Document title:

PROJECT FILE

Project:

SOIL REMEDIATION WORKS

CAT SITE – EASTERN ZONE

SPECIFICATIONS NO. 118828/ A4

Document no.: JDN3610.CO2PL.0.0 project file H2.2022
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0 INTRODUCTION

The CAT Site is a spacious and unused site at the rear of the station, located between the railway, the Vilvoordelaan, the R22 and the Luchthavenlaan.

Due to the operation of a former landfill, the site is contaminated with BTEX, heavy metals, VOCI and mineral oil.

Part of this zone, the 'Eastern Zone', will be remediated and redeveloped.

Envisan nv, together with its partners DEC and Suez, is responsible for the soil remediation works that are carried out in the Eastern Zone. These works can be summarised as follows:

- Excavation of the areas to be remediated, with particular attention to safety measures related to emission control and emission monitoring;
- On-site treatment of contaminated soils;
- Where on-site treatment is not possible, removal and treatment of contaminated soils and soil-foreign materials;
- Treatment of contaminated drainage water using a temporary mobile water treatment plant.

0.1 PROJECT DETAILS

Table 1: Project details

Name	Soil remediation works CAT site – Eastern zone
Description	Soil remediation works on CAT site aimed at removing existing contaminants (BTEX, heavy metals, VOCL and mineral oil).
Specifications number	118828/01/A
Client	ABIES ONE
Tender date	04/03/2020
Award date	03/06/2020
Start of the works	20/08/2020
Execution period	2.5 years
What role did CO_2PL play in the tender?	The tenderer must have a CO_2 performance ladder certificate of at least level 3

0.2 PARTIES INVOLVED

A Temporary Partnership has been set up with Envisan nv, Deme Environmental (DE) and SARPI (VEOLIA) to carry out the soil remediation works on the CAT Site in Vilvoorde.

The partners will execute the works in an integrated manner. The site set-up works, such as the installation of groundwater treatment, on-site biological cleaning or physical-chemical treatment plants, will for each specific task be assigned to one of the partners. If necessary, external suppliers or subcontractors are called on. The list below is not exhaustive and will be further completed during the execution of the project.

Table 2: Partners with respective subtasks

Partner:	Sub-task
Envisan	▪ Machines and performances ▪ Pumps ▪ Extraction systems for air purification ▪ On-site biological treatment ▪ CATOX installation
DEC	▪ Machines and performances
SARPI (VEOLIA)	▪ Machines and performances ▪ Groundwater treatment plant ▪ On-site biological treatment
Other subcontractors	▪ ...

0.3 DEPLOYED EQUIPMENT AND PERIODS OF DEPLOYMENT

Table 3: Deployed equipment and periods of deployment

Equipment	Period (within the period covered by this file, half-yearly/yearly)
Cranes	
Hitachi 350-22 (JDN)	August 2020 – end of the project
Hitachi 350 (subcontractor) Hitachi 350-23 (JDN)	September 2020 – March 2021 August 2021 – February 2022
HITACHI 290 (DEC)	October 2020 – September 2022
KUBOTA KX165	October 2020 – March 2021
Wheel loaders	
Volvo L150	November 2020 – end of the project
Generators	
Installed power = 40kVA (subcontractor)	August 2020 – September 2020 (up to connection to the grid)
Dumpers / tractors	
Cat 745 (JDN)	September 2020 – November 2020
3-axle tractor	November – June 2022
2-axle tractor	January 2021 – June 2022
Tractor slurry tank	March 2021 – October 2022
Finlay 883+ sieve	November 2020 – July 2022
Groundwater treatment plant	September 2020 – September 2022
Atomisation unit 3x (electrical)	September 2020 – September 2022

Dewatering pump 6x (electrical)	September 2020 – September 2022
Booster pump decanting basin to groundwater treatment plant	September 2020 – September 2022
1 catox	March 2021 – April 2022
2 bio-containers	February 2021 – end of the project
Extraction unit building pit	September 2020 – August 2022
Site set-up • Office shed • Decontamination unit • Shed for workers • Warehouse • Fuel oil tank • AdBlue tank • Camera surveillance • Site lighting	September 2020 – end of the site
Plunger pumps	Entire period

