Comhairle Chontae na Gaillimhe
Galway County Council

Proposed Development of 1 No. Domestic Dwelling House & Associated Works at Carrowmore West, Clontuskert, Ballinasloe, Co. Galway

EPA Site Suitability Assessment Report

November 2020

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DOCUMENT APPROVAL

PROJECT	Proposed Development of 1 No. Domestic Dwelling House & Associated Works	
CLIENT / JOB NO	Galway County Council	6140
DOCUMENT TITLE	Site: Carrowmore West, Clontuskert, Ballinasloe, Co. Galway EPA Site Suitability Assessment Report	

	Prepared by	**Reviewed/Approved by**
Document **DRAFT**	Name PJ Regan	Name Mark Forbes
Date July 2020	Signature	Signature

	Prepared by	**Reviewed/Approved by**
Document **FINAL**	Name Brian Murphy	Name Mark Forbes
Date 20th Nov 2020	Signature	Signature

6140/510/05/PJR

TABLE OF CONTENTS

APPENDICES

1. INTRODUCTION

Jennings O'Donovan & Partners Limited (JOD) have been appointed by Galway County Council to carry out Site Suitability Assessment on several single rural dwelling sites at various locations in County Galway.

This report relates to Site at Carrowmore West, Clontuskert, Ballinasloe, Co. Galway.

2. SITE CHARACTERISATION FORM

Please see overleaf completed Site Characterisation Form for Carrowmore West, Clontuskert, Ballinasloe, Co. Galway in accordance with the EPA Code of Practice for Wastewater Treatment and Disposal Systems Serving Single Houses (p.e,<10).

APPENDIX B: SITE CHARACTERISATION FORM

File Reference: 6140 Site No. 5

1.0 GENERAL DETAILS (From planning application)

Prefix: | First Name: GALWAY COUNTY COUNCIL | Surname:

Address: CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY,

Site Location and Townland: CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY,

Telephone No: N/A | Fax No: N/A

E-Mail: N/A

Maximum no. of Residents: 6 | No. of Double Bedrooms: 2 | No. of Single Bedrooms: 0

Proposed Water Supply: Mains ✔ | Private Well/Borehole ☐ | Group Well/Borehole ☐

2.0 GENERAL DETAILS (From planning application)

Soil Type, (Specify Type): BminDW

Aquifer Category: Regionally Important ☐ | Locally Important LI | Poor ☐

Vulnerability: Extreme ☐ | High ☐ | Moderate ✔ | Low ☐ | High to Low ☐ | Unknown ☐

Bedrock Type: VISEAN LIMESTONE & CALCAREOUS SHALE

Name of Public/Group Scheme Water Supply within 1 km: PUBLIC MAINS

Groundwater Protection Scheme (Y/N): Yes | Source Protection Area: SI ☐ | SO ☐

Groundwater Protection Response: R1

Presence of Significant Sites (Archaeological, Natural & Historical):
SAC - 002213, Glenloughaun Esker, 20k NORTH
Monument - SMR No. GA0099-050, RINGFORT, 155m WEST

Past experience in the area:

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, and/or any potential site restrictions).

SITE SUITABILITY:-
R1 ACCEPTABLE SUBJECT TO NORMAL GOOD PRACTICE,

POTENTIAL TARGETS AT RISK:-
SURFACE WATER, GROUND WATER

Note: Only information available at the desk study stage should be used in this section.

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment

Landscape Position: UNDULATING, FLAT, BACKSLOPE

Slope: Steep (>1:5) ☐ Shallow (1:5-1:20) ☐ Relatively Flat (<1:20) ✔

Surface Features within a minimum of 250m (Distance To Features Should Be Noted In Metres)

Houses: 2 NO. DWELLING HOUSES WITHIN 250M OF SITE

Existing Land Use: DOMESTIC WITH ADJOINING AGRICULTURAL LAND

Vegetation Indicators: GRASS/SCRUB

Groundwater Flow Direction: FROM SOUTHWEST TO NORTHEAST ACROSS THE SITE

Ground Condition: RELATIVELY DRY UNDERFOOT

Site Boundaries: ROADWAY / HEDGEROW / POST & WIRE FENCE / WALLS

Roads: PUBLIC LOCAL ROAD TO NORTHWEST

Outcrops (Bedrock And/Or Subsoil): NO OUTCROPS NOTED WITHIN 250M

Surface Water Ponding: NONE ENCOUNTERED Lakes: NONE WITHIN 500M

Beaches/Shellfish: NONE Areas/Wetlands: NONE ENCOUNTERED

Karst Features: NONE ENCOUNTERED WITHIN 250M

Watercourse/Stream*: NONE WITHIN 250M

Drainage Ditches*: NONE ENCOUNTERED WITHIN 250M

Springs / Wells*: NONE ENCOUNTERED WITHIN 250M

Comments:
(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, the suitability of the site to treat the wastewater and the location of the proposed system within the site).

POTENTIAL TARGETS AT RISK:-

GROUND WATER

SITE APPEARS SUITABLE FOR A WASTEWATER TREATMENT AND DISPOSAL SYSTEM PROVIDING FAVOURABLE T / P IS ACHIEAVABLE.

THERE ARE NO SITE RESTRICTIONS, RELATIVELY LARGE SITE.

***Note and record** water level

3.2 Trial Hole (should be a minimum of 2.1m deep (3m for regionally important aquifers))

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas, which are at or adjacent to significant sites (e.g. NHAs, SACs, SPAs, and/or Archaeological etc.), without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth of trial hole (m): 1.60

Depth from ground surface to bedrock (m) (if present):

Depth from ground surface to water table (m) (if present): 1.10

Depth of water ingress:

Rock type (if present): LIMESTONE

Date and time of excavation: 29/06/2020 08:45 Date and time of examination: 01/07/2020 18:10

	Depth of P/T Test*	Soil/Subsoil Texture & Classification**	Plasticity and dilatancy***	Soil Structure	Density/ Compactness	Colour****	Preferential flowpaths
0.1 m		medium bedded sandy SILT/CLAY	DILATANCY WITH DIFFICULTY	CRUMB	SOFT	MEDIUM BROWN	GRASSS ROOTS TO -0.6M B.G.L.
0.2 m							
0.3 m		medium bedded slightly gravelly, sandy SILT	DILATANCY WITH DIFFICULTY	ANGULAR	SOFT	MEDIUM BROWN	
0.4 m	P1,2,3						
0.5 m							
0.6 m							
0.7 m		thickly bedded sandy, gravely SILT/CLAY with medium spaced cobbles and widely spaced boulders	DILATANCY WITH DIFFICULTY	BLOCKY	STIFF	SANDY BROWN	Preferential flow paths:- GRAVELS, COBLES
0.8 m							
0.9 m	T 1,2,3						
1.0 m				WATER TABLE		WATER TABLE	
1.1 m		WATER TABLE	WATER TABLE		WATER TABLE		WATER TABLE
1.2 m		1.1m	1.1m	1.1m	1.1m	1.1m	1.1m
1.3 m							
1.4 m							
1.5 m							
1.6 m		TRIAL PIT	TIAL PIT	TRIAL PIT	TRIAL PIT	TRIAL PIT	TRIAL PIT
1.7 m		TO 1.6M B.G.LEVEL	TO 1.6M B.G.L	1.6m B.G.L	TO 1.6m B.G.L	1.6m B.G.L	TO 1.6m B.G.L
1.8 m							
1.9 m							
2.0 m							
2.1 m							
2.2 m							
2.3 m							
2.4 m							
2.5 m							
2.6 m							
2.7 m							
2.8 m							
2.9 m							
3.0 m							

Likely T value: 35.00

Note: *Depth of percolation test holes should be indicated on log above. (Enter P or T at depts as appropriate).
** See Appendix E for BS 5930 classification.
*** 3 samples to be tested for each horizon and results should be entered above for each horizon.
**** All signs of mottling should be recorded.

3.2 **Trial Hole (contd.)** Evaluation:

The Trial pit shows a top soil layer of 0.2m sandy SILT/CLAY, with a 0.4m subsoil layer of slightly gravely sandy SILT below the topsoil and a 1.0m subsoil layer of silty, gravelly SAND to the base of the trial pit, with with medium spaced cobbles and widely spaced bounders throughout the subsoil layers.

The soil and subsoil layers are likely to produce favorable percolation rates for the 'P' & 'T' tests.

The trial pit was excavated to a depth of 1.6m below ground. There were significant boulders noted to the base of the trial pit at time of excavation. There was no water ingress at time of excavation. There was a Water Table recorded within the trial pit at 1.1m below ground level.

3.3(a) Percolation ("T") Test for Deep Subsoils and/or Water Table

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm) (A)	550	550	550
Depth from ground surface to base of hole (mm) (B)	950	950	950
Depth of hole (mm) [B - A]	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

Date and Time pre-soaking started	29/06/2020	09:12	29/06/2020	09:18	29/06/2020	09:20

Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before refilling.

Step 3: Measuring T_{100}

Percolation Test Hole No.	1	2	3
Date of test	30/06/2020	30/06/2020	30/06/2020
Time filled to 400 mm	12:18	12:13	12:14
Time water level at 300 mm	15:08	13:29	14:16
Time to drop 100 mm (T_{100})	170.00	76.00	122.00
Average T_{100}			122.67

If T_{100} > 300 minutes then T-value >90 – site unsuitable for discharge to ground
If $T_{100} \leq$ 210 minutes then go to Step 4;
If T_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $T_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)
1	15:08	18:00	172.00	13:29	15:28	119.00	14:16	16:42	146.00
2	18:00	20:56	175.00	15:28	18:20	172.00	16:42	19:37	175.00
3	20:56	23:57	181.00	18:20	22:16	236.00	19:37	23:11	214.00
Average Δt Value			176.00			175.67			178.33
	Average Δt/4 = [Hole No.1]		44.00 (t_1)	Average Δt/4 = [Hole No.2]		43.92 (t_2)	Average Δt/4 = [Hole No.3]		44.58 (t_3)

Result of Test: T = 44.17 (min/25 mm)

Comments:

THE RESULT OF THE 'T' TEST CARRIED OUT ON SITE INDICATE THAT THE SITE IS SUITABLE FOR A SEPTIC TANK SYSTEM OR A SECONDARY TREATMENT SYSTEM WITH A POLISHING FILTER DISCHARGING TO GROUNDWATER.

Step 5: Modified Method (where $T_{100} > 210$ minutes)

Percolation Test Hole No.	1				2				3			
Fall of water in hole (mm)	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	T – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	T – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	T – Value = 4.45 / K_{fs}
300 - 250	8.1				8.1				8.1			
250 - 200	9.7				9.7				9.7			
200 - 150	11.9				11.9				11.9			
150 - 100	14.1				14.1				14.1			
Average T- Value	T- Value Hole 1= (t_1)			0.00	T- Value Hole 1= (t_2)			0.00	T- Value Hole 1= (t_3)			0.00

Result of Test: T = 0.00 (min/25 mm)

Comments:

3.3(b) Percolation ("P") Test for Shallow Soil / Subsoils and/or Water Table

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm)	0	0	0
Depth from ground surface to base of hole (mm)	400	400.00	400
Depth of hole (mm)	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

Date and Time pre-soaking started	29/06/2020	09:51	29/06/2020	09:55	29/06/2020	09:56

Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before refilling.

Step 3: Measuring P_{100}

Percolation Test Hole No.	1	2	3
Date of test	30/06/2020	30/06/2020	30/06/2020
Time filled to 400 mm	12:13	12:10	12:16
Time water level at 300 mm	12:18	12:20	12:25
Time to drop 100 mm (P_{100})	5.00	10.00	9.00
Average P_{100}			8.00

If P_{100} > 300 minutes then P-value >90 – site unsuitable for discharge to ground
If $P_{100} \leq$ 210 minutes then go to Step 4;
If P_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $P_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δp (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δp (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δp (min)
1	12:18	12:33	15.00	12:20	12:57	37.00	12:25	12:52	27.00
2	12:33	13:54	81.00	12:57	13:41	44.00	12:52	13:29	37.00
3	13:54	14:18	24.00	13:41	14:30	49.00	13:29	15:11	102.00
Average Δp Value			40.00			43.33			55.33
	Average Δp/4 = [Hole No.1]		10.00 (p_1)	Average Δp/4 = [Hole No.2]		10.83 (p_2)	Average Δp/4 = [Hole No.3]		13.83 (p_3)

Result of Test: P = 11.56 (min/25 mm)

Comments:

THE RESULT OF THE 'P' TEST CARRIED OUT ON SITE INDICATE THE UPPER SOIL LAYER IS SUITABLE FOR A SECONDARY TREATMENT SYSTEM WITH POLISHING FILTER AT GROUND SURFACE OR OVERGROUND.

Step 5: Modified Method (where $P_{100} > 210$ minutes)

Percolation Test Hole No.	1				2				3			
Fall of water in hole (mm)	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	P – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	P – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	P – Value = 4.45 / K_{fs}
300 - 250	8.1				8.1				8.1			
250 - 200	9.7				9.7				9.7			
200 - 150	11.9				11.9				11.9			
150 - 100	14.1				14.1				14.1			
Average P- Value	P- Value Hole 1= (p_1)			0.00	P- Value Hole 1= (p_2)			0.00	P- Value Hole 1= (p_3)			0.00

Result of Test: P = 0.00 (min/25 mm)

Comments:

3.4 The following associated Maps, Drawings and Photographs should be appended to this site characterisation form.

1. Discovery Series 1:50,000 Map indicating overall drainage, groundwater flow direction and housing density in the area.
2. Supporting maps for vulnerability, aquifer classification, soil, bedrock.
3. North point should always be included.
4. (a) Sketch of site showing measurements to Trial Hole location and
   (b) Percolation Test Hole locations,
   (c) wells and
   (d) direction of groundwater flow (if known),
   (e) proposed house (incl. distances from boundaries)
   (f) adjacent houses,
   (g) watercourses,
   (h) significant sites
   (i) and other relevant features.
5. Cross sectional drawing of the site and the proposed layout[1] should be submitted.
6. Photographs of the trial hole, test holes and site (date and time referenced).

[1] The calculated percolation area or polishing filter area should be set out accurately on the site layout drawing in accordance with the code of practice's requirements.

4.0 CONCLUSION of SITE CHARACTERISATION

Integrate the information from the desk study and on-site assessment (i.e. visual assessment, trial hole and percolation tests) above and conclude the type of system(s) that is (are) appropriate. This information is also used to choose the optimum final disposal route of the treated wastewater.

Not Suitable for Development ☐

Suitable for [1]		**Discharge Route**
1. Septic tank system (septic tank and percolation area)	Yes	Discharge to Ground Water
2. Secondary Treatment System		
a. septic tank and filter system constructed on-site and polishing filter; or	Yes	
b. packaged wastewater treatment system and polishing filter	Yes	

5.0 RECOMMENDATION

Propose to install: Packaged wastewater treatment system and polishing filter

and discharge to: Ground Water

Trench Invert level (m): 0.10

Site Specific Conditions (e.g. special works, site improvement works testing etc.

DUE TO SITE RESTRICTIONS REGARDING SEPERATION DISTANCE REQUIRMENTS, IT IS RECOMMENDED TO INSTALL A SECONDARY EFFLUENT TREATMENT SYSTEM FOLLOWED BY A POLISHING FILTER - TRENCH INVERT AT +0.1m ABOVE GROUND LEVEL (AS PER SITE LAYOUT PLAN & SECTION A-A THROUGH POLISHING FILTER DRAWING NUMBER 6140-JOD-XX-ZZ-DR-B-2042 & 2043 (A3 @ 1:500, 1:100)

SECONDARY TREATMENT SYSTEM:-

THE PACKAGED WASTEWATER TREATMENT SYSTEM SHALL BE IN ACCORDANCE THE REQUIREMENTS OUTLINED IN THE EPA CODE OF PRACTICE - WASTEWATER TREATMENT AND DISPOSAL SYSTEMS SERVING SINGLE HOUSES 2009 AND SHALL BE CERTIFIED IN ACCORDANCE WITH EN12566-3.

RAISED POSISHING FILTER:-

THE POLISHING FILTER SHALL BE INSTALLED AS PER SITE LAYOUT PLAN, SECTION A-A THROUGH POLISHING FILTER DRAWING NUMBER 6140-JOD-XX-ZZ-DR-B-2042 & 2043 (A3 @ 1:500, 1:100) i.e. INSTALL A STILLING CHAMBER, DISTRUBTION BOX WITH 4 No. 9m RUNS OF 110mm uPVC PIPEWORK AT GROUND LEVEL, LAID AT A 1:200 GRADIENT, WITH 8mm PERFORATIONS (TYPICALLY AT 4,6,8 o'clock) AT 75mm CENTRES, PIPE WORK TO BE LAID 2.5M CENTER TO CENTER WITHIN A 500mm WIDE TRENCH ON 300mm DEEP 8-32mm WASHED GRAVEL AND 150mm WASHED GRAVEL OVER PIPEWORK WITH GEOTEXTILE MEMBRANE OVER GRAVEL AND 300mm DEEP TOPSOIL COVER OVER GEOTEXTILE.

[1] note: more than one option may be suitable for a site and this should be recorded

[2] A discharge of sewage effluent to “waters” (definition includes any or any part of any river, stream, lake, canal, reservoir, aquifer, pond, watercourse or other inland waters, whether natural or artificial) will require a licence under the Water Pollution Acts 1977-90. Refer to Section 2.6.2.

6.0 TREATMENT SYSTEM DETAILS

SYSTEM TYPE: Septic Tank System

Tank Capacity (m^3)		Percolation Area		Mounded Percolation Area	
		No. of Trenches		No. of Trenches	
		Length of Trenches (m)		Length of Trenches (m)	
		Invert Level (m)		Invert Level (m)	

SYSTEM TYPE: Secondary Treatment System

Filter Systems

Media Type	Area (m^2)*	Depth of Filter	Invert Level
Sand/Soil			
Soil			
Constructed Wetland			
Other			

Package Treatment Systems

Type	
	SOLIDO SMART - S.B.R.
Capacity PE	6.00
Sizing of Primary Compartment	
3.00	m^3

SYSTEM TYPE: Tertiary Treatment System

Polishing Filter: Surface Area (m^2)*	67.50
or **Gravity Fed:**	
No. of Trenches	4
Length of Trenches (m)	9.00
Invert Level (m)	0.10

Package Treatment System: Capacity (pe)	
Constructed Wetland: Surface Area (m^2)*	

DISCHARGE ROUTE:

Groundwater	✔	Hydraulic Loading Rate * ($l/m^2.d$)	
Surface Water **		Discharge Rate (m^3/hr)	

TREATMENT STANDARDS:

Treatment System Performance Standard (mg/l)	BOD	SS	NH_4 - N	Total N	Total P
EN 12566-3	5.00	13.00	0.70	5.00	2.00

QUALITY ASSURANCE:

Installation & Commissioning	On-going Maintenance
THE PACKAGED SYSTEM AND POLISHING FILTER SHALL BE INSTALLED IN ACCORDANCE THE REQUIREMENTS OUTLINED IN THE EPA CODE OF PRACTICE - WASTEWATER TREATMENT AND DISPOSAL SYSTEMS SERVING SINGLE HOUSES 2009. COMMISSIONING BY MANUFACTURES REPERSENTIVE.	DE-SLUDGING SHALL BE CARRIED OUT A MINIMUM OF ONCE PER YEAR AND IN ACCORDANCE THE REQUIREMENTS OUTLINED IN THE EPA CODE OF PRACTICE - WASTEWATER TREATMENT AND DISPOSAL SYSTEMS SERVING SINGLE HOUSES 2009.

