AGENDA
LOUDON COUNTY SOLID WASTE DISPOSAL COMMISSION
August 13, 2019
6:30 p.m.
LOUDON COUNTY COURTHOUSE ANNEX
Loudon, Tennessee

1. Opening of Meeting, Pledge of Allegiance, Invocation

2. Approval of Minutes – July 9, 2019

3. Items of Public Concern

4. Cash Activity Report

5. Operations Report

6. Contract Modification Update

7. Poplar Springs Update

8. Attorney's Report

9. Chairman's Report

10. Other Items of Commission's Consideration

11. Adjourn

Loudon County Department of Accounts and Budgets
Solid Waste Disposal Fund 207
Monthly Cash Report
July 2019

June 2019 Combined Ending Cash Balance per Monthly Report		3,832,073.59	
Adjustments:			
	0.00		
	0.00		
Total Adjustments		0.00	
Adjusted June 2019 Combined Ending Balance per Loudon Co Trustee			**3,832,073.59**

Solid Waste Disposal Commission Operating Fund

Operating Fund Ending Balance June 2019		**3,768,637.01**	
Cash Receipts:			
Trustee's Collections - Prior Year	0		
Interest & Penalty	0		
Surcharge - Host Fees *(June 2019 In-Transit)*	10,560.00		
Surcharge - Security Fees *(June 2019 In-Transit)*	11,804.59		
Investment Income	8,402.09		
Total Monthly Revenue		30,766.68	
Cash Disbursements:			
Board & Committee Members Fees	(300.00)		
Board & Committee Members Fees *(June Payable)*	(50.00)		
Social Security *(June Payable)*	(3.10)		
Employer Medicare *(June Payable)*	(0.72)		
Audit Services (Mitchell Emert & Hill)			
Contracts with Private Agencies (Santek)			
Engineering Services (Santek)			
Contributions (Loudon Utilities - Quarterly)			
Legal Services *(Kennerly - June Payable)*	(2,500.00)		
Legal Notices			
Other Contracted Services (Mowing)			
Building & Content Insurance	(4,398.24)		
In-Service/Staff Development (Refund)			
Trustee's Commission	0.00		
Total Cash Disbursements		(7,252.06)	
Expenditure Credit:			
Trustee Commission Adjustment		0.00	
Operating Fund Ending Balance July 2019			**3,792,151.63**

Poplar Springs Subfund

Poplar Springs Subfund Balance June 2019		**63,436.58**	
Cash Receipts:			
	0.00		
Total Monthly Revenue		0.00	
Cash Disbursements:			
Engineering Services *(FY 2018 Enc.)*	0.00		
Consultants *(BDY Environmental - PY Payable)*	0.00		
Total Cash Disbursements		0.00	
Poplar Springs Subfund Balance July 2019			**63,436.58**

TOTAL COMBINED OPERATING AND POPLAR SPRINGS JULY 2019 BALANCE	**3,855,588.21**

Combined Summary - July 2019	
Beginning Balance	**3,832,073.59**
Plus Operating Revenue	**30,766.68**
Less Operating and Poplar Springs Disbursements	**(7,252.06)**
TOTAL COMBINED BALANCE - JULY 2019	**3,855,588.21**

SANTEK
WasteServices

650 25th Street, N.W., Suite 100
Cleveland, Tennessee 37311
(423) 303-7101

Email: info@santekwasteservices.com
Internet: santekwasteservices.com

Monthly Operations Report
Matlock Bend Landfill
August 13, 2019

Presented by:

Santek Environmental, Inc.

I. OPERATIONS

A. Tonnage Report
B. Customer Report
C. Inspection – June
D. Inspection – July
E. Materials Classification Report
F. Waste Characterization Report
G. Tire Report
H. Landfill Origin Report

II. AIRSPACE UTILIZATION SCHEDULE

III. HOST & SECURITY FEES

IV. WHEEL WASH SYSTEM

A. Articles on Wheel Wash Systems
B. Moby Dick Proposal

LANDFILL TONNAGE VOLUME
MONTH ENDING -
JULY 2019

MATLOCK BEND LANDFILL

MONTH	2018	2019	2018 TO 2019
JANUARY	15,858.64	13,578.63	(2,280.01)
FEBRUARY	13,865.56	11,770.32	(2,095.24)
MARCH	15,779.17	13,291.24	(2,487.93)
APRIL	15,147.53	14,140.50	(1,007.03)
MAY	13,276.58	14,366.28	1,089.70
JUNE	12,717.37	9,827.56	(2,889.81)
JULY	12,353.95	10,975.46	(1,378.49)
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	98,998.80	87,949.99	(11,048.81)

DAILY AVG FOR ANY RUNNING 30 DAY PERIOD **347.27**

LOUDON COUNTY

MONTH	2018	2019	2018 TO 2019
JANUARY	471.26	489.09	17.83
FEBRUARY	419.40	437.25	17.85
MARCH	496.17	527.14	30.97
APRIL	524.80	523.08	(1.72)
MAY	515.70	520.19	4.49
JUNE	506.85	527.77	20.92
JULY	551.73	581.24	29.51
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	3,485.91	3,605.76	119.85

DAILY AVG FOR 22.5 DAY PERIOD **487.80**

LENOIR CITY

MONTH	2018	2019	2018 TO 2019
JANUARY	311.92	359.51	47.59
FEBRUARY	294.51	310.75	16.24
MARCH	353.46	364.95	11.49
APRIL	368.49	399.46	30.97
MAY	410.46	421.45	10.99
JUNE	348.15	376.08	27.93
JULY	391.93	464.25	72.32
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	2,478.92	2,696.45	217.53

CITY OF LOUDON

MONTH	2018	2019	2018 TO 2019
JANUARY	363.15	434.56	71.41
FEBRUARY	344.19	367.36	23.17
MARCH	371.66	434.95	63.29
APRIL	427.07	450.53	23.46
MAY	442.51	481.49	38.98
JUNE	412.21	464.46	52.25
JULY	431.11	549.23	118.12
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	2,791.90	3,182.58	390.68

WASTE SERVICES OF TN

MONTH	2018	2019	2018 TO 2019
JANUARY	2,437.61	2,912.60	474.99
FEBRUARY	2,331.36	2,545.03	213.67
MARCH	2,635.18	2,954.94	319.76
APRIL	2,721.66	3,275.88	554.22
MAY	2,902.00	3,419.31	517.31
JUNE	2,707.31	3,100.54	393.23
JULY	2,822.88	3,406.12	583.24
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	18,558.00	21,614.42	3,056.42

TENNESSEE TRASH

MONTH	2018	2019	2018 TO 2019
JANUARY	3,854.46	5,184.96	1,330.50
FEBRUARY	3,518.63	4,252.39	733.76
MARCH	4,121.81	5,009.22	887.41
APRIL	4,469.98	5,315.21	845.23
MAY	4,912.76	5,341.05	428.29
JUNE	4,503.72	0.00	(4,503.72)
JULY	4,825.80	0.00	(4,825.80)
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	30,207.16	25,102.83	(5,104.33)

LANDFILL TONNAGE VOLUME
MONTH ENDING -
JULY 2019

KIMBERLY CLARK - PAPER WASTE

MONTH	2018	2019	2018 TO 2019
JANUARY	5,057.39	0.00	(5,057.39)
FEBRUARY	3,563.87	0.00	(3,563.87)
MARCH	4,234.12	0.00	(4,234.12)
APRIL	3,071.82	0.00	(3,071.82)
MAY	0.00	0.00	0.00
JUNE	0.00	0.00	0.00
JULY	0.00	0.00	0.00
AUGUST			0.00
SEPTEMBER			0.00
OCTOBER			0.00
NOVEMBER			0.00
DECEMBER			0.00
TOTAL	15,927.20	0.00	(15,927.20)

Choose Inspection Type...

TENNESSEE DIVISION OF SOLID WASTE MANAGEMENT
CLASS I FACILITY INSPECTION CHECKLIST*

CLASS I FACILITY

SITE	DATE	TIME	WEATHER
	20190628	14:00	sun 90

	EFO
Loudon County Landfill SNL530000203 21712 Highway 72 North Loudon	KNOX

*SEE DISCLAIMER ON LAST PAGE

	VIOLATION	REGULATION	OBSERVATION NVO	AOC	V1	V2
BUFFER ZONE STANDARDS FOR SITING LANDFILLS						
8310	BUFFER ZONE STANDARD VIOLATED	0400-11-01-.04(3)(a)	☒	☐	☐	☐
COMMENTS						
COLLECTED LEACHATE						
8330	LEACHATE IMPROPERLY MANAGED	0400-11-01-.04(4)(a)8(i-iii) ?	☒	☐	☐	☐
COMMENTS						
8340	INADEQUATE LEACHATE COLLECTION SYSTEM	0400-11-01-.04(4)(a)7 ?	☒	☐	☐	☐
COMMENTS						
COMMUNICATIONS						
8130	NO COMMUNICATION DEVICES	0400-11-01-.04(2)(f) ?	☒	☐	☐	☐
COMMENTS						
COVER MATERIAL						
8160	UNAVAILABILITY OF COVER MATERIAL.	0400-11-01-.04(2)(h) ?	☒	☐	☐	☐
COMMENTS						
DEAD ANIMALS						
8250	DEAD ANIMALS IMPROPERLY HANDLED	0400-11-01-.04(2)(k)5.(ii) (I-III) ?	☒	☐	☐	☐
COMMENTS						
DUST CONTROL						
8190	INADEQUATE DUST CONTROL	0400-11-01-.04(2)(j) ?	☒	☐	☐	☐
COMMENTS						
DUTY TO PROVIDE INFORMATION						

*SEE DISCLAIMER ON LAST PAGE

	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
DUTY TO PROVIDE INFORMATION			
8530	UNSATISFACTORY RECORDS OR REPORTS	0400-11-01-.02(5)(a)7 ? TCA 68-211-862(a)	☒ ☐ ☐ ☐
COMMENTS			
8590	PERMITS, PLANS, OPERATING MANUAL NOT AVAILABLE	0400-11-01-.02(5)(a)(7) ?	☒ ☐ ☐ ☐
COMMENTS			
FIRE SAFETY			
8080	EVIDENCE OF OPEN BURNING	0400-11-01-.04(2)(c)1 ?	☒ ☐ ☐ ☐
COMMENTS			
8090	INADEQUATE FIRE PROTECTION	0400-11-01-.04(2)(c)2 ?	☒ ☐ ☐ ☐
COMMENTS	Extinguishers up to date and current.		
GAS MIGRATION CONTROL STANDARDS			
8380	INADEQUATE GAS MIGRATION CONTROL SYSTEM	0400-11-01-.04(5)(a) ?	☒ ☐ ☐ ☐
COMMENTS			
8390	INADEQUATE MAINTENANCE OF GAS MIGRATION CONTROL SYSTEM	0400-11-01-.04(5)(a) ?	☒ ☐ ☐ ☐
COMMENTS			
GENERAL FACILITY STANDARDS			
8010	INADEQUATE VECTOR CONTROL	0400-11-01-.04(2)(a)1 ?	☒ ☐ ☐ ☐
COMMENTS			
8020	ACCESS NOT LIMITED TO OPERATING HOURS	0400-11-01-.04(2)(a)4 ?	☒ ☐ ☐ ☐
COMMENTS			
8030	INADEQUATE ARTIFICIAL OR NATURAL BARRIER	0400-11-01-.04(2)(b)1 ?	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
GENERAL FACILITY STANDARDS			
8040	INADEQUATE INFORMATION SIGNS	0400-11-01-.04(2)(b)2 ? TCA 68-211-703(h)	☒ ☐ ☐ ☐
COMMENTS			
8050	UNSATISFACTORY ACCESS ROAD(S)/PARKING AREA(S)	0400-11-01-.04(2)(b)3 ?	☒ ☐ ☐ ☐
COMMENTS			
8060	CERTIFIED PERSONNEL NOT PRESENT DURING OPERATING HOURS	0400-11-01-.04(2)(b)5 ?	☒ ☐ ☐ ☐
COMMENTS			
8070	UNAPPROVED SALVAGING OF WASTE	0400-11-01-.04(2)(b)6 ?	☒ ☐ ☐ ☐
COMMENTS			
LITTER CONTROL			
8110	UNSATISFACTORY LITTER CONTROL	0400-11-01-.04(2)(d) ?	☒ ☐ ☐ ☐
COMMENTS			
OPERATING EQUIPMENT			
8140	INADEQUATE OPERATING EQUIPMENT	0400-11-01-.04(2)(g) ?	☒ ☐ ☐ ☐
COMMENTS			
8150	UNAVAILABILITY OF BACKUP EQUIPMENT	0400-11-01-.04(2)(g) ?	☒ ☐ ☐ ☐
COMMENTS			
OVERALL PERFORMANCE STANDARD			
8270	EXPOSED SOLID WASTE	0400-11-01-.04(2)(a)(3) ?	☒ ☐ ☐ ☐
COMMENTS			
8320	INADEQUATE MAINTENANCE OF LEACHATE MANAGEMENT SYSTEM (INSPECTOR TO CHECK AND RECORD LEACHATE LEVELS AT EVERY LANDFILL SUMP)	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)7	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE

	VIOLATION	REGULATION	OBSERVATION NVO	AOC	V1	V2
OVERALL PERFORMANCE STANDARD						
8350	LEACHATE OBSERVED AT THE SITE	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)6,	☒	☐	☐	☐
COMMENTS						
8360	LEACHATE ENTERING RUN-OFF	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)6	☒	☐	☐	☐
COMMENTS						
8370	LEACHATE ENTERING A WATER COURSE	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)6	☒	☐	☐	☐
COMMENTS						
8420	POTENTIAL FOR EXPLOSIONS OR UNCONTROLLED FIRES	0400-11-01-.04(2)(a)2 ? 0400-11-01-.04(5)(a)	☒	☐	☐	☐
COMMENTS						
8490	EXCESSIVE POOLING OF WATER	0400-11-01-.04 (2)(a)3 ? 0400-11-01-.04(8)(c)4(iii)	☒	☐	☐	☐
COMMENTS						
8520	DUMPING OF WASTE INTO WATER	0400-11-01-.04 (2)(a)3 ?	☒	☐	☐	☐
COMMENTS						
PERMANENT BENCHMARK						
8280	NO PERMANENT BENCHMARK	0400-11-01-.04(2)(o) ?	☒	☐	☐	☐
COMMENTS						
PERSONNEL SERVICES						
8120	INADEQUATE EMPLOYEE FACILITIES	0400-11-01-.04(2)(e) ?	☒	☐	☐	☐
COMMENTS						
PROPER OPERATION AND MAINTENANCE						
8540	GROUNDWATER MONITORING SYSTEM IMPROPERLY MAINTAINED	0400-11-01-.02(5)(a)4 ?	☒	☐	☐	☐
COMMENTS						

*SEE DISCLAIMER ON LAST PAGE			
	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
RANDOM INSPECTION PROGRAM			
8290	INADEQUATE RANDOM INSPECTION PROGRAM	0400-11-01-.04(2)(s) ?	☒ ☐ ☐ ☐
COMMENTS			
RECORDS OF ORIGIN AND AMOUNT OF SOLID WASTE			
8610	NO OPERATING SCALES AND/OR FAILURE TO MAINTAIN WASTE RECORDS	TCA 68-211-862(a)(b)(1)(2) ?	☒ ☐ ☐ ☐
COMMENTS			
RUN-ON, RUN-OFF, AND EROSION CONTROL			
8170	INADEQUATE MAINTENANCE OF RUN-ON/RUN-OFF SYSTEM(S)	0400-11-01-.04(2)(i)1-5 0400-11-01-.04(8)(c)4(i) ?	☒ ☐ ☐ ☐
COMMENTS			
8180	INADEQUATE EROSION CONTROL	0400-11-01-.04(2)(i)6 0400-11-01-.04(8)(c)4(ii) ?	☒ ☐ ☐ ☐
COMMENTS			
SPECIAL WASTE APPROVAL PROCESS			
8300	MISHANDLING OF SPECIAL WASTE	0400-11-01-.01(4)(d)1 ?	☒ ☐ ☐ ☐
COMMENTS			
UNLAWFUL METHODS OF DISPOSAL			
8570	OPERATION DOES NOT CORRESPOND WITH ENGINEERING PLANS (EVALUATE AND RECORD THE APPROXIMATE INTERIOR AND EXTERIOR SLOPE OF THE LANDFILL)	TCA 68-211-104(3) TCA 68-211-105(b) ?	☒ ☐ ☐ ☐
COMMENTS			
8580	OPERATION DOES NOT CORRESPOND WITH PERMIT CONDITIONS	TCA 68-211-104(3) 0400-11-01-.02(5)(a)(1)	☒ ☐ ☐ ☐
COMMENTS			
WASTE HANDLING AND COVER STANDARDS			
8430	WASTE NOT CONFINED TO A MANAGEABLE AREA	0400-11-01-.04(6)(a)1 ?	☒ ☐ ☐ ☐
COMMENTS			

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	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
WASTE HANDLING AND COVER STANDARDS			
8440	IMPROPER SPREADING OF WASTE	0400-11-01-.04(6)(a)2 ?	☒ ☐ ☐ ☐
COMMENTS			
8450	IMPROPER COMPACTING OF WASTE	0400-11-01-.04(6)(a)2 ?	☒ ☐ ☐ ☐
COMMENTS			
8460	UNSATISFACTORY INITIAL COVER	0400-11-01-.04(6)(a)3 ? 0400-11-01-.04(6)(a)5	☒ ☐ ☐ ☐
COMMENTS			
8470	UNSATISFACTORY INTERMEDIATE COVER	0400-11-01-.04(6)(a)4 ? 0400-11-01-.04(6)(a)5	☒ ☐ ☐ ☐
COMMENTS			
8480	UNSATISFACTORY FINAL COVER	0400-11-01-.04(6)(a)6 ? 0400-11-01-.04(8)(c)4	☒ ☐ ☐ ☐
COMMENTS			
8510	UNSATISFACTORY STABILIZATION OF COVER	0400-11-01-.04(6)(a)5,6 ?	☒ ☐ ☐ ☐
COMMENTS			
WASTE RESTRICTIONS			
8210	UNAUTHORIZED WASTE ACCEPTED	0400-11-01-.04(2)(k)1 ? 0400-11-01-.04(2)(k)6	☒ ☐ ☐ ☐
COMMENTS			
8220	UNAPPROVED SPECIAL WASTE ACCEPTED	0400-11-01-.01(4)(b) ? 0400-11-01-.01(4)(c)5	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
VIOLATION		REGULATION	OBSERVATION NVO AOC V1 V2
WASTE RESTRICTIONS			
8230	TIRES IMPROPERLY HANDLED	0400-11-01-.04(2)(k)3.(i) ?	☒ ☐ ☐ ☐
COMMENTS			
8240	MEDICAL WASTE IMPROPERLY HANDLED	0400-11-01-.04(2)(k)4.(i-iv) ?	☒ ☐ ☐ ☐
COMMENTS			

LEACHATE LEVELS

Sump #1 - 10.0"

Sump #2 - 11.1"

**Disclaimer: The information contained in these documents (checklists/notes, etc.) is not intended to be all inclusive and is subject to change. These documents are intended solely for use by DSWM staff. These documents are not a substitute for evaluation of compliance in accordance with applicable laws and regulations. These documents are not intended for, nor can they be relied upon, to create any rights, substantive or procedural, enforceable or useable by any party in litigation with the State of Tennessee or its employees.*

SAVE FORM

Follow-Up Inspection Date

Inspector Name _____

ADDITIONAL COMMENTS

No violations. Preparing for new cell construction.

Initial Inspection

TENNESSEE DIVISION OF SOLID WASTE MANAGEMENT
CLASS I FACILITY INSPECTION CHECKLIST*

CLASS I FACILITY

SITE	DATE	TIME	WEATHER
	20190711	11:51	86, sun

Loudon County Landfill SNL530000203 21712 Highway 72 North Loudon

EFO: KNOX

*SEE DISCLAIMER ON LAST PAGE

	VIOLATION	REGULATION	OBSERVATION NVO	AOC	V1	V2
BUFFER ZONE STANDARDS FOR SITING LANDFILLS						
8310	BUFFER ZONE STANDARD VIOLATED	0400-11-01-.04(3)(a)	☒	☐	☐	☐
COMMENTS						
COLLECTED LEACHATE						
8330	LEACHATE IMPROPERLY MANAGED	0400-11-01-.04(4)(a)8(i-iii) ?	☒	☐	☐	☐
COMMENTS						
8340	INADEQUATE LEACHATE COLLECTION SYSTEM	0400-11-01-.04(4)(a)7 ?	☒	☐	☐	☐
COMMENTS						
COMMUNICATIONS						
8130	NO COMMUNICATION DEVICES	0400-11-01-.04(2)(f) ?	☒	☐	☐	☐
COMMENTS						
COVER MATERIAL						
8160	UNAVAILABILITY OF COVER MATERIAL.	0400-11-01-.04(2)(h) ?	☒	☐	☐	☐
COMMENTS						
DEAD ANIMALS						
8250	DEAD ANIMALS IMPROPERLY HANDLED	0400-11-01-.04(2)(k)5.(ii) (I-III) ?	☒	☐	☐	☐
COMMENTS						
DUST CONTROL						
8190	INADEQUATE DUST CONTROL	0400-11-01-.04(2)(j) ?	☒	☐	☐	☐
COMMENTS						
DUTY TO PROVIDE INFORMATION						

*SEE DISCLAIMER ON LAST PAGE			
	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
DUTY TO PROVIDE INFORMATION			
8530	UNSATISFACTORY RECORDS OR REPORTS	0400-11-01-.02(5)(a)7 ? TCA 68-211-862(a)	☒ ☐ ☐ ☐
COMMENTS			
8590	PERMITS, PLANS, OPERATING MANUAL NOT AVAILABLE	0400-11-01-.02(5)(a)(7) ?	☒ ☐ ☐ ☐
COMMENTS			
FIRE SAFETY			
8080	EVIDENCE OF OPEN BURNING	0400-11-01-.04(2)(c)1 ?	☒ ☐ ☐ ☐
COMMENTS			
8090	INADEQUATE FIRE PROTECTION	0400-11-01-.04(2)(c)2 ?	☒ ☐ ☐ ☐
COMMENTS			
GAS MIGRATION CONTROL STANDARDS			
8380	INADEQUATE GAS MIGRATION CONTROL SYSTEM	0400-11-01-.04(5)(a) ?	☒ ☐ ☐ ☐
COMMENTS			
8390	INADEQUATE MAINTENANCE OF GAS MIGRATION CONTROL SYSTEM	0400-11-01-.04(5)(a) ?	☒ ☐ ☐ ☐
COMMENTS			
GENERAL FACILITY STANDARDS			
8010	INADEQUATE VECTOR CONTROL	0400-11-01-.04(2)(a)1 ?	☒ ☐ ☐ ☐
COMMENTS			
8020	ACCESS NOT LIMITED TO OPERATING HOURS	0400-11-01-.04(2)(a)4 ?	☒ ☐ ☐ ☐
COMMENTS			
8030	INADEQUATE ARTIFICIAL OR NATURAL BARRIER	0400-11-01-.04(2)(b)1 ?	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
VIOLATION		**REGULATION**	**OBSERVATION** NVO AOC V1 V2
GENERAL FACILITY STANDARDS			
8040	INADEQUATE INFORMATION SIGNS	0400-11-01-.04(2)(b)2 ? TCA 68-211-703(h)	☒ ☐ ☐ ☐
COMMENTS			
8050	UNSATISFACTORY ACCESS ROAD(S)/PARKING AREA(S)	0400-11-01-.04(2)(b)3 ?	☒ ☐ ☐ ☐
COMMENTS			
8060	CERTIFIED PERSONNEL NOT PRESENT DURING OPERATING HOURS	0400-11-01-.04(2)(b)5 ?	☒ ☐ ☐ ☐
COMMENTS			
8070	UNAPPROVED SALVAGING OF WASTE	0400-11-01-.04(2)(b)6 ?	☒ ☐ ☐ ☐
COMMENTS			
LITTER CONTROL			
8110	UNSATISFACTORY LITTER CONTROL	0400-11-01-.04(2)(d) ?	☒ ☐ ☐ ☐
COMMENTS			
OPERATING EQUIPMENT			
8140	INADEQUATE OPERATING EQUIPMENT	0400-11-01-.04(2)(g) ?	☒ ☐ ☐ ☐
COMMENTS			
8150	UNAVAILABILITY OF BACKUP EQUIPMENT	0400-11-01-.04(2)(g) ?	☒ ☐ ☐ ☐
COMMENTS			
OVERALL PERFORMANCE STANDARD			
8270	EXPOSED SOLID WASTE	0400-11-01-.04(2)(a)(3) ?	☒ ☐ ☐ ☐
COMMENTS			
8320	INADEQUATE MAINTENANCE OF LEACHATE MANAGEMENT SYSTEM (INSPECTOR TO CHECK AND RECORD LEACHATE LEVELS AT EVERY LANDFILL SUMP)	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)7	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
OVERALL PERFORMANCE STANDARD			
8350	LEACHATE OBSERVED AT THE SITE	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)6,	☒ ☐ ☐ ☐
COMMENTS			
8360	LEACHATE ENTERING RUN-OFF	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)6	☒ ☐ ☐ ☐
COMMENTS			
8370	LEACHATE ENTERING A WATER COURSE	0400-11-01-.04(2)(a)(3) ? 0400-11-01-.04(4)(a)6	☒ ☐ ☐ ☐
COMMENTS			
8420	POTENTIAL FOR EXPLOSIONS OR UNCONTROLLED FIRES	0400-11-01-.04(2)(a)2 ? 0400-11-01-.04(5)(a)	☒ ☐ ☐ ☐
COMMENTS			
8490	EXCESSIVE POOLING OF WATER	0400-11-01-.04 (2)(a)3 ? 0400-11-01-.04(8)(c)4(iii)	☒ ☐ ☐ ☐
COMMENTS			
8520	DUMPING OF WASTE INTO WATER	0400-11-01-.04 (2)(a)3 ?	☒ ☐ ☐ ☐
COMMENTS			
PERMANENT BENCHMARK			
8280	NO PERMANENT BENCHMARK	0400-11-01-.04(2)(o) ?	☒ ☐ ☐ ☐
COMMENTS			
PERSONNEL SERVICES			
8120	INADEQUATE EMPLOYEE FACILITIES	0400-11-01-.04(2)(e) ?	☒ ☐ ☐ ☐
COMMENTS			
PROPER OPERATION AND MAINTENANCE			
8540	GROUNDWATER MONITORING SYSTEM IMPROPERLY MAINTAINED	0400-11-01-.02(5)(a)4 ?	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
	VIOLATION	REGULATION	OBSERVATION NVO AOC V1 V2
RANDOM INSPECTION PROGRAM			
8290	INADEQUATE RANDOM INSPECTION PROGRAM	0400-11-01-.04(2)(s) ?	☒ ☐ ☐ ☐
COMMENTS			
RECORDS OF ORIGIN AND AMOUNT OF SOLID WASTE			
8610	NO OPERATING SCALES AND/OR FAILURE TO MAINTAIN WASTE RECORDS	TCA 68-211-862(a)(b)(1)(2) ?	☒ ☐ ☐ ☐
COMMENTS			
RUN-ON, RUN-OFF, AND EROSION CONTROL			
8170	INADEQUATE MAINTENANCE OF RUN-ON/RUN-OFF SYSTEM(S)	0400-11-01-.04(2)(i)1-5 0400-11-01-.04(8)(c)4(i) ?	☒ ☐ ☐ ☐
COMMENTS			
8180	INADEQUATE EROSION CONTROL	0400-11-01-.04(2)(i)6 0400-11-01-.04(8)(c)4(ii) ?	☒ ☐ ☐ ☐
COMMENTS			
SPECIAL WASTE APPROVAL PROCESS			
8300	MISHANDLING OF SPECIAL WASTE	0400-11-01-.01(4)(d)1 ?	☒ ☐ ☐ ☐
COMMENTS			
UNLAWFUL METHODS OF DISPOSAL			
8570	OPERATION DOES NOT CORRESPOND WITH ENGINEERING PLANS (EVALUATE AND RECORD THE APPROXIMATE INTERIOR AND EXTERIOR SLOPE OF THE LANDFILL)	TCA 68-211-104(3) TCA 68-211-105(b) ?	☒ ☐ ☐ ☐
COMMENTS			
8580	OPERATION DOES NOT CORRESPOND WITH PERMIT CONDITIONS	TCA 68-211-104(3) 0400-11-01-.02(5)(a)(1)	☒ ☐ ☐ ☐
COMMENTS			
WASTE HANDLING AND COVER STANDARDS			
8430	WASTE NOT CONFINED TO A MANAGEABLE AREA	0400-11-01-.04(6)(a)1 ?	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
VIOLATION		REGULATION	OBSERVATION NVO AOC V1 V2
WASTE HANDLING AND COVER STANDARDS			
8440	IMPROPER SPREADING OF WASTE	0400-11-01-.04(6)(a)2 ?	☒ ☐ ☐ ☐
COMMENTS			
8450	IMPROPER COMPACTING OF WASTE	0400-11-01-.04(6)(a)2 ?	☒ ☐ ☐ ☐
COMMENTS			
8460	UNSATISFACTORY INITIAL COVER	0400-11-01-.04(6)(a)3 ? 0400-11-01-.04(6)(a)5	☒ ☐ ☐ ☐
COMMENTS			
8470	UNSATISFACTORY INTERMEDIATE COVER	0400-11-01-.04(6)(a)4 ? 0400-11-01-.04(6)(a)5	☒ ☐ ☐ ☐
COMMENTS			
8480	UNSATISFACTORY FINAL COVER	0400-11-01-.04(6)(a)6 ? 0400-11-01-.04(8)(c)4	☒ ☐ ☐ ☐
COMMENTS			
8510	UNSATISFACTORY STABILIZATION OF COVER	0400-11-01-.04(6)(a)5,6 ?	☒ ☐ ☐ ☐
COMMENTS			
WASTE RESTRICTIONS			
8210	UNAUTHORIZED WASTE ACCEPTED	0400-11-01-.04(2)(k)1 ? 0400-11-01-.04(2)(k)6	☒ ☐ ☐ ☐
COMMENTS			
8220	UNAPPROVED SPECIAL WASTE ACCEPTED	0400-11-01-.01(4)(b) ? 0400-11-01-.01(4)(c)5	☒ ☐ ☐ ☐
COMMENTS			

