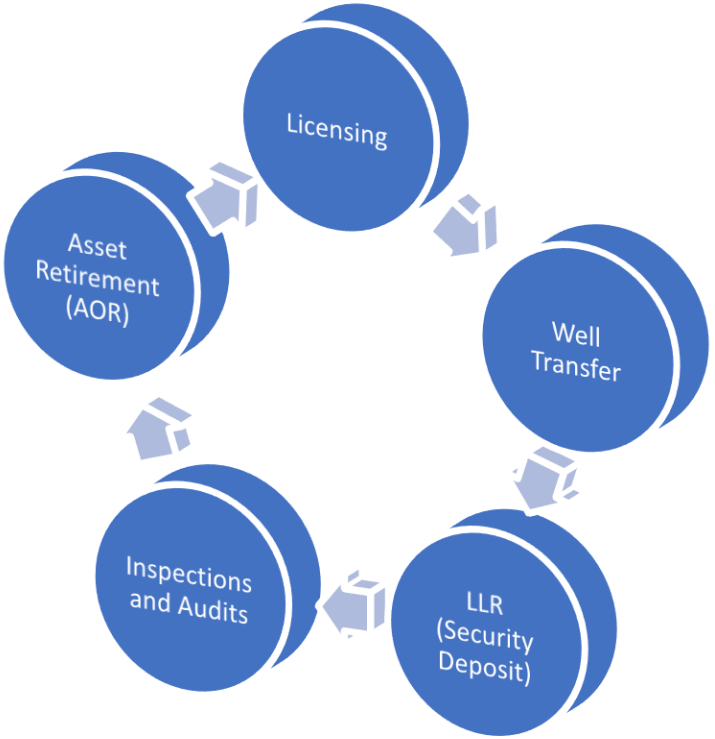
Todd Han

October 12, 2018 8:45AM-9:15AM

our people | our clients | our business

Saskatchewan Orphan Well and Facility Liability Management

- Saskatchewan prescribes a Liability Management Program to prevent growth of wells and facilities not secured by production or security deposit
- Orphan liabilities are solely paid for by the oil and gas licensees through annual levy
- The orphan program is integrated into the lifecycle of regulatory licensing and enforcement system



Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Licensee Liability Rating & Orphan Levy Fund

$$LLR = \frac{Deemed\ Asset}{Deemed\ Liability} = \sum \frac{OE\ m^3 \text{ x } Industry\ Net\ Back \text{ x } 3\ year}{(Abandonment + Reclamation\ cost) \text{ x } PVS}$$

÷

< 1 → $$$

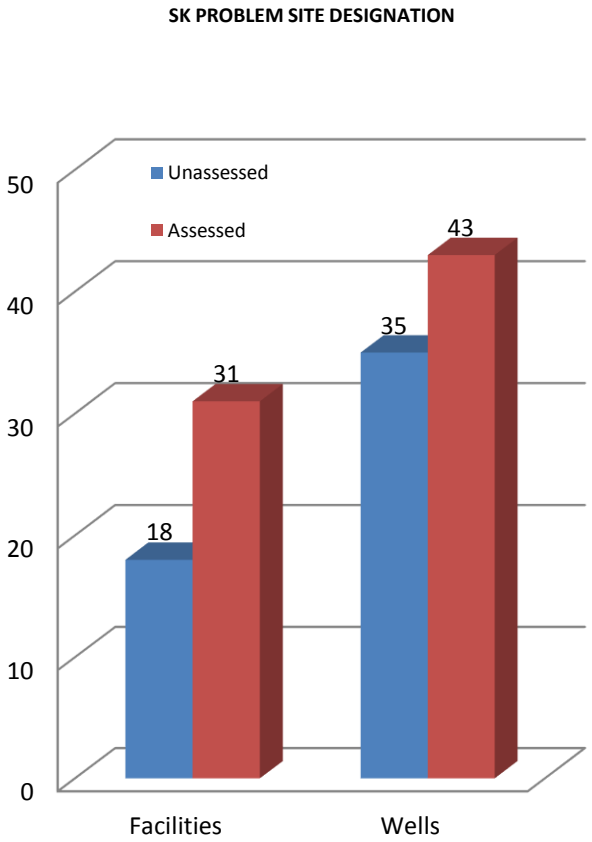
For defunct licensee with inadequate security deposit

$$Industry\ Funded\ Orphan\ Levy = Cleanup \times \frac{Company\ Deemed\ Liability}{Industry\ Deemed\ Liability}$$

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Purpose of Site Specific Liability Assessment (SSLA)*:

- Track accurate liabilities under the LLR program to protect the Orphan Fund.
- Estimate the cost and schedule to remediate an “unassessed problem sites” and pipeline and pipeline operation spill locations.
- Costs associated with suspension, and the abandonment are not required.



Problem Site Designation Triggers*:

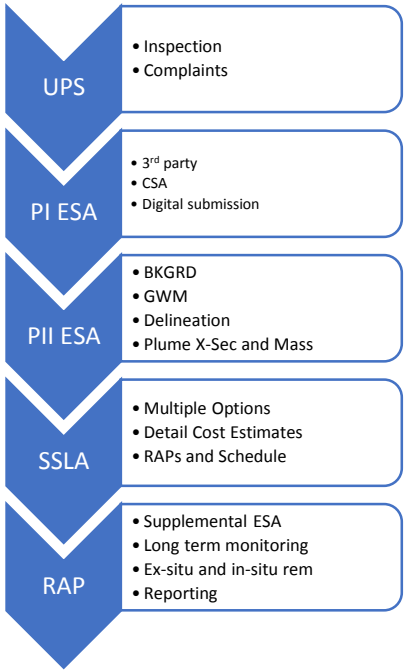
- Identified through self-disclosure .
- Routine inspection or landowner complaint – landowner consultation a must.
- Problem site can be designated further as unassessed problem site where:
  - Insufficient remediation of spills;
  - Significant off-lease damage;
  - High probability of groundwater impact;
  - Surface reclamation issues.