* Hydraulic loading rate is determined by the percolation rate of subsoil

** Water Pollution Act discharge licence required

7.0 SITE ASSESSOR DETAILS

Company: JENNINGS O'DONOVAN & PARTNERS

Prefix: Mr. First Name: PJ Surname: REGAN

Address: FINISKLIN, SLIGO, CO. SLIGO.

Qualifications/Experience: B. Sc. (Bld. Surv), FETAC Site Suitability Assessment

Date of Report: 20/07/2020

Phone: 071 9161416 Fax: e-mail pjregan@jodireland.com

Indemnity Insurance Number:

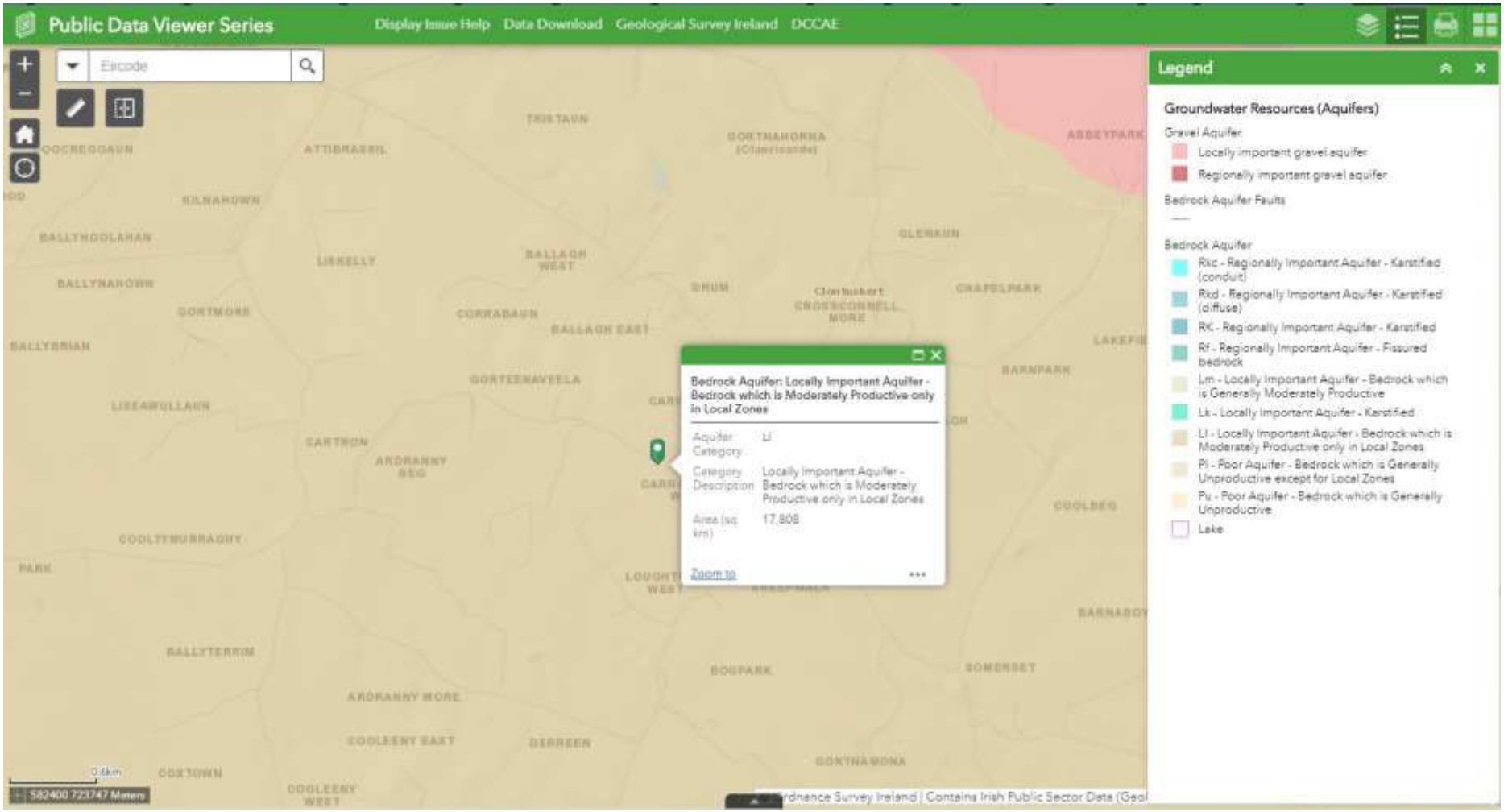
Signature:  _____

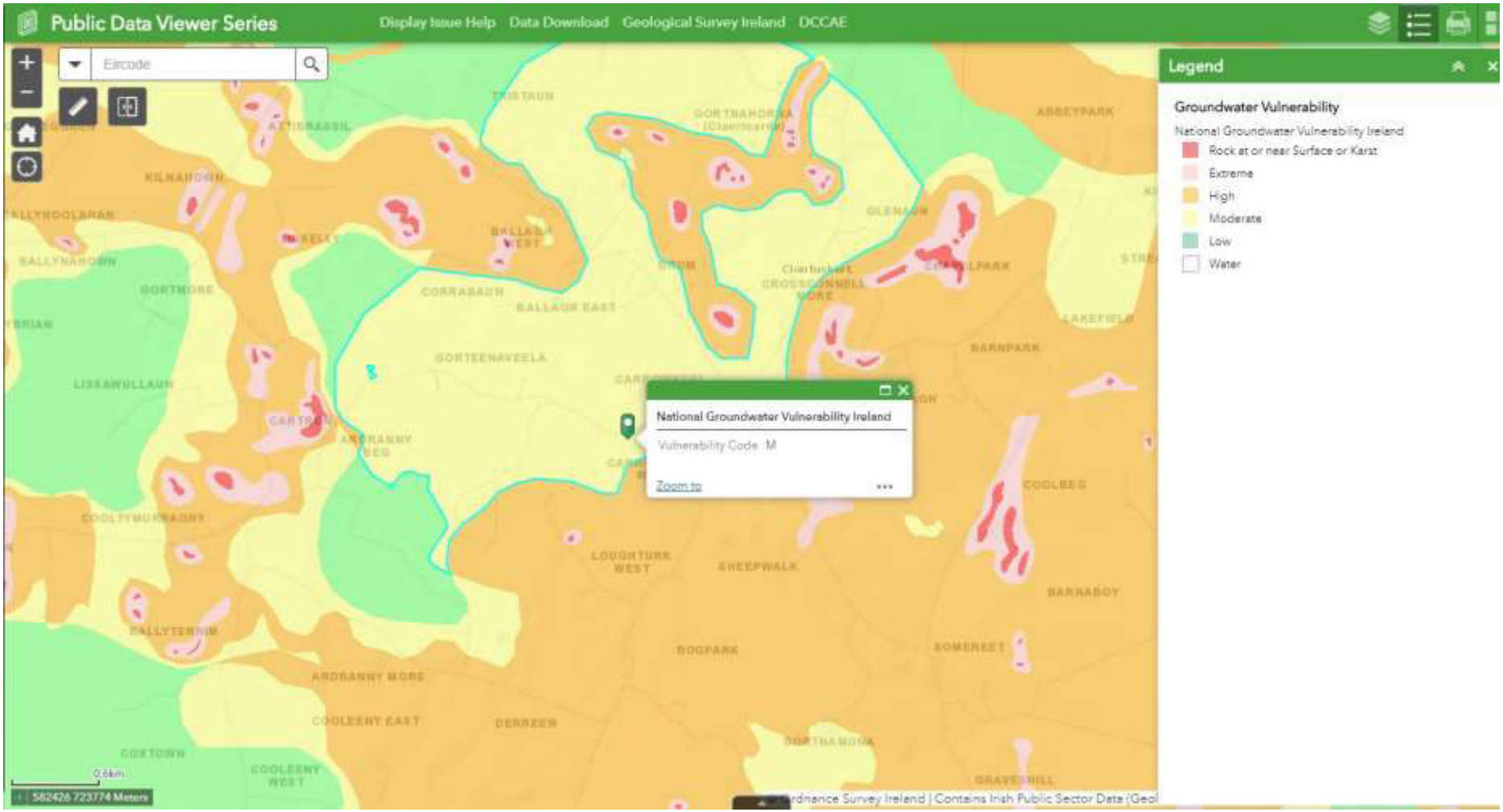
APPENDIX A

SITE SUITABILITY ASSESSMENT SUPPORTING MAPS

- Soil Classification Map
- Aquifer Classification Map
- Vulnerability Map
- Bedrock Map
- Karst Map
- Wells & Springs Map
- National Parks & Wildlife Map
- National Monuments Map


Public Data Viewer Series
Display Issue Help
Data Download
Geological Survey Ireland
DCCAE
Eircode
Legend
Teagasc Soils
Teagasc Soils
AminDW - Deep well drained mineral (Mainly acidic)
AminPD - Mineral poorly drained (Mainly acidic)
AminPDPT - Peaty poorly drained mineral (Mainly acidic)
AminSW - Shallow well drained mineral (Mainly acidic)
AminSP - Shallow poorly drained mineral (Mainly acidic)
AminSPPT - Shallow peaty poorly drained mineral (Mainly acidic)
AminSRPT - Shallow, rocky, peaty/non-peatymineral complexes (Mainly acidic)
BminDW - Deep well drained mineral (Mainly basic)
BminPD - Mineral poorly drained (Mainly basic)
BminPDPT - Peaty poorly drained mineral (Mainly basic)
BminSW - Shallow well drained mineral (Mainly basic)
BminSP - Shallow poorly drained mineral (Mainly basic)
BminSPPT - Shallow peaty poorly drained mineral (Mainly basic)
BminSRPT - Shallow, rocky, peaty/non-peatymineral complexes (Mainly basic)
BktPt - Blanket peat
FenPt - Fen peat
RsPt - Raised Peat
Cut - Cutover/cuteway peat
AlluvMIN - Alluvial (mineral)
AlluvMRL - Alluvial (marl)
Lac - Lacustrine type soils
Scree - Scree
AeoUND - Aeolian undifferentiated
MarSands - Marine sand and gravel
582400 723753 Meters
© Ordnance Survey Irelan


Public Data Viewer Series
Display Issue Help
Data Download
Geological Survey Ireland
DCCAE
Eircode
Legend
Groundwater Resources (Aquifers)
Gravel Aquifer
Locally important gravel aquifer
Regionally important gravel aquifer
Bedrock Aquifer Faults
Bedrock Aquifer
Rkc - Regionally Important Aquifer - Karstified (conduit)
Rkd - Regionally Important Aquifer - Karstified (diffuse)
RK - Regionally Important Aquifer - Karstified
Rf - Regionally Important Aquifer - Fissured bedrock
Lm - Locally Important Aquifer - Bedrock which is Generally Moderately Productive
Lk - Locally Important Aquifer - Karstified
Ll - Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
Pl - Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones
Pu - Poor Aquifer - Bedrock which is Generally Unproductive
Lake
Bedrock Aquifer: Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
Aquifer Category Ll
Category Description Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
Area (sq km) 17.808
Zoom to
582400 723747 Metres
Ordnance Survey Ireland | Contains Irish Public Sector Data (Geol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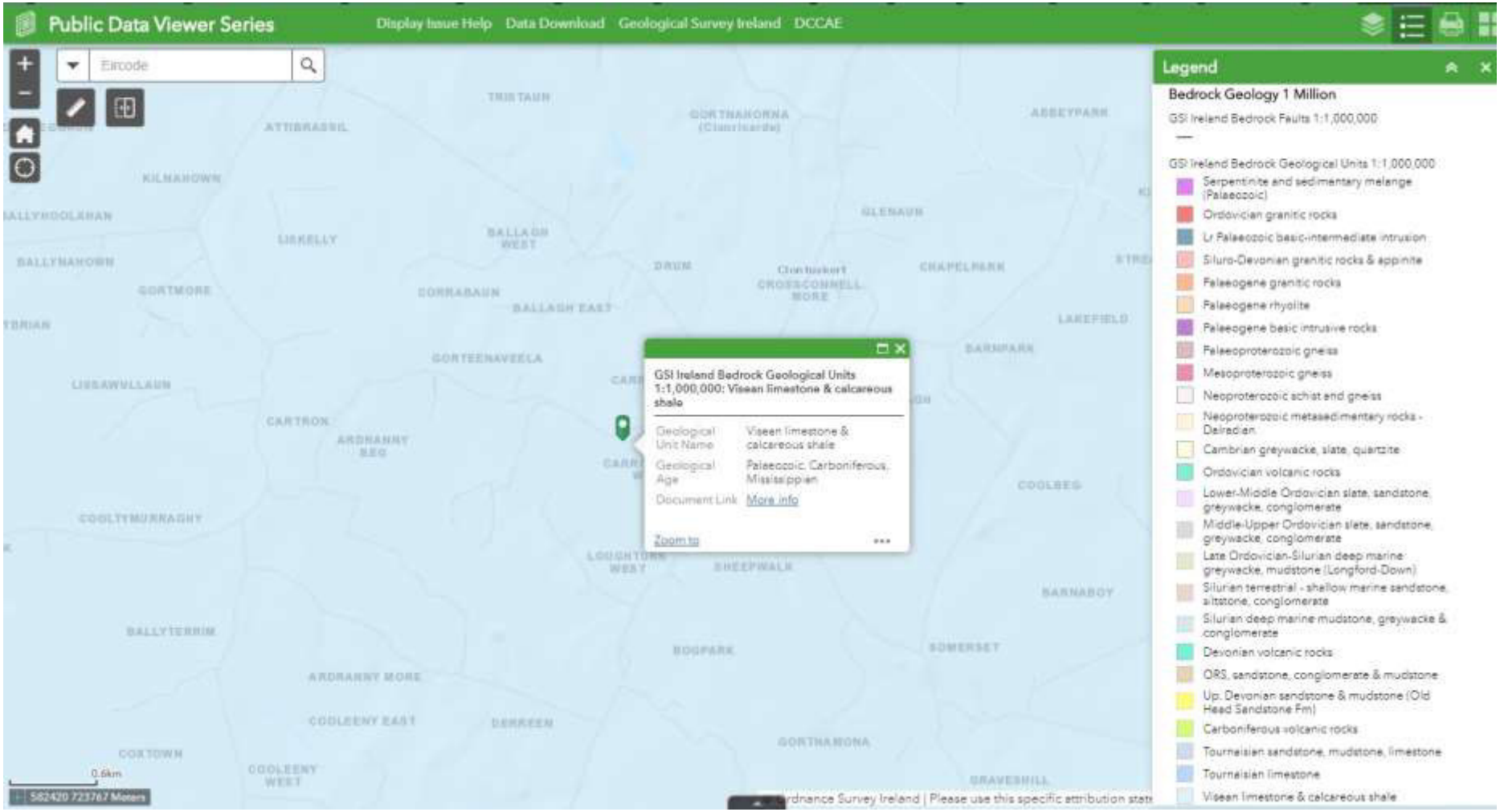
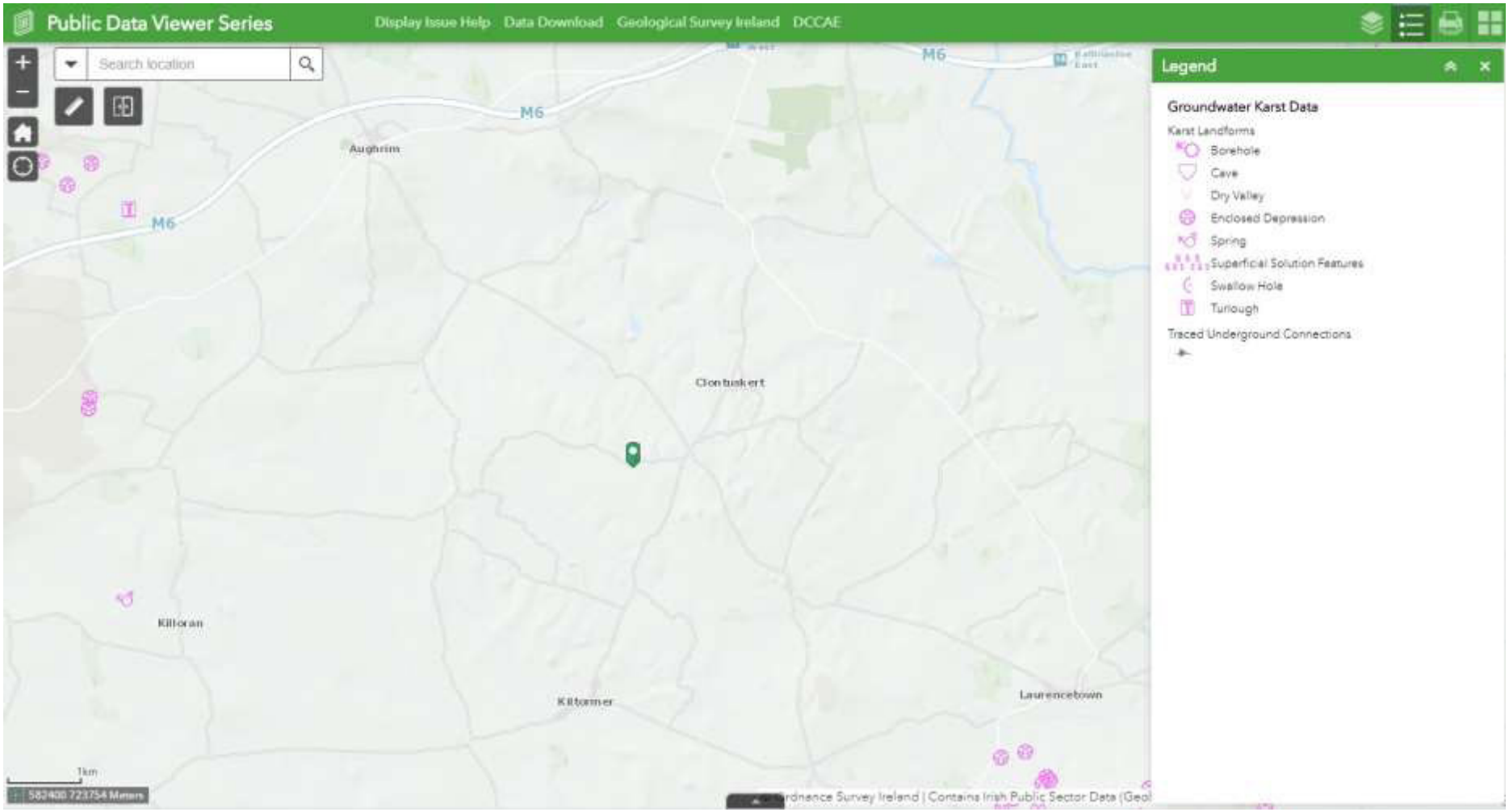
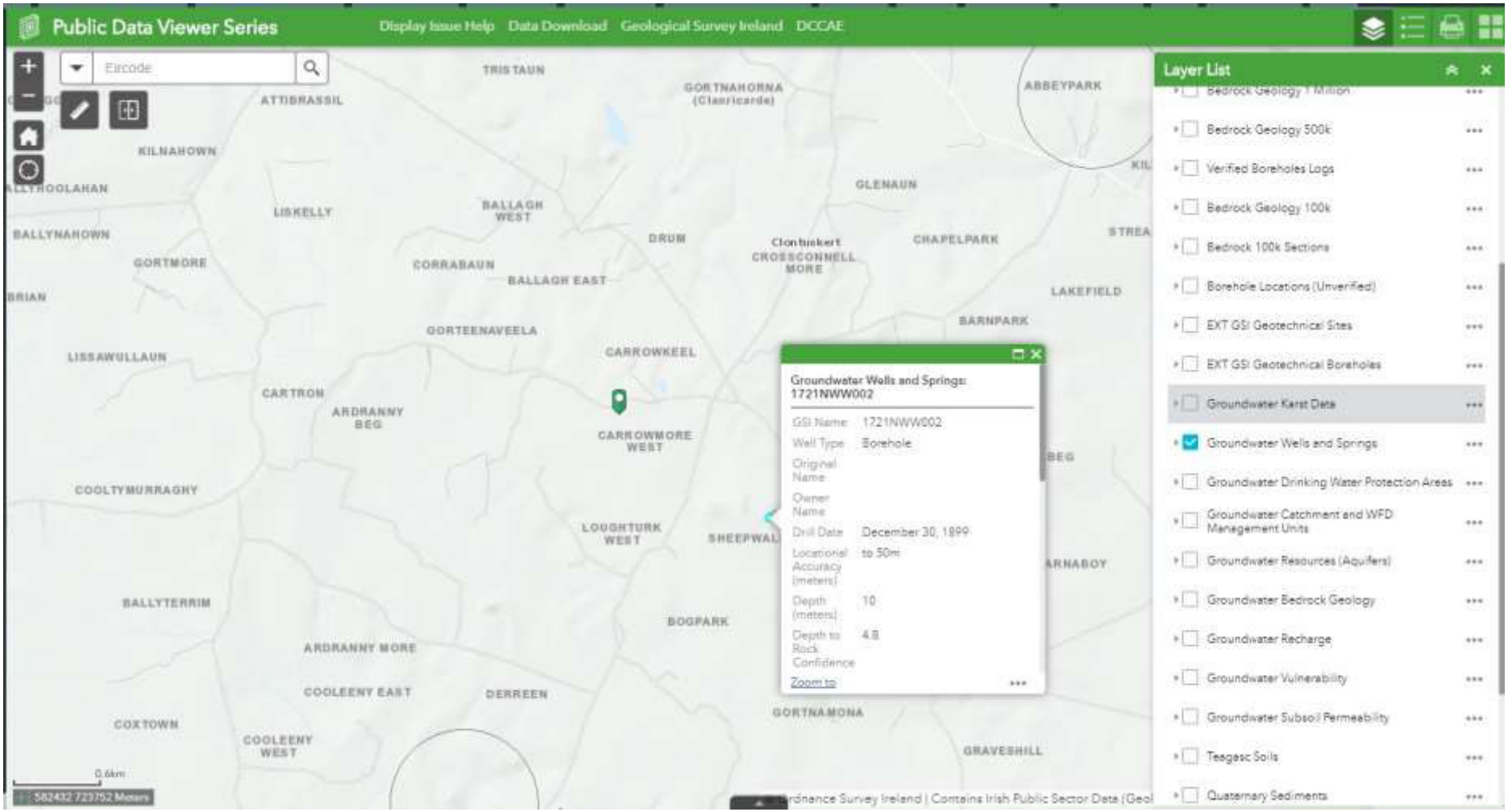
Data Download
Geological Survey Ireland
DCCAE
Eircode
Legend
Groundwater Vulnerability
National Groundwater Vulnerability Ireland
Rock at or near Surface or Karst
Extreme
High
Moderate
Low
Water
National Groundwater Vulnerability Ireland
Vulnerability Code M
Zoom to
582426 723774 Meters
Ordnance Survey Ireland | Contains Irish Public Sector Data (Geol