*SEE DISCLAIMER ON LAST PAGE			
VIOLATION		**REGULATION**	**OBSERVATION** NVO AOC V1 V2
WASTE RESTRICTIONS			
8230	TIRES IMPROPERLY HANDLED	0400-11-01-.04(2)(k)3.(i) ?	☒ ☐ ☐ ☐
COMMENTS			
8240	MEDICAL WASTE IMPROPERLY HANDLED	0400-11-01-.04(2)(k)4.(i-iv) ?	☒ ☐ ☐ ☐
COMMENTS			

LEACHATE LEVELS

Sump 1: 10.4
Sump 2: 13.6

2' in leachate tank.

**Disclaimer: The information contained in these documents (checklists/notes, etc.) is not intended to be all inclusive and is subject to change. These documents are intended solely for use by DSWM staff. These documents are not a substitute for evaluation of compliance in accordance with applicable laws and regulations. These documents are not intended for, nor can they be relied upon, to create any rights, substantive or procedural, enforceable or useable by any party in litigation with the State of Tennessee or its employees.*

SAVE FORM

Follow-Up Inspection Date

Inspector Name Ryan Miller Digitally signed by Ryan Miller Dn: cn=Ryan Miller, o=TDEC, ou=SWM, email=ryan.miller@tn.gov, c=US Date: 2018.07.11 14:57:01 -04'00'

Materials Classification Report

Matlock Bend Landfill

Monthly Tonnage Summary July 2019

Material	Tonnage
MSW	
MSW	**8,766**
Special Waste	
Other	1,633
Ash	0
Sludge	577
Total Special Waste	**2,210**
Total MSW & SW	**10,975**
Tires	38
Total Material	**11,013**
% MSW	80%
% Special Waste	20%
% Sludge	5%

2016 Sludge %		2017 Sludge %	
January	4%	January	5%
February	3%	February	8%
March	4%	March	8%
April	3%	April	7%
May	4%	May	4%
June	2%	June	2%
July	2%	July	3%
August	3%	August	4%
September	2%	September	7%
October	3%	October	8%
November	3%	November	6%
December	3%	December	5%

2018 Sludge %		2019 Sludge %	
January	4%	January	5%
February	4%	February	5%
March	5%	March	4%
April	6%	April	4%
May	8%	May	3%
June	9%	June	6%
July	6%	July	5%
August	4%	August	
September	2%	September	
October	2%	October	
November	5%	November	
December	5%	December	

2019 Loudon MSW and Special Waste Analysis

Material	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
MSW	12,367	10,080	11,642	12,329	12,452	8,152	8,766						75,787
Special Waste	1,212	1,691	1,649	1,811	1,914	1,676	2,210						12,162
Tires	26	28	42	38	32	35	38						239
Total	13,605	11,798	13,333	14,178	14,398	9,863	11,013	0	0	0	0	0	88,188
%													
MSW	91%	85%	87%	87%	86%	83%	80%						86%
Special Waste	9%	14%	12%	13%	13%	17%	20%						14%
Total	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	100%

2019-2020 Matlock Bend
Landfill Tire Report

Month	Tonnage
Jul-19	18.69
Aug-19	
Sep-19	
Oct-19	
Nov-19	
Dec-19	
Jan-20	
Feb-20	
Mar-20	
Apr-20	
May-20	
Jun-20	
Total (tons)	**18.69**

Landfill Origin Report for Loudon County, Tennessee

Advertised Tipping Fee Per ton $28.45

Origin of Waste (Name of County)	Waste Received From County, Transfer Station or Other	Q1 2019	Q2 2019	Q3 2019	Q4 2019	YTD Total
Anderson	County	54.16	65.67			119.83
Knox	County	410.38	679.82			1,090.20
Loudon	County	34,497.26	33,738.94			68,236.20
McMinn	County	189.70	307.62			497.32
Monroe	County	596.93	699.72			1,296.65
Roane	County	2,597.97	2,696.20			5,294.17
Blount	County	276.30	134.81			411.11
Meigs	County	17.49	0.00			17.49
Rhea	County	0.00	11.56			11.56
Bradley	County	0.00	0.00			0.00
		38,640.19	38,334.34	0.00	0.00	76,974.53

LANDFILL ORIGIN REPORT

QUARTER 2 (APRIL TO JUNE) | 2019

Matlock Bend Landfill

The following information shall be provided in accordance with TCA 68-211-862 which states:
(a) The owner or operator of each Class I municipal solid waste disposal facility or incinerator or transfer station required to remit a surcharge under 68-211-835(d) shall be responsible for keeping an accurate written record of all amounts and county of origin of solid waste, measured in tons, received at the facility. This information shall be submitted to the department.
(b) Measurement in tons of solid waste received shall be accomplished by one (1) or more of the following methods:
(1) The provision of stationary or portable scales at the disposal facility or incinerator or transfer station for weighing incoming waste; or
(2) Implementation of contractual or other arrangements for the use of scales at a location other than the disposal facility, incinerator, or transfer station for weighing all waste destined for disposal at the facility.

General Information

Facility ID #: *

53-000-0203 *(ID should be in format of ##-000-####)*

Facility Owner Name: *

Loudon County

Mailing Address: *

650 25th Street NW, Suite 100

Mailing Zip Code: *

37311

Mailing State: *

Tennessee

Tipping Fees

Advertised Tipping Fee per ton ($): * 28.45 *(Please enter only the tipping fee for material going into the Class I landfill)*

Advertised Tipping Fee per ton ($): *(If you have more than one tipping fee for material going into the Class I landfill, enter the second one here)*

1. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Anderson

Amount of Waste Received (Tons): *

65.67

Comments:

2. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Blount

Amount of Waste Received (Tons): *

134.81

Comments:

3. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Knox

Amount of Waste Received (Tons): *

679.82

Comments:

4. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Loudon

Amount of Waste Received (Tons): *

33,738.94

Comments:

5. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

McMinn

Amount of Waste Received (Tons): *

307.62

Comments:

6. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Meigs

Amount of Waste Received (Tons): *

0.00

Comments:

There was not any tons generated from Meigs County during the 2nd quarter 2019, but there was some disposed of during the 1st quarter.

7. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Monroe

Amount of Waste Received (Tons): *

699.72

Comments:

8. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Roane

Amount of Waste Received (Tons): *

2,696.20

Comments:

9. Origin of Waste

Waste Received From: *

- (•) County
- ( ) Transfer Station
- ( ) Out of State

Select County: *

Rhea

Amount of Waste Received (Tons): *

11.56

Comments:

There was not anything that originated from Rhea County during first quarter of 2019.

Total Waste Received (Tons):

38,334.34

As Facility Contact, please type in your name to attest that the information included in the Origin Report has been reviewed for completeness, accuracy and is true to the best of your knowledge. *

Jamie Miller

Response created on: Jul 30, 2019 at 03:34 PM CDT by jmiller@santekenviro.com

Response last updated on: Jul 30, 2019 at 03:34 PM CDT by jmiller@santekenviro.com

Matlock Bend Landfill - Module I-B
2019 Airspace Projection / Construction Schedule

		MONTHLY TONNAGE 11,758		UTILIZATION FACTOR 1.49		
DATE	REMAINING AIRSPACE[1] (CY)	TONNAGE	ACTUAL / PROJECTED[2]	UTILIZATION FACTOR (CY/TON)[3]	MONTHLY VOLUME CONSUMED (CY)	ENDING MONTHLY REMAINING AIRSPACE (CY)
May 6, 2019	121,828	-	-	-	-	-
May 7 - 31, 2019	-	11,657	A	1.49	17,368	104,460
June	-	9,863	A	1.49	14,696	89,764
July	-	11,013	A	1.49	16,409	73,354
August	-	11,758	P	1.49	17,519	55,835
September	-	11,758	P	1.49	17,519	38,316
October	-	11,758	P	1.49	17,519	20,796
November	-	11,758	P	1.49	17,519	3,277
December	-	11,758	P	1.49	17,519	0
January '20	-	11,758	P	1.49	17,519	0
February	-	11,758	P	1.49	17,519	0
March	-	11,758	P	1.49	17,519	0
April	-	11,758	P	1.49	17,519	0
May	-	11,758	P	1.49	17,519	0
June	-	11,758	P	1.49	17,519	0
July	-	11,758	P	1.49	17,519	0
August	-	11,758	P	1.49	17,519	0
September	-	11,758	P	1.49	17,519	0
October	-	11,758	P	1.49	17,519	0
November	-	11,758	P	1.49	17,519	0
December	-	11,758	P	1.49	17,519	0

[1] = Remaining airspace based on May 6, 2019 aerial survey. **Full Date** **December-2019**

[2] = Projected tonnages are based on a 3 month average per Matt Dillard on 6-2-09.

