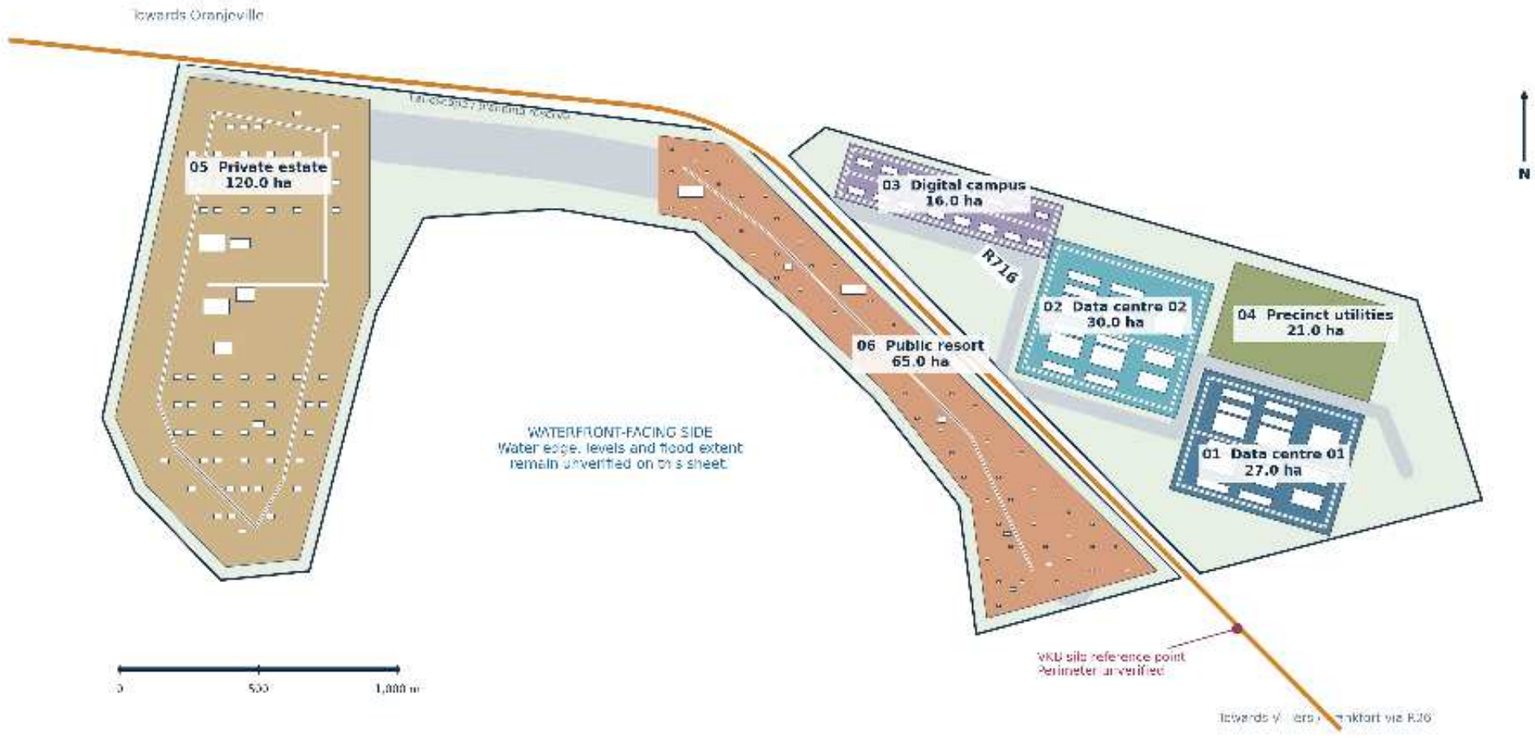
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COMPLETE CONCEPT DESIGN PACKAGE

A precinct organised around two parcels

Two data-centre compounds, a compact digital campus, private waterfront living and a public chalet resort, coordinated through shared infrastructure and landscape.



455.73 ha

Gross concept extent across the two supplied outlines.

6 facilities

Zones 01 and 02: data centres. Zone 03: campus. Zones 05 and 06: private estate and public resort.

R3 design issue

Reallocated DC/campus zones, chalet resort and waterfront experiences.