Public Data Viewer Series
Display Issue Help
Data Download
Geological Survey Ireland
DCCAE
Eircode
GSI Ireland Bedrock Geological Units 1:1,000,000: Visean limestone & calcareous shale
Geological Unit Name
Visean limestone & calcareous shale
Geological Age
Palaeozoic, Carboniferous, Mississippian
Document Link
More info
Zoom to
Legend
Bedrock Geology 1 Million
GSI Ireland Bedrock Faults 1:1,000,000
GSI Ireland Bedrock Geological Units 1:1,000,000
Serpentinite and sedimentary melange (Palaeozoic)
Ordovician granitic rocks
Lr Palaeozoic basic-intermediate intrusion
Siluro-Devonian granitic rocks & appinite
Palaeogene granitic rocks
Palaeogene rhyolite
Palaeogene basic intrusive rocks
Palaeoproterozoic gneiss
Mesoproterozoic gneiss
Neoproterozoic schist and gneiss
Neoproterozoic metasedimentary rocks - Dalradian
Cambrian greywacke, slate, quartzite
Ordovician volcanic rocks
Lower-Middle Ordovician slate, sandstone, greywacke, conglomerate
Middle-Upper Ordovician slate, sandstone, greywacke, conglomerate
Late Ordovician-Silurian deep marine greywacke, mudstone (Longford-Down)
Silurian terrestrial - shallow marine sandstone, siltstone, conglomerate
Silurian deep marine mudstone, greywacke & conglomerate
Devonian volcanic rocks
ORS, sandstone, conglomerate & mudstone
Up. Devonian sandstone & mudstone (Old Head Sandstone Fm)
Carboniferous volcanic rocks
Tournaisian sandstone, mudstone, limestone
Tournaisian limestone
Visean limestone & calcareous shale
0.6km
582420 723767 Meters

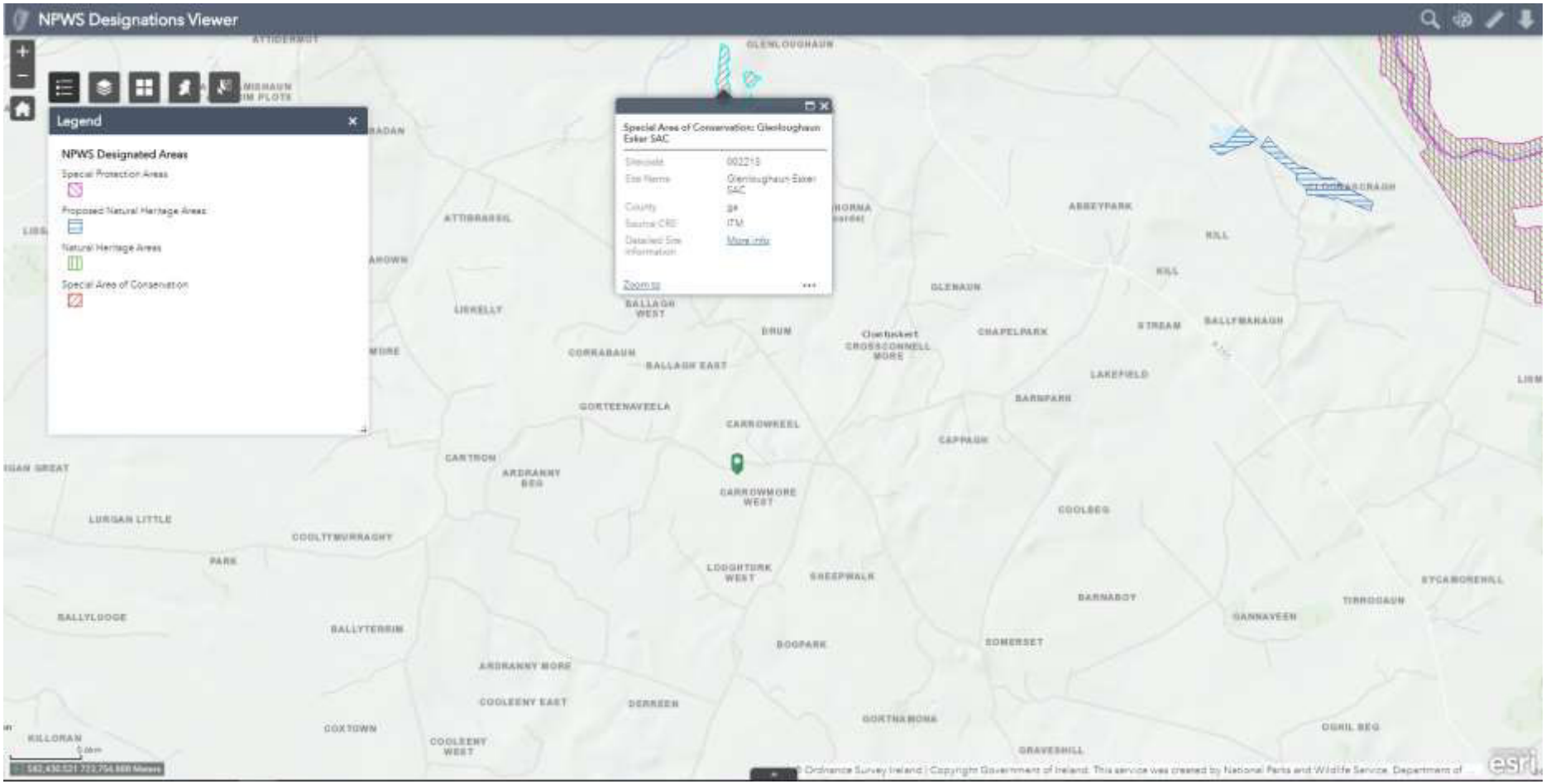


Karst Features Map



Wells & Springs Map

National Monuments Map


NPWS Designations Viewer
Legend
NPWS Designated Areas
Special Protection Areas
Proposed Natural Heritage Areas
Natural Heritage Areas
Special Area of Conservation
Special Area of Conservation: Glenloughaun Esker SAC
Site code
002215
Site Name
Glenloughaun Esker SAC
County
ga
Source CRS
ITM
Detailed Site Information
More info
Zoom to
GLENLOUGHAUN
ATTIBRASSIL
LIBERLLY
BALLAGH WEST
DRUM
CORRABAUN
BALLAGH EAST
GORTEENAVEELA
CARROWKEEL
CARTRON
ARDRANNY BEG
CARROWMORE WEST
LURGAN LITTLE
COOLTYMURRAGHY
PARK
LOUGHTURK WEST
SREEPWALK
BALLYLOUGE
BALLYTERRIN
ARDRANNY MORE
COOLEENY EAST
DERREEN
COOLEENY WEST
COXTOWN
KILLORAN
BOGPARK
GORTNAMONA
GRAVESHILL
SOMERSET
BARNABOY
GANNAVEEN
TIRROOAUN
COOLBEG
LAKEFIELD
BARNPARK
CAPPAUN
CHAPELPARK
STREAM
BALLYMANAGH
KILL
ABBEYPARK
GLENAUN
Clontuskert
CROSSCONNELL MORE
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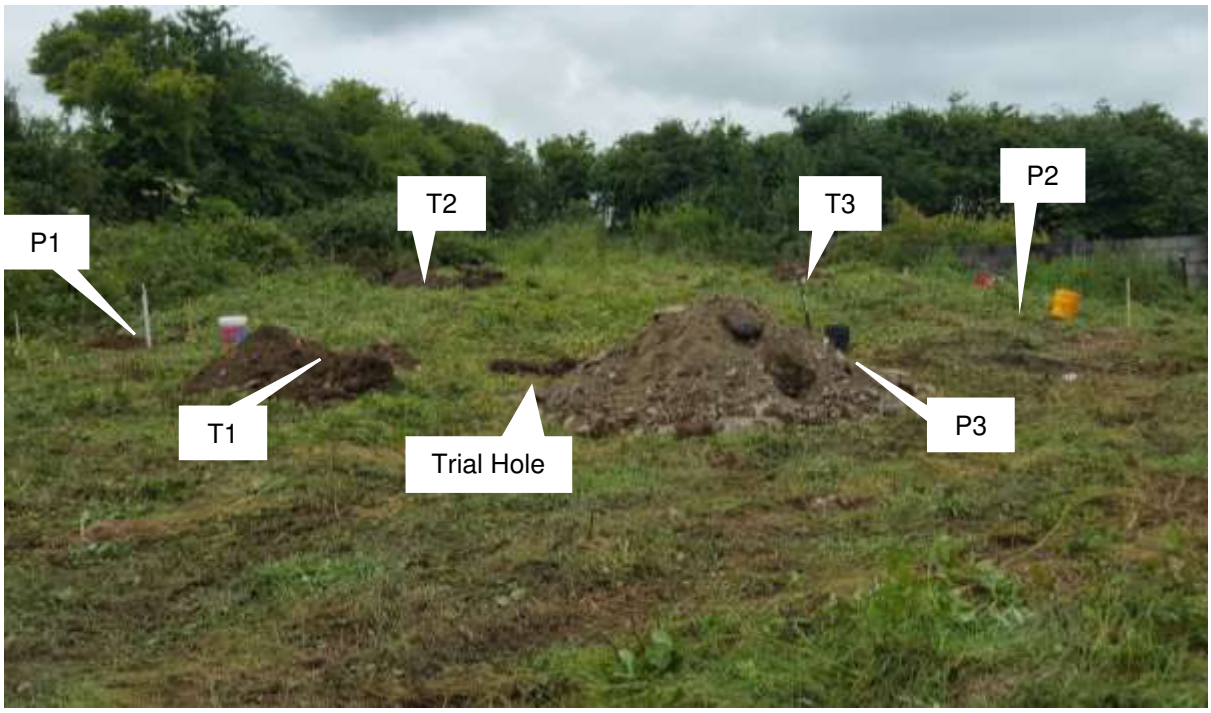
esri

APPENDIX B

SITE SUITABILITY ASSESSMENT
SUPPORTING PHOTOGRAPHS

- Overview of site
- Trial Hole
- P Tests
- T Tests



Overview of percolation test area, showing Trial Pit, T & P text holes.

Trial Pit dug to 1.6m deep 29-06-2020.

Trial Pit dug to 1.6m deep 29-06-2020.

Trial Pit dug to 1.6m deep 29-06-2020.

P1 dug to 400mm 29-06-2020

P1 dug to 400mm 29-06-2020

P2 dug to 400mm 29-06-2020

P2 dug to 400mm 29-06-2020

P3 dug to 400mm 29-06-2020

P3 dug to 400mm 29-06-2020

T1 dug to 400mm 29-06-2020

T1 dug to 400mm 29-06-2020

T2 dug to 400mm 29-06-2020

T2 dug to 400mm 29-06-2020

T3 dug to 400mm 29-06-2020

T3 dug to 400mm 29-06-2020

APPENDIX C

SITE SUITABILITY ASSESSMENT
SUPPORTING DRAWINGS

- 6140-JOD-XX-ZZ-DR-B-2039 – Site Identification Map, 1:50,000
- 6140-JOD-XX-ZZ-DR-B-2040 – Site Location Map, 1:2,500.
- 6140-JOD-XX-ZZ-DR-B-2041 – Existing Site Layout Plan, 1:500
- 6140-JOD-XX-ZZ-DR-B-2042 – Proposed Site Layout Plan, 1:500
- 6140-JOD-XX-ZZ-DR-B-2043 – Polishing Filter Section A-A

SITE IDENTIFICATION MAP Scale 1:50,000

Rebuilding Ireland

NOTES:-

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION

1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2 ALL LEVELS REFER TO ORDNANCE DATUM (MALIN HEAD).
3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

LEGEND:-

NORTH SIGN INDICATED THUS

SITE LOCATION

rev.	modifications	by	chkd	date
PL.01	issued for PLANNING APPROVAL	BM	MF	20.11.20

file P:\Jod-jobs\6140_GCC -Sheltered Housing\700 Drawings\703 Planning\Site No. 5 Clontuskert, Ballinasloe\01 WIP\6140-JOD-XX-ZZ-DR-B-2039 - Discovery Map.dwg

client
Comhairle Chontae na Gaillimhe
Galway County Council

project
PROPOSED DEVELOPMENT OF 1 NO. DOMESTIC DWELLING HOUSE & ASSOCIATED WORKS AT CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY

stage
PLANNING

title
SITE IDENTIFICATION MAP

scale
1:50,000 @A4

surveyed	drawn	checked	date
osi	BM	MF	NOV 2020

JENNINGS O'DONOVAN & PARTNERS
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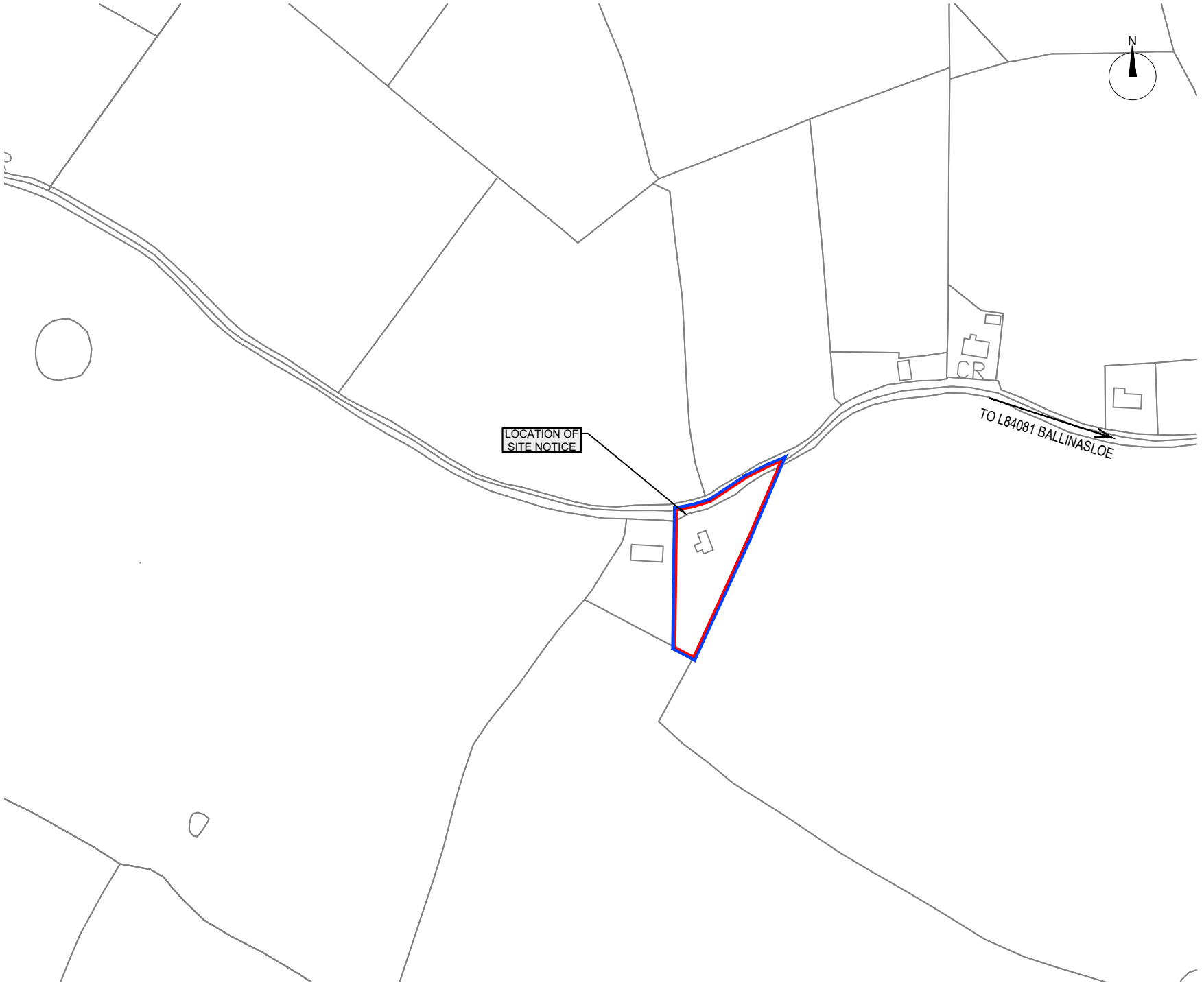
drawing no. 6140-JOD-XX-ZZ-DR-B-2039

revision PL.01



SITE LOCATION MAP Scale 1:2,500

Rebuilding Ireland

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4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