[3] = Utilization rate based on the annual utilization rate per October 27, 2008 construction meeting (Avg. Utilization = 1.22 cy/ton)

Tonnage for Past 3 Months

May	14,398
June	9,863
July	11,013
Average	**11,758**

cc: Tim
Matt
Ben
Ron
Justin
Jason
Mark

SANTEK
WasteServices

650 25th Street NW, Ste 100
Cleveland, TN 37311

Phone: (423) 303-7101
Toll Free: (800) 467-9160
www.santekenviro.com

August 12, 2019

Loudon County Solid Waste Disposal Commission
100 River Road
P.O. Box 351
Loudon, TN 37774

Dear Steve:

Pursuant to Section 10.6 and 10.7 of the Sanitary Landfill Operation Agreement between Loudon and Santek as of July 1, 2007, Santek agreed to pay the Commission a host fee and security fee as defined in the Agreement. The following recap reflects the calculation for the period July 1, 2019 to July 31, 2019:

Host Fees (Greater of below) –	
Total Tip Fees Billed	$271,809.86
Host Fee Percentage	3.96%
	$ 10,763.67
Minimum Fee	$ 10,560.00
Security Fees (Greater of below) –	
Total Tonnage Received	10,975.46
Rate per ton	$ 1.00
Total	$ 10,975.46
Total Tip Fees Billed	$271,809.86
Security Fee Percentage	5.00%
	$ 13,590.49

Our checks in payment of the above fees have been remitted to the above address for the Commission. Should you have any questions or need additional information, please let me know.

Sincerely,

Mark C. Mathys
Vice President of Finance & Corporate Controller

MEDIA

Landfill Manager's Notebook: Eliminate Tracking and Dust

BY NEAL BOLTON — DECEMBER 1, 2011

When we think about muddy landfill roads, our thoughts often focus on getting trucks safely in-and out. Generally, we're successful if nobody gets stuck.

But from a compliance standpoint, regulators are often less concerned about a truck getting stuck than they are about those trucks tracking mud onto public roads outside the landfill. Tracked mud, sometimes referred to as track-out, can create a driving hazard and, when it dries, can become a major source of dust. Of course, this can quickly move beyond landfill compliance into the realm of DOT and law enforcement.

So landfills go to great effort to eliminate track-out, focusing either on cleaning the trucks/tires as they exit the site, or on cleaning up the tracked mud before it becomes a big problem.

Cleaning Trucks/Tires

Mud grates, wheel-wash, or truck wash systems are used to clean the trucks on their way out. These systems range from the low-cost, low-impact mud grates to complex, automated wheel-wash or truck-wash systems.

Mud grates (a.k.a., rumble plates or mud plates) consist of rows of metal rails placed across the outbound lane in one or more locations. As vehicles cross the grate, the tires bounce across the rails and the mud drops off. They feel much like the rumble strip along the edge of some highways. And, the larger and more aggressive the rails, the more effective they are at removing mud.

However, they also act as speed bumps and so trucks tend to slow down when crossing them. Often, trucks will drive around the mud grates, rather than across them. To prevent this, a soil berm, ditch, or concrete K-rail can be used to force drivers to stay in their lane.

Mud grates consist of rows of metal rails (i.e., steel channel welded together). They are often 8-10 feet wide and are constructed of 3-inch by 12-inch or 4-inch by 12-inch steel channel welded together. Twelve-inch channel allows them to be easily cleaned with a flat shovel-something that must be done regularly in order to maintain their effectiveness.

Mud grates perform well at small, low traffic sites. But, as noted, they can quickly fill with mud and lose their effectiveness. Also, because drivers will typically slow down as they approach a mud grate, very little

mud is removed from the tires. What remains is then progressively removed as the truck exits the landfill and accelerates to highway speed. Overall, mud grates should be considered as one part of the solution-not all of it.

Wheel-wash or truck-wash systems are much more effective. However, they require more maintenance-especially in very cold climates where freezing is an issue. In extreme cold, they simply cannot be used.

Of course they also generate wastewater that must be dealt with.

Wheel-wash and truck-wash systems are considered the Cadillac method for preventing track-out.

Cleaning the Exit Road

Other facilities pass on the truck/tire cleaning approach and instead, focus their effort on cleaning the outbound road. If the outbound road is gravel, a motor grader may be used to periodically scrape off the mud. On a paved road, a water truck and/or sweeper may be used to keep the road clean.

During very wet periods, the mud may be more fluid than solid. In those cases, a sweeper is not very effective and using the water truck may create issues with surface runoff.

In those situations, consider using a squeegee. No, I'm not suggesting you heist one from a local gas station. We're talking an industrial size squeegee. If your exit road is paved, try this: Create a giant squeegee by splitting a truck tire (lengthwise along the tread) and then bolting it between the moldboard and cutting edge on a motor grader. By leaving 3-4 inches of rubber protruding below the cutting edge, the grader operator can effectively clean mud off of a paved road.

Speed Cleaning

This is the hands-off way of removing mud from vehicles. For this to work effectively, your landfill must have a have long, paved exit road, where trucks can get up to relatively high speed before exiting the site. Otherwise they'll continue slinging mud out on the highway.

In order for trucks to self-clean, they must reach speeds of 30 to 40 miles per hour. Of course, this is a direct conflict with safe speed limits posted at most landfills.

If you elect to use this method, you'll also need to clean the exit road on a regular basis to prevent the tracked mud from extending onto the public roads outside the landfill.

Prevention

As an alternative to removing the mud from the trucks and the roadway, you might want to do more along the lines of prevention. Placing more gravel or rubble on the deck can help keep trucks out of the mud in the first place. Of course, there may be a significant cost associated with purchasing gravel unless your landfill is fortunate enough to receive lots of good, clean rubble or asphalt grindings.

You'll also want to modify your operation at the unloading area so as to keep heavy equipment from tracking mud back onto the deck. Some landfills use a wheel loader to push trash to the edge of the deck, where a dozer or compactor can get to it.

While prevention may sound better than cleaning, the choice will probably come down to economics. Unless you are under a regulatory mandate to use a specific type of method to prevent track-out, most landfills choose the method that gets the job done for the lowest cost.

Features

Keep on Trucking—New types of tire wash systems and why they're necessary on many job sites

Daniel P. Duffy

Wheel wash systems are often one of the least recognized landfill structures for ensuring safety, health, and environmental protection. But they are far from being the least important—not that any landfill protective system is unimportant. For a minor capital investment and minimal operating costs, landfill owners and operators can achieve high standards of site cleanliness and public acceptance. The types and configurations of wheel wash systems are surprisingly diverse. They can range from simple ponds of water or rumble strips to active systems employing high-pressure water jets and elaborate water recycling and filtration systems. Given the wide variety to choose from, the landfill operator must size the wheel wash system to meet anticipated truck traffic while minimizing truck queues and achieving necessary standards of cleanliness. This can require customization for specific types of operations and projects, and modern wheel wash systems meet this challenge with the help of manufacturers continuously improving their product and its capabilities.

The Need for Wheel Wash Systems

Begin with simple aesthetics. As good neighbors, landfill operators strive to minimize, if not eliminate, nuisances that can affect adjacent properties or passersby. Landfill nuisances include odors, noise, dust, and blown debris. None of these by themselves make for an immediate and severe threat to human health or the environment (though over time, they certainly represent a chronic threat). But they do make living or working next to a landfill a singularly unpleasant experience if left unchecked.

So landfill operators adopt various strategies to minimize nuisances. To minimize odors, they use daily cover to encapsulate waste, or even spray perfumes to mask them. To minimize dust, they water down access roads and work surfaces. To minimize and capture blown debris, they erect tall mesh fences downwind of the current work face. And to prevent mud and residual scraps of waste from being deposited on road surfaces, landfill operators utilize wheel wash systems.

Then, there are safety concerns. Mud on the roadway, wet or dry, represents a significant driving hazard. In both cases, mud reduces the coefficient of friction between tires and the road surface, which can cause cars and trucks to skid out of control. If accidents caused by the slick, mud-stricken roads do occur, the landfill operators bear the liability. If the State or local government fails to prevent mud from being dragged offsite, the government can also share liability. It is a matter of meeting roadway safety standards.

To prevent being held liable, the State's Department of Transportation (DOT) or the local county engineer's office may issue permits for the site itself, pass local ordinances, and publish regulations, in addition to the operating permit issued by the State environmental regulatory agency. These additional requirements have two goals: see that the roadways and roadsides are properly maintained in a manner consistent with the engineering design and safety standards to ensure that efficient and

safe traffic flow is not disrupted, and to identify and correct any hazards (such as a muddy surface) as soon as possible. Even though service roadways and access roadways onsite are located within private property, and are therefore not part of the local road system, it is often within the County's or State's right to regulate these surfaces as well, since they can be the source of mud on adjacent roadways. The government's first concern is for the safety of the driving public. So, keeping mud off of the roadway is not just a good idea, it is the law.

And it is not just the public that is threatened by roadway mud hazards; the site equipment operators and support personnel are also at risk. These roads are used by both office staff looking for a place to park their cars, and by equipment operators moving their iron across the site. Even waste-hauling trucks—the main contributor of roadway mud—are vulnerable to the safety impacts of slick, muddy roads. Activity on a landfill can make the whole site muddy—and activity is not just limited to the working face. Trucks haul waste onto the site and haul cover soil from offsite sources or onsite borrow pits. After even a moderate rainstorm, vehicle and equipment movement can churn up mud for days. Mud can cake onto tires and undercarriages, as well. So, the term "wheel wash" is something of a misnomer. A thorough wash system takes care of the vehicle under-body as well, removing mud from both locations.

The Wheel Wash as Part of the Overall Sedimentation and Erosion Control System

A wheel wash—one of several systems specifically designed to minimize and eliminate a particular nuisance and possible threat to human health and the environment—is also a significant part of a landfill's sedimentation and erosion control system. Operators normally think of this as being a series of permanent and temporary structures designed to prevent eroded sediment from being carried offsite by surface water runoff.

These can consist of straw-filled wattles, geotextile silt curtain fences, rock pile check dames, detention and retention basins, riser pipe discharge structures, and temporary seeding covers. The wheel wash system is the site's last line of defense against escaping sedimentation. All of these constitute what is referred to as best available technology (BAT).

In addition to technological solutions, sediment and erosion control also includes operational procedures referred to as best management practices (BMP). These include daily (even twice a day) manual inspections of every linear foot of onsite roadways and the gate exit facility. Inspections are not just performed to determine the locations of mud on the roadways, but to also ascertain the current integrity of the BAT structures. Mud spills are to be cleaned up, and deficient BAT structures are to be repaired or replaced. These inspections should bring the inspector to egress points, cross-sections, and exit gates where truck traffic is funneled as it leaves the site. These points should be stabilized by high-integrity surfaces such as concrete or asphalt paving, or by a sufficiently thick layer of aggregate underlain with a sturdy, non-woven geotextile to prevent it from intermixing with underlying soils.

Cleaning operations should be thorough and carried out at least at one of these key inspection points, as well as hauling roads used to carry dirt and hauling roads used to carry waste. Sweeping should be done by sweepers equipped with vacuum or mechanical collectors, instead of just pushing the accumulated piles of mud and sediment to one side with a mechanical broom. Indirect operational aide in reducing the need for inspection and cleanup is achieved by limiting site access to few (or preferably one) entrance points. The goal is to contain all sediment and mud onsite, preventing its escape to neighboring manmade drains and natural bodies of water.

The use of water trucks must be properly coordinated with roadway inspection and cleanup operations. This task is essential for minimizing dust formation resulting from truck and vehicle movements during dry spells by wetting down the loose particles on roadway surfaces. This is not considered to be sediment since it is rarely mobile and is generated by clean (if not potable) water. Therefore, past practices of spraying oils or even leachate extracted from disposal cells to suppress dust have been discontinued.

Sizing, Locating, and Installing the Wheel Wash System

In this context, a wheel wash system may be considered a form of pavement stabilization. It is best to locate these systems at one or more of the key points. At these points, the wheel wash is directly incorporated into the stabilized surface. Chemical soil stabilizers and binding agents can also be used. This is usually located somewhere near the site exit(s), but not specifically at the exit gate itself, as this can lead to truck queues interfering with normal traffic flows.

A simple wheel wash facility can be constructed from recycled materials and natural aggregates. Once the location has been chosen, it should be graded and leveled with a diversion channel that will carry runoff from cleanup sprays to an adjacent collection basin. A sturdy (minimum 6 ounces per square yard), non-woven geotextile should be installed on the smooth surface to separate the underlying soils. Then, a minimum 8-inch-thick layer of coarse aggregate or a 12-inch-thick layer of recycled crushed concrete (larger than 40 millimeters in diameter) should be installed. Then, install a wash rack constructed of welded steel bars large enough and heavy enough for anticipated vehicle traffic. This can also be made from recycled materials such as salvaged metal mean guardrails. Lastly, install a manual power hose hookup to connect the cleanout spray to a water source to allow for manual clean out of the tires and underbody.

