Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6845/2023/1
Works approval holder	bp Refinery (Kwinana) Pty Ltd
ACN	008 689 763
Registered business address	Level 17, 717 Bourke Street Docklands VIC 3008
DWER file number	DWER2023/000634
Duration	15/11/2024 to 14/11/2029
Date of issue	15/11/2024
Premises details	BP Kwinana Energy Hub 1 Mason Road, KWINANA BEACH WA 6167 Legal description Lot 18 on Plan 17311 As defined by the premises maps attached to the issued works approval

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	Assessed production capacity
Category 31: Chemical manufacturing	584,000 tonnes per annum
Category 61: Liquid waste facility	600,000 tonnes per annum

This works approval is granted to the works approval holder, subject to the attached conditions, on 15 November 2024, by:

Michael Greenslade
Digitally signed by Michael Greenslade
Date: 2024.11.15 15:31:14 +08'00'

MANAGER, PROCESS INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Interpretation

In this works approval:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct, install or refurbish the infrastructure;

(b) in accordance with the corresponding design and construction requirements; and

(c) at the corresponding infrastructure location;

as set out in Table 1.

Table 1: Design and construction requirements

New Infrastructure		Design and construction requirements	Infrastructure location
1.	Pre-treatment Unit	a) Designed to achieve to maximum feed capacity of 584,000 tonnes per annum; b) Dust filtration systems installed on receiving bleaching earth and filter aid silos; c) Caustic scrubber with pH monitor; d) Located within a bunded area for the containment of spillages (bund to achieve a permeability of $1x10^{-7}$ or less for bund/hardstand floors and $1x10^{-9}$ m/s or less); and e) Potentially contaminated water and spills of raw materials directed to the Byproduct Recovery Unit.	"PTU" as depicted on Figure 1, Schedule 1
2.	Hydrogen Generation Unit	a) Designed to achieve a maximum processing rate of 65 tonnes per day; b) Built on hardstand area for containment of spillages (floors of hardstand to achieve permeability of $1x10^{-7}$ to $1x10^{-9}$ m/s or less); c) Hardstand drains to oily water sewer and WWTP. d) Emissions via a stack that is not less than 45 metres high[1]; e) Stack must be fitted with monitoring ports that meets the requirements of AS4323.1; f) Continuous Emissions Monitoring System (CEMS) installed on HGU stack capable of accurate and continuous monitoring of volumetric flow rate, stack temperature and process gases (SOx, NOx, CO, CO_2 and CH_4); and g) CEMS system must be installed and calibrated in accordance with requirements of the CEMS Code.	"HGU" as depicted in Figure 1, Schedule 1
3.	Product fractionation unit	a) Built on hardstand area for containment of spillages (floors of hardstand to achieve permeability of $1x10^{-7}$ to $1x10^{-9}$ m/s or less); b) Hardstand drains to oily water sewer and WWTP; c) Dry low NOx burners installed to treat emissions prior to discharge; d) Emissions via a stack that is not less than 40 metres high[1]; and e) Stack must be fitted with monitoring ports that meets the requirements of AS4323.1.	"PFU" as depicted in Figure 1, Schedule 1

New Infrastructure		Design and construction requirements	Infrastructure location
4.	Closed loop cooling water system	a) Designed for 3,450 m^3 per hour recirculating cooling water; b) Built on hardstand area for containment of spillages (floors of hardstand to achieve permeability of $1x10^{-7}$ to $1x10^{-9}$ m/s or less); and c) Hardstand and bunds drain to oily water sewer and WWTP.	"Cooling water unit" as depicted in Figure 1, Schedule 1
5.	Supporting infrastructure	Pumps, heat exchangers and sumps as relevant for the new infrastructure installed.	N/A
Existing Infrastructure to be modified		**Design and construction requirements**	**Infrastructure location**
6.	Hydrofiner 2	a) Design capacity of 4000 kL per day; b) Emissions via a stack that is not less than 40 metres high[1]; c) Stack must be fitted with monitoring ports that meets the requirements of AS4323.1; d) Located on existing hardstand; e) Hardstand drains to oily water sewer and WWTP; and f) Pipe modifications to enable tie-ins with new units	"HYD2" as depicted in Figure 1, Schedule 1
7.	Hydrofiner 3	a) Design capacity of 4000 kL per day b) Emissions via a stack that is not less than 30 metres high[1]; c) Stack must be fitted with monitoring ports that meets the requirements of AS4323.1; d) Located on existing hardstand; and e) Hardstand drains to oily water sewer and WWTP	"HYD3" as depicted in Figure 1, Schedule 1
8.	Main Flare	Hydrogen sulphide analyser to be installed.	"Location Tag Number 1" on Figure 2, Schedule 1