*Based on draft document

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

SSLA Process for Unassessed Problem Sites

- Unassessed problem site must have a SSLA conducted by an independent third party professional.
- SSLA consists of a stand-alone PI, PII ESA and SSLA report with detailed cost estimate of each of the applicable remediation options and remediation schedule.
- SSLA may be used as an enforcement tools for problem sites to expedite remediation at existing sites, including active sites regardless of LLR score.
- SSLA must include a Remediation Action Plan (detailed how, what, where and when) and in some cases may be implemented upon submission of a SSLA.
- Sites which have been grandfathered released or received acknowledgement of reclamation may be re-designated if triggers are observed during inspections prompted by complaints or 3rd party audits.

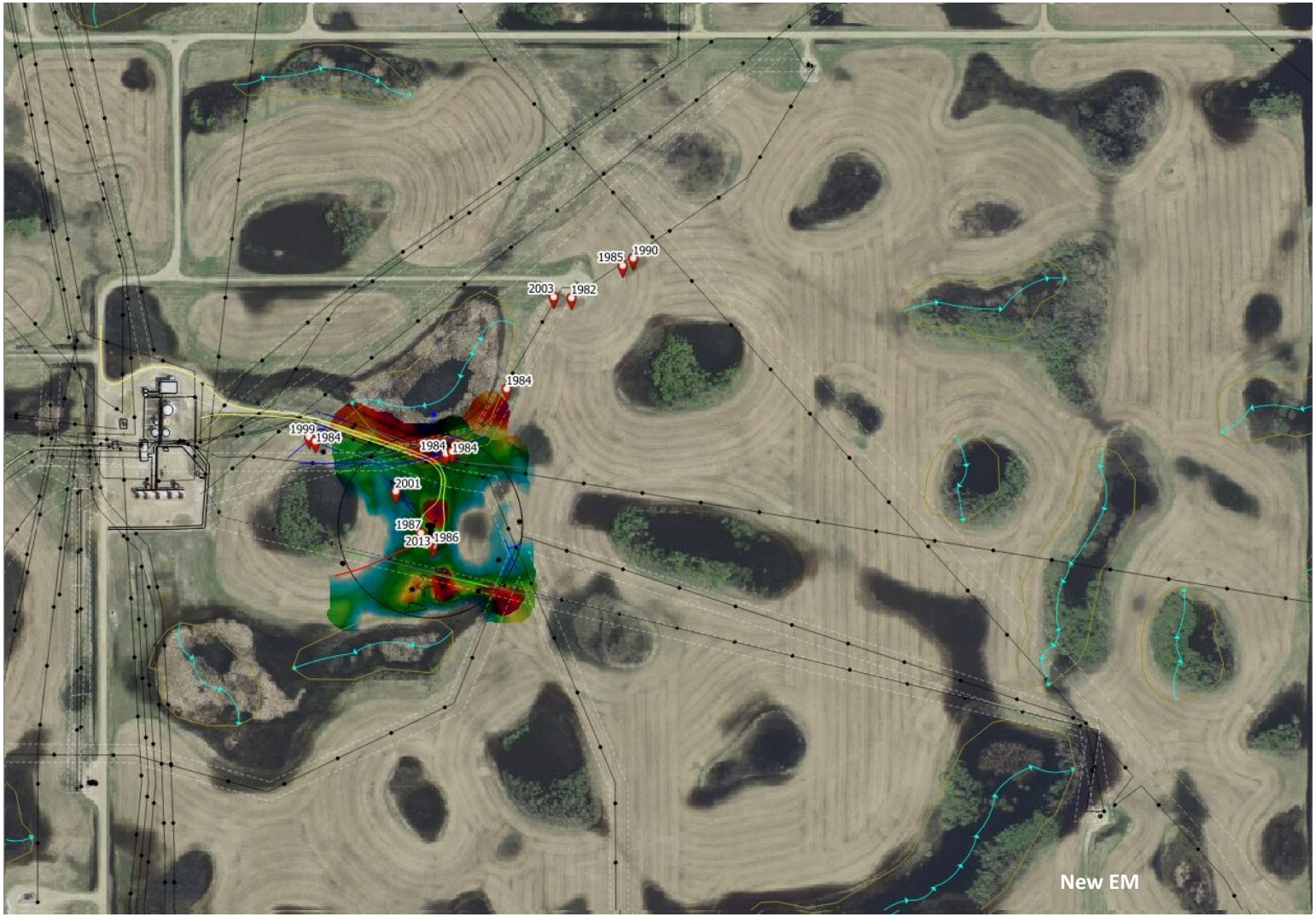


Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Liability Assessment and Risk Management Tools

- Historical data: survey plans; air photo PI, PII and PIII ESA data integration in geospatially represented system
- Rapid environmental data conversions, cross-platform sharing and readily accessible
- Web based spill and environmental record scraping and automated geospatial referencing
- Live linked to public, 3rd party and company database
- Real-time 2D and 3D visualization of impacted mass
- Rapid remediation scenario outputs and cost to benefit assessment
- Real-Time Detailed cost estimates
- Facilitate consultation with stakeholders by making complex simple

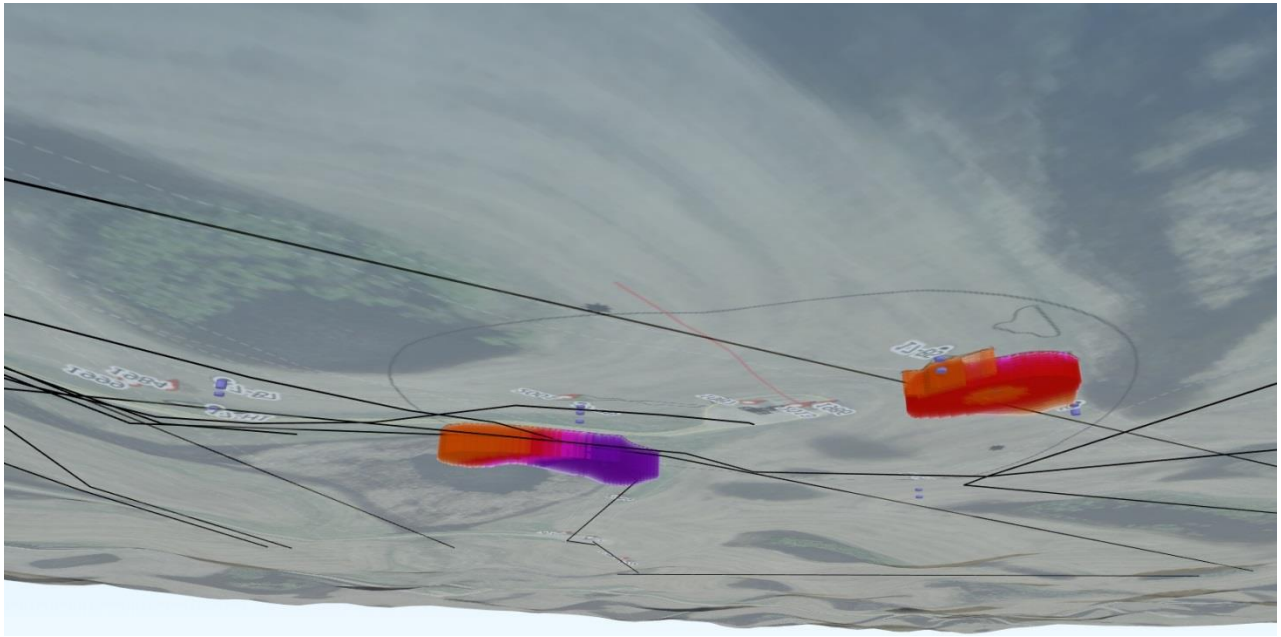
Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING



- Improved accessibility and organization of PI ESA information to construct a conceptual site model that assist in rapidly developing a defensible and representative PII ESA
- All information organized in this process can be viewed from GIS interface and incorporated into in proceeding modeling and analytical work

EC dS/m	SAR	Na mg/L	Cl mg/L	SO4 mg/L	SAT%	Area	Volume m3
11.28177829000...	12.20529671000...	1698.033138000...	1442.960064999...	4537.428928999...	57.59756695000...	2.04802	1.02401
11.79510928999...	12.24257847000...	1747.172755000...	1690.787409000...	4487.473887000...	57.52316566999...	2.09891	1.04946
12.11116782000...	12.26871125000...	1778.375680999...	1836.532969000...	4463.762507000...	57.44899004999...	1.99141	0.99571
12.27774248000...	12.27981720999...	1795.120503000...	1909.685259000...	4455.314932999...	57.38866767999...	2.22335	1.11168
12.34227450000...	12.27353137000...	1801.695805999...	1933.179347000...	4457.868026000...	57.32696821999...	1.99137	0.99569
12.31094550000...	12.24083335000...	1798.571670999...	1907.313904999...	4474.448188000...	57.23627838000...	2.16107	1.08054

Near instant 3D Conceptual Site Model Visualization output viewed under popular web browsers



Excavation Depth	Volume each Layer[1]	Estimated Salt Mass		
from surface to m bgs	(m^3)	in each of the Layer[1]		
		(t)		
		Na	Cl	SO4
6.5 - 7.0	925.1	1.276	1.776	2.720
6.0 - 6.5	925.1	1.278	1.785	2.714
5.5 - 6.0	923.8	1.278	1.795	2.701
5.0 - 5.5	923.8	1.281	1.807	2.692
4.5 - 5.0	925.9	1.289	1.822	2.692
4.0 - 4.5	925.9	1.293	1.839	2.679
3.5 - 4.0	932.1	1.308	1.861	2.694
3.0 - 3.5	932.1	1.313	1.883	2.677
2.5 - 3.0	932.1	1.318	1.905	2.658
2.0 - 2.5	933.4	1.325	1.929	2.644
1.5 -2.0	933.4	1.329	1.950	2.624
1.0 - 1.5	933.4	1.332	1.968	2.606
0.5 - 1.0	934.4	1.335	1.984	2.596
0.2 - 0.5	560.6	0.802	1.199	1.551
0.0 - 0.2	374.2	0.536	0.804	1.032
Total	13015.4	18.3	26.3	37.3

SSLA Contaminated Salt Mass Quantification

	TOTAL SSLA VOLUME				SSLA VOLUME SPIGEC 4 CRITERIA				SSLA VOLUME ROOTING ZONE SPIGEC 4			
Depth	Volume	Na (t)	Cl (t)	SO4 (t)	Volume	Na (t)	Cl (t)	SO4 (t)	Volume	Na (t)	Cl (t)	SO4 (t)
-7	541.1	0.6	1.2	0.9	449.4	0.5	1.1	0.7	0.0	0.0	0.0	0.0
-6.5	541.1	0.6	1.2	0.9	448.5	0.5	1.1	0.7	0.0	0.0	0.0	0.0
-6	541.1	0.6	1.2	0.9	448.5	0.5	1.1	0.7	0.0	0.0	0.0	0.0
-5.5	541.1	0.6	1.2	0.9	447.7	0.5	1.1	0.7	0.0	0.0	0.0	0.0
-5	541.1	0.6	1.2	0.9	447.7	0.5	1.1	0.7	0.0	0.0	0.0	0.0
-4.5	925.9	1.3	1.8	2.7	832.5	1.2	1.7	2.4	0.0	0.0	0.0	0.0
-4	932.1	1.3	1.9	2.7	838.7	1.2	1.8	2.5	0.0	0.0	0.0	0.0
-3.5	932.1	1.3	1.9	2.7	838.7	1.2	1.8	2.4	0.0	0.0	0.0	0.0
-3	932.1	1.3	1.9	2.7	838.7	1.2	1.8	2.4	0.0	0.0	0.0	0.0
-2.5	933.4	1.3	1.9	2.6	839.0	1.2	1.8	2.4	0.0	0.0	0.0	0.0
-2	933.4	1.3	1.9	2.6	839.0	1.2	1.8	2.4	0.0	0.0	0.0	0.0
-1.5	933.4	1.3	2.0	2.6	837.9	1.2	1.9	2.4	837.9	1.2	1.9	2.4
-1	934.4	1.3	2.0	2.6	838.1	1.2	1.9	2.4	838.1	1.2	1.9	2.4
-0.5	560.6	0.8	1.2	1.6	502.3	0.7	1.1	1.4	502.3	0.7	1.1	1.4
0	374.2	0.5	0.8	1.0	334.4	0.5	0.8	0.9	334.4	0.5	0.8	0.9
Grand Total	**11,097**	15.0	23.5	28.4	**9,781**	13.6	22.1	25.1	**2,513**	3.7	5.6	7.0