LEGEND:-

SITE BOUNDARY APPLICABLE TO PLANNING APPLICATION LINED RED

LAND UNDER CONTROL OF APPLICANT LINED IN BLUE

NORTH SIGN INDICATED THUS

Site Area:-
2158 m2, 0.533 Acres, 0.216 Hectares

ITM Co-Ordinates of site:-
582404, 723771

PL.01	issued for PLANNING APPROVAL	BM	MF	20.11.20
rev.	modifications	by	chkd	date

file P:\Jod-jobs\6140_GCC -Sheltered Housing\700 Drawings\703 Planning\Site No. 5 Clontuskert, Ballinasloe\01 WIP\6140-JOD-XX-ZZ-DR-B-2040 - Site Location Map.dwg

client
Comhairle Chontae na Gaillimhe
Galway County Council

project
PROPOSED DEVELOPMENT OF 1 NO. DOMESTIC DWELLING HOUSE & ASSOCIATED WORKS AT CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY

stage
PLANNING

title
SITE LOCATION MAP

scale
1:2,500 @A4

surveyed	drawn	checked	date
osi	BM	MF	NOV 20

drawing no.	revision
6140-JOD-XX-ZZ-DR-B-2040	PL.01

EXISTING SITE LAYOUT PLAN Scale 1:500

Rebuilding Ireland

NOTES:-

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LEGEND:-

SITE BOUNDARY APPLICABLE TO PLANNING APPLICATION LINED RED
LAND UNDER CONTROL OF APPLICANT LINED IN BLUE
NORTH SIGN INDICATED THUS
EXISTING GROUND LEVELS INDICATED THUS +70.600
EXISTING ESB OVERHEAD POWER LINE INDICATED THUS
EXISTING TREES/HEDGEROW
PERCOLATION TEST AREA
PERCOLATION 'T' & 'P' TEST LOCATIONS P1 T1
TRAIL PIT No. 1 / 2 TEXT LOCATIONS TP1 TP2

Site Area:-
2158 m2, 0.533 Acres, 0.216 Hectares

ITM Co-Ordinates of site:-
582404, 723771

rev.	modifications	by	chkd	date
PL.01	Issued for PLANNING APPROVAL	BM	MF	20.11.20
Layout Ref.:				
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client
Comhairle Chontae na Gaillimhe
Galway County Council

project
PROPOSED DEVELOPMENT OF 1 NO. DOMESTIC DWELLING HOUSE & ASSOCIATED WORKS CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY

stage
PLANNING

title
EXISTING SITE LAYOUT PLAN

scale
1:500 @ A3

surveyed	drawn	checked	date
OSI	BM	MF	NOV 2020

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FAX. +353 (0)71 916 1080
Email: info@jodireland.com

drawing no.	revision
6140-JOD-XX-ZZ-DR-B-2041	PL.01

DEVELOPMENT TO COMPLY WITH COUNTY COUNCIL DEVELOPMENT PLAN

Agricultural Land

SURFACE WATER FROM THE SITE SHALL NOT BE ALLOWED TO RUN ONTO THE PUBLIC ROAD OR ADJOINING PROPERTIES.

PROPOSED NEW ENTRANCE. VEHICULAR ENTRANCE GATES SHALL OPEN INWARDS ONLY.

LOCATION OF SITE NOTICE

EXISTING ROAD EDGE

TO R362 DUNMORE

70M LINE OF SIGHT

EXISTING FRONT BOUNDARY TO BE REMOVED

56.529

N

EXISTING ROAD EDGE

70M LINE OF SIGHT

Public Road

Public Road

PROPOSED NEW BLOCK PLASTERED WALL, SET BACK IN LINE WITH ADJOINING PROPERTY

Soak pit

15.982

DP1

Hardened Area

TP1

PROPOSED DWELLING TO REPLACE EXISTING DWELLING. REFER TO DWG. 6140-JOD-XX-ZZ-DR-B-2044 FOR FURTHER DETAILS

EXISTING DWELLING

EXISTING BLOCKWALL BOUNDARY

DP2

93.25 FFL

93.25 FFL

9.444

8.557

Agricultural Land

EXISTING DWELLING TO BE DEMOLISHED. REFER TO DWG. 6140-JOD-XX-ZZ-DR-B-2045 FOR FURTHER DETAILS

103.506

DP3

EXISTING SHED

66.348

PROPOSED EFFLUENT TREATMENT SYSTEM WITH INTEGRATED SUMP PUMP. PLEASE REFER TO ENCLOSED SITE SUITABILITY ASSESSMENT REPORT BY PJ REGAN FOR FURTHER DETAILS

TP2

P3

T1

P2

P1

T3

T2

6.248

4.567

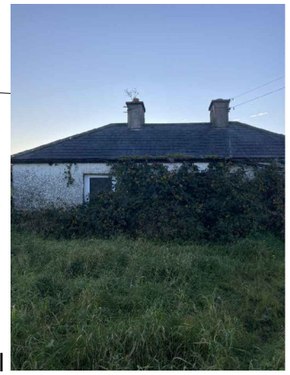
PROPOSED RAISED POLISHING FILTER

EXISTING HEDGEROW BOUNDARY

EXISTING HEDGEROW BOUNDARY

Agricultural Land

10.159



Agricultural Land

PROPOSED SITE LAYOUT PLAN Scale 1:500

Rebuilding Ireland

NOTES:-

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LEGEND:-

SITE BOUNDARY APPLICABLE TO PLANNING APPLICATION LINED RED

LAND UNDER CONTROL OF APPLICANT LINED IN BLUE

NORTH SIGN INDICATED THUS

EXISTING GROUND LEVELS INDICATED THUS +70.600

EXISTING ESB OVERHEAD POWER LINE INDICATED THUS

SIGHT LINE DISTANCE AS SHOWN INDICATED THUS

EXISTING DWELLING TO BE DEMOLISHED INDICATED THUS

PERCOLATION TEST AREA

PERCOLATION 'T' & 'P' TEST LOCATIONS P1 T1

TRAIL PIT No. 1 / 2 TEXT LOCATIONS TP1 TP2

Site Area:-
2158 m2, 0.533 Acres, 0.216 Hectares

ITM Co-Ordinates of site:-
582404, 723771

OS Sheet No. 2678

Ordnance Survey Ireland National Mapping Agency

PL.01	Issued for PLANNING APPROVAL	BM	MF	20.11.20
rev.	modifications	by	chkd	date

Layout Ref.:

file P:\Jod-jobs\6140_GCC -Sheltered Housing\700 Drawings\703 Planning\Site No. 5 Clontuskert, Ballinasloe\01 WIP\6140-JOD-XX-ZZ-DR-B-2042 - Proposed Site Layout.dwg

client Comhairle Chontae na Gaillimhe Galway County Council

project
PROPOSED DEVELOPMENT OF 1 NO. DOMESTIC DWELLING HOUSE & ASSOCIATED WORKS AT CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY

stage
PLANNING

title
PROPOSED SITE LAYOUT PLAN

scale
1:500 @ A3

surveyed	drawn	checked	date
OSI	BM	MF	NOV 2020

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CONSULTING ENGINEERS,
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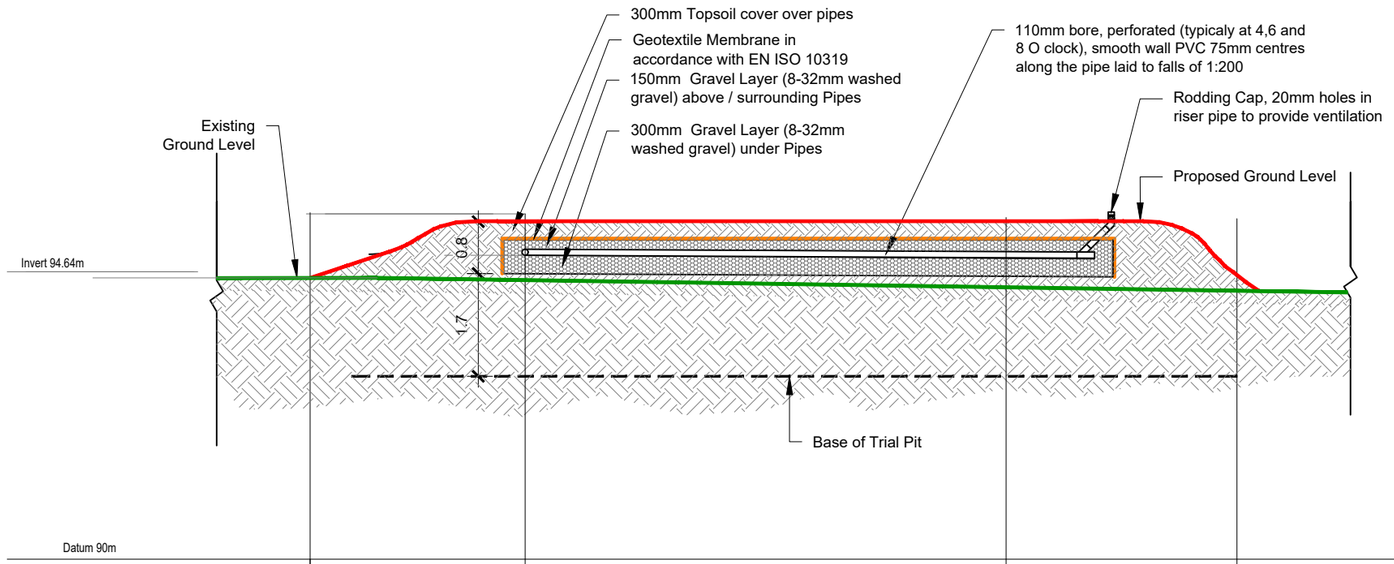
FAX. +353 (0)71 916 1080
Email: info@jodireland.com

drawing no. 6140-JOD-XX-ZZ-DR-B-2042

revision PL.01



Ground Level		94.59	94.54	94.43	94.38
Chainage 0m		-3.51	0.00	7.84	11.6

POLISHING FILTER LONGITUDINAL SECTION A-A THROUGH TRENCH
Scale 1:100

POLISHING FILTER SECTION A-A Scale 1:100

Rebuilding Ireland

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LEGEND:-

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rev.	modifications	by	chkd	date

Layout Ref.:
file P:\Jod-jobs\6140_GCC - Sheltered Housing\700 Drawings\703 Planning\Site No. 5 Clontuskert, Ballinasloe\01 WIP\6140-JOD-XX-ZZ-DR-B-2042 - Proposed Site Layout.dwg

client
Comhairle Chontae na Gaillimhe
Galway County Council

project
PROPOSED DEVELOPMENT OF 1 NO. DOMESTIC DWELLING HOUSE & ASSOCIATED WORKS AT AT CARROWMORE WEST, CLONTUSKERT, BALLINASLOE, CO. GALWAY

stage
PLANNING

title
POLISHING FILTER SECTION A-A

scale
1:100 @ A3

surveyed	drawn	checked	date
OSI	BM	MF	NOV 2020

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CONSULTING ENGINEERS,
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FAX. +353 (0)71 916 1080
Email: info@jodireland.com

drawing no.	revision
6140-JOD-XX-ZZ-DR-B-2043	PL.01

APPENDIX D

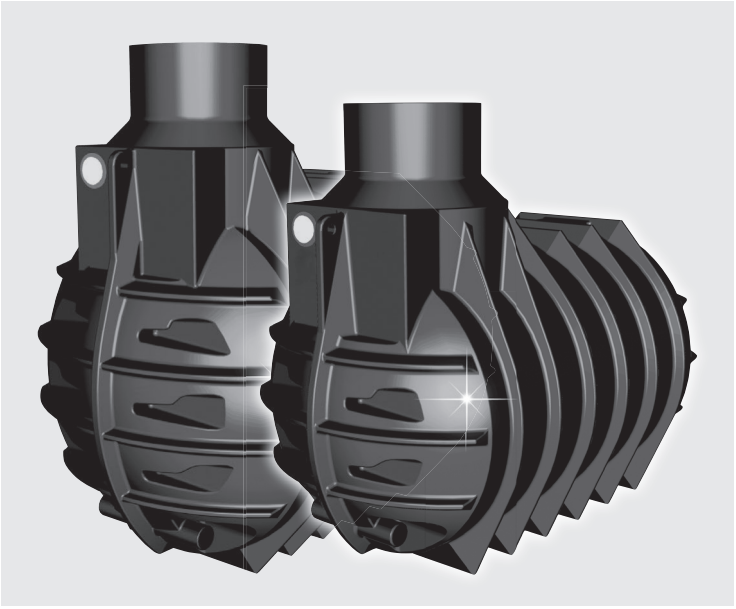
SUPPORTING DOCUMENTS
RELATING TO
PROPOSED EFFLUENT TREATMENT SYSTEM

Proposed Secondary Treatment System
– Solido SMART (6PE)

- Solido SMART (S.B.R.) Brochure
- Solido SMART (S.B.R.) PIA Certification

PREMIER TECH

The new generation in
Decentralised Wastewater Treatment



Solido SMART

PT-WaterEnvironment.ie

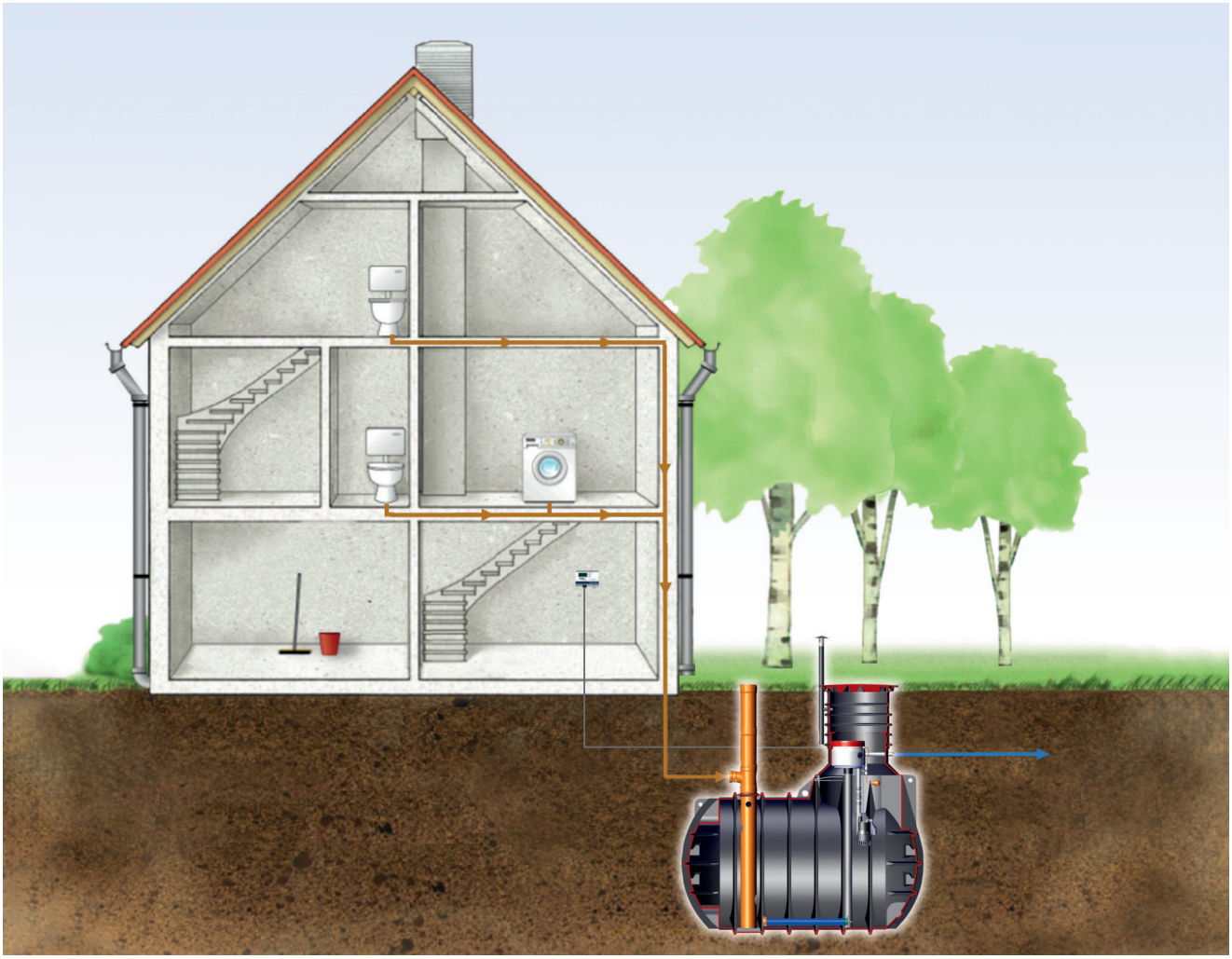
The new generation in Decentralised Wastewater Treatment

The Solido SMART from Premier Tech, is a decentralised waste-water treatment plant and the perfect solution for residential and commercial projects where mains drainage is unavailable.

Serving a population of up to 9 PE and fast becoming the industry's system of choice; this low-profile unit offers a reliable design and low installation costs. Available in gravity and integrated pumped outlet versions. Installed to treat wastewater with minimal impact on the environment, typical applications include single dwellings, small communities.

Superior Technical Performance

The highly successful Solido SMART is designed and tested in accordance with EN12566-3, in compliance with S.R 66:2015. This plant is able to produce a final effluent quality better than 10:20:5 (BOD:SS:NH3). Removal of total nitrogen and total phosphorus (TN and TP) is expected to reach 83% and 68% respectively.



Solido SMART

State of the art SBR Treatment

Advanced Technical Qualities

The Solido SMART solution makes decentralised wastewater treatment easier and more efficient than ever. Trust its high-quality design and durable components to provide long-term performances and peace of mind.

- Low operational cost, offering long term savings.
- Discrete and silent treatment plant.
- Reduced installation and maintenance costs, Solido SMART tanks are lightweight, compact and have low installation depth requirements.
- Fully CE marked. Designed and tested in accordance with EN 12566-3.
- Polyethylene material - durable, recyclable and impact resistant.

How it works

Solido SMART combines the benefits of an ultra-compact solution with the trusted performance of Solido technology. Integrating with SBR technology comparable to large municipal applications, the proven technology operates with direct aeration of the wastewater and without the need for primary treatment. This simple principle provides efficient wastewater treatment results without the emission of any odours.

1. Technology Capsule
Safely housed in the capsule, the compressor requires only 0.80 - 1.04 kWh/d for 6 - 9 PE plants respectively - providing an efficient and quiet treatment without disturbance to the homeowner.