Note 1: Heigh of stack is measured from ground level.

2. During construction activities, the works approval holder must manage dust emissions by:

(a) proactively wetting down unsealed roads and exposed areas with a water truck;

(b) limiting vehicle speeds to minimise dust generation; and

(c) conducting daily visual dust monitoring and implement additional dust controls where necessary to mitigate dust emissions from construction activities.

Compliance reporting

3. The works approval holder must within 60 calendar days of an item of infrastructure or equipment required by condition 1 being constructed, installed or refurbished:

(a) undertake an audit of their compliance with the requirements of condition 1 and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

4. The Environmental Compliance Report required by condition 3, must include as a minimum the following:

(a) certification by a qualified professional engineer that the items of infrastructure or components thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Environmental commissioning phase

Environmental commissioning requirements

5. The works approval holder may only commence environmental commissioning of the infrastructure identified in condition 1 once the Environmental Compliance Report has been submitted for that infrastructure in accordance with condition 3 of this works approval.

6. The works approval holder must notify the CEO:

(a) at least 7 days prior to, the commencement date of environmental commissioning; and

(b) within 7 days after, the completion date of environmental commissioning

7. During environmental commissioning activities and time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements during environmental commissioning and time limited operations

	Site infrastructure and equipment	Operational requirement
1.	Pretreatment unit	a) Dust filtration systems operated on both the bleaching earth and filter aid silos; b) Dust filtration systems are maintained in accordance with manufacturers specifications to ensure optimal performance; c) Caustic scrubber maintained at optimum pH; and d) Potentially contaminated water and spills of raw materials directed to Byproduct Recovery Unit.
2.	Hydrofiner 2	a) Produced sour water may be recycled within as washwater within HYD 2 or discharged to the BRU; and b) Bund drains to oily water sewer and WWTP.
3.	Hydrofiner 3	a) Produced sour water may be directed to HYD2 to be used as washwater or discharged to BRU; and b) Bund drains to oily water sewer and WWTP.
4.	Hydrogen generation unit	a) Process steam drum blowdown water directed to existing WWTP for processing; b) Intermittent blow down from gas boiler directed to existing WWTP for processing;

	Site infrastructure and equipment	Operational requirement
		c) Effluent from the demineralised water package directed to existing WWTP (post neutralisation); d) CEMS on stack measuring SOx, NOx, CO, CO_2 and CH_4; and e) Bund drains to oily water sewer and WWTP.
5.	Product fractionation unit	a) Produced sour water to be discharged to existing WWTP for processing; and b) Bund drains to oily water sewer and WWTP.
6.	Closed loop cooling water system	Bund drains to oily water sewer and WWTP.
7.	Flare	H_2S monitor on feed line.

8. During environmental commissioning activities and time limited operations, the works approval holder must ensure that the emission(s) specified in Table 3, are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

Table 3: Authorised discharge points

	Discharge point	Emission	Discharge Height (metres)	Discharge point location
1.	Hydrofiner 2	NOx, SOx, CO, CO_2	Not less than 40	Location Tag Number 2 in Figure 2, Schedule 1
2.	Hydrofiner 3	NOx, SOx, CO, CO_2	Not less than 30	Location Tag Number 3 in Figure 2, Schedule 1
3.	Product fractionation unit	SOx, NOx, CO, CO_2	Not less than 40	Location Tag Number 4 in Figure 2, Schedule 1
4.	Hydrogen generation unit	SOx, NOx, CO, CO_2 CH_4	Not less than 45	Location Tag Number 5 in Figure 2, Schedule 1
5.	Pretreatment unit	Particulates	Not less than 33	Location Tag Numbers 10 to 13 in Figure 2, Schedule 1
6.	Main Flare	NOx, SOx, CO_2	Not less than 75	Location Tag Number 1 in Figure 2, Schedule 1

9. The works approval holder must, within 30 calendar days of completing successful calibration and verification of the CEMS installed, submit to the CEO a CEMS Calibration Report.