There are four basic methods for applying cleaning water to a truck: a flooded basin that the trucks drive through (often also equipped with rumble strips), a flowing countercurrent channel where water flows past submerged tires, low-pressure sprays with high volumes of water flows that inundate the tires, and high-pressure, low-volume water spray jets that use impact to dislodge accumulated dirt.

Types of Wheel Wash Systems

There are two broad categories of active wheel wash systems: roller systems and drive-through systems. When using a roller unit, the truck leaving the landfill parks itself on each set of rollers as it exits the site, and is put into neutral. As the wheels of each axle are rotated by the spinning roller sets, water is sprayed from preset locations to thoroughly clean mud flaps, bumpers, underbodies, wheel wells, and tires.

A drive-through system does not require the truck to stop to be cleaned. Trucks entering a drive-through unit continue slowly (at 5 miles per hour) until exiting the facility. As the slow-moving truck advances, it passes magnetic and photo sensors that send a signal to the control panel to begin the cleaning process. Pre-positioned water nozzles spray the vehicle’s tires, wheel wells, and mud flaps. The unit comes with angle iron grids that serve to open up the tire treads as the truck moves, allowing for easier cleaning and loosening of caked mud. The platform itself is usually made of galvanized steel for long-term rust resistance and physical durability.

Most modern wheel wash systems are designed to use high-volume water flow at low pressure. The high volume of water is more effective at cleaning tires and is much better at removing the washed

sludge and accumulated solids that are left after the cleaning operation. By comparison, neither mists nor high-pressure sprays are as effective. Counterintuitively, they also use less water during the cleaning operation than a high-water flow system.

Major Suppliers

Frutiger AG has been manufacturing its MobyDick Wheel Washing Systems since 1985. They are designed to be simple-to-install and easy-to-maintain. Their TM-Line Wheel Washing System offers a large model range, high tire and wheel wash performance, closed loop water recycling, and optional accessories for multiple tire-cleaning and wheel-washing problems. Each TM-Line system is custom-configured to a customer's application. The first modern wheel wash systems were the MobyDick Quick series. The Quick system represented a unique design improvement from previously used high-pressure truck wash systems. The design was so successful that today, all modern drive-through systems are based on this design and advanced engineering of the Quick series.

Building on the 30-year success of the MobyDick product line, in 2017, Frutiger Company AG introduced a new flagship wheel washing system series: the MobyDick ONE. The ONE models combine the proven features of the Quick series with newly patented technological developments to expand both the scope and quality of its already-famous cleaning and water-recycling abilities. In addition to improved wash rack structural construction, allowing an expanded selection of platform lengths (12-feet, 24-feet, 33-feet, 47-feet, and a massive 66-feet), a brand new feature called Powerflush improves the results of mudguard cleaning. Re-tuned motion profiles and nozzle settings, coupled with readily exchangeable modular side- and bottom-spray nozzles, improve all-around cleaning performance. Finally, revised wash module geometry, developed in concert with the Zurich University of Technology (ETH), is flow-optimized even further to complement the cleaning performance of the MobyDick ONE model series.

Neptune Automated Wheel Wash Systems manufactures effective, tough, and reliable wheel wash systems built to last longer than the industry standard. Their excavation business started out as end users of wheel wash systems. Dissatisfied with what they were able to obtain on the market, they decided to build their own. They went on to make what is now a successful product manufactured in Hot Springs, Arkansas, with over 700 of their systems in North America. Their system incorporates a high-volume, low-pressure design because it washes better. This configuration puts much less strain on pumps and almost never breaks down because it is not subject to high-pressure regimes. The system is unique in that the structure itself serves as the water-carrying channels, so there is no piping throughout the wheel-washing platform. By utilizing the square tubing of the structure, the system can handle extremely high volumes of water with minimal velocity drag.

With insight that comes with being an end user, the company has developed a number of key features that are extremely helpful to the end user, including:

- Pipe and Valve Stem Assembly to allow the customer to deposit the recycled water into a water wagon when de-watering the tank, or as needed to be used onsite
- Side Spray Shut Off Assembly to allow the customer to use bottom nozzles only when the conditions warrant
- Back Wash Feature to facilitate cleaning of the exit ramp
- Hand Wash Feature and Fire Hose and Nozzle to allow the customer to use the recycled water to hose down other equipment

The Neptune Wash Systems utilize standard 42-inch-wide wash platforms, angled steel profile grates, and custom-milled three-piece nozzle assemblies. A key feature is their ability to reconfigure the

installation of each system as needed. A gravity feed system has the capability of accepting ramps and being used above ground when needed or vice versa. The systems' versatility allows for the system to adjust to changing site situations. The three-piece ball nozzle assemblies are also fully adjustable. Neptune systems utilize submersible HOMA wastewater pumps. Unlike standard de-watering pumps, which require an intake screen, the HOMA pump can handle any solid up to 3.5 inches in spherical circumference, allowing for consistent pump efficiency. In addition, HOMA pumps offer an Auto Coupler option, which allows a customer to remove or install a pump without the need to de-water the water-recycling tank. This feature greatly reduces maintenance time and eliminates confined space issues.

Installation is also made easier by the use of customized header systems. Each system is designed to maximize water flow and minimize installation cost while delivering even water flow throughout the system. The header's large channel size maintains maximum pump efficiency and consistent flow rates. Once installed, control and monitoring are conducted via electronic control panels that allow an interface to operate with an existing or proposed SCADA.

Trackout Control LLC has extensive experience in the installation and operation of landfill wheel wash systems—most notably, the Grizzly brand and Rumble Grate product. The Grizzly and Rumble Grate are trademarked names protected legally with 67 claims in four patents. The San Joaquin County Environmental office did a study of their equipment and concluded it was 85% effective, noting that it collects the material underneath until it fills up. Filling up can take six months or more, depending on the volume of traffic and soil type. No unit in service has ever worn out, bent, or failed since the first one was installed at a mine in eastern Arizona in 2004. That site has a fleet of 60 trucks per hour, eight hours per day, six days per week driving over a unit that is still holding up. This is due to the use of Rumble Grates that are built to support 115,000 pounds.

The typical use of the Rumble Grate is to place 24-lineal-feet on the ground or drop into sawcut paving. It shakes or rumbles the vehicle and chassis to shake off dust, dirt, rock, and debris. For mud, a variation of using the Grizzly Trackout Control Device on muddy surfaces is submerging a Rumble Grate system in 13 inches of water (overall equipment height is 12 inches), submersed with the top 1 inch below the top waterline. This is an effective method of preventing mud from being tracked offsite. The water loosens mud between tandem wheels and the Rumble Grate causes shaking of the vehicle as it drives across the device, which knocks off mud, dust, and dirt from the tires and chassis. Its cleaning abilities are effective enough to control Particulate Matter (PM10) to help improve air quality. Grizzly Trackout Control Device is recommended by many government agencies as an effective solution, approved by cities, counties, and states. It is reusable, transportable, and expandable to any length required. The Grizzly Trackout Control Device consists of 8-feet by 10-feet or 8-feet by 20-feet sections of steel positioned at alternating elevations and consistently spaced to appropriately shake vehicles. The device is typically set up with three sections abutted tightly together to create a continuous track (three grates form a continuous track or shaker 24-feet-long and 10- or 20-feet-wide). The spacing of the horizontal members can be from 5 inches to 14 inches. Any other manufacturer that produces a trackout device within those spacing dimensions infringes on our Federal patents. By abutting each of the 8-foot sections end to end, the trackout device provides 24 feet of shaker. Or, the 8-foot sections can be placed side by side to create any width. Rumble Grates are designed to fit together like a puzzle, with all members lined up with each other.

Versions of this device can include space below the device to collect dust and dirt. The space below the device to receive dust is called "free board." Devices can be either mobile or fixed in ground with varying degrees of spacing and elevations.

Vehicle & Equipment Washers Inc. (VEWI) produces the TW-2000 Wheel Wash Unit. A simple design,

it requires minimal maintenance and no operator assistance. It can be set up and operational in a few hours on any flat surface. It comes equipped with an 8,000-gallon tank, allowing for easy disposal of accumulated debris. It is self-contained and self-cleaning, with flushing sprays that provide a clean wash area. Available with multiple options, it is both versatile and mobile. Their patented vehicle and equipment wash systems, products of 20 years of experience, control and contain site debris on VEWI systems. These systems provide wash, disinfection, and decontamination for rubber tire, halftrack, and full track vehicles and their tires, tracks, and undercarriage. They come in either permanent or portable configurations with multiple options for specialized use.

Stanton Systems has been manufacturing tire wash systems for almost 30 years. Founded by Dennis Stanton, Stanton Systems is the leading innovator of tire wash systems in America. This innovation began with an order from a landfill for a tire wash system that did not exist, but Stanton was able to design and create it in two weeks. The landfill company quickly approved the prototype design, and that was the first tire wash officially made and sold in America. For the first 10 years, most of Stanton System's sales were landfills, as those types of operations were the most concerned with having clean vehicles leaving the property. As the market diversified and expanded, and demand matured, Stanton's innovative approach met these new challenges.

The original design was a concrete tank that took a couple hundred yards of concrete work. But their new models have been redesigned to offer steel units to effectively meet the expectations within the marketplace. Stanton Systems will not, however, sacrifice results, and operates in accordance with the belief that a good system has to be thorough and durable. This approach has been so successful that many customers are removing existing wash systems because they are not getting the job done right. Their basic design is based on the fact that without a powerful enough spray, drivers will not slow the vehicles enough to thoroughly remove the mud—which, in turn, just makes the problem worse.

Clients also praise the systems' efficiency in clearing a construction site of delivery trucks and concrete trucks—operating so quickly that truck queues are prevented. Usually they are held up for 10 minutes or more for manual cleaning of the trucks, with the auto wash being only 10 seconds. Such efficiency is one more benefit in running a less-expensive job site, thus improving their odds at winning bids.

O.L. Thompson Construction Company Incorporation is a client and a prime example of how Stanton's wheel wash units can benefit a busy job site. John Jenkins, manager of technical maintenance and special projects for O.L. Thompson Construction Co. Inc., can confirm the faster throughput of automatic washing. O.L. Thompson Construction Co. Inc.—a contractor based in Charleston, South Carolina that provides demolition, clearing, erosion control, grading, storm drainage, concrete, and asphalt paving among its services—was hired as the main site work contractor for a building project in Berkeley County, South Carolina for a corporation, and set up the wheel-washing unit within a few hundred yards of a four-lane highway. The unit was set up to prevent the trackout of mud onto the highway and reduce the liability involved in sending sweeper trucks onto the highway. The waste was collected on a concrete slab and most of the moisture allowed drain-off before being collected by small loaders and carried to a spoil area. Jenkins says that O.L. Thompson purchased the unit, expecting it to clean 10 trucks per hour. "On busy days, we can see that many in 15 minutes and the machine could easily process more," he says, adding that O.L. Thompson easily installs and maintains it. GX

Daniel P. Duffy writes frequently for Forester Media publications.

FRUTIGER Company AG | Stegackerstrasse 26 | CH-8409 Winterthur

Ron E. Vail, P.E,
Santek Waste Services, LLC
650 25th Street N.W. Suite 100,
Cleveland, TN 37311
United States

July 22nd, 2019

Offer Nr. 20190611-TH
Project: Loudon - Matlock Bend Wheel Wash

Dear Ron,

Thank you, Paul and Justin for taking the time to meet with me on May 29th, 2019 and more recently with Trey Hansen at your Matlock Bend Facility in Loudon.

- Your seeking a solution to manage the site soiling "track out" and dirty water "walk off" at your landfill site.
- Trucks using the facility are on highway vehicles.
- Our estimate confirmed by you of the site conditions worst case could be:
  - # 5 amount on tires (scale 1=low to 10 = high)
  - # 2 stickiness on tires (scale 1=low to 5 = high)
  - 200 trucks per day - usual work day 10 hours

Frutiger Company is confident we can accomplish a cleaning goal improvement of 80% or more clean tires with heaviest soiling during your typical traffic loads with a One and a half tire rotation 20' platform MobyDick KitPlus 600C – 50P Wheelwashing system.

We are pleased to submit the following proposal for your review:

- MobyDick Model ConLine Kit Plus 600C – 50P (1 ½ tire revolution wash platform 20' long) with Inground 13,000 Gallon (50 Cubic Meter) water recycling tank with solids removal being achieved through the use of a scraper conveyor and an additional 5,000 Gallon (20 Cubic Meter) tank for Pump compartment / water supply.

With this proposal we have included detailed equipment descriptions with specifications, concept drawings and brochures.

We look forward to a successful partnership and are always available to answer your questions.

Thank you once again for the opportunity to provide you this proposal.