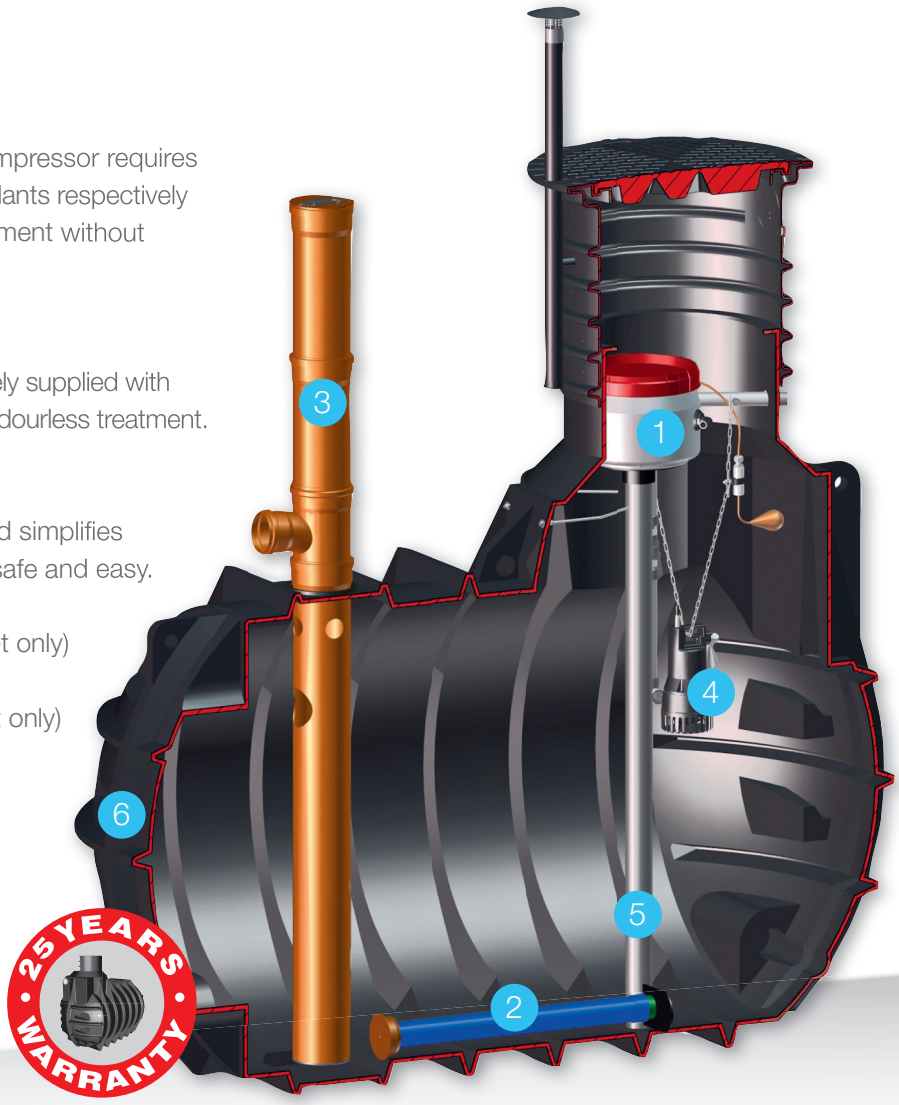
2. Tube Diffuser
The incoming wastewater is immediately supplied with oxygen to ensure a very efficient and odourless treatment.

3. The SMART Pipe
Slows down the incoming influent and simplifies inspections. Makes part desludging safe and easy.

4. Clearwater Pump (Pumped outlet only)

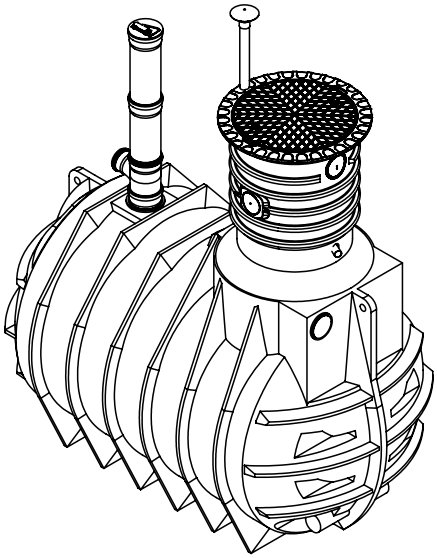
5. Clearwater Air Lift (Gravity outlet only)
The patented self-flushing airlift prevents sludge loss and ensures high performances.

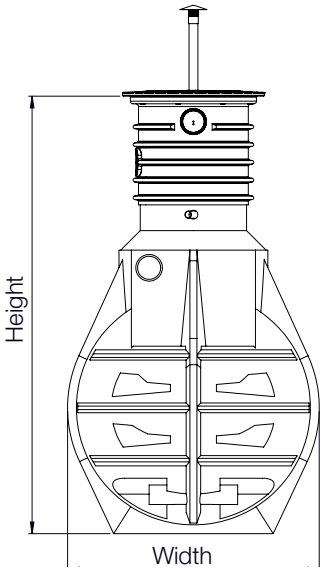
6. Solido-Tank
Manufactured seamlessly as one-piece from eco-friendly PE, with 25 years warranty.

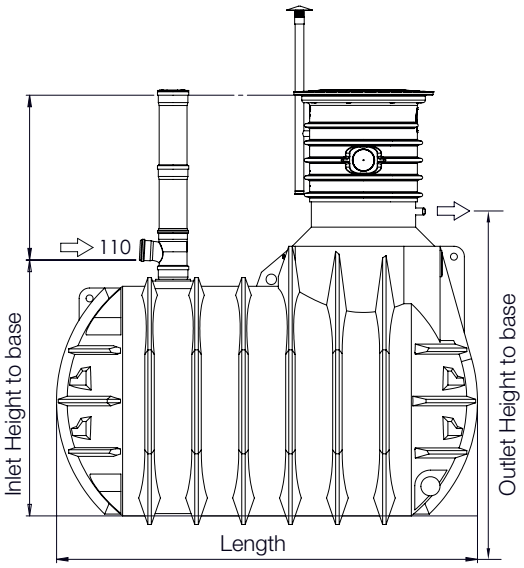


Solido SMART Plant Size

Plant Size (PE)	discharge	Tank Type	Length (m)	Width (m)	Height (m)	INLET Height to base (m)	OUTLET Height to base (m)	Pipe Diameter (mm)	reference code
6 (max. 0.9 m^3/d)	pumped	3000	2.42	1.42	2.06 – 2.47	1.47	1.73	110	KEBL3026
9 (max. 1.35 m^3/d)	pumped	4500	2.42	1.79	2.34 – 2.75	1.74	2.06	110	KEBL4526
6 (max. 0.9 m^3/d)	gravity	3000	2.42	1.42	2.06 – 2.47	1.47	1.40	110	KCBL3020
9 (max. 1.35 m^3/d)	gravity	4500	2.42	1.79	2.34 – 2.75	1.74	1.73	110	KCBL4520







Installation

The Solido SMART Sewage Treatment Plant requires a relatively low cost and easy installation process. As the tank is super reinforced, concrete is not needed and the tank can be fully installed in free flowing granular backfill.

Warranty

All Premier Tech PE tanks come with a 25 year warranty as standard. Individual product and part warranties are available upon request.

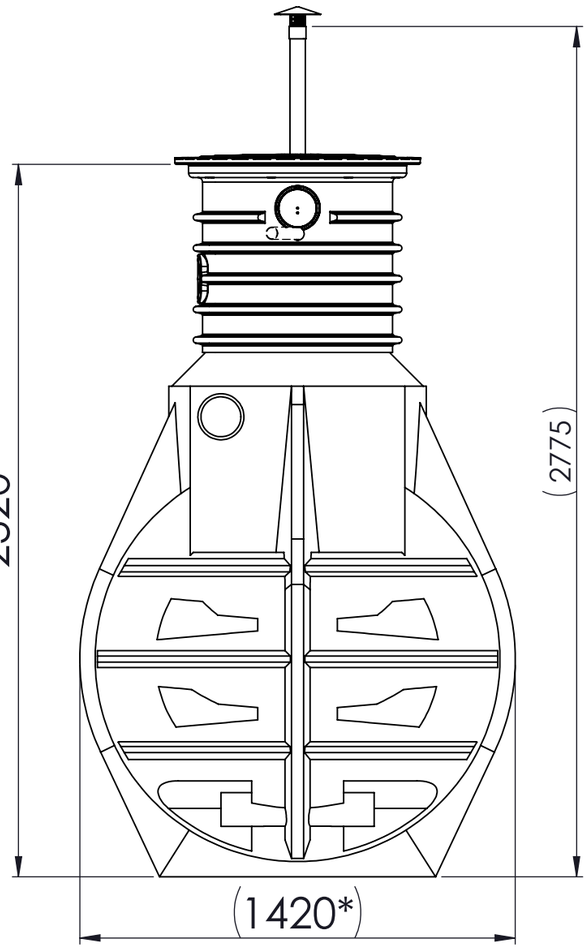
Premier Tech work closely with a nationwide network of installation partners and detailed installation guidelines are provided with each product.

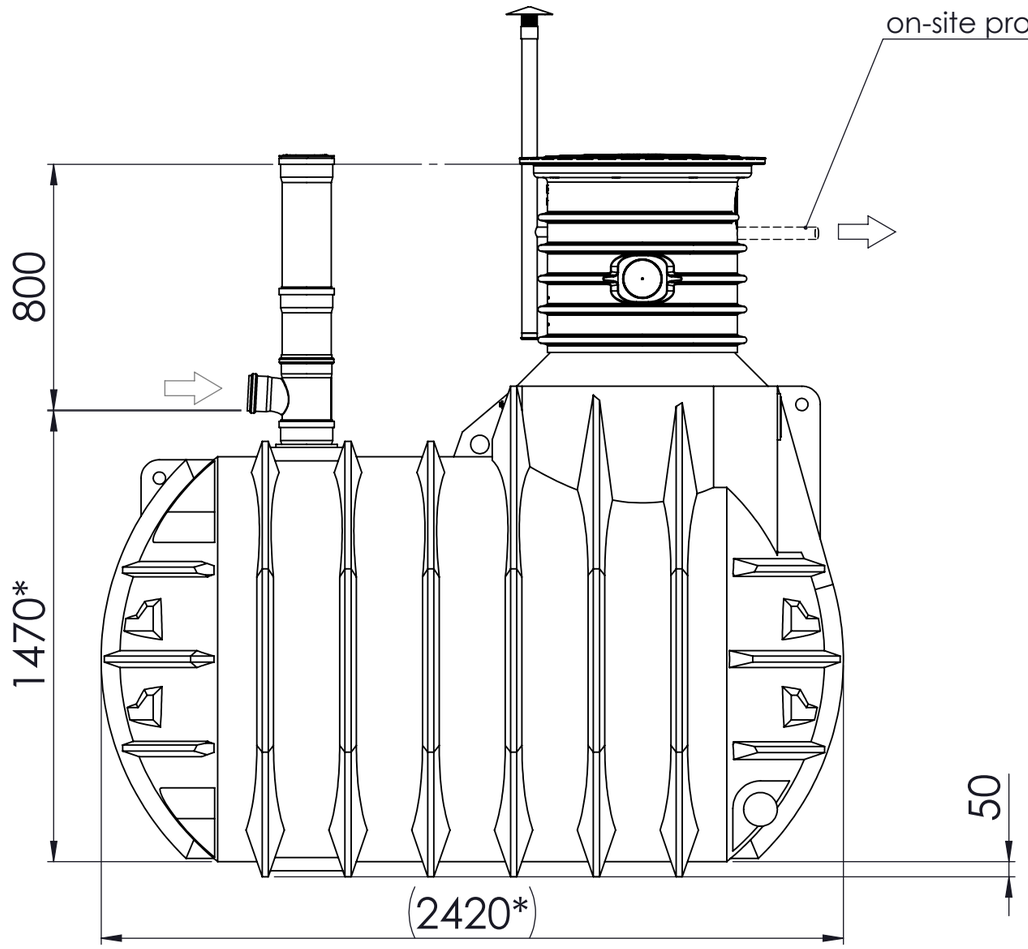
All electric work should be carried out in accordance with current regulations.

IRISH WATER TREATMENT ASSOCIATION

Quartertown Industrial Estate, Mallow, Co Cork, IRELAND, P51 PY20
T: +353 (0) 22 51411 ptairl-sales@premiertech.com
PT-WaterEnvironment.ie

Approved 05.20





* tolerance -40/+10 mm

Rev	Name	Datum	Änderung	gepr.
B	HOFS2	03.07.2020	Steigrohr aktaulisiert.	

Erstellt	HOFS2	13.03.2020
Gepr.	HERJ3	03.07.2020
CAD-System:	SolidWorks2018	

Allgemeintoleranz: DIN 16742 TG9 / DIN ISO 2768 - mK

DIN 6 T1 Projektions-methode 1

Kantenbruch nach ISO 13715 (-0.4 / -0.2; +0.3 / 0)

Gewicht:	kg
Wanddicke:	mm
Werkstoff:	PE-LLD
Farbe:	schwarz

PREMIER TECH
Am Gammgraben 2
19258 Boizenburg
Germany
Fon+49 38847 6239 0

Benennung

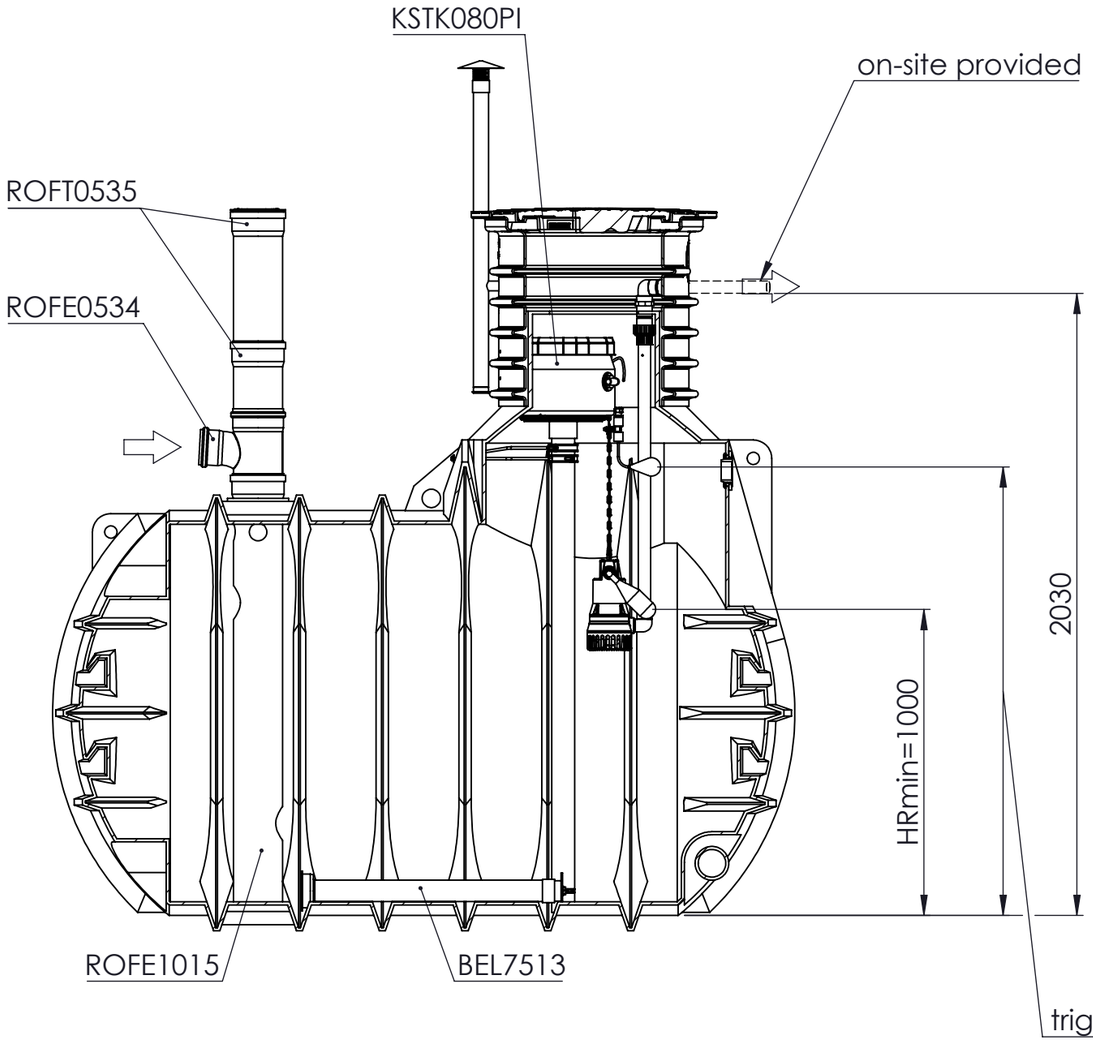
Solido SMART EBL-30 (6 PE) pump PT Ireland small SBR WWTP compliant with EN 12566-3 / SR66

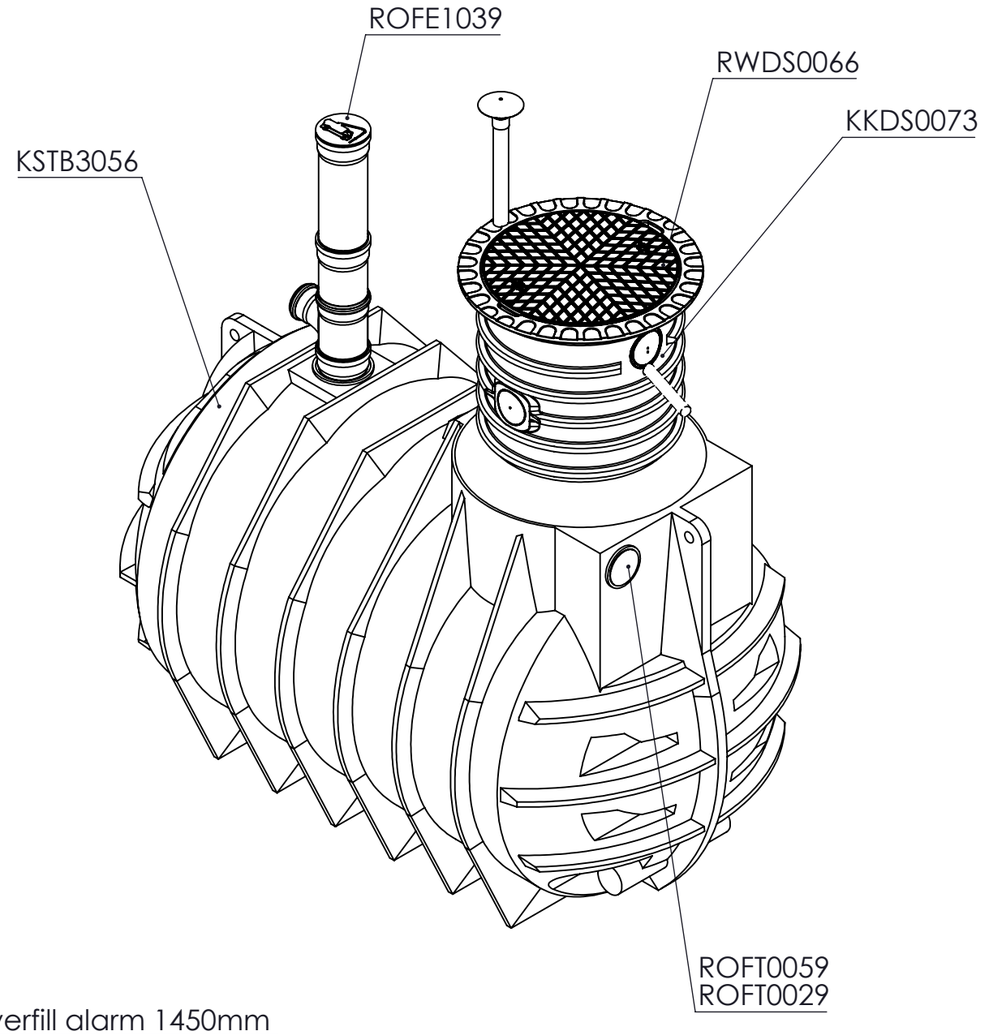
Zchng.-Nr.: 314_05047

Art.-Nr.: KEBL3026

Hauptabmessungen | Maßstab: 1:20 | A3 | Blatt 1 von 3

Letzte Speicherung: Freitag, 3. Juli 2020 17:40:43





Rev	Name	Datum	Änderung	gepr.