10. The report required by condition 9 must include, but not be limited to:

(a) details of the CEMS system specifications and location, as determined prior to the initial operation of the hydrogen generation unit in accordance with Phase I and II;

(b) the Quality Assurance plan, as required under section 2;

(c) details of the successful calibration and verification of the installed CEMS system, in accordance with Phase III;

(d) details of the ongoing calibration and verification of the installed CEMS system, as conducted in accordance with Phase IV,

of the CEMS Code, where relevant.

11. The works approval holder must, within 60 calendar days of the completion of environmental commissioning, submit to the CEO an Environmental Commissioning Report.

12. The report required by condition 11 must include, but not be limited to:

(a) a summary of environmental commissioning activities undertaken, including timeframes and the amount of feedstock processed and volumes of products produced;

(b) a summary of the environmental performance of all plant and equipment as installed, including air emissions monitoring conducted on all point sources;

(c) a review of the plant's performance against the design specifications; and

(d) where they have not been met, measures proposed to meet the design specification, together with timeframes for implementing the proposed measures

Time limited operations phase

Commencement and duration

13. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1, where, the Environmental Commissioning Report as required by condition 11 has been submitted by the works approval holder for that item of infrastructure.

14. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 15 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 13 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 14(a).

Time limited operations requirements and emission limits

15. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

16. During time limited operations, the works approval holder must ensure that the emission(s) specified in Table 3 are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

Monitoring during time limited operations

17. The works approval holder must monitor emissions during time limited operations in accordance with Table 4 and Table 5.

Table 4: Continuous emissions monitoring during time limited operations

Monitoring point location	Parameter	Frequency	Averaging period	Unit	Method
Location Tag Number 5 as depicted n Figure 2, Schedule 1	SO_2, NO_2, CO, CO_2 CH_4	Continuous[1]	1 minute and 60 minutes	mg/m^3	In accordance with the CEMS Code or EN 14181:2014
	Velocity			m/s	
	Temperature			^oC	
	Flow rate			m^3/s	
Location Tag Number 1 as depicted in Figure 2, Schedule 1	SO_2 calculated from H_2S in feed[2]	Continuous		mg/m^3 g/s	

Note 1: Following successful calibration and verification of the installed CEMS.

Note 2: H_2S analysers on the mixed fuel gas system and the flare.

Table 5: Emissions monitoring during time limited operations

Monitoring point location	Parameter	Frequency	Averaging period	Unit[1,2]	Method[3, 4]
Location Tag Numbers 2, 3, 4, 5, 7 and 8 as depicted in Figure 2, Schedule 1	NOx (as NO_2)	At least once within the first 90 days of time limited operations	60 minutes	mg/m^3 g/s	USEPA Method 7E
	CO			mg/m^3	USEPA Method 10
	SO_2			mg/m^3 g/s	USEPA Method 6
	Total VOCs			mg/m^3	USEPA Method 18
	Flow rate			m^3/s	USEPA Method 2

Note 1: all units are referenced to STP dry

Note 2: Concentrations to be corrected to STP at 3% oxygen on a dry basis.

Note 3: Duplicate sample runs conducted consecutively on the same sample day.

Note 4: Where any USEPA method refers to USEPA Method 1 for the sampling plane, this must be read as referral to AS4323.1

18. The works approval holder must record the results of all monitoring activity required by condition 17.

Waste acceptance

19. The works approval holder must only accept onto the premises during environmental commissioning and time limited operations, waste that meets the corresponding acceptance criteria specified in Table 6.