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READ THIS BEFORE USING THE DRAWINGS

Design basis and status

Evidence class	What this package uses	Design consequence
Client instruction	The supplied parcel outlines are retained. The latest client instruction converts 02 to a second DC, moves the campus to 03, and adds a public chalet resort and waterfront amenities.	R3 supersedes the R2 zone assignments and facility layouts.
Measured concept geometry	Current JF-01-R1 GeoJSON and KML recovered from the earlier design package. Shapes agree visually with the attachment.	The vector geometry controls drawing positions and area arithmetic. Boundaries remain proposed.
New design proposals	Building test-fits, internal routes, capacities, yield tests, operational zones and delivery gates.	These are explicit design assumptions for review and specialist development.
External evidence	2022 provincial resort tender; 2015 Vaal Dam plan; DWS announcement dated 21 May 2026.	Historical tenure context and a current review issue are carried into the register. [S4-S6]
Unverified inputs	Titles, SG diagrams, surveyed shoreline and road reserve, terrain, flood levels, geotechnics, service offers and tenant demand.	Net developable area, final access, capacity and construction scope remain open.

Land control premise

An earlier project brief assumed an enabling instrument with a private owner. That premise has not been checked against both new outlines. Obtain a parcel-by-parcel rights schedule before relying on private-only delivery.

Intended use

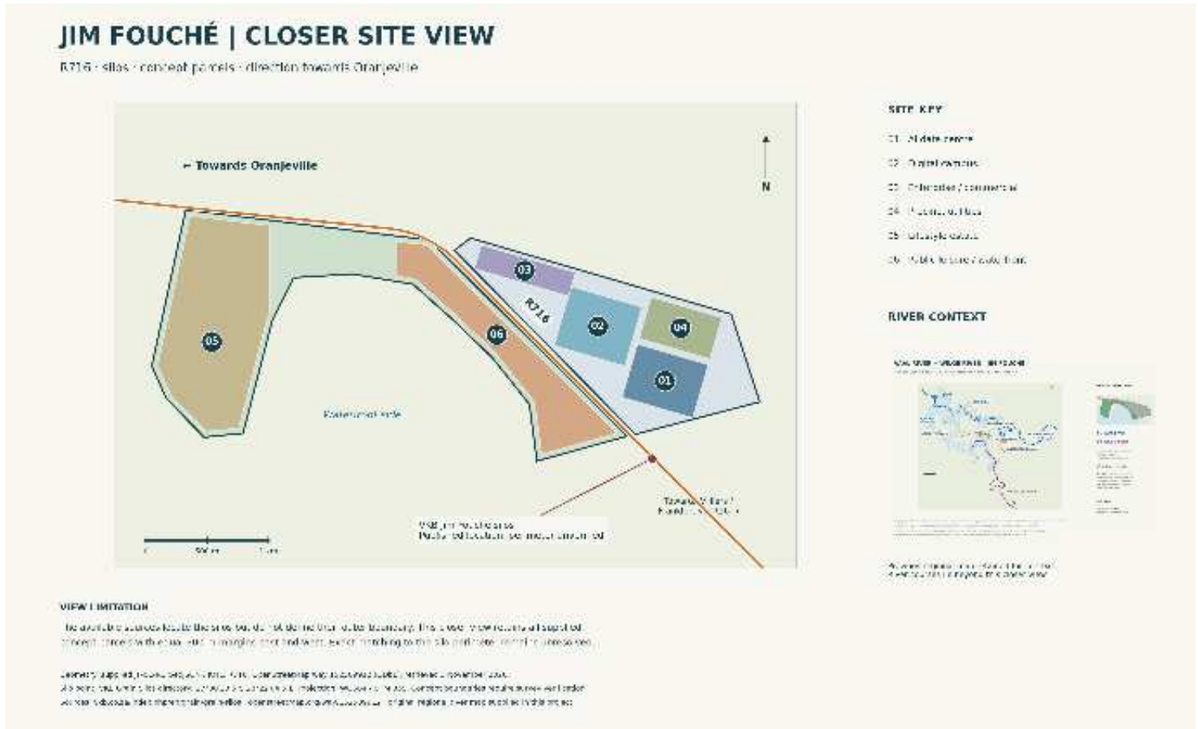
Use this coordinated concept package for landowner, operator, funder and professional-team discussions. Detailed engineering, statutory submissions, tender documents and construction drawings are later deliverables.

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SOURCE HIERARCHY AND GEOGRAPHIC CONTEXT

The new parcel basis



Source hierarchy

- Attached closer site view: parcel geometry reference. Its old zone labels are superseded by R3.
- Recovered vector outlines: coordinate and area basis.
- R716 OSM way 152509912: mapped centreline. Legal reserve and access remain open.
- Silo reference: point location in the attachment. No perimeter has been supplied.