Erstellt	HOFS2	13.03.2020
Gepr.	HERJ3	03.07.2020
CAD-System:	SolidWorks2018	

Allgemeintoleranz: DIN 16742 TG9 / DIN ISO 2768 - mK

DIN 6 T1 Projektions-methode 1

Kantenbruch nach ISO 13715 (-0.4 / -0.2; +0.3 / 0)

Gewicht:	kg
Wanddicke:	mm
Werkstoff:	PE-LLD
Farbe:	schwarz

PREMIER TECH
Am Gammgraben 2
19258 Boizenburg
Germany
Fon+49 38847 6239 0

Benennung

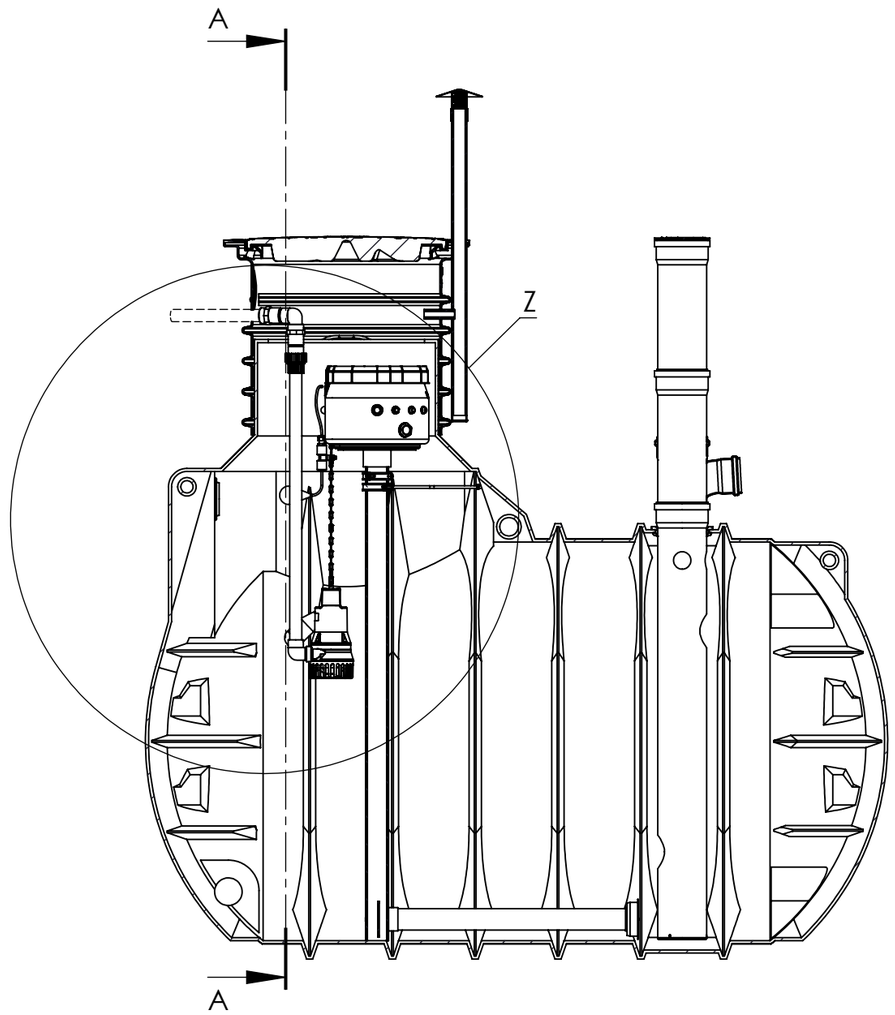
Solido SMART EBL-30 (6 PE) pump PT Ireland
small SBR WWTP compliant with EN 12566-3 / SR66

Zchng.-Nr.: 314_05047

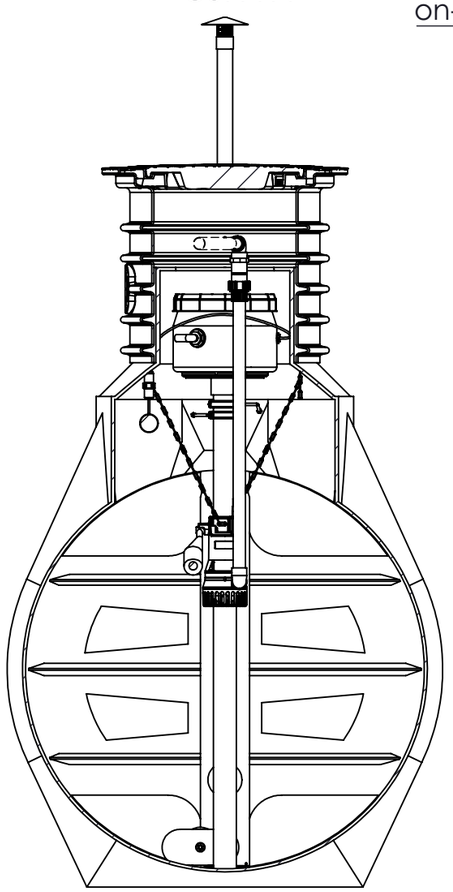
Art.-Nr.: KEBL3026

Hauptabmessungen | Maßstab: 1:20 | A3 | Blatt 2 von 3

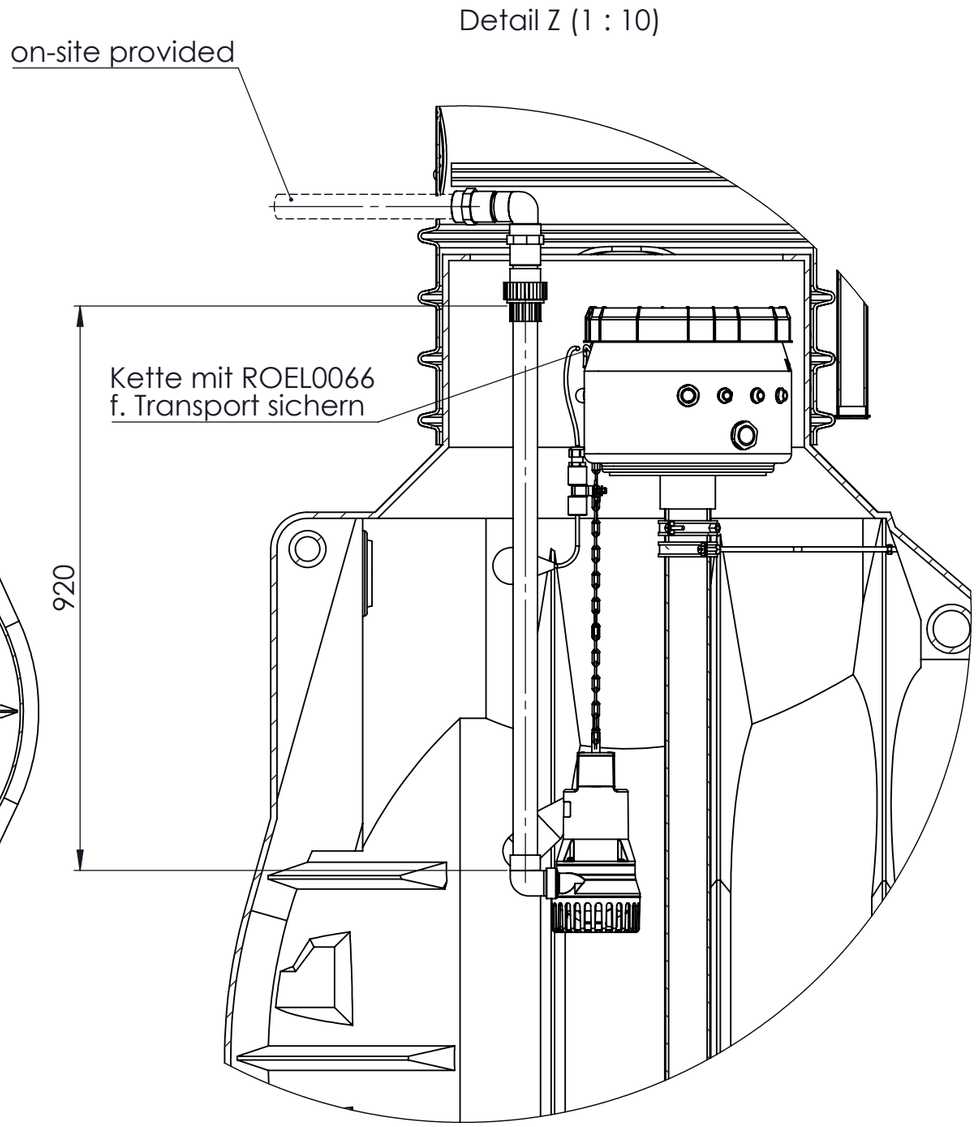
Letzte Speicherung: Freitag, 3. Juli 2020 17:40:43



Cut A-A



Detail Z (1 : 10)



Rev	Name	Datum	Änderung	gepr.

Erstellt	HOFS2	13.03.2020	Allgemeintoleranz: DIN 16742 TG9 / DIN ISO 2768 - mK	Gewicht: kg
Gepr.	HERJ3	03.07.2020	DIN 6 T1 Projektions-methode 1 / Kantenbruch nach ISO 13715 (-0.4 -0.2 / +0.3 0)	Wanddicke: mm
CAD-System:	SolidWorks2018			Werkstoff: PE-LLD
				Farbe: schwarz

PREMIER TECH
Am Gammgraben 2
19258 Boizenburg
Germany
Fon+49 38847 6239 0

Benennung

Solido SMART EBL-30 (6 PE) pump PT Ireland
small SBR WWTP compliant with EN 12566-3 / SR66

Zchng.-Nr.: 314_05047

Art.-Nr.: KEBL3026

Hauptabmessungen	Maßstab: 1:20	A3	Blatt 3 von 3

Letzte Speicherung: Freitag, 3. Juli 2020 17:40:43

Certificate

TREATMENT PERFORMANCE RESULTS

Premier Tech Aqua GmbH
Bei der neuen Münze 11, 22145 Hamburg, Germany

EN 12566-3
Results corresponding to EN 12566-3 and S.R. 66

PIA-SR66-1604-1055.02

SOLIDO smart

One-chamber SBR system in one PE tank

Nominal organic daily load	0.30 kg/d		
Nominal hydraulic daily load	0.90 m³/d		
Material	Polyethylene		
Watertightness	Pass		
Structural behaviour (Pit Test)	Pass (also wet conditions)		
Durability	Pass		
Treatment efficiency		Efficiency	Effluent
(nominal sequences)	COD	95.1 %	39 mg/l
	BOD5	98.5 %	5 mg/l
	NH4-N	98.0 %	0.7 mg/l
	SS	97.1 %	13 mg/l
Number of desludging	Not more than once		
Electrical consumption	0.81 kWh/d		

Performance tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
Hergenrather Weg 30
52074 Aachen
Germany

This document replaces neither the declaration of performance nor the CE marking.

Notified Body No.: 1739

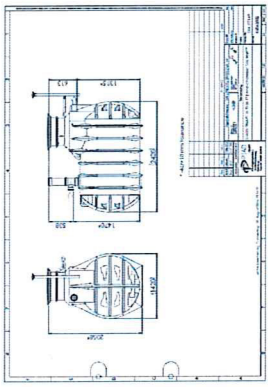
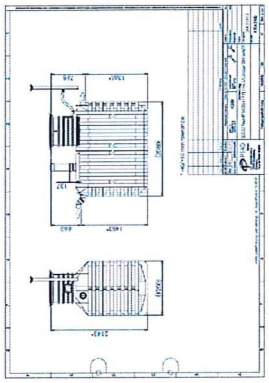
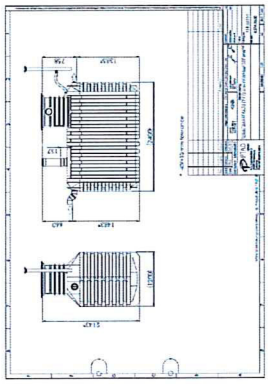
DAkkS Deutsche Akkreditierungsstelle D-PL-17712-01-00

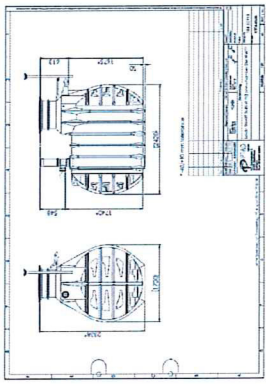
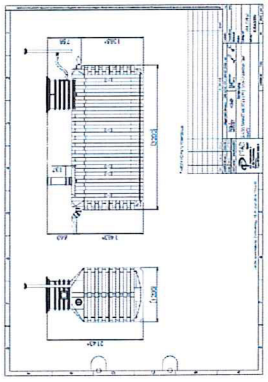
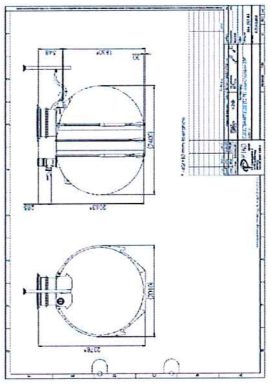
PIA - Sustainable Certification

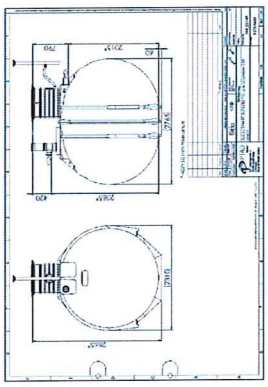
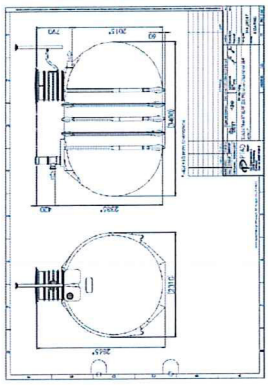
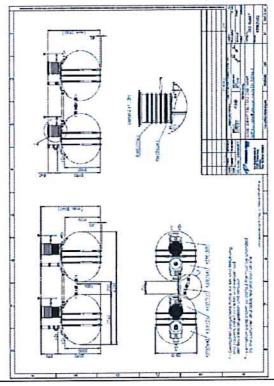
geprüft - tested - testé

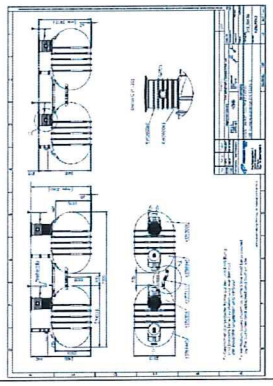
Verschitz / Wermter September 2019

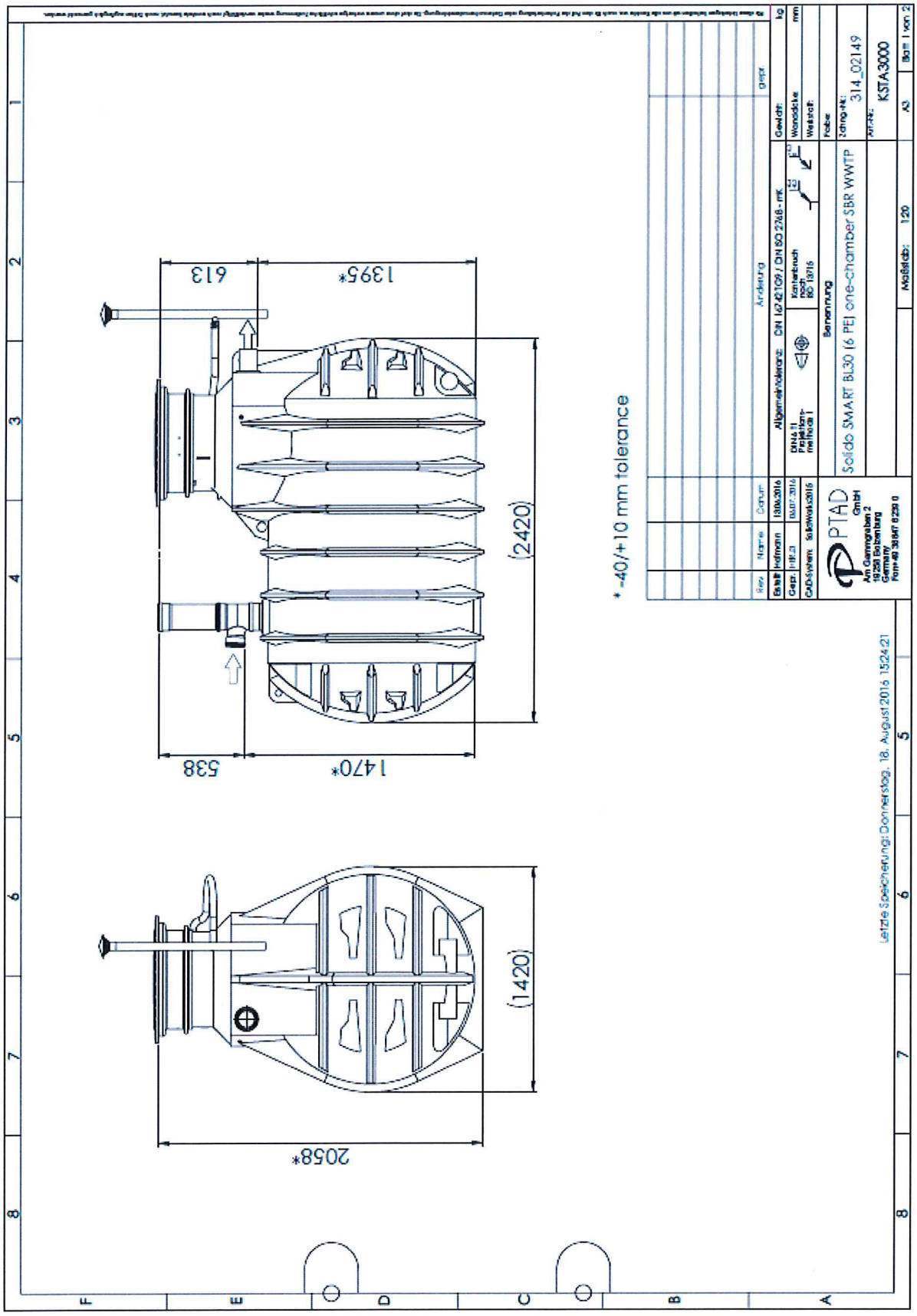
SOLIDO smart range and its referring test reports:

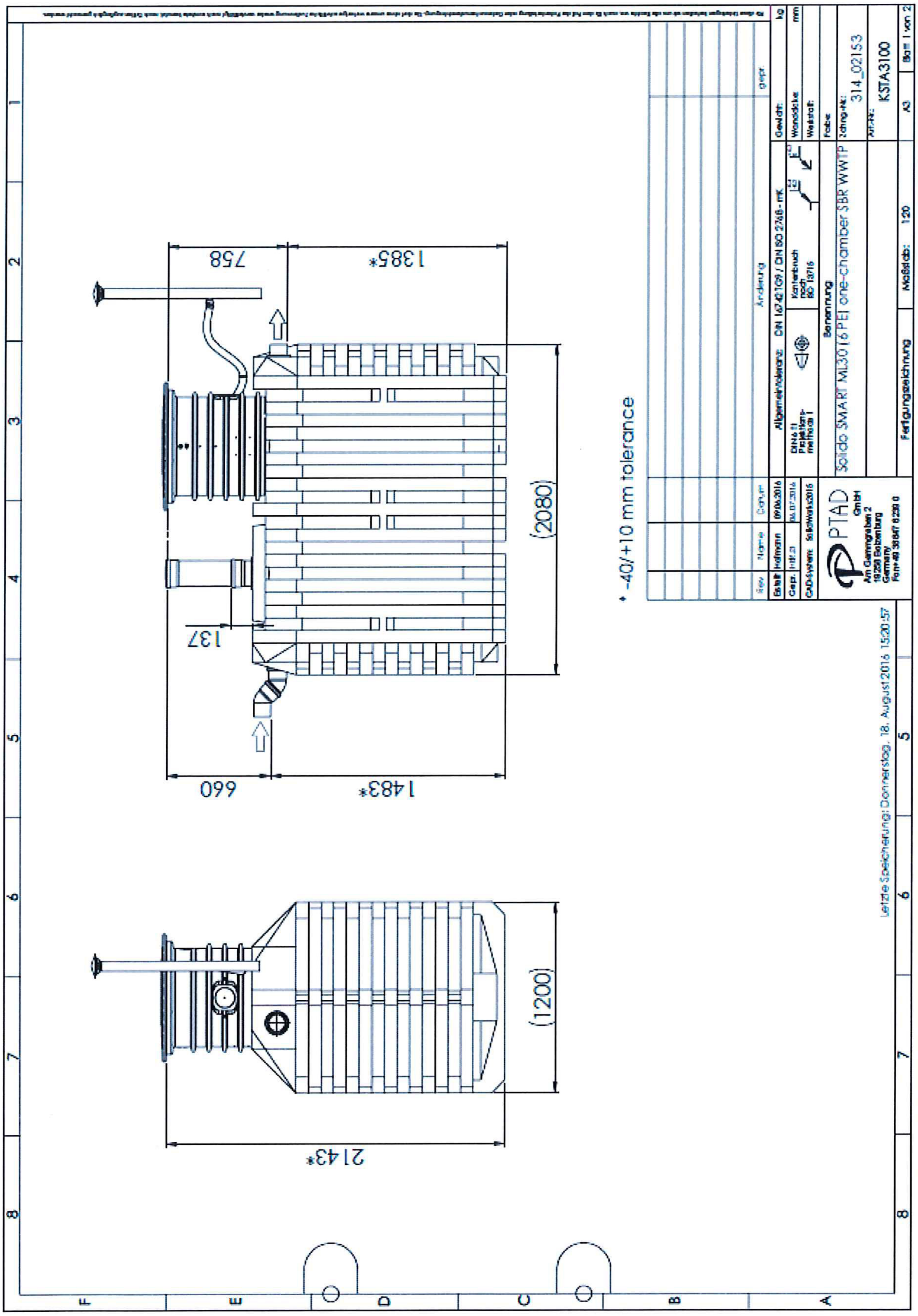
Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
Initial Type Test (ITT) 6 900 l/d		Pass PIA2007-WD-003	Pass PIA2015-239B22.e	Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01
6 900 l/d		Pass PIA2007-WD-003	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions, For wet ground conditions also, 1.00 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01
7 1050 l/d		Pass PIA2007-WD-003	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions, For wet ground conditions also, 1.00 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01

Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
9 1350 l/d		Pass PIA2007-WD-003	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01
10 1500 l/d		Pass PIA2007-WD-003	Pass Range conformity according to S.R. 66:2015	Pass PIA2006-BT-004 PIA2011-ST-PIT-1105-1032 For wet ground conditions also, 1.00 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01
12 1800 l/d		Pass PIA2007-WD-003	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01

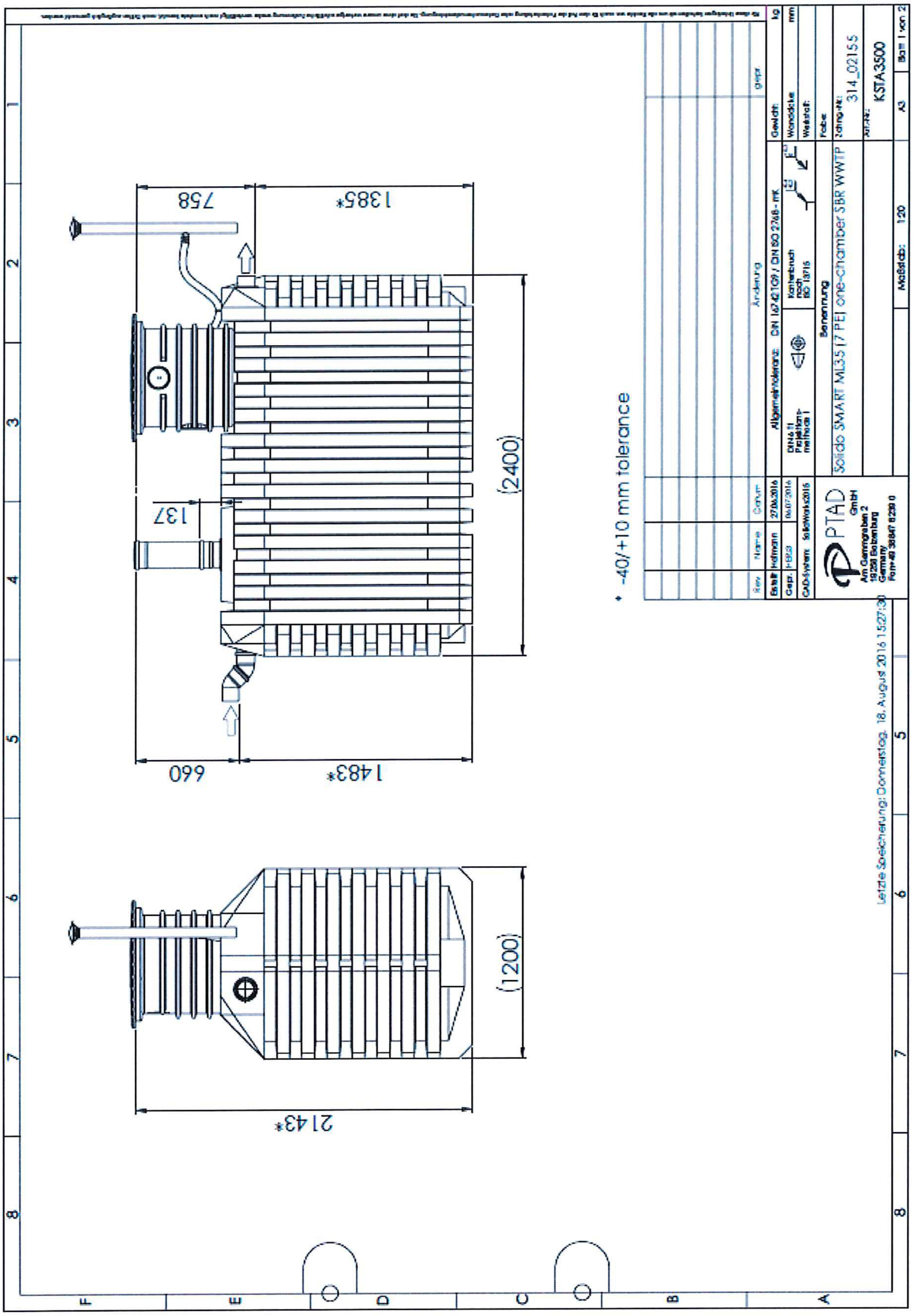
Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
18 2700 l/d		Pass PIA2007-WD-003	Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	PIA2016-DH-1510-1052.01 pass
25 3750 l/d		Pass PIA2007-WD-003	Range conformity according to S.R. 66:2015	PIA2015-ST-PIT-1406-1043.01 Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	PIA2016-DH-1510-1052.01 pass
40 6,000 l/d		Pass PIA2007-WD-003	Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	PIA2016-DH-1510-1052.01 pass

Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
50 7,500 l/d		Pass PIA2007-WD-003	Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, 0.95 m installation depth from inlet invert	PIA2016-DH-1510-1052.01 pass

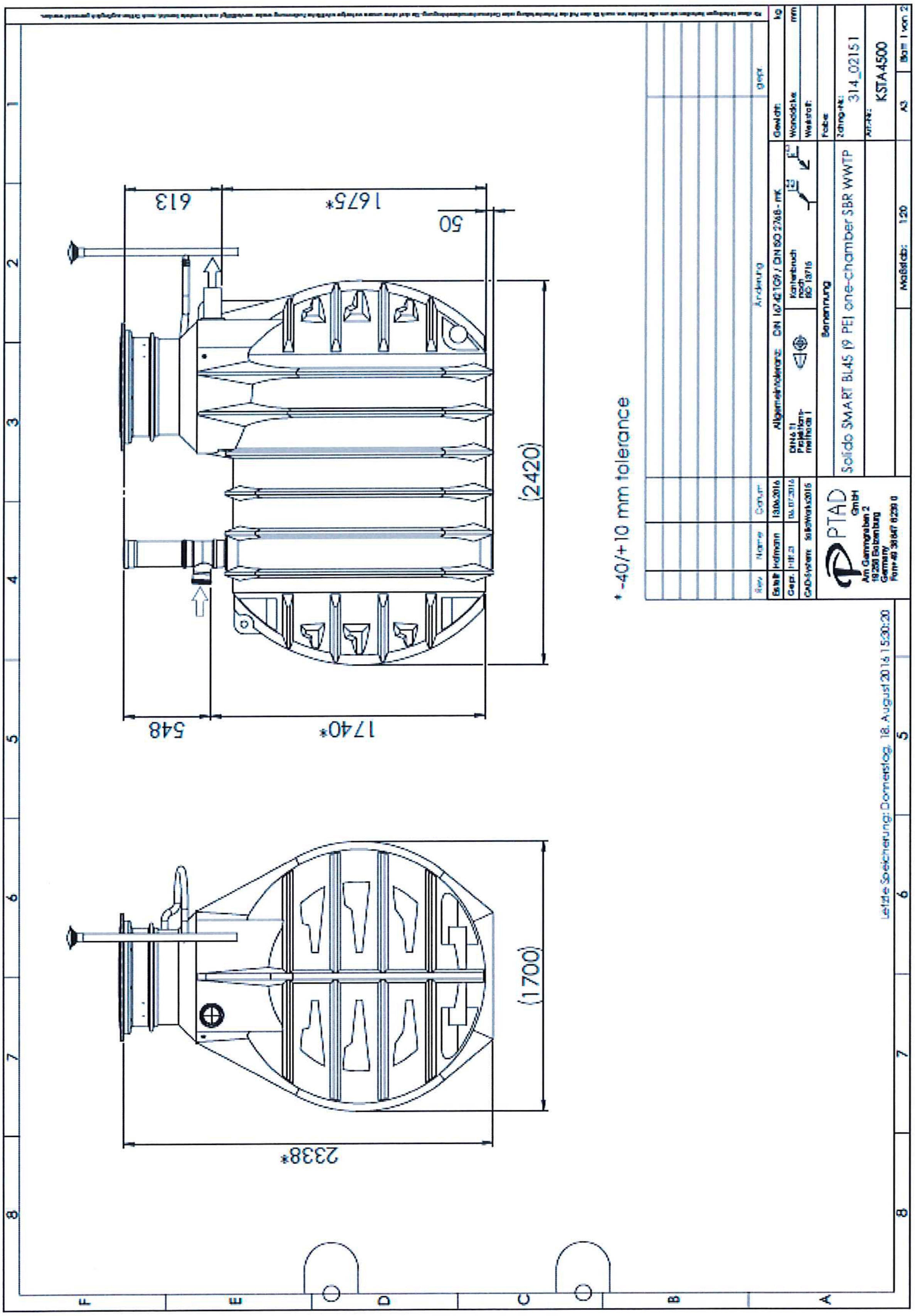

613
1395*
(2420)
538
1470*
(1420)
2058*
* -40/+10 mm tolerance
Solido SMART BL30 I6 PE1 one-chamber SBR WWTP
314_02149
KSTA3000
PTAD GmbH
Am Gamgraben 2
19258 Boizenburg
Germany
Phone +49 38847 6259 0
Maßstab: 1:20
A3
Blatt 1 von 2
Letzte Speicherung: Donnerstag, 18. August 2016 15:24:21

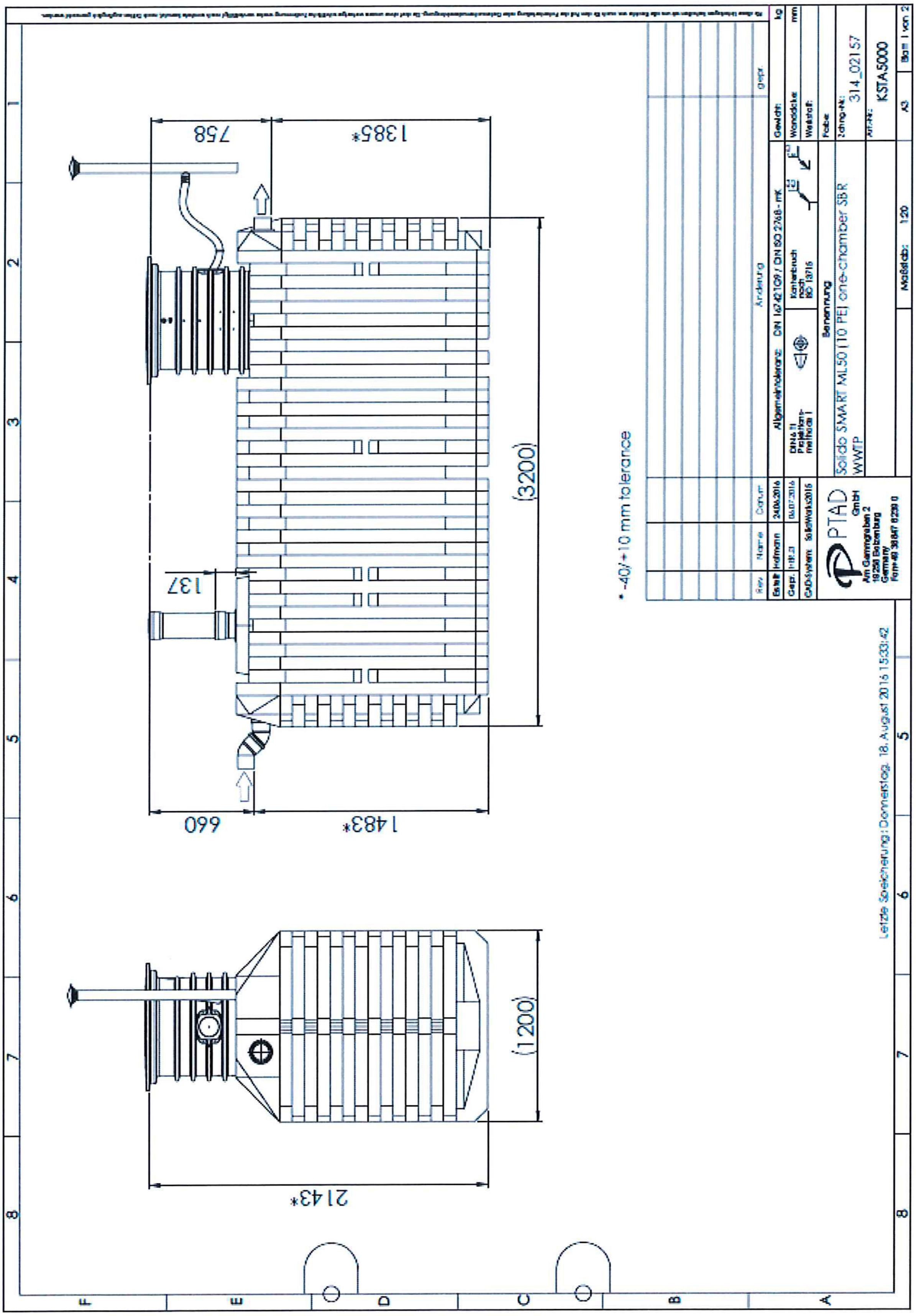


758
1385*
137
660
1483*
(2080)
(1200)
2143*
* -40/+10 mm tolerance
Solido SMART ML30 16 PEI one-chamber SBR WWTP
314_02153
KSTA3100
PTAD GmbH
Fertigungszeichnung
Letzte Speicherung: Donnerstag, 18. August 2016 15:20:57