1 PROJECT DATA

1.1 IDENTIFICATION OF ENERGY AND EMISSION FLOWS [2A]

Table 4: List of significant energy/emission flows

Energy flow	Scope
Fuel for machines (cranes, wheel loaders, dumpers,,.)	1
Electricity for several installations (Water treatment plant, dewatering, site chain, extraction plants, atomisation units, biological treatment plants...)	2

Table 5: List of excluded energy/emission flows

Energy flow	Reason
Electricity used in supporting department (e.g. offices in Aalst)	Is monitored at corporate level and included in common parts
Natural gas used in supporting department (e.g. offices in Aalst)	Is monitored at corporate level and included in common parts
Air Miles Crew	No air miles for this project
Air Miles Staff	No air miles for this project
Company cars	Is monitored at corporate level and included in common parts

1.2 CARBON FOOTPRINT AND TRENDS

1.2.1 REFERENCE CARBON FOOTPRINT

No reference profile is available for this type of project.

1.2.2 ACTUAL CARBON FOOTPRINT CAT SITE VILVOORDE

The carbon footprint of the CAT Site in Vilvoorde amounts to 907 tonnes of CO_2, of which 332 tonnes were emitted in 2022.

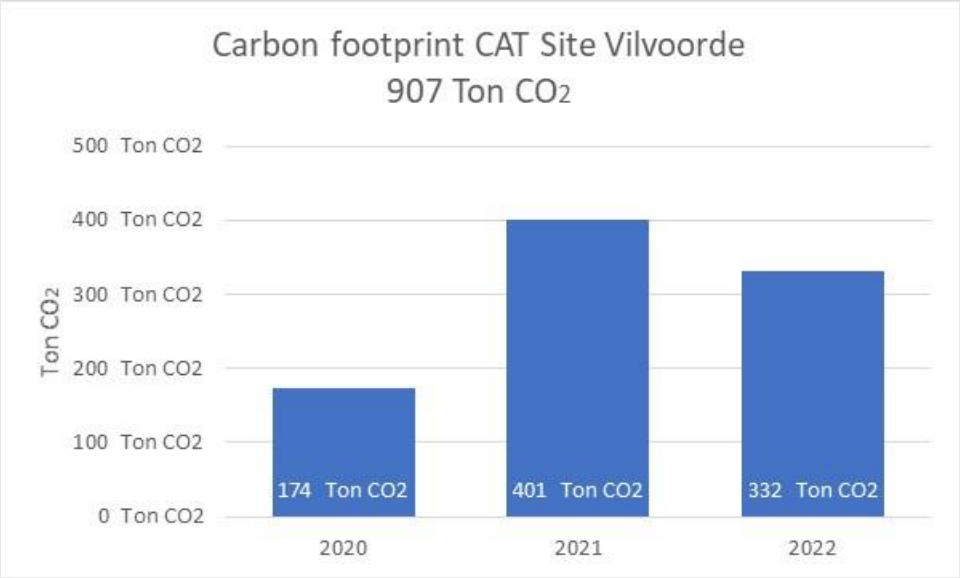

Figure1: Carbon footprint CAT Site Vilvoorde

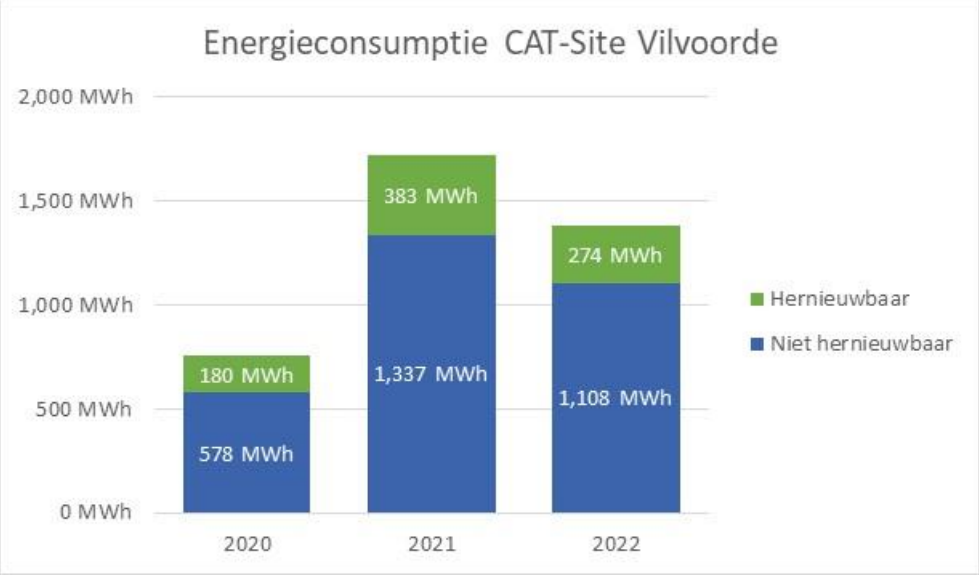

Figure2: Energy consumption CAT Site Vilvoorde

1.2.3 ENERGY PROFILE CAT SITE VILVOORDE

20% of the energy consumption is due to the use of electricity for:

- groundwater treatment plant
- atomisation plant
- dewatering plant
- booster pump decanting basin to groundwater treatment plant
- catox
- bio-containers

80% of the energy consumption is used for heavy equipment (cranes, wheel loaders, dumpers, etc.). This emission profile corresponds with the emission profile since the start of the works in 2021.

Figure3: Emission profile CAT Site Vilvoorde

2 REDUCTION

2.1 LIST OF REDUCTION MEASURES FOR THIS PROJECT

Project no.	MEASURE	TYPE	A STANDARD	B PROGRESSIVE	A AMBITIOUS	EXPLANATION JAN DE NUL GROUP	APPLICATION ON THE SITE