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Real-time Cost Estimates

FULL REMEDIATION with Compacted Clay Replacement	Calculated Estimates	Reference
	Total Unit cost per m3	Total Unit cost per m3
Project Coordination & Management	$12.63	$12.00
Ground Disturbance Preparation	$3.62	$2.66
Site Stripping and Top Soil Salvage	$5.79	$4.25
Overburden or Salvage Soil Excavation	$15.73	$13.77
Impacted Soil Excavation, Hauling and Disposal	$40.26	$38.26
BackFill	$17.32	$16.28
Site Restoration	$6.95	$5.11
Laboratory Analysis (Confirmatory Sampling)	$0.58	$0.55
TOTAL	$102.88	$92.88

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Input interface integrated default values or ability change any values

Descriptions	Input	Calculated	Units
Excavation Volumes			
Impacted Soil Excavation Volume	13015.40	13015.40	cubic metres
Surface Area stripped	1870	1,870.00	Square metres
Overburden Subsoil- Excavated and Salvaged On Site	0	0.00	cubic metres
Topsoil -Total Volume Excavated	d	561.00	cubic metres
Topsoil- Excavated Volume Not Impacted-Salvaged	0	0.00	cubic metres
Ground Disturbance Preparation	2.00	2	$CDN
Site Stripping and Top Soil Salvage	0	0	$CDN
Overburden or Salvage Soil Excavation	d	15.73125899	$CDN
Excavation Equipment Cost			
Excavation Equipment Average Cost/hr	d	160.00	$CDN
Excavation Operator Avg cost/hour	d	50.00	$CDN
Excavation (Admin/Foreman/Year/Tear/OT Avg/hr)	d	25.00	$ CDN
Calculated Excavation Cost/Volume of excavated impacted soil		16.11	$CDN/m3
Non Default Value Co-efficient (Do Not Remove)		1.000	
Landfill Hauling and Disposal			
Distance to Waste Disposal Facility	77	77	kilometres
Average Hauling Speed	100	100	kilometres/hour
Loading Time	0.2	0.2	hour
Unloading Time	0.2	0.2	hour
Hauling Time		1.17	hour
Truck Haul Capacity per Load	d	13	cubic metres
Trucking Cost	d	145	$CDN
Tipping Fee	d	13	$CDN/cubic metres
Backfill Imported Material Volume			
Backfill-Import -Topsoil	d	561.00	cubic metres
Backfill-Import -Subsoil	d	15,920.22	cubic metres
Backfill-Import-Sand (only applies to Rooting zone remediation area"0.1m)		0.00	cubic metres
Backfill-Import-Geotextile(only applies to Rooting zone remediation area)		0.00	square metres
Backfilling (place in lifts, compact and contour) (Subsoil engineered system (RZ) i	d	17.32	$CDN
Calculated Backfilling hauled in material		6.78	$CDN/m3
Backfill Cost Table (for each fill type), hauling			
Site Restoration	d	6.953951299	$CDN
Project Coordination & Management	6	6	$CDN
Work plan development	d	5%	percent (please input as decim
Project Coordination and Project Management	d	15%	percent (please input as decim
Client, Regulator and Landowner consultations and updates, H&S Obligations, Kick-off meetings	d	5%	percent (please input as decim
Data Acquisition, Management and IT (Lab analyses, GIS and IT)	d	8%	percent (please input as decim
Engineering, Design and Technical Analysis	0.12	12%	percent (please input as decim
Final Report	0.15	15%	percent (please input as decim
Field Work (Sample,Monitor,Supervise,Audit, Per Diem, Accommodation, Equipment, Mileage)	0.4	40%	percent (please input as decim
		100%	
		Sum equals 100%, good job!	
Project Coordination & Management			
Average Cost per hour	d	130	$CDN
Laboratory			
Laboratory Analysis (Confirmatory Sampling) Cost	3	3	$CDN

Instant Output – Detail SSLA Remediation Cost Details

Rooting Zone Remediation Costs (SPIGEC 4 Applied)

ROOTING ZONE	Unit Price	Hours/Otherwise specified	Cost ($CDN)
Project Coordination & Management			
Work Plan Development	5% of $130	18.39	$2,390.53
Project Coordination and Project Management	10% of $130	36.78	$4,781.06
Client, Regulator and Landowner consultations and updates, H&S Obligations, Kick-off meetings	5% of $130	18.39	$2,390.53
Data Acquisition, Management and IT (Lab analyses, GIS and IT)	8% of $130	29.42	$3,824.85
Engineering, Design and Technical Analysis	17% of $130	62.52	$8,127.80
Final Report	15% of $130	55.17	$7,171.59
Field Work (Sample,Monitor,Supervise,Audit, Per Diem, Accommodation, Equipment, Mileage)	40% of $130	147.11	$19,124.23
Laboratory			
Laboratory Analysis (Confirmatory Sampling)	$3.00/m3 of ISE		$7,542.00
Ground Disturbance			
Ground Disturbance Preparation (calculated on total excavation volume)	$2.00/m3 of ISE		$5,028.00
Site Stripping and/or Top Soil Salvage			
Excavation, Earth Moving, Liner, Segregation, Storage	$235/hour	0.00	$0.00
Overburden or Salvage Soil Excavation			
Excavation, Earth Moving, Liner, Segregation, Storage	$235/hour	0.00	$0.00
Impacted Soil Excavation, Hauling and Disposal			
Hauling	$145/hour	226.26	$32,807.70
Landfill Disposal	$13/m3	2,514.00 m3	$32,682.00
Excavation	$235/hour	259.50	$60,981.35
Factors used:			
Distance from site to landfill: [redacted]	77 km		
Average speed velocity	100 km/hour		
Total hauling time per load*	1.17 hour/load		
*sum of loading, unloading and hauling	0.2 hour	0.2 hour	0.77 hour
Truck payload capacity	13 m3		
Backfill			
Topsoil	$12.31/m3	502.8 m3	$6,189.47
Clay (impermeable subsoil backfill)	$1.99/m3	3,075.08 m3	$6,119.42
Sand (Rooting zone engineered capillary cut-off)	$7.69/m3	167.6 m3	$1,288.84
Geotextile (Rooting zone engineered system)	$1.09/m2	1,676. m2	$1,820.86
Hauling	$48.62 /load	322.01	$18,395.87
Fill in lifts, moisturize, compact	$235/hour	345.87	$81,280.35
Assumption factor used:			
Backfill volume is greater than excavated volume as imported fill materials will be compacted in the excavation to prevent subsidence and resist recontamination	backfill dry bulk density ~1370 kg/m3	compaction to maxium dry bulk density ~1677 kg/m3 at optimum moisture ~21%	disposed volume *1.2232
Hauling cost based on borrow site to project site to be within:	20 km		
Restoration			
Site Restoration (Topsoil placement, contour, drainage, amendments, vegetation)	$10.47/m3 of ISE		$26,327.27
TOTAL			**$328,273.71**