The historical attachment includes a regional Vaal and Wilge river inset. This package retains that supplied context; no new surveyed water boundary is inferred from it.

Working coordinates use WGS84 / UTM zone 35S. KML and GeoJSON exports use WGS84 longitude and latitude. There is no terrain or vertical datum in the design model.

FD-CTX-001 | SATELLITE IMAGERY

Existing landscape: 2 km context



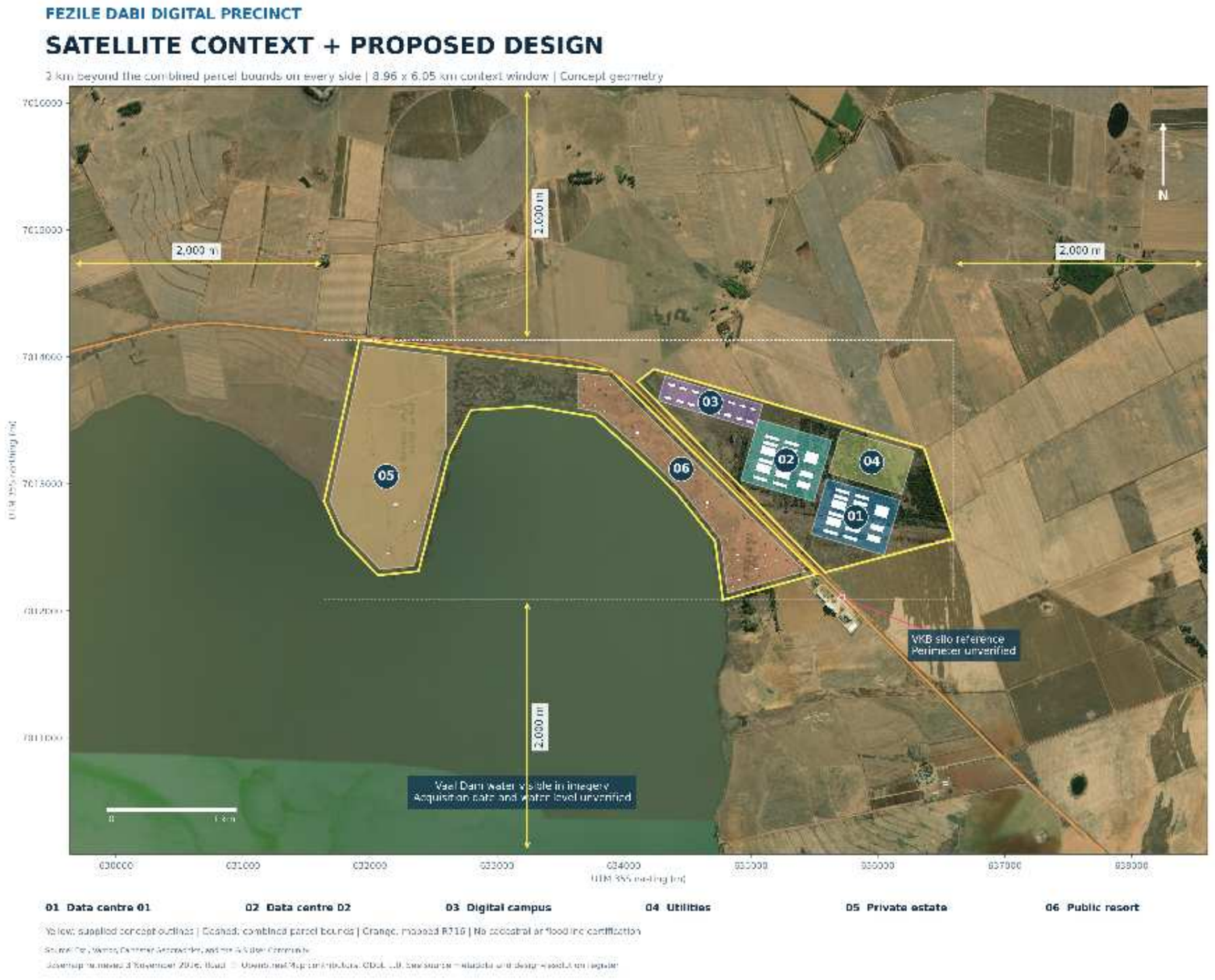
The window extends 2,000 m beyond the combined parcel bounds on each cardinal side. Basemap source: Esri, Vantor, Earthstar Geographics and the GIS User Community. Retrieved 3 November 2026; acquisition date and water level are unverified. Yellow outlines are the supplied concept boundaries. [S7]