3610-01	**Purchase of green electricity and/or electricity with a Dutch Guarantee of Origin (GVO)**	Sustainable energy	Less than 50% electricity for consumption at work (construction site) is green electricity and/or has a Dutch GVO.	At least 50% electricity for consumption at work (construction site) is green electricity and/or has a Dutch GVO.	At least 75% electricity for consumption at work (construction site) is green electricity and/or has a Dutch GVO.	**JDN plans to use 75 % green energy as annual average on civil and environmental projects by 12/2022.** **The framework contract to which construction sites can subscribe through the TD (Aalst) offers 100% green electricity of local origin.**	**100% green electricity of local origin is purchased.**
3610-02	**Use of road plates or other temporary paving to reduce rolling resistance**	Conducting activities more efficiently	In case of unpaved grounds on construction site and supply routes, transport routes are always covered with temporary paving.			**This is applied regularly, but is not standard. It is not an option to apply this everywhere.**	**The rolling resistance is consistently reduced by:** **- making use of the paving already available,** **- creating on-site tracks using concrete rubble.**
3610-03	Development of additional reduction measures	Integrated measures	The company takes measures in one or more projects leading to additional CO_2 reduction and organises funding for them.	The company demonstrably takes measures leading to additional CO_2 reduction in at least 20% of its projects and organises funding for them.	The company demonstrably takes measures leading to additional CO_2 reduction in at least 50% of its projects and organises funding for them.	**Implemented in 01/2013 Measures per project can be found in EMAP internal or in the Optimisation List. Since 2020 for extended boundary, measures are also being taken for 50% of the turnover of the projects to achieve 50% green energy as from 2021 on projects**	**Selective excavations can be used to determine which soils should or should not be excavated. As much soil as possible is excavated and stored and checked right next to the excavation zone to minimise transport on the site itself.**