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

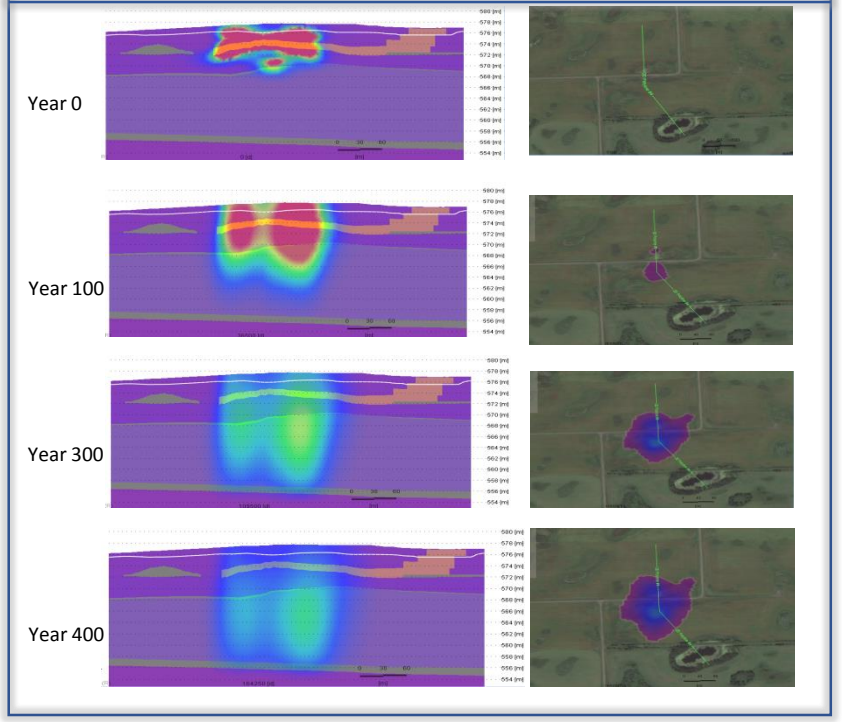
Numerical Models

Regulator's Position:

Recommended remediation plans that do not include complete source removal must be supported by lines of evidence that clearly document the understanding of receptors and exposure pathways.*

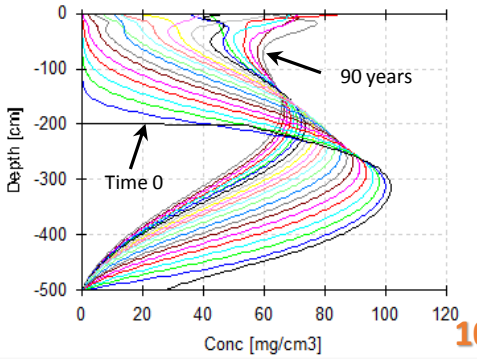
*Based on draft documents.

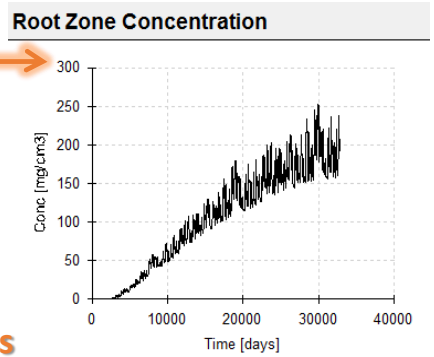
Groundwater Flow and Contaminant transport modelling

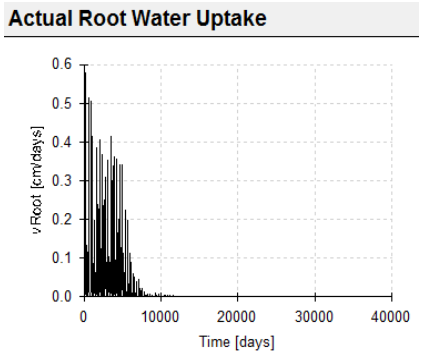


Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Sodium chloride contaminated soil excavation to 2m bgs

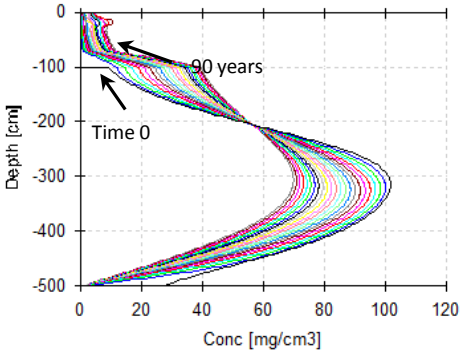


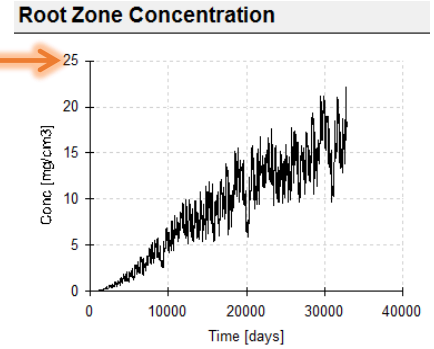


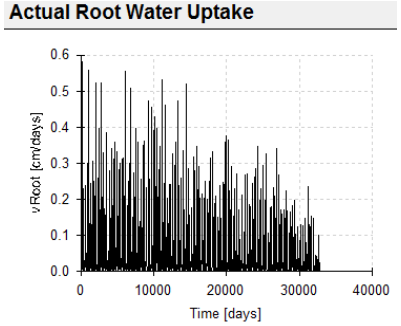


10X less

Sodium chloride contaminated soil excavation to 1m bgs and install 30 cm capillary-cut off layer







Remediation Scenarios Model Comparison

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Remediation Scenario Modeled Crop Productivity