Sincerely,,
FRUTIGER Company AG

Tim Holmes B.A., M.B.A.
Sales Director, North America
MobyDick North America
Cell: 519-589-3377
tholmes@us.mobydick.com

c.c. Paul Marks, Trey Hansen

Attachments:
- Brochure – ConLine KITPlus Brochure
- Brochure – ConLine Kit Option Brochure
- Layout: Wheel Washing System ConLine KitPlus 600C – 50 P

Y/Customer No.	-	O/Reference	Tim Holmes
Y/Inquiry	20190628	Delivery type	Truck
Y/Reference	Jon Peterson	Incoterms	DDU
Remark	MobyDick ConLine Kit Plus 600C – 50P & Kit Plus 400C – 50P		

Pos	Article No. / Designation	Qty.	Unit
1	Article: **MDC-100-015** Wheel Washing System MobyDick Model: **ConLine KIT Plus 600 C-50P** Hot-dip galvanized, water-carrying wash unit with splash protection walls on both sides.	1	pce.
2	Article: **MDCO-EXCW-400** / Opt.-Code: **[-EXCW-]** Increased Width Model: ConLine KIT Plus Sidewall offset to 110 inch clear width to reduce risk of damage.	1	pce.
3	Article: **MDCO-DOSY-0001** / Opt.-Code: **[-DOSY-]** Flocculent Dosing System (MobyDos Compact) Model: ConLine KIT Flex and ConLine KIT Plus Compact dosing system for the automatic addition of flocculent for effective and rapid treatment of the dirt-water.	1	pce.
4	Article: **MDCO-SIWA-600** / Opt.-Code: **[-SIWA-]** Hot dip galvanised side walls Model: ConLine KIT Plus Splash protection side walls and double nozzle bars on both sides made out of hot-dip galvanised steel.	1	pce.
5	Article: **MDCO-RAIL-600C** / Opt.-Code: **[-RAIL-]** Safety Railing Model: ConLine KIT Plus Galvanised safety railing for the recycling tank(s).	1	pce.
6	Article: **MDCO-TANK-0001** / Opt.-Code: **[-TANK-]** Separate Water Tank Model: ConLine KIT Flex und ConLine KIT Plus Separate water tank to regulate the water level in case of an absent water supply.	1	pce.

Your MobyDick Sales Engineer
Name Tim Holmes
Phone (519) 589-3377
E-mail tholmes@us.mobydick.com

Options

6	Consulting/Supervision of equipment install,start up and training (1trip 3 days). Installation and Start-up are quoted as one trip to the site, including labor, travel time, and expenses. Addt'l trips due to reasons beyond our control to be charged to the customer, including labor, travel time & expenses.	1	Opt.

Construction services

- All groundwork, such as excavation, reinforcing the substrate and underground levelling and filling work.
- Laying electrical cables and water lines to the system.
- Unloading and placing the system with a suitable device
- Connection of the main power connection to the control cabinet by an electrician.
- Secure the recycling tank against unintentional falling in if no MobyDick safety railing is ordered.
- Earthing, equipotential bonding and lightning protection of the system.
- Necessary tools and fresh water filling for commissioning the system.
- Working and deliveries that go beyond the scope of our offer, unless they have been calculated specially based on cost or offered at a flat rate price.
- Additional costs of a technical or construction-based nature due to local ordinances, as long as they are not included in the specifications.

IMPORTANT: Providing the above services is the basic requirement for a successful installation of the MobyDick Wheel Washing System. FRUTIGER reserves the right to invoice any waiting times and/or additional journeys separately at cost due to the lack of services provided by the customer.

Your MobyDick Sales Engineer
Name Tim Holmes
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Conditions

Price	• Net
Payment conditions upon purchase	• 40% Downpayment with order confirmation. • 50% on system dleivery • 10% net 30 days after system start up • **Optional Lease to Own available**
Retention of title	• The goods remain the property of FRUTIGER Company AG until payment has been made in full.
Delivery time EXW (Ex Works)	• Approx. 18 weeks from written order and clarification of all technical details. 22 weeks to Loudon, TN.
Warranty upon purchase	• 24 months or 100,000 wash cycles (whichever comes first) excluding parts that have to be replaced due to normal wear.
Quality Management System	• According ISO 9001:2016 standard.
Offer validity	• Two months from the date of this offer.
Note	• FRUTIGER reserves the right to make changes due to technical progress.
Terms and conditions of business	• This offer is based on the general terms and conditions (GTC) of FRUTIGER • Company AG which are available on the company website (www.mobydick.com/fileadmin/user_upload/shared/GTC.pdf)

Wheel Washing System ConLine KIT

Technical description

Wash unit containing two hot-dip galvanised, water conducting 38 cm high wash elements (left/right), consisting of a large steel structure with fixed welded angle sections (90 x 90 mm and 10 mm wall thickness), rectangular steel tubes (120 x 120 mm and 5 mm wall thickness), and plates (3 mm). Middle section consisting of solid, dual-sided slanted hot-dip galvanized corrugated metal sheets. Longitudinal plates integrated into the wash elements for concentrated direction of the wash water in a laterally extruding hot-dip galvanized cross channel with integrated gradient. Floor nozzles integrated into the angle sections and the rectangular steel tubes. Splash walls on both sides made of robust construction with huge lateral fenders up to high wheel flanks. Two side nozzle beams on each side with quick-lock coupling. MobyPump wastewater pumps, control cabinet, and optical sensor for start-up.

Recycling tank package consisting of a large steel structure with profile frame (5 mm) and plate including edge expansion (38 cm) to provide a finish with the ground level. Surface treatment (chemical cleaning, grounding for 60 my, top coat 60 my Ral 5017, traffic blue). Flow-optimised positioning of overflow weir and wash plate. Pump chamber equipped with pump brackets (painted) and access ladder (galvanised) and automatic fill level control and outlet cover for easy emptying of the tank. Galvanized multi-part safety guard rail (optional for KIT Flex) for simple assembly in the square frame section of the recycling tank. The tank construction also allows it to sustain all the forces generated by a passing loaded lorry when it is in an empty state.

Your MobyDick Sales Engineer
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Scope of delivery:

Article: **MDC-100-015**
Model: ConLine KIT Plus 600 C-50P

1 Central wash unit 6 meters with nozzle configuration
1 Double side spray bar per side
1 Control cabinet
1 Automatic starting optical sensor
3 MobyPump washing pumps, 2'500 l/min each
1 Recycling tank package, 50 m³ parallel
1 Additional 20 M³ Recycling Tank
1 In ground recycling tank height extension
1 Safety railing for recycling tank
1 Scraper conveyor for recycling tank

Specifications:

Length of wash unit	600	cm	19' 8"	ft.
Clear drive through width of the wash unit (lane)	320	cm	126	in
Maximum axle load	15	t	15	t
Height of splash protection side walls	136	cm	53.5	In
Nozzles (Core diameter min. 7 mm)	226	Pcs.	226	pcs.
Nozzle bars per side	2	Pcs.	2	pcs.
Recycling tank volume	50,0	m³	13,000	gal
Usable volume of operating water	30,0	m³	8,000	gal
Sedimentation area of the recycling tank	25,5	m²	275	sq ft
Discharge height of scraper conveyor above ground	105	cm	42	In
Maximum pump performance	7,5	m³/min	1981	gal/min
Connected electrical load of the entire system	17,1	kW	23	hp
Sound emission	< 75	dB	< 75	dB

KIT Plus 600 C-50P (Scraper Conveyor)

Your MobyDick Sales Engineer
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E-mail tholmes@us.mobydick.com

EC Declaration of Conformity

The MobyDick® tyre wash system described above conforms to the provisions of the following directives and norms, including their amendments.

- 2006/42/EC:2009, Machinery Directive
- 2004/18/EC:2004, EMC Directive
- EN 60204-1, Electrical equipment of machines
- EN 60439-1, Low-voltage switchgear assemblies

It also fulfils Directive 2014/35/EU:2014 in accordance with Annex I No. 1.5.1 MD 2006/42/EC with regard to its safety objectives.

Your MobyDick Sales Engineer
Name Tim Holmes
Phone (519) 589-3377
E-mail tholmes@us.mobydick.com

moby dick

July 21, 2019

Attn: Ron Vail

RE: Project Santek MobyDick Wheel Wash Installation and Startup

Dear Mr. Vail,

MobyDick Total Solutions is pleased to submit its **budget** proposal to provide tools, equipment, labor and supervision for the above referenced project. Over the past 8 years we have installed over 50 different MobyDick wheel wash systems throughout the US and are the preferred manufacturer contractor.

Our scope of work includes the following items:

1. Inspect and inventory **Moby Dick Conline KIT Plus Series 600C-50CC/20B** to install location.
2. Demo, form and pour foundations, aprons, curbs and bollards per drawings(TBD) and incorporating existing infrastructure.
3. Assumes excavation and demo spoils disposed of onsite.
4. Assemble and commission wheel wash.
5. Install of all components including:
    a. Wash elements
    b. Sided walls
    c. Pumps
    d. Piping
    e. Sensor and associated piping
    f. Control panel
    g. Install recycling tanks, safety railing, and water return channel as per drawings
6. Final connections electrical service.
7. Final plumbing connection from domestic make up water if chosen.
8. Start up and training of personnel operating wheel wash.

The following items are not included:

- All Electrical & Utilities to and from Moby Dick Conline KIT Plus Series 600C-50CC/20B unit will be by others.
- No soil borings or shoring of excavation is included.
- Site Survey and layout including identification of underground obstructions or soil conditions by others.
- Sales or use taxes, all permits.
- If Permits are required these costs will be actual amounts of fees and engineering charges.

Payment terms & conditions:

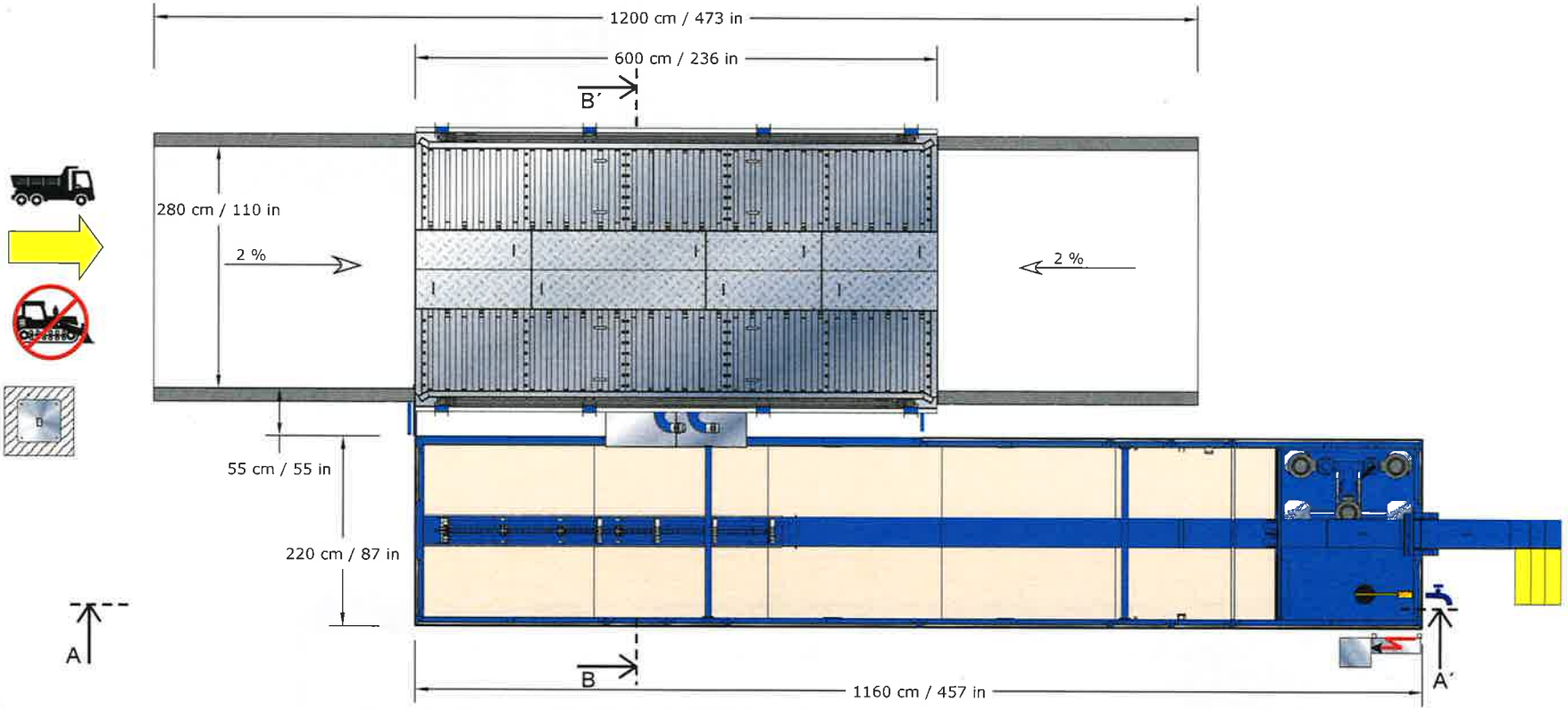
50% due prior to start of project
Balance due upon completion of installation and startup

Please contact me with any questions or concerns.

We thank you for the opportunity,

Trey Hansen
MobyDick Total Solutions

2348 South Dock
St. Palmetto, FL
34221
Mobile : 219.707.9765
tlhansen@us.mobydick.com



13.06.2017	V 1.0.	MoW	1 / 2
MD Kit Plus 600C-50P	Layout		
MDK-A300-600C-50P			

moby dick FRUTIGER

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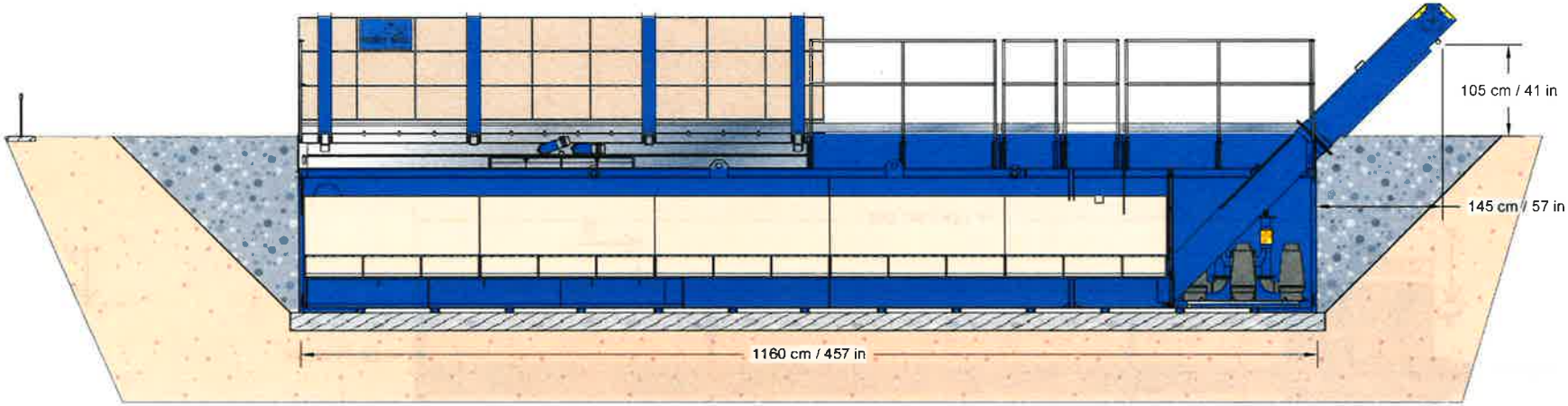

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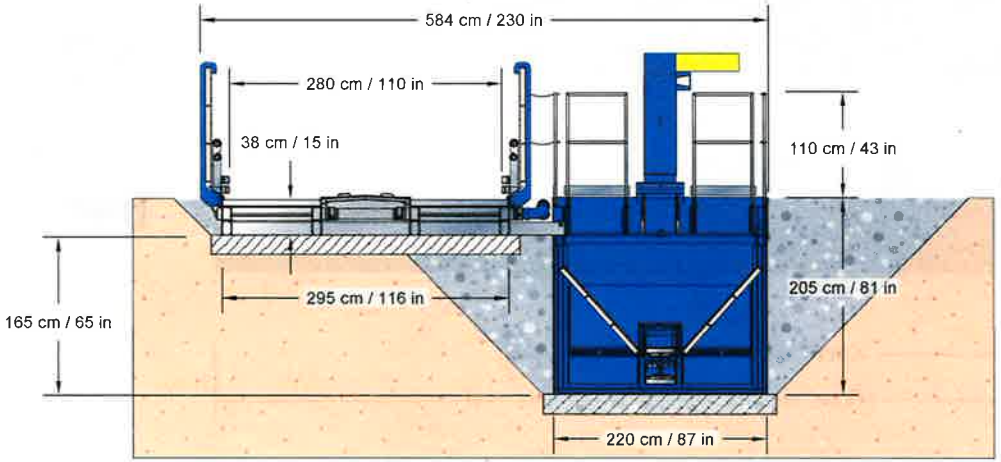

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MD Kit Plus 600C-50P	Layout		
MDK-A300-600C-50P			

moby dick FRUTIGER

moby dick

MobyDick ConLine KIT Plus

rugged, functional, efficient

Greater Performance for
High Expectations

FRUTIGER
a whale, a promise!

www.mobydick.com

MobyDick ConLine

Wheel Washing System KIT Plus

MobyDick ConLine | KIT Plus is a wide product range of mobile and fixed solutions for sites with high numbers of trucks. These modern drive-through systems are based on the results from over 30 years experience with wheel washing systems and offer an attractive price-to-performance ratio, alongside the benefits of the classic MobyDick. All ConLine Plus systems are quick and easy to install and require only minimal maintenance.

www.mobydick.com

Mobile Models: Ready in a matter of hours

KIT Plus 600 VB-50P

KIT Plus 400 MB-50P

KIT Plus 600 VC-50P (Scraper Conveyor)

KIT Plus 400 MC-50P (Scraper Conveyor)

Efficient cleaning thanks to leading MobyDick technology.

Equipped with ramps mobile operation is possible

Stationary Models: For maximum functionality and simple installation

KIT Plus 800 B-50P

KIT Plus 600 B-50P

KIT Plus 400 B-50P

KIT Plus 800 B-100P

KIT Plus 600 B-100P

KIT Plus 400 B-100P

KIT Plus 800 B-100S

KIT Plus 600 B-100S

KIT Plus 400 B-100S

KIT Plus 800 C-50P (Scraper Conveyor)

KIT Plus 600 C-50P (Scraper Conveyor)

KIT Plus 400 C-50P (Scraper Conveyor)

KIT Plus 800 C-100Q (Scraper Conveyor)

KIT Plus 600 C-50Q (Scraper Conveyor)

KIT Plus 400 C-50Q (Scraper Conveyor)

Popular Options

MobyDos Compact
(Flocculent Dosing System)
A compact dosing system for the automatic addition of the flocculant ensures that contaminated water is cleared effectively and quickly.

MobyDos Compact & Container
The container, with integrated flocculant dosing, protects the flocculant and the electronics from weathering.

Chassis Wash
Additional jets between the washing elements enable intensive cleaning of the undercarriage.

Backwash
(Exit Area Backwash System)
Side nozzle bars in the exit area backwash the dripping dirty water of the exiting vehicles back into the system.

Manual Wash
(Hose and Lance)
A mechanism for additional manual cleaning of vehicle superstructures, devices and for the area surrounding the wheel washing system.

Drip Pad
(Excess Water Collecting System)
The drip pad connected to the washing area minimises the discharge of water onto the public road and reduces water loss.

Performance data Tank versions P = parallel Q = transverse S = serial	**Models**	KIT Plus 400 B-50P	KIT Plus 400 B-100P	KIT Plus 400 B-100S	KIT Plus 400 C-50P	KIT Plus 400 C-50Q	KIT Plus 400 MB-50P	KIT Plus 400 MC-50P	KIT Plus 600 B-50P	KIT Plus 600 B-100P	KIT Plus 600 B-100S	KIT Plus 600 C-50P	KIT Plus 600 C-50Q	KIT Plus 600 MB-50P	KIT Plus 600 MC-50P	KIT Plus 800 B-50P	KIT Plus 800 B-100P	KIT Plus 800 B-100S	KIT Plus 800 C-50P	KIT Plus 800 C-100Q
Complete truck wheel washing system																				
Wash unit and nozzle configuration incl.																				
- Water-bearing construction		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
- Galvanised construction		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
- Angle sections with floor nozzles (profile washes)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
- Horizontal double-sided nozzle bars		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
- Splash protection walls		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Recycling tank package		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Recycling tank wall extensions		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Safety rail for recycling tank		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Scraper Conveyor for recycling tank		-	-	-	1	1	-	1	-	-	-	1	1	-	1	-	-	-	1	2
MobyPump washing pumps		2	2	2	2	2	1	1	3	3	3	3	3	2	2	4	4	4	4	4
Optic sensor start initiation		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pump for backwashing the dirty water		-	-	-	-	-	1	1	-	-	-	-	-	2	2	-	-	-	-	-
Complete ramp set (entry and exit ramps)		-	-	-	-	-	✓	✓	-	-	-	-	-	✓	✓	-	-	-	-	-
Specifications and technical data																				
Length of the wash unit [cm]		400	400	400	400	400	400	400	600	600	600	600	600	600	600	800	800	800	800	800
Clear drive through width of the wash unit [cm]		280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
Maximum axle load [t]		15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Height of splash walls [cm]		136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Nozzles (min. 7 mm core diameter)		130	130	130	130	130	112	112	226	226	226	226	226	198	198	260	260	260	260	260
Nozzle bars per side		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Recycling tank volume [m³]		50	100	100	50	50	50	50	50	100	100	50	50	50	50	50	100	100	50	100
Service water useful volume [m³]		35	70	70	30	30	35	30	35	70	70	30	30	35	30	35	70	70	30	60
Clarification area recycling tank [m²]		25,5	51,0	51,0	25,5	25,5	25,5	25,5	25,5	51,0	51,0	25,5	25,5	25,5	25,5	25,5	51,0	51,0	25,5	51,0
Ejection height of chain conveyor above ground [cm]		-	-	-	105	105	-	305	-	-	-	105	105	-	305	-	-	-	105	105
Maximum pump power [m³/min]		5,0	5,0	5,0	5,0	5,0	2,5	2,5	7,5	7,5	7,5	7,5	7,5	5,0	5,0	10,0	10,0	10,0	10,0	10,0
Connected load of the entire system [kW]		11,2	11,2	11,2	11,5	11,5	11,2	11,5	16,8	16,8	16,8	17,1	17,1	22,4	23,0	22,4	22,4	22,4	23,0	23,0
Acoustic emission* [dB]		< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75	< 75

*The given sound power level was measured using the enveloping surface method, with the operator's ear or truck driver's ear in the driver's compartment, with the window open.

Options (for additional price)																				
MobyDos Compact (Flocculent Dosing System)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MobyDos Compact & Container		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chassis Wash		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Backwash (Exit Area Backwash System)		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Manual Wash (Hose and Lance)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MobyHeat FSC 1 - 3 (Winter Packages)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drip Pad (Excess Water Collection System)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Extended Clear Width to 345 cm		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Grid Iron Cover for Recycling Tank		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Third Nozzle Bar		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Cargo Moistening System with Recycling Water		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Cargo Moistening System with Fresh Water		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Increased Drive Through Width (300 cm)		✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Installation and Commissioning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

MobyDick Wheel Washing

With a wide selection of customised (TailorMade) and standardised (ConLine) wheel washing systems, the MobyDick wheel washing line has been providing a suitable solution for every problem for 30 years.

MobyDick Demucking

The washing systems in the Demucking line automatically free the frame, the underbody and the wheels or crawler tracks of vehicles from coarse debris in a matter of of minutes.

MobyDick Dust Control

MobyDick Dust Control offers a wide selection of modern canons for dust control. Typical areas of application include construction sites, materials handling sites, recycling yards, quarries, mines, steel and cement factories.

moby dick

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a whale, a promise!

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ConLine
Option Brochure

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MobyDick COptions - Maximum functionality for your wheel washing system

More than 30 years ago FRUTIGER launched the MobyDick brand. Since then, over 4'500 MobyDick wheel washing systems have been installed in 72 countries. Building on this experience, FRUTIGER has developed a wide range of options which enable your wheel washing system to be adapted to different needs and to extend its function.

This brochure provides and overview of the MobyDick ConLine options and their possible applications in daily operation.

Available Options

Option Backwash of exit area
Option-Code: [-BAWS-]

Scope of supply:
- 2 nozzle bars with adjustable nozzles for installation in the exit area

Technical description:
The truck wheels and the chassis are usually cleaned with recycled water, which is not fully clear. This water and dirty washing water from mudguards and chassis drips off in the exit area where dirt particles from the water cover the road surface. The option "Backwash of exit area" prevents these fine particles from being carried off by regular backwashing (during each washing process).

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	x	x	✓	✓	x	x		✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓

Option MobyDos Compact (Flocculent Dosing System)
Option-Code: [-DOSY-]

Scope of supply:
- Electromagnetic dosing pump with oil lubrication and diaphragm dosing head
- Control adaptation in the control cabinet

Technical description:
The addition of flocculent causes the fine particles to settle rapidly in the recycling tanks and enables to keep the volume of the tanks low. Besides, the flocculent stabilises the settled sludge thus making it easier to empty the tanks and at the same time improving the dewatering of the sludge. This effect also significantly enhances the function of a scraper conveyor.
As oposed to manual addition, the process can be automated with a dosing system and the consumption of flocculent can be minimized.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Manual Wash
Option-Code: [-MAWS-]

Scope of supply:
- Gate valve and 2-way valve, hose and turning tube
- Control adaptation in the control cabinet

Technical description:
The manual cleaning device allows the operator to manually wash vehicles, equipment or machines by use of a hose. As long as washing is carried out in the entrance area with a downward slope towards the system, the wash water flows back into the tank where it is recycled together with the wash water of the entire system.