Table 6: Types of waste authorised to be accepted onto the premises

Waste category	Rate at which waste is received	Acceptance specification
Vegetable oils, used cooking oil, palm oil mill effluent and other fatty acids/esters from plant, waste sources.	≤600, 000 tonnes per annual period	Accepted for treatment at the pretreatment unit.
K100 animal fats (tallow) and other fatty acids/esters from animal waste sources		

20. The works approval must ensure that any wastes generated during environmental commissioning activities and time limited operation are disposed at an appropriately authorised waste facility.

21. Within 60 days of the commencement of time limited operations, the works approval holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:

(a) investigate the nature and extent of noise emissions from the premises;

(b) assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from the primary activities, against the relevant assigned levels specified in those Regulations; and

(c) compile and submit to the works approval holder within 3 months of the commencement date of time limited operations a report in accordance with condition 22.

22. A report prepared pursuant to condition 21(c) is to include:

(a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;

(b) details and the results of the investigation undertaken pursuant to condition 21(a);

(c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 21(b); and

(d) an assessment of noise levels against the most recent previous noise assessment.

23. The works approval holder must submit to the CEO the report prepared pursuant to condition 21(c) within 14 days of receiving it.

24. Where an assessment pursuant to condition 21(b) indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, the works approval holder must:

(a) within 60 days of receiving an assessment report pursuant to condition 21(c) prepare a plan to ensure the undertaking of the activity will no longer lead to any contravention of the *Environmental Protection (Noise) Regulations 1997;* and

(b) provide to the CEO a copy of the plan prepared pursuant to condition 24(a) within 14 days of its preparation.

25. Within 60 days of the commencement of time limited operations, the works approval holder must retain the services of a suitably qualified and experienced odour consultant to:

(a) investigate the nature and extent of odour emissions from the premises; and

(b) compile and submit to the works approval holder within 3 months of the commencement date of time limited operations a report in accordance with condition 26.

26. A report prepared pursuant to condition 25(b) is to include:

(a) a description of the methods used for monitoring of odour emissions from the premises (such as those specified in the *Guideline: Odour emissions*);

(b) the locations, date(s) and time of odour surveys conducted; and

(c) observations, analysis and outcomes of the odour monitoring conducted.

Compliance reporting

27. The works approval holder must submit to the CEO a report on the time limited operations within 40 calendar days of the completion date of time limited operations or 14 calendar days before the expiration date of the works approval, whichever is the sooner.

28. The works approval holder must ensure the report required by condition 27 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of raw material processed;

(b) a summary of monitoring parameter results obtained during time limited operations under condition 17.

(c) The odour investigation report as specified by condition 26.

(d) a review of performance and compliance against the conditions of the works approval; and

(e) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

29. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.

30. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works

approval:

(a) the works conducted in accordance with condition 1;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 7;

(c) monitoring programmes undertaken in accordance with condition 17; and

(d) complaints received under condition 29.

31. The books specified under condition 30 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the works approval holder for the duration of the works approval; and

(d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in Table 7 have the meanings defined.

Table 7: Definitions

Term	Definition
annual period	means a 12 month period commencing from 1 January until 31 December in the same year
AS4323.1	Australian Standard *AS4323.1 1995 Stationary Source Emissions - Selection of Sampling Positions*
BRU	Byproduct Recovery Unit
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
CEMS	Continuous Emission Monitoring System
CEMS Code	means the document *Continuous Emission Monitoring System (CEMS) Codes for Stationary Source Air Emissions*, March 2016, Department of Environment Regulation, Perth WA
CO	Carbon Monoxide
condition	a condition to which this works approval is subject under section 62 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
EN14181	means the European Standard *EN 14181 Stationary source emissions - Quality assurance of automated measuring systems*
environmental commissioning	means an activity or sequence of activities undertaken after pre-commissioning has demonstrated the integrity of the plant and equipment. The purpose of commissioning is to test equipment, infrastructure, and processes after the input of raw materials, to confirm design specifications, optimise process conditions, and to monitor/validate emissions or discharges in order to establish a steady-state operation
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions

Term	Definition
	and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and equipment has been constructed or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
Guideline: Odour emissions	refers to the *Guideline: Odour emissions* published by the Department of Water and Environmental Regulation, June 2019
H_2S	Hydrogen Sulphide
HGU	Hydrogen Generation Unit
HYD2	Hydrofiner 2
HYD3	Hydrofiner 3
mg/m^3	milligrams per cubic metre
NO_x	means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide
NO_2	Nitrogen dioxide
PFU	Product Fractionation Unit
pre-commissioning	means an activity or sequence of activities undertaken after construction (but prior to commissioning) to test equipment and infrastructure for functionality, and for any installation defects or failures. Examples include hydraulic pump, pipeline and valve testing; hydrostatic testing of vessels, tanks and ponds; electrical component testing; and liner integrity tests for storage facilities and wastewater containment ponds
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
PTU	Pretreatment Unit
qualified professional engineer	means a person who holds a tertiary academic qualification in engineering and a minimum of three years experience working in the area of civil/construction engineering.
SO_2	Sulfur dioxide
STP, dry	means standard temperature and pressure (0°Celcius and 101.325 kilopascals, respectively), dry

Term	Definition
suitably qualified and experienced odour consultant	means a person or persons, who has qualifications and minimum five years' experience in odour monitoring, odour management, risk assessment and odour treatment
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
USEPA Method 2	means *USEPA Method 2 Determination of Stack Gas Velocity and volumetric Flow Rate(Type S Pitot Tube)*
USEPA Method 6	means *USEPA Method 6 Determination Of Sulfur Dioxide Emissions from Stationary Sources*
USEPA Method 7E	means *USEPA Method 7E Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)*
USEPA Method 10	means *USEPA Method 10 Determination of Carbon Monoxide Emissions from Stationary Sources*
USEPA Method 18	means *USEPA Method 18 Determination of Gaseous Organic Compounds Emissions by Gas Chromatography*
waste	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.
WWTP	Wastewater Treatment Plant

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

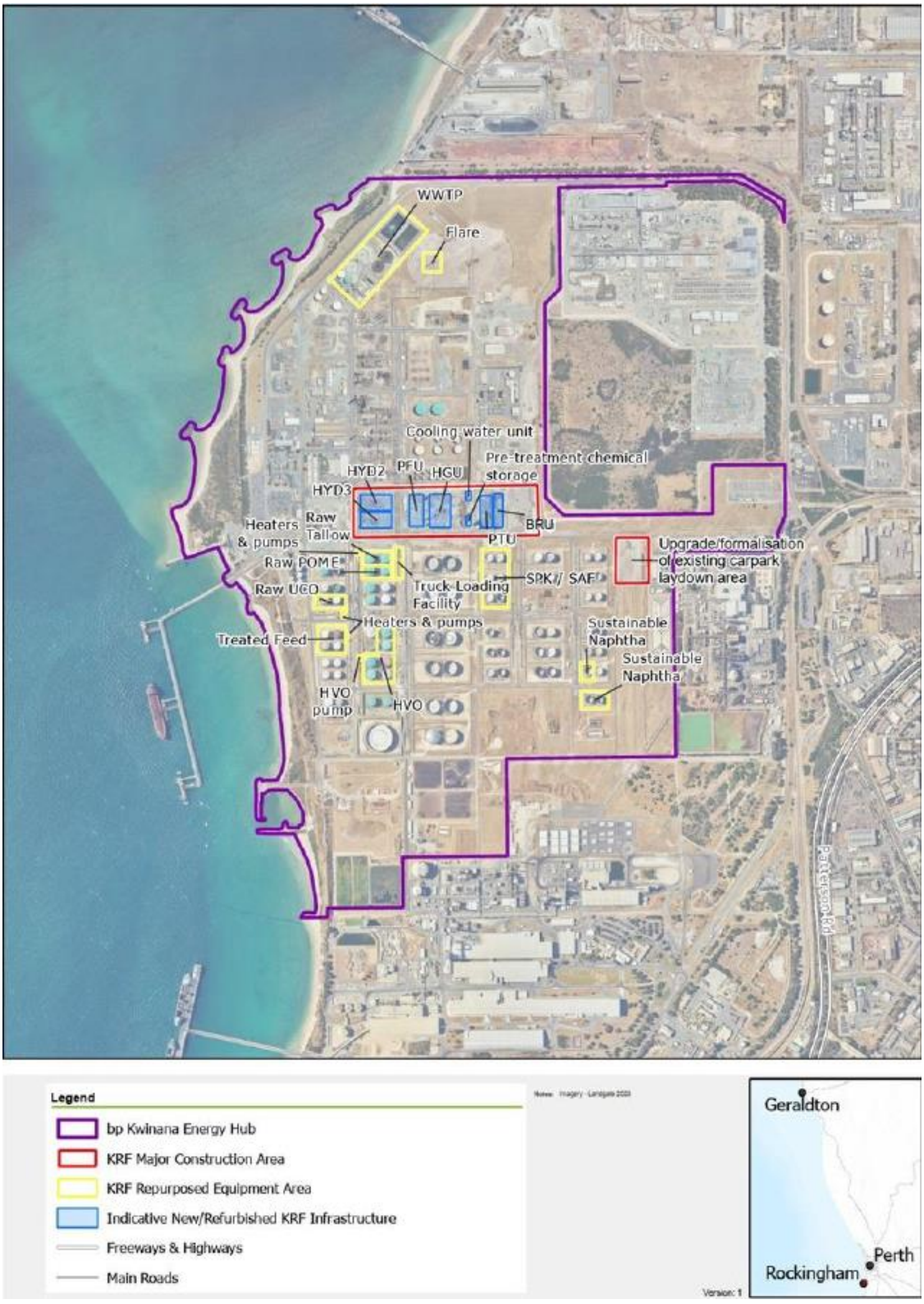
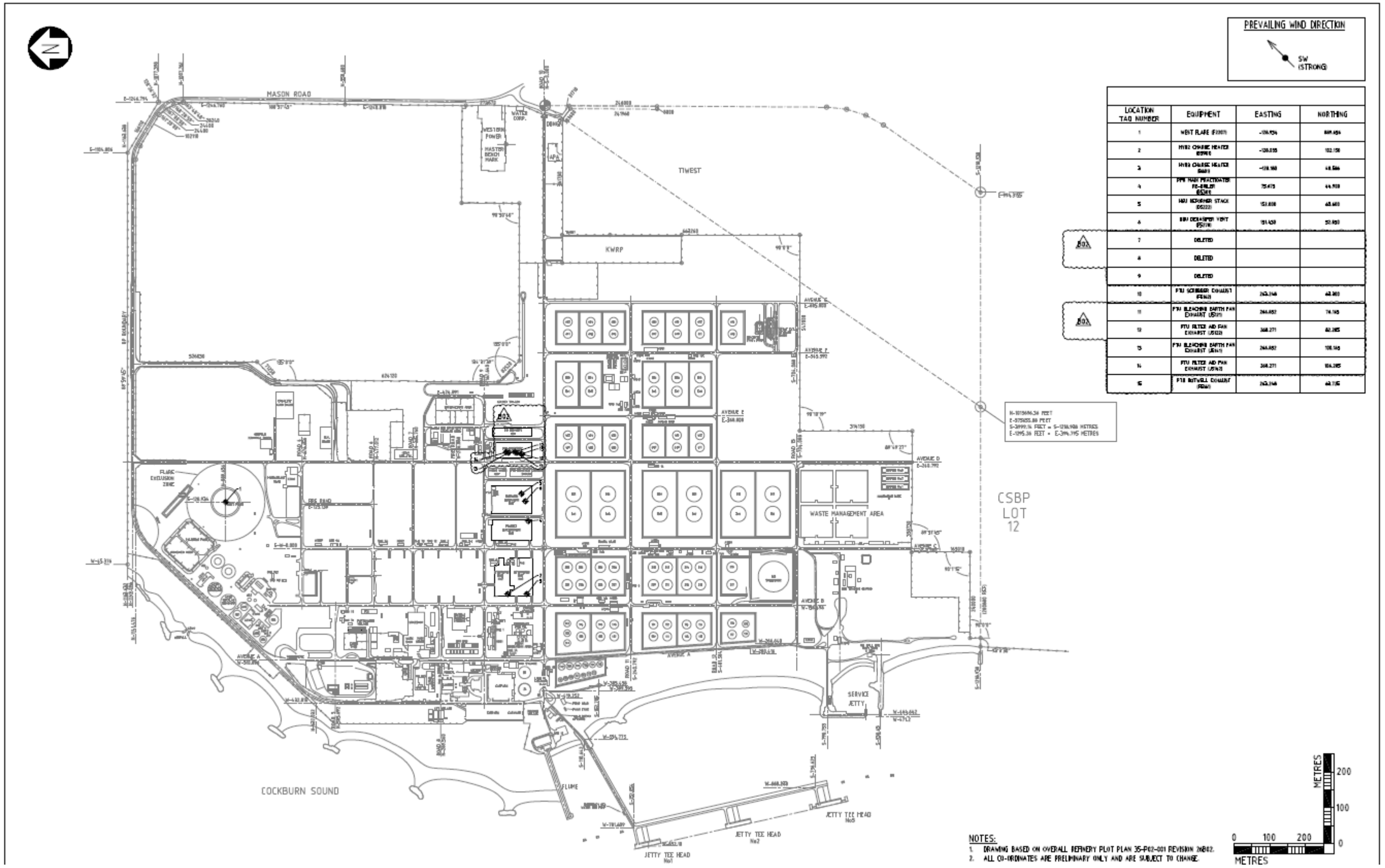


Figure 1: Map of the boundary of the prescribed premises



LOCATION TAG NUMBER	EQUIPMENT	EASTING	NORTHING
1	WEST FLARE (F3101)	-139.934	889.454
2	HYDROGEN HEATER (B3901)	-139.855	102.158
3	HYDROGEN HEATER (B3801)	-139.160	48.586
4	PPU MAIN FRACTIONATOR PD-RELIEF (D5201)	75.475	44.919
5	HAU REGENERATION STACK (D5222)	151.808	48.660
6	BBU DEAERATOR VENT (D5219)	151.459	51.951
7	DELETED		
8	DELETED		
9	DELETED		
10	PTU SCRUBBER EXHAUST (E5610)	263.348	62.360
11	PTU BLENDING EARTH FAN EXHAUST (D5171)	266.852	74.195
12	PTU FILTER AID FAN EXHAUST (D5123)	268.271	82.285
13	PTU BLENDING EARTH FAN EXHAUST (D5171)	266.852	108.195
14	PTU FILTER AID FAN EXHAUST (D5123)	268.271	116.285
15	PTU BOTWELL EXHAUST (E5610)	263.348	62.705

Figure 2: Location of premises air emission points

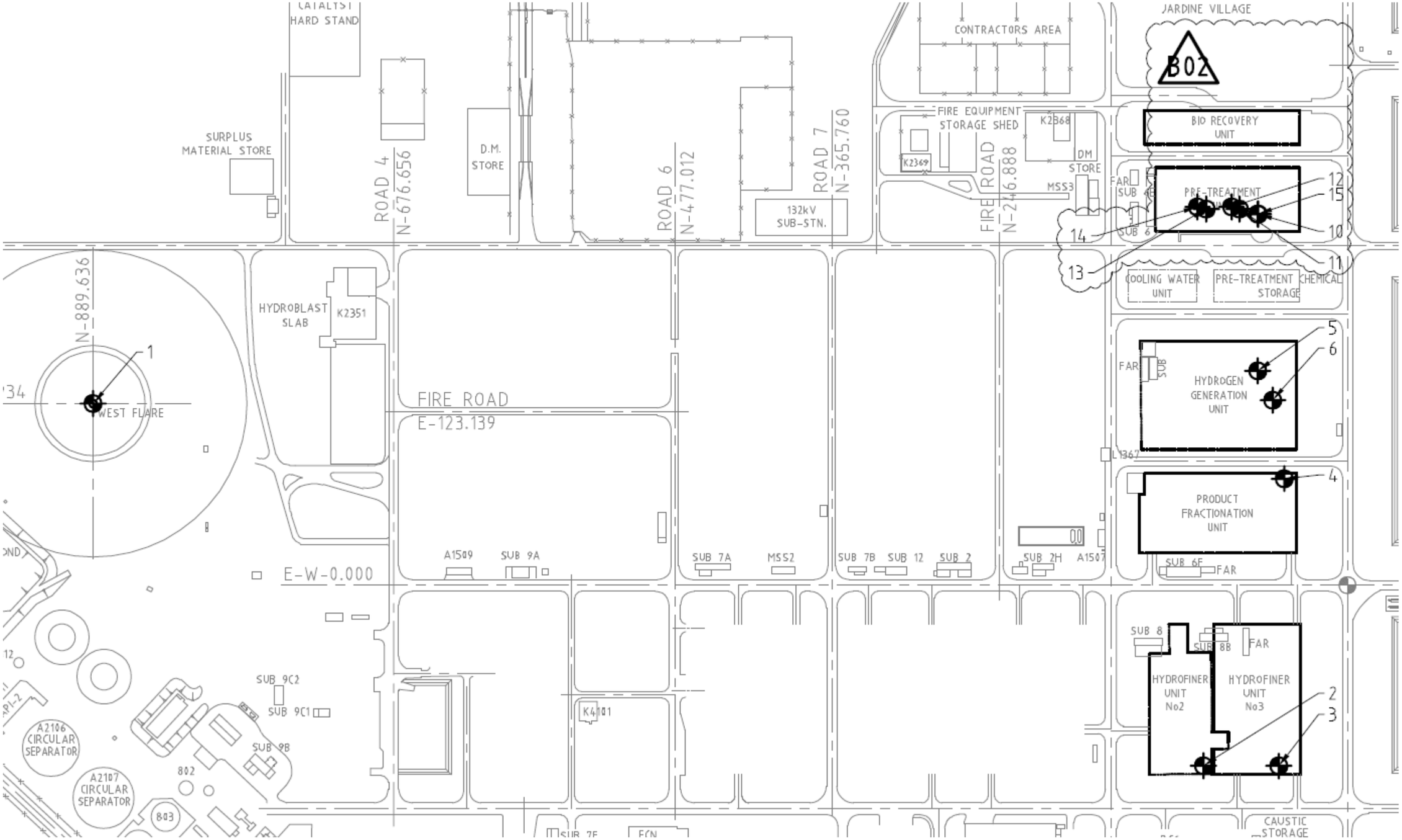


Figure 3: Detail showing emission points (see legend next page)

Legend for Figure 3

LOCATION TAG NUMBER	EQUIPMENT	EASTING	NORTHING
1	WEST FLARE (F2207)	-128.934	889.636
2	HYD2 CHARGE HEATER (B3901)	-128.035	102.150
3	HYD3 CHARGE HEATER (B801)	-128.180	48.586
4	PFU MAIN FRACTIOATER RE-BOILER (B5301)	75.675	44.900
5	HGU REFORMER STACK (D5222)	152.000	63.600
6	HGU DEGASIFER VENT (F5278)	131.430	52.850
7	DELETED		
8	DELETED		
9	DELETED		
10	PTU SCRUBBER EXHAUST (F5162)	263.248	63.300
11	PTU BLEACHING EARTH FAN EXHAUST (J5121)	266.832	76.165
12	PTU FILTER AID FAN EXHAUST (J5122)	268.271	82.285
13	PTU BLEACHING EARTH FAN EXHAUST (J5141)	266.832	100.165
14	PTU FILTER AID FAN EXHAUST (J5142)	268.271	106.285
15	PTU HOTWELL EXHAUST (F5161)	263.248	63.725

B02

B02