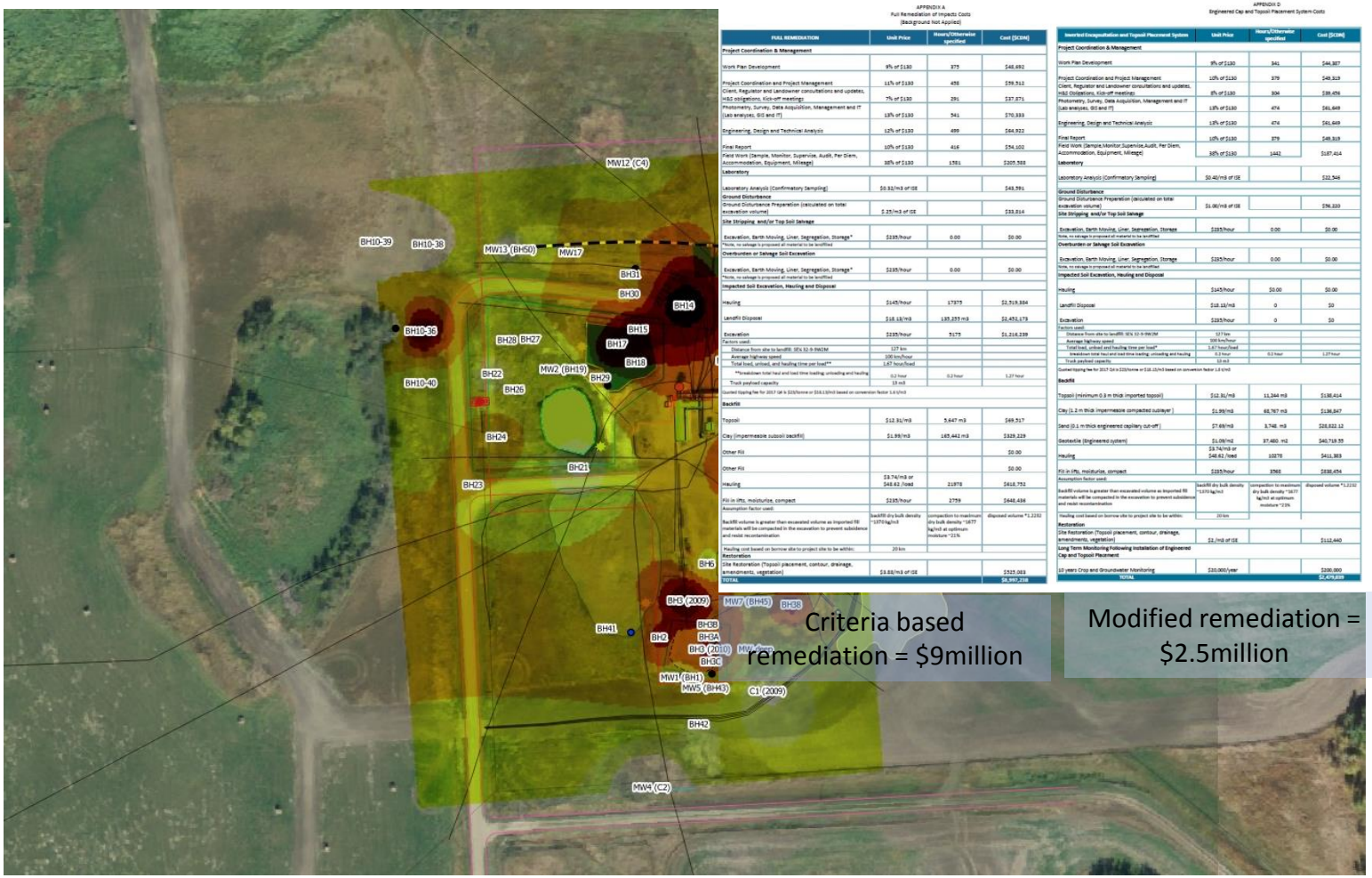
Simulated Transpiration (mm/year over 90 year simulations)

	Grass		Alfalfa		Beans	
Full remediation	223.2	100%	223.6		235.2	100%
No remediation	16.2	7%	32.8	15%	23.7	10%
1m excavation + cut off layer	190.2	85%	240.5	108%	219.5	93%
1.5m excavation + cut off layer	190.5	85%	259.4	116%	218.4	93%

30 cm capillary cut-off sand layer equivalent installed

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Applying the process to a Complex Active Facility



APPENDIX A
Full Remediation of Impacts Costs
(Background Not Applied)

FULL REMEDIATION	Unit Price	Hours/Otherwise specified	Cost ($CDN)
Project Coordination & Management			
Work Plan Development	9% of $130	375	$48,692
Project Coordination and Project Management	11% of $130	456	$59,312
Client, Regulator and Landowner consultations and updates, H&S obligations, Kick-off meeting)	7% of $130	291	$37,871
Photometry, Survey, Data Acquisition, Management and IT (Lab analyses, GIS and IT)	13% of $130	541	$70,333
Engineering, Design and Technical Analysis	12% of $130	499	$64,922
Final Report	10% of $130	416	$54,102
Field Work (Sample, Monitor, Supervise, Audit, Per Diem, Accommodation, Equipment, Mileage)	38% of $130	1581	$205,588
Laboratory			
Laboratory Analysis (Confirmatory Sampling)	$0.32/m3 of ISE		$48,591
Ground Disturbance			
Ground Disturbance Preparation (calculated on total excavation volume)	$.25/m3 of ISE		$33,814
Site Stripping and/or Top Soil Salvage			
Excavation, Earth Moving, Liner, Segregation, Storage*	$235/hour	0.00	$0.00
*Note, no salvage is proposed all material to be landfilled			
Overburden or Salvage Soil Excavation			
Excavation, Earth Moving, Liner, Segregation, Storage*	$235/hour	0.00	$0.00
*Note, no salvage is proposed all material to be landfilled			
Impacted Soil Excavation, Hauling and Disposal			
Hauling	$145/hour	17375	$2,519,884
Landfill Disposal	$18.18/m3	135,255 m3	$2,452,173
Excavation	$235/hour	5175	$1,214,239
Factors used:			
Distance from site to landfill: SEs 32-9-9W2M	127 km		
Average highway speed	100 km/hour		
Total load, unload, and hauling time per load**	1.67 hour/load		
**breakdown total haul and load time loading, unloading and hauling	0.2 hour	0.2 hour	1.27 hour
Truck payload capacity	13 m3		
Quoted tipping fee for 2017 GA is $23/tonne or $18.13/m3 based on conversion factor 1.6 t/m3			
Backfill			
Topsoil	$12.31/m3	3,647 m3	$49,717
Clay (impermeable subsoil backfill)	$1.99/m3	165,442 m3	$329,229
Other Fill			$0.00
Other Fill			$0.00
Hauling	$3.74/m3 or $48.62 /load	21978	$818,752
Fill in lifts, moisturize, compact	$235/hour	2759	$648,436
Assumption factor used:			
Backfill volume is greater than excavated volume as imported fill materials will be compacted in the excavation to prevent subsidence and resist recontamination	backfill dry bulk density ~1970 kg/m3	compaction to maximum dry bulk density ~1677 kg/m3 at optimum moisture ~21%	disposed volume *1.2232
Hauling cost based on borrow site to project site to be within:	20 km		
Restoration			
Site Restoration (Topsoil placement, contour, drainage, amendments, vegetation)	$3.88/m3 of ISE		$525,083
TOTAL			**$8,997,238**