The manual cleaning device can also be used to keep the system and the surrounding area clean.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Safety Railing
Option-Code: [-RAIL-]

Scope of supply:
- Multi-part safety railing for easy installation in the square Frame pro file of the recycling tank

Technical description:
The safety railing provides personal protection at and around recycling tanks. It prevents people from falling into the tanks unintentionally.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	x	x	✓	✓	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Separate Water Tank
Option-Code: [-TANK-]

Scope of supply:
- External Water Tank, painted in RAL 5017 (traffic blue)

Technical description:
In case there is no water connection close by the system, the separate water tank is placed next to the system above the water level of the recycling tank. Used water is automatically replenished by the float valve in the recycling tank.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option MobyDos Container
Option-Code: [-CONT-]

Scope of supply:
- Lockable container made out of profile frame and hot-dip galvanized corrugated sheet metal with solid wooden floor, roof insulation and external emergency stop
- Dimensions: 225 x 220 x 220 cm (LxWxH)

Technical description:
Lockable container with pre-installed holder and connections for the flocculent dosing system and the control cabinet. As a result, the electrical components are sheltered vandal-proof and the flocculent is protected from the cold by the antifreeze guard. Other equipment and wear parts can also be safely stowed in the container.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	✓	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Fully insulated MobyDos Container

Option-Code: [-CONT-ISO-]

Scope of supply:

- Fully insulated, lockable container made of profiled frame and hot-dip galvanized, corrugated sheet metal with solid wooden floor, antifreeze guard and external emergency stop switch
- Additional: 15m heated flocculant hose
- External dimensions: 225x220x220cm (LxWxH)

Technical description:

Fully insulated, lockable container with an antifreeze guard and with pre-installed holder and connections for the flocculent dosing system and the control cabinet. As a result, the electrical components are sheltered vandal-proof and the flocculent is protected from the cold by the antifreeze guard. Other equipment and wear parts can also be safely stowed in the container.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Chassis Wash

Option-Code: [-CHWS-]

Scope of supply:

- 2 spray bars with nozzles, hose lines and hose clamps
- Material: steel, hot-dip galvanized, bronze, rubber

Technical description:

While the nozzle configuration of the wheel washing system is designed to meet the requirements of optimum wheel washing, the "Chassis Wash" option allows intensive cleaning of the underbody at the same time. Coarse soiling is washed off reliably.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓

Option Drip Pad
Option-Code: [-DRIP-]

Scope of supply:
- 2 robust, galvanized draining elements with wheel guides as well as a Steel duct with integrated 2% slope for washing water recycling
- Middle element with bevelled water drain plates, made of robust, galvanized checker plate
- Dimensions (LxWxH): 400x280x38 cm
- Load capacity: 15 tons per axle

Technical description:
As a rule, the truck wheels and the chassis are cleaned with not fully clear recycled water. This water and dirty washing water from mudguards and chassis drips off in the exit area so that dirt particles from the water settle on the road surface. The "drip pad" option collects the dirty water and returns it to the reycling tanks. This minimizes water loss and prevents fine particles from being carried out onto public roads.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓

Option MobyHeat FSC 1
Option-Code: [-HEAT-FSC1-]

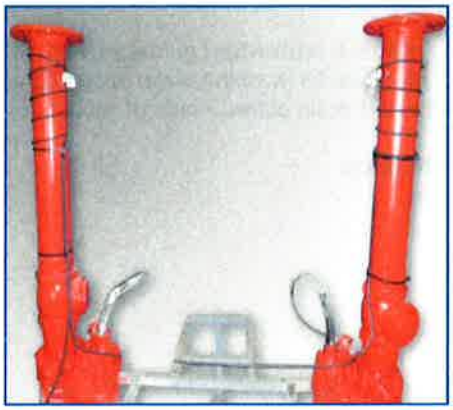
Scope of supply:
- Tank insulation in "sandwich" construction, inserted in metal frame
- Material frame: metal, lacquered
- Material panels: PUR, closed cell, harmless to health
- Weight: 10.41 kg/m2

Technical description:
The tank insulation prevents the washing water from freezing during light night frost (down to -3 °C). The recycling tank is covered with the tank insulation, a metal frame with integrated insulation panels. The insulations can also be produced for demanding layouts and are available for many tank combinations.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option MobyHeat FSC 2
Option-Code: [-HEAT-FSC2-]



Scope of supply:
- Thermostat, heating cable, connection cable, relay and control cabinet preparation for max. four pumps

Technical description:
The pump pipe heating is suitable for use at temperatures at light and permanent frost. A heating wire is wound around the pump pipe in the area of the water level. If the temperature falls below the preset temperature on the thermostat, the heating wire is supplied with power and heated. This prevents ice from forming inside the pump pipes.
Available only in combination with MobyHeat FSC1.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option MobyHeat FSC 3
Option-Code: [-HEAT-FSC3-]

Scope of supply:
For 1 recycling tank with a maximum volume of 50m3
- 2 heating elements
- Antifreeze Thermostat
- Switch cabinet adaptation with interval control and contactors

Technical description:
As soon as the temperature drops below the preset value (factory setting 2 °C), the thermostat generates a start impulse causing the heating elements and the scraper conveyor (or auxiliary pump if no scraper conveyor is installed) to start. The heating elements operate continuously as long as the temperature remains below the set value. The scraper conveyor (or the auxiliary pump) also runs at a predefined interval, bringing the water in the tank into circulation. As soon as the washing pumps are activated, the power supply to the heating elements is interrupted. This ensures that the maximum power requirements of the system are met.
Available only in combination with MobyHeat FSC1 and FSC2.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Extended Clear Width
Option-Code: [-EXCW-]

Scope of supply:
- Two nozzle bars special

Technical description:
In case the wheel washing system is installed in confined spaces, the trucks may not be able to drive onto the system at an ideal angle. This increases the risk of damage to the side nozzle bars. This risk can be reduced by using the side-wall offset.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Grid Iron Cover
Option-Code: [-GRID-]

Scope of supply:
- Verzinkte und begehbare Gitterrostabdeckungen

Technical description:
The walkable grid iron on top of the recycling tank provides additional personal protection. It prevents people from falling into the tank unintentionally. This also prevents objects or leaves from falling into the tank and disrupting pump operation.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Third Nozzle Bar
Option-Code: [-3NOZ-]

Scope of supply:
- Two special side bars with three horizontal nozzle bars and two vertical nozzle tubes

Technical description:
The special side nozzle assemblies, each with three horizontal nozzle bars and two vertical nozzle tubes is used instead of the double nozzle bars. This widens the spray pattern and enables more intense cleaning of the wheel arches.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Cargo Moistening System with Recycling Water
Option-Code: [-CAMO-RECY-]

Scope of supply:
- Galvanized nozzle portal with fixed nozzles (Ø 3 mm) and a passage height of approx. 450cm

Technical description:
Galvanised nozzle portal for moistening the load with recycled water from the MobyDick recycling tank. It is triggered at the same time as the wheel washing system by the vehicle detection sensor. No additional pumps or tanks are required.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓

Option Cargo Moistening System with Fresh Water

Option-Code: [-CAMO-FRESH-]

Scope of supply:

- Galvanized nozzle portal with fixed nozzles (Ø 3 mm) and a passage height of approx. 450cm
- 1 fresh water / pump tank, volume approx. 4 m³
  External dimensions: 2200 x 1300 x 1904 mm (L x W x H)
- 1 special submersible pump "MobyPump" with an output of 5.5 kW and a maximum delivery rate of 1'800 l/min, incl. pump neck and floating valve
- All necessary pressure water pipes from the fresh water basin to the nozzle portal (max. 4m)
- Control extension in the control cabinet

Technical description:

Galvanised nozzle portal for moistening the load with fresh water from an additional pump tank with a volume of approx. 4 m³. It is manually triggered by the truck driver.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓

Option Increased Drive Through Width (300 cm)

Option-Code: [-IDTW-]

Scope of supply:

- Reinforced and galvanized cover plates
- Widened connecting plates

Technical description:

The drive-through widening to 300 cm allows vehicles to pass more quickly when traffic volume is high

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Hot dip calvanized side walls
Option-Code: [-SIWA-]

Scope of supply:
- Reinforced and galvanized side walls
- Galvanized nozzle bars

Technical description:
Hot-dip galvanised side walls and side nozzle bars are appropriate for long-term installation in stationary operations. The advantage of lightweight PVC parts is not relevant in these cases.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	x	x	x	x	x	x	x	x		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Heavy Duty Bollard
Option-Code: [-HDBO-]

Scope of supply:
- Hot-dip galvanized ram protection posts wrapped with signal tape
- External dimensions: 1132 x 85 x 96 mm (HxWxD)

Fastening kit: MDZ-100-119-1

Technical description:
Heavy duty bollards are mounted on the wheel guides on the entrance side and thus prevent unintentional driving onto the nozzle bars.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Option Installation and Commissioning

Option-Code: [-INCO-]

Scope of supply:

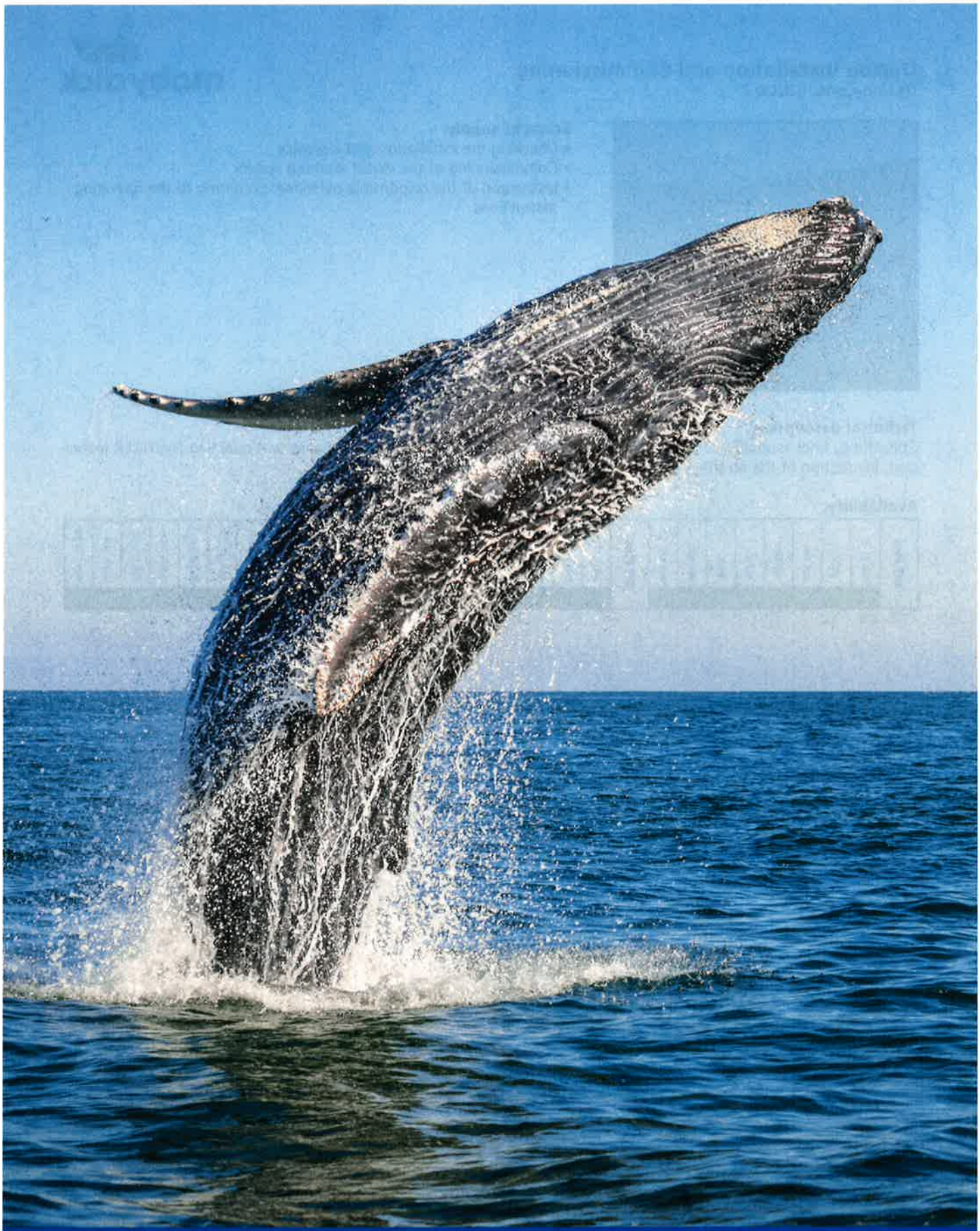
- Checking the installation and assembly
- Commissioning of the wheel washing system
- Instruction of the responsible personnel according to the operating instructions

Technical description:

Consulting, final assembly, commissioning and handover of the wheel washing system by a qualified FRUTIGER technician. Instruction of the on site personnel according to the operating manual.

Availability:

KIT Flex	400 B	400 C	400 MB	400 MC	800 B	800 C	800 MB	800 MC	KIT Plus	400 B-50P	400 B-100P	400 B-100S	400 C-50P	400 C-50Q	400 MB-50P	400 MC-50P	600 B-50P	600 B-100P	600 B-100S	600 C-50P	600 C-50Q	600 MB-50P	600 MC-50P	800 B-50P	800 B-100P	800 B-100S	800 C-50P	800 C-100Q
	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



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