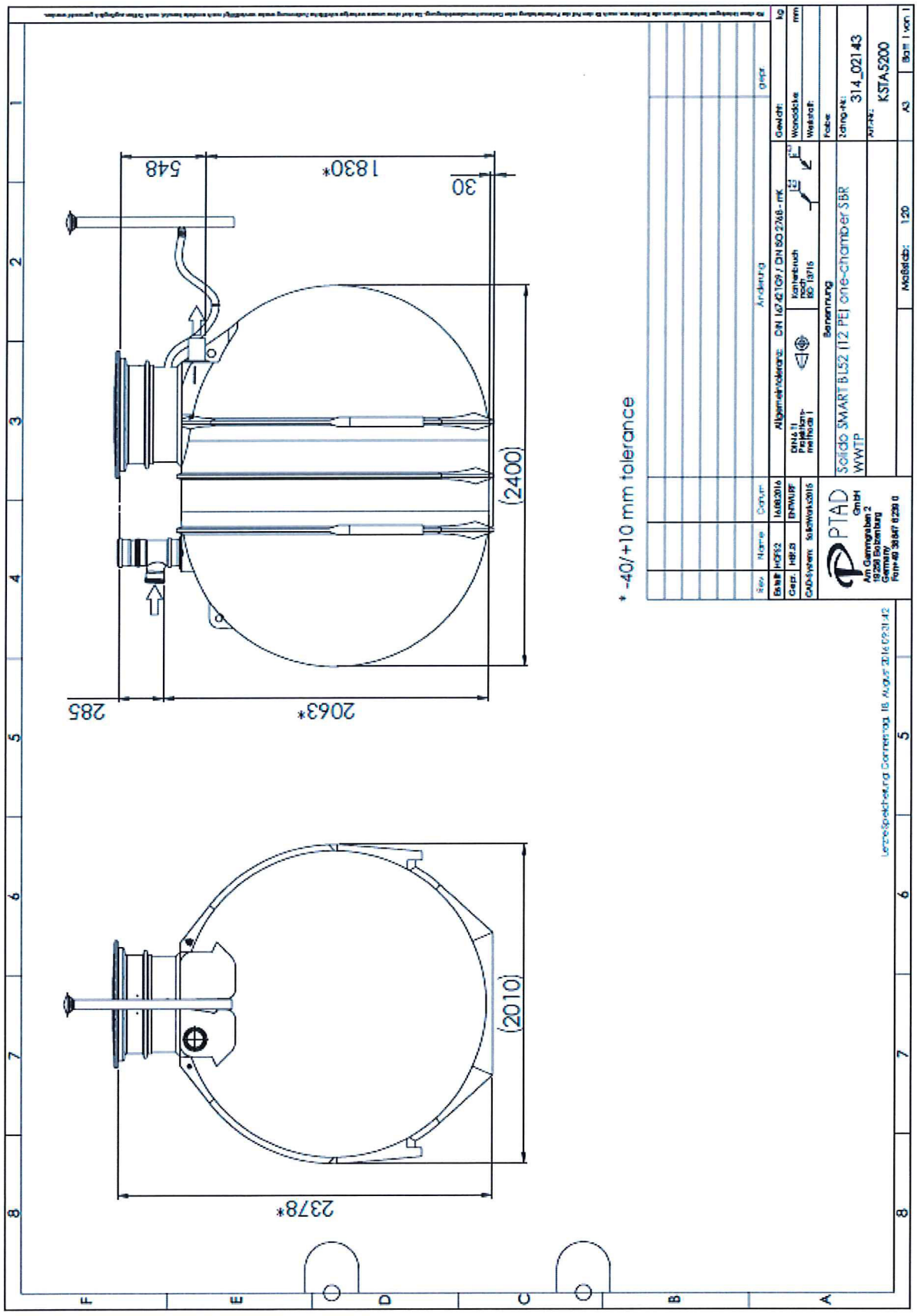


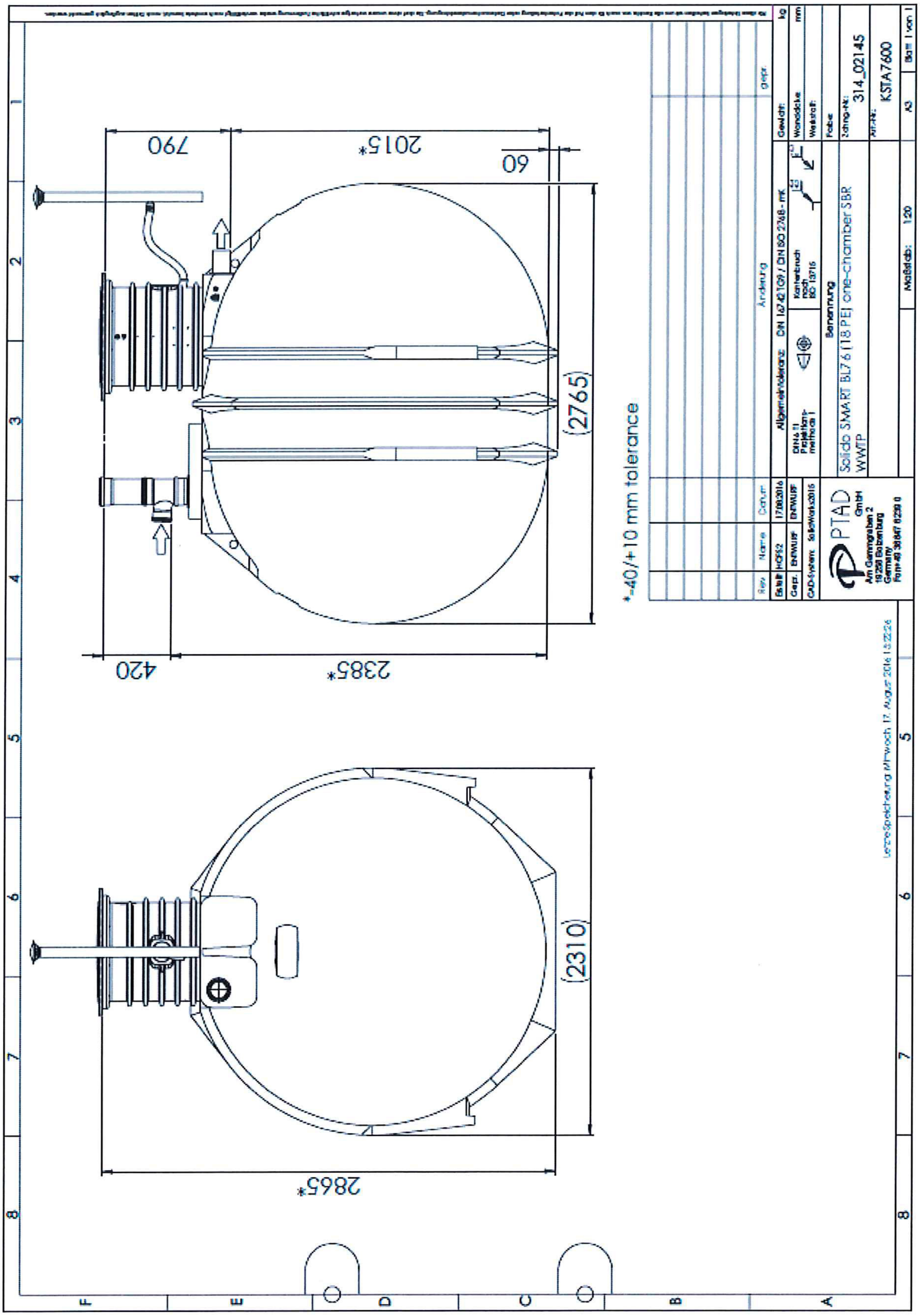
758
1385*
137
(2400)
660
1483*
(1200)
2143*
* -40/+10 mm tolerance
Solido SMART ML3.5 (7 PE) one-chamber SBR WWTP
314_02155
KSTA3500
PTAD GmbH

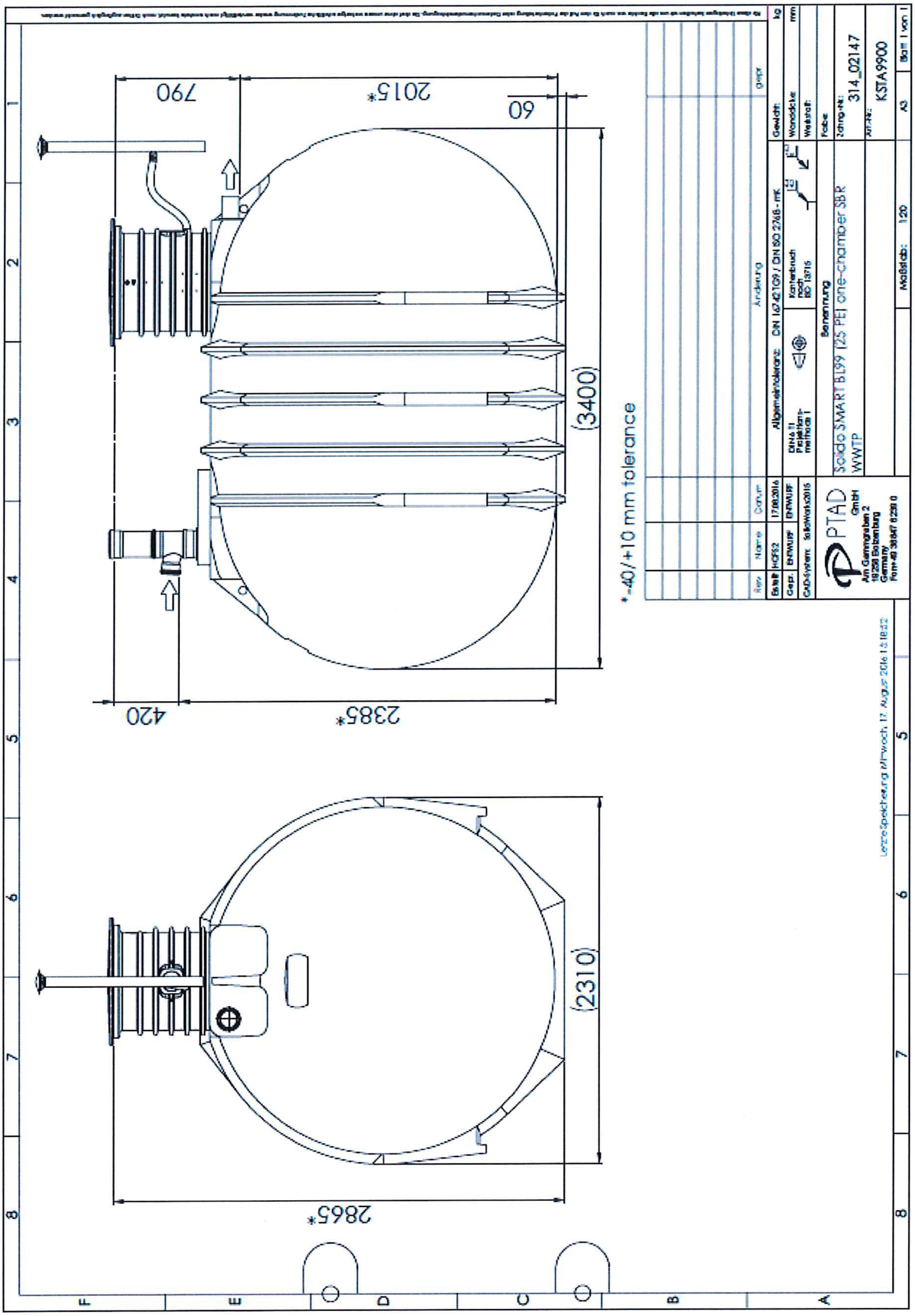

613
1675*
50
(2420)
548
1740*
(1700)
2338*
* -40/+10 mm tolerance
Solido SMART BL4S (9 PEI one-chamber SBR WWTP
PTAD GmbH
314_02151
KSTA4500
Maßstab: 1:20
Blatt 1 von 2
Letzte Speicherung: Donnerstag, 18. August 2016 15:30:20

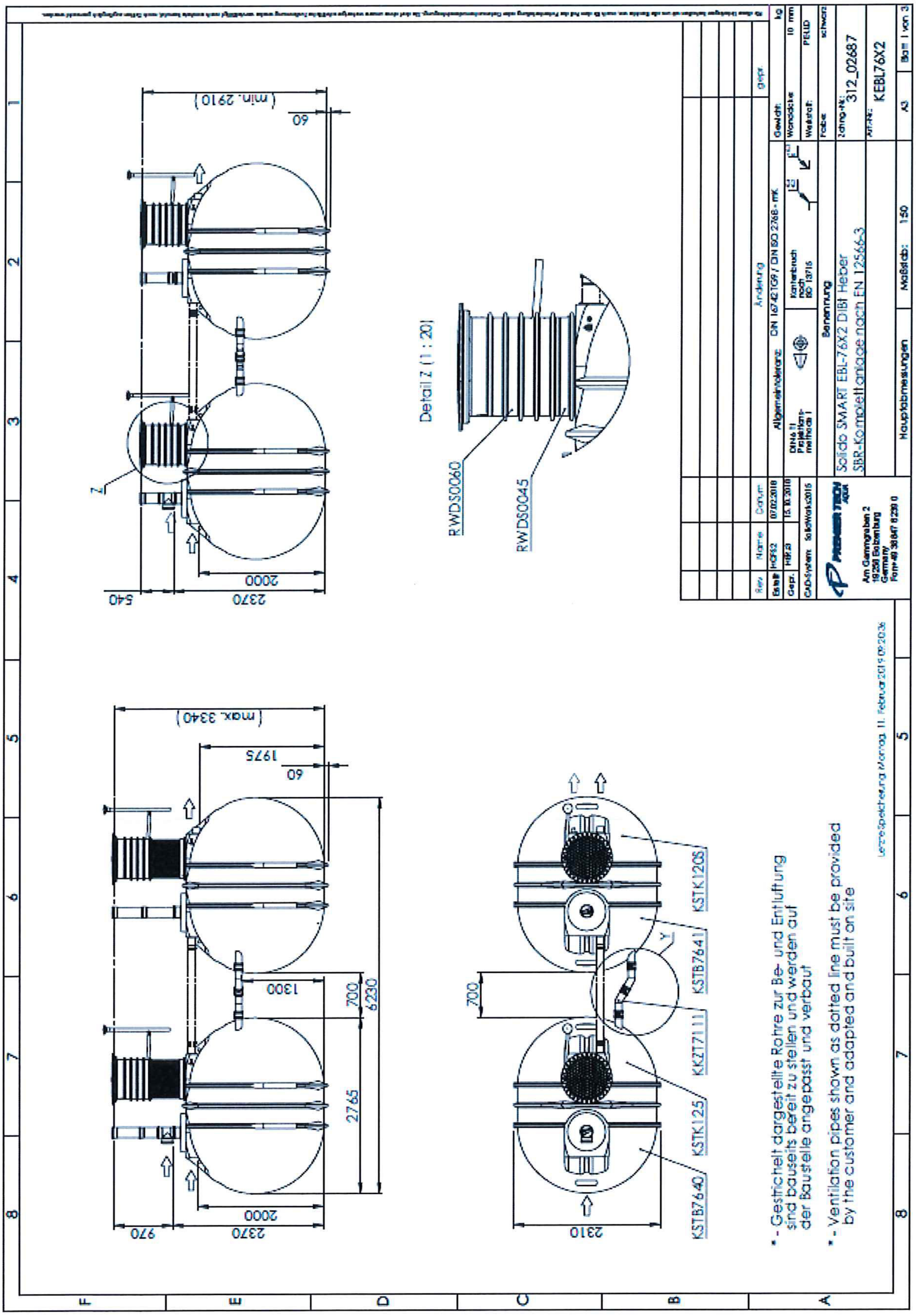


758
1385*
137
(3200)
660
1483*
(1200)
2143*
* -40/+10 mm tolerance
Solido SMART ML50 (10 PE) one-chamber SBR WWTP
PTAD GmbH
314_02157
KSTA5000
Letzte Speicherung: Donnerstag, 18. August 2016 15:33:42

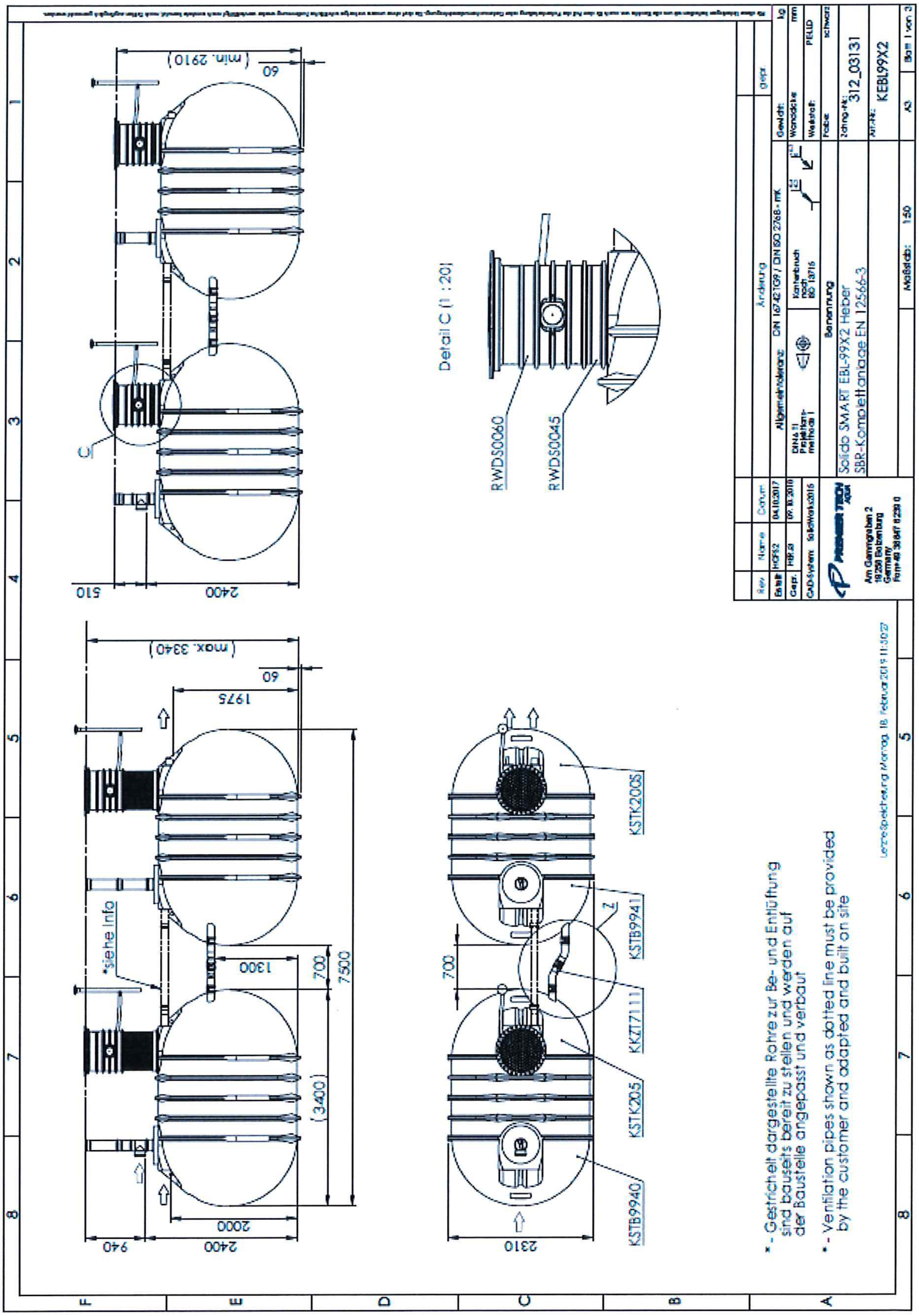

548
1830*
30
(2400)
285
2063*
(2010)
2378*
+ -40/+10 mm tolerance
Solido SMART BIO2 112 PE one-chamber SBR
WWTP
PTAD GmbH
Am Gemmgraben 2
19258 Boizenburg
Germany
Fon+49 38847 6259 0
314_02143
KSTA.5200
Maßstab: 120
A3
Blatt 1 von 1


790
2015*
60
(2765)
420
2385*
(2310)
2865*
*-40/+10 mm tolerance
Solido SMART BL7.6 (18 PE) one-chamber SBR WWTP
PTAD GmbH
314_02145
KSTA7600
A3
120


790
2015*
60
(3400)
420
2385*
(2310)
2865*
*-40/+10 mm tolerance
Solido SMART BL99 [25 PE] one-chamber SBR WWTP
314_02147
KSTA9900
PTAD GmbH
Am Gammgraben 2
19258 Boizenburg
Germany
Maßstab: 1:20
A3
Blatt 1 von 1



Detail Z (1 : 20)
RWDS0060
RWDS0045
(min. 2910)
60
2000
2370
540
(max. 3340)
1975
1300
700
6230
2765
970
2310
KSTB7640
KSTK125
KKZT7111
KSTB7641
KSTK120S
* - Gestrichelt dargestellte Rohre zur Be- und Entlüftung sind bauseits bereit zu stellen und werden auf der Baustelle angepasst und verbaut
* - Ventilation pipes shown as dotted line must be provided by the customer and adapted and built on site
Solido SMART EBL-76X2 DIBt Heber
SBR-Kompletteanlage nach EN 12566-3
Hauptabmessungen
312_02687
KEBL76X2
Blatt 1 von 3


Detail C (1 : 20)
RWDS0060
RWDS0045
*siehe Info
KSTB9940
KSTK205
KKZ71111
KSTB9941
KSTK2005
* - Gestrichelt dargestellte Rohre zur Be- und Entlüftung sind bauseits bereit zu stellen und werden auf der Baustelle angepasst und verbaut
* - Ventilation pipes shown as dotted line must be provided by the customer and adapted and built on site
Solido SMART EBL-99X2 Heber
SBR-Komplettanlage EN 12566-3
312_03131
KEBL99X2