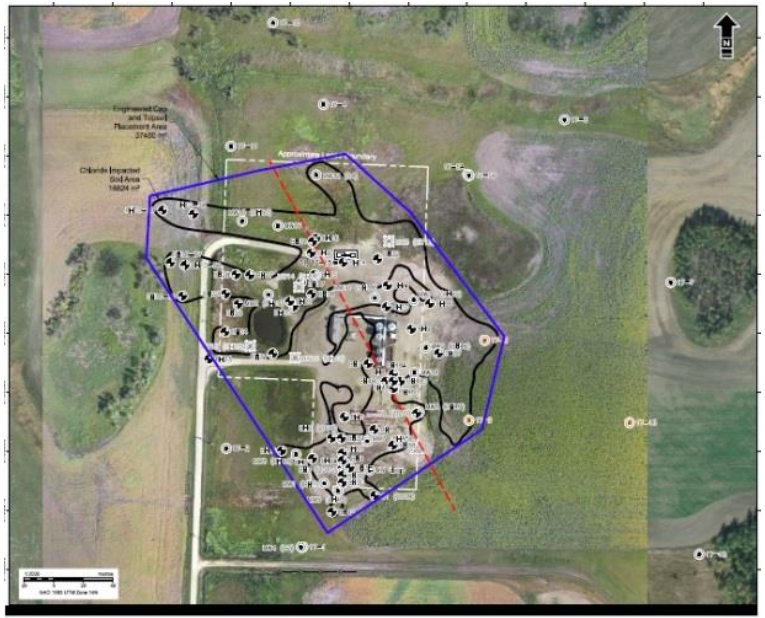
APPENDIX D
Engineered Cap and Topsoil Placement System Costs

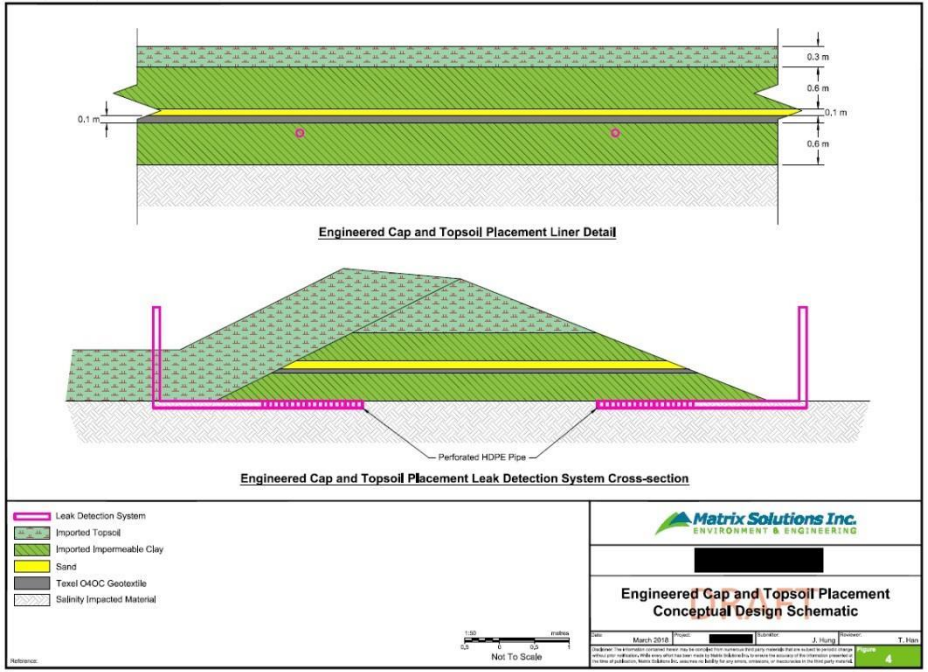
Inverted Encapsulation and Topsoil Placement System	Unit Price	Hours/Otherwise specified	Cost ($CDN)
Project Coordination & Management			
Work Plan Development	9% of $130	341	$44,387
Project Coordination and Project Management	10% of $130	379	$49,319
Client, Regulator and Landowner consultations and updates, H&S Obligations, Kick-off meeting)	8% of $130	304	$39,456
Photometry, Survey, Data Acquisition, Management and IT (Lab analyses, GIS and IT)	13% of $130	474	$61,649
Engineering, Design and Technical Analysis	13% of $130	474	$61,649
Final Report	10% of $130	379	$49,319
Field Work (Sample,Monitor,Supervise,Audit, Per Diem, Accommodation, Equipment, Mileage)	38% of $130	1442	$187,414
Laboratory			
Laboratory Analysis (Confirmatory Sampling)	$0.40/m3 of ISE		$22,546
Ground Disturbance			
Ground Disturbance Preparation (calculated on total excavation volume)	$1.00/m3 of ISE		$76,320
Site Stripping and/or Top Soil Salvage			
Excavation, Earth Moving, Liner, Segregation, Storage	$235/hour	0.00	$0.00
Note, no salvage is proposed all material to be landfilled			
Overburden or Salvage Soil Excavation			
Excavation, Earth Moving, Liner, Segregation, Storage	$235/hour	0.00	$0.00
Note, no salvage is proposed all material to be landfilled			
Impacted Soil Excavation, Hauling and Disposal			
Hauling	$145/hour	$0.00	$0.00
Landfill Disposal	$18.18/m3	0	$0
Excavation	$235/hour	0	$0
Factors used:			
Distance from site to landfill: SEs 32-9-9W2M	127 km		
Average highway speed	100 km/hour		
Total load, unload, and hauling time per load*	1.67 hour/load		
breakdown total haul and load time loading, unloading and hauling	0.2 hour	0.2 hour	1.27 hour
Truck payload capacity	13 m3		
Quoted tipping fee for 2017 GA is $23/tonne or $18.13/m3 based on conversion factor 1.6 t/m3			
Backfill			
Topsoil (minimum 0.3 m thick imported topsoil)	$12.31/m3	11,344 m3	$139,614
Clay (1.2 m thick impermeable compacted subsoil)	$1.99/m3	66,767 m3	$136,047
Sand (0.1 m thick engineered capillary cut-off)	$7.69/m3	3,748 m3	$28,822.12
Geotextile (Engineered system)	$1.09/m2	37,480 m2	$40,718.55
Hauling	$3.74/m3 or $48.62 /load	10278	$411,369
Fill in lifts, moisturize, compact	$235/hour	3760	$838,454
Assumption factor used:			
Backfill volume is greater than excavated volume as imported fill materials will be compacted in the excavation to prevent subsidence and resist recontamination	backfill dry bulk density ~1970 kg/m3	compaction to maximum dry bulk density ~1677 kg/m3 at optimum moisture ~21%	disposed volume *1.2232
Hauling cost based on borrow site to project site to be within:	20 km		
Restoration			
Site Restoration (Topsoil placement, contour, drainage, amendments, vegetation)	$3./m3 of ISE		$112,440
Long Term Monitoring Following Installation of Engineered Cap and Topsoil Placement			
10 years Crop and Groundwater Monitoring	$20,000/year		$200,000
TOTAL			**$2,479,039**