Project no.	MEASURE	TYPE	A STANDARD	B PROGRESSIVE	A AMBITIOUS	EXPLANATION JAN DE NUL GROUP	APPLICATION ON THE SITE
3610-04	Course on Efficient Machine Operation	Conducting activities more efficiently	The company can demonstrate that <25% of the machine operators and/or <25% of the foremen and planners have attended an accredited 'Efficient Machine Operation' training course.	The company can demonstrate that 25% to 75% of the machine operators and/or 25% to 75% of the foremen and planners have attended an accredited 'Efficient Machine Operation' training course.	The company can demonstrate that at least 75% of the machine operators and/or at least 75% of the foremen and planners have attended an accredited 'Efficient Machine Operation' training course..	**Is currently under review. If possibilities on site, contact ghg.envisan@jandenul.com**	**To be specified – deployment of modern and economical equipment. The course was followed by KC and communicated through Toolbox.**
3610-05	**Purchasing more economical machines**	Conducting activities more efficiently	The company can demonstrate that in at least 50% of its machine purchases in the past 2 years, it has purchased the machine with the lowest fuel and/or energy consumption whenever there is a choice between similar machines.	The company can demonstrate that in at least 75% of its machine purchases in the past 2 years, it has purchased the machine with the lowest fuel and/or energy consumption whenever there is a choice between similar machines.	The company can demonstrate that in at least 90% of its machine purchases in the past 2 years, it has purchased the machine with the lowest fuel and/or energy consumption whenever there is a choice between similar machines.	**JDN always buys state-of-the-art equipment that reduces consumption.**	**To be specified – deployment of modern and economical equipment.**
3610-06	Start-stop system on mobile equipment	Conducting activities more efficiently	Start-stop system applied in < 25% of the number of mobile machines (cranes, excavators, etc.).	Start-stop system applied in 25% up to 75% of the number of mobile machines (cranes, excavators, etc.).	Start-stop system applied in > 75% of the number of mobile machines (cranes, excavators, etc.).	**A: Implemented on 01/2018 New machines are always equipped with a power pack, start-stop and/or eco-mode system B: At normal investment pace, between 25% and 75% of the equipment will comply by 12/2022.**	**The machines on this site are not equipped with a start-stop system.**

Project no.	MEASURE	TYPE	A STANDARD	B PROGRESSIVE	A AMBITIOUS	EXPLANATION JAN DE NUL GROUP	APPLICATION ON THE SITE
3610-07	**Maintenance of equipment according to factory specifications.**	Integrated measure	The company can demonstrate that at least 25% of the equipment is serviced according to the factory specifications and maintenance programme	The company can demonstrate that at least 75% of the equipment is serviced according to the factory specifications and maintenance programme	The company can demonstrate that at least 75% of the equipment is serviced according to the factory specifications and maintenance programme; and manages to optimise the setting of equipment with a high energy consumption so that it consumes less energy for the same works.	**Implemented. Demonstrable through CLS (executed tasks are recorded in CLS).**	**The on-site equipment is serviced according to the factory specifications. This has been implemented at group level.**
3610-08	Electrification of hand tools	Electrification	Wherever possible, the company uses electric hand tools instead of fuel-powered hand tools.	Demonstrable policy replacement/introduction of electric hand tools instead of fuel-powered hand tools.		**Implemented. Where possible, devices running on batteries are purchased.**	**We've chosen for an electric atomisation device instead of a diesel-powered device. Grid connection will be provided for maximum support of electrical equipment.**

Reduction: overview of reduction measures (requirement 2.B.1, 2.B.2, 3.B and 4.B.2):

2.2 OTHER MEASURES THAT ARE ONLY APPLICABLE TO THIS SPECIFIC PROJECT

- The soils will be treated on-site, only those for which this is not possible will be removed. This significantly reduces transport on the road.

The reduction measures that have so far only been specific to this project will be added to the cross-departmental list of measures for Jan De Nul. In this way, they will be considered for all upcoming projects (with award advantage).

3 TRANSPARENCY

For the communication on our CO_2 performance for the entire Benelux, we refer to the cross-departmental communication plan << CO_2PL-Jan De Nul-3C2 – Communication plan >>.

Specifically for this project, we will also communicate on the CO_2 performance, both internally and externally. The form of communication, stakeholders, parties responsible and frequencies are summarised in the tables below.

3.1 INTERNALLY:

Form of communication	Stakeholders	Person responsible	Frequency
Poster with targets	Project team	Project manager / site manager	Yearly
Project introduction	Project team	Project manager / site manager	At the start of each campaign
ENV project meeting	Project team BNL	Employee performing the task	Half-yearly
Feedback in steering committee	Steering committee Envisan	Project Manager	6-monthly

3.2 EXTERNALLY

Form of communication	Stakeholders	Person responsible	Frequency
Project reporting per year	Client	Project Manager	Yearly
Publication of this project report on the JDN website	Interested stakeholders	Energy & Emissions QHSSE Advisor	Half-yearly*

* Note: Half-yearly frequency is maintained as long as activities can be reported on. If no activities take place in a semester, no reporting will be done.