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FD-CTX-002 | SATELLITE OVERLAY AND MEASURED MARGINS

Proposed precinct in its wider setting



Context window: approximately 8.96 x 6.05 km. The overlay retains the supplied geometry. The imagery reveals the landscape setting; it does not establish a legal shoreline, cadastral boundary or flood-safe development envelope. [S7]

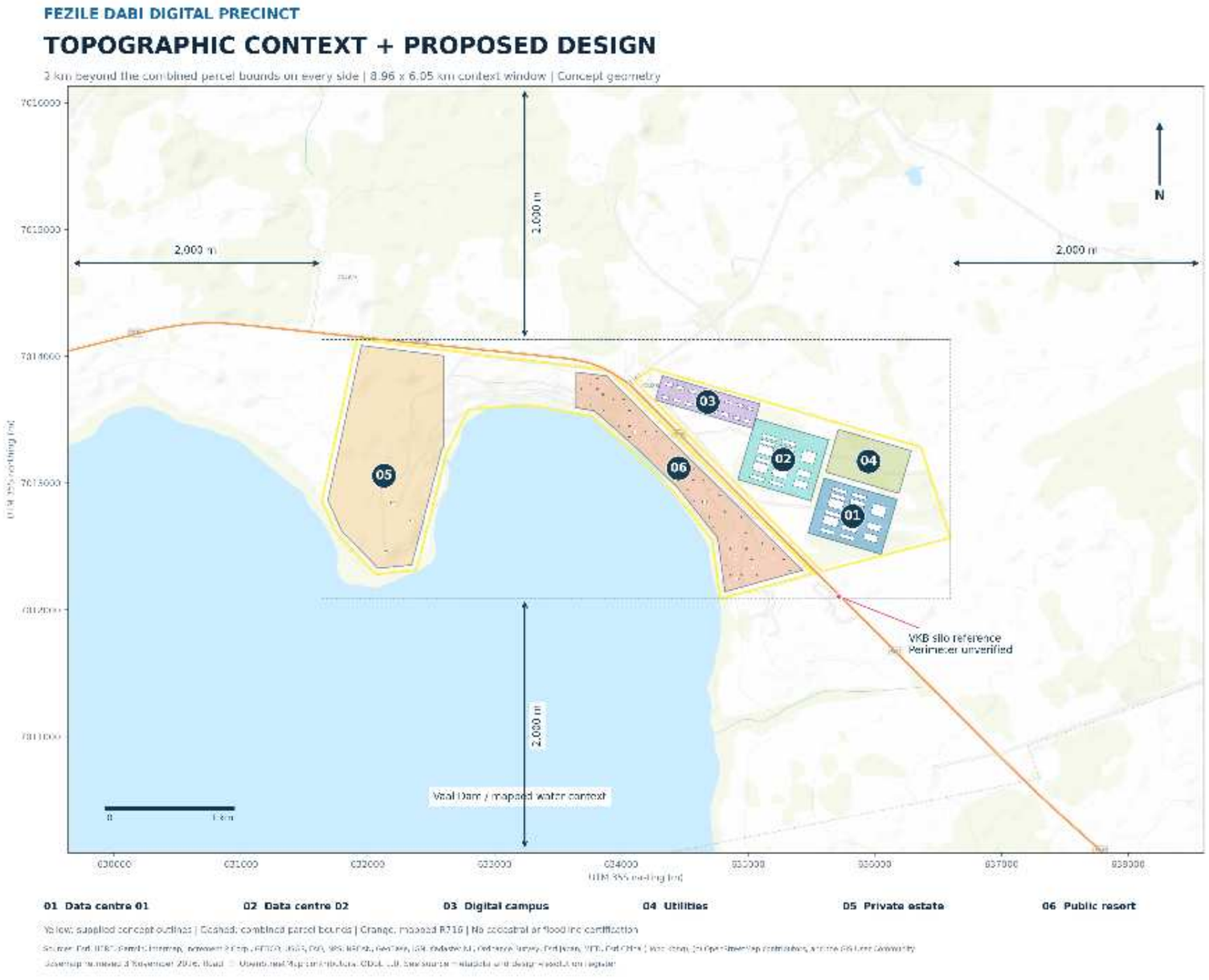
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FD-CTX-003 | 2 KM ON EVERY SIDE

Topographic and road context

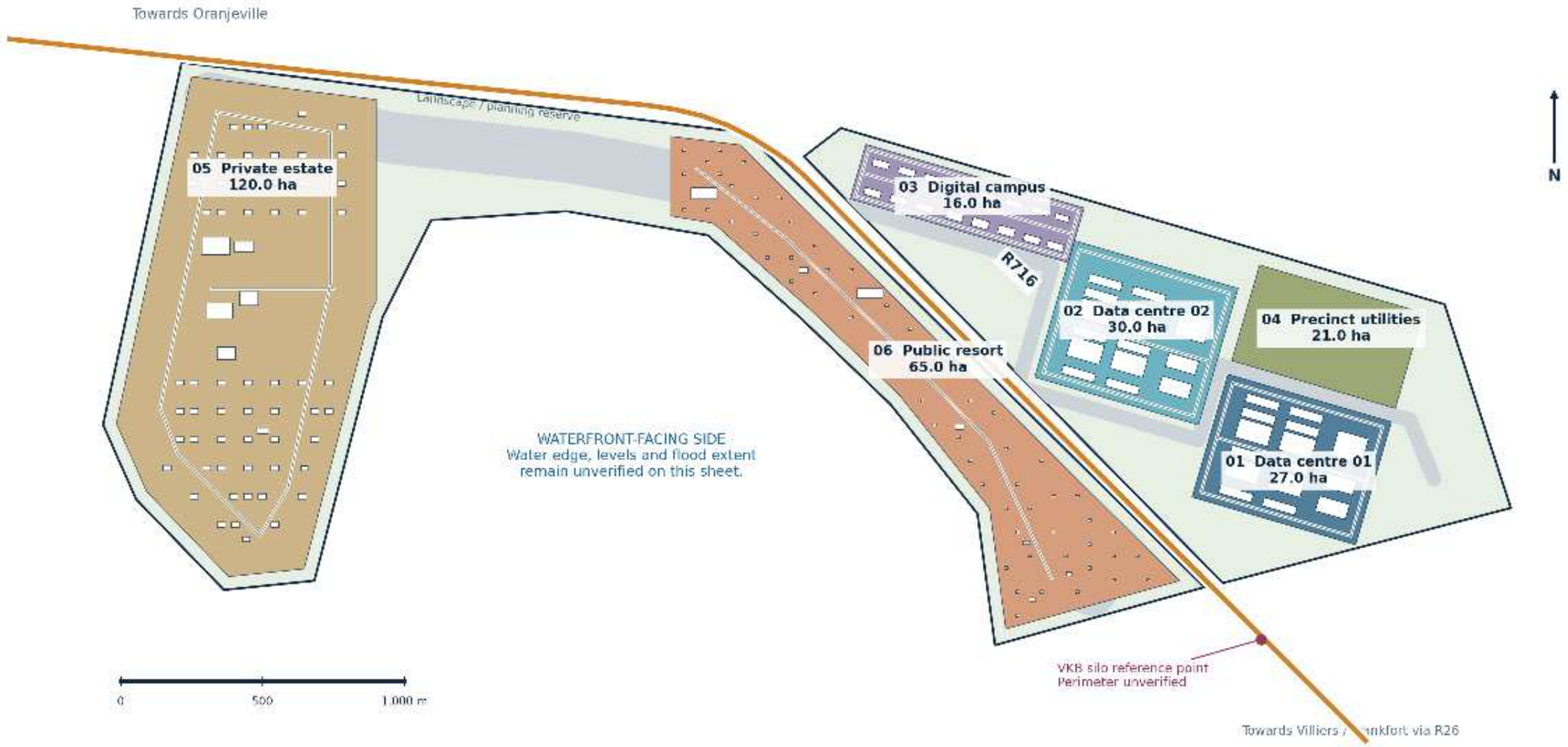


Published basemap context at the same coordinate extent as the satellite sheets. Basemap labels and contours are reference mapping. No engineering terrain model is supplied. Source attribution is printed on the map and retained in its metadata. [S8]

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FD-MP-001 | TWO PARCELS, SIX FACILITIES

Coordinated masterplan



Western parcel: private estate and public chalet resort with distinct waterfront amenities. **Eastern parcel:** data centres 01 and 02, campus 03 and utilities 04. Existing R716 remains the regional through-route.

The attached A1 sheet provides a fixed plotting scale of 1:7,500 at full size. PDF screen zoom and reduced printing change the visual scale. Representative residential footprints do not constitute a subdivision plan.

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FD-SC-001 | GROSS AREAS AND RESERVATIONS

Land budget and area reconciliation