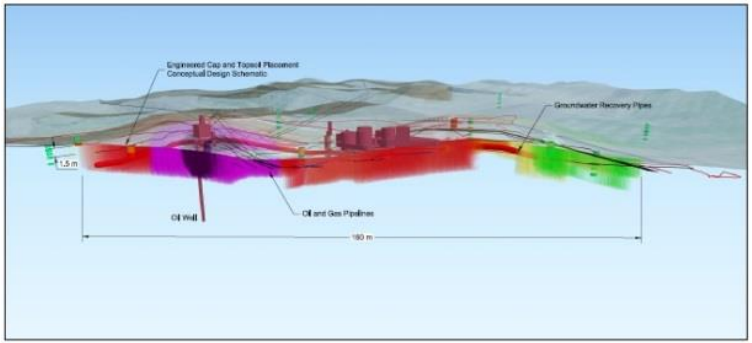
Criteria based remediation = $9million

Modified remediation = $2.5million

Modified System – Engineered Cap





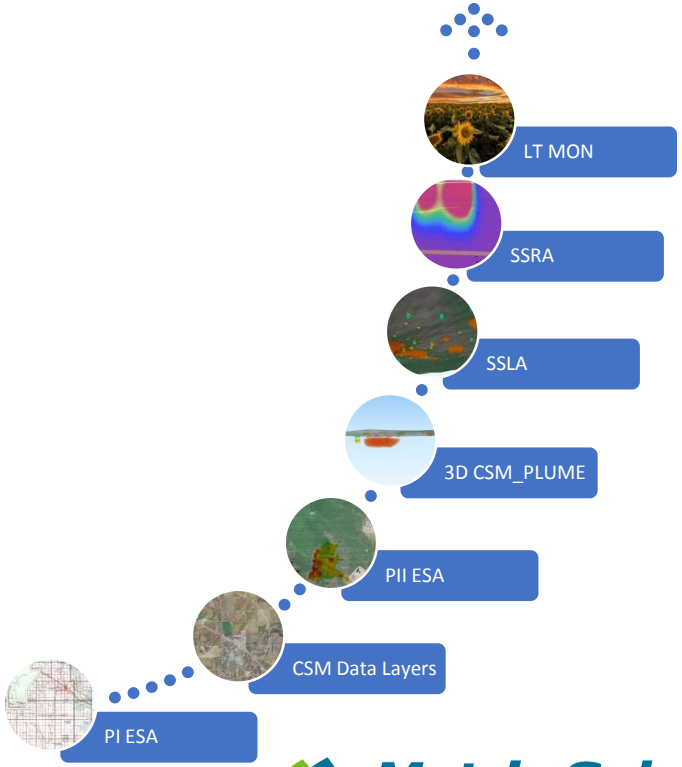


Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Where does this tool fit in?

Clients wants:

- Make complex simple by visualization
- Real-time cost to benefit estimate to assess best RAP scenarios
- Reduces to project costs and delivers better value to all stakeholders
- Data is converted to a format that is easily accessible, shared through many platform and useable in the future



Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

Office Locations

SASKATCHEWAN

Weyburn
Box 279, 1780 Railway Ave.
Weyburn, SK S4H 2K1
Phone: 306.842.3088
Fax: 306.842.3356

Swift Current
#2 505 N Service Rd. W
Swift Current, SK S9H 4X5
Phone: 306.773.3009
Fax: 306.773.3109

Regina
34A Great Plains Rd.
Emerald Park, SK S4L 1B7
Phone: 306.781.7750
Fax: 306.781.7751

Oxbow
874 Prospect Ave.
Oxbow, SK S0C 2B0
Phone: 306.483.2179
Fax: 306.483.2197

Lloydminster
102A 1625 – 50th Ave.
Lloydminster, SK S9V 1T3
Phone: 306.825.6900
Fax: 306.825.6907

Kindersley
3A, 1319 – 11th Ave. W
Kindersley, SK S0L 1S0
Phone: 306.460.9635
Fax: 306.463.2190

Saskatoon
102 – 116 Research Dr.
Saskatoon, SK S7N 3R3
Phone: 306.649.3320
Fax: 306.649.3321

24-Hour Spill Response
1.877.774.5525 or
1.877.SPILL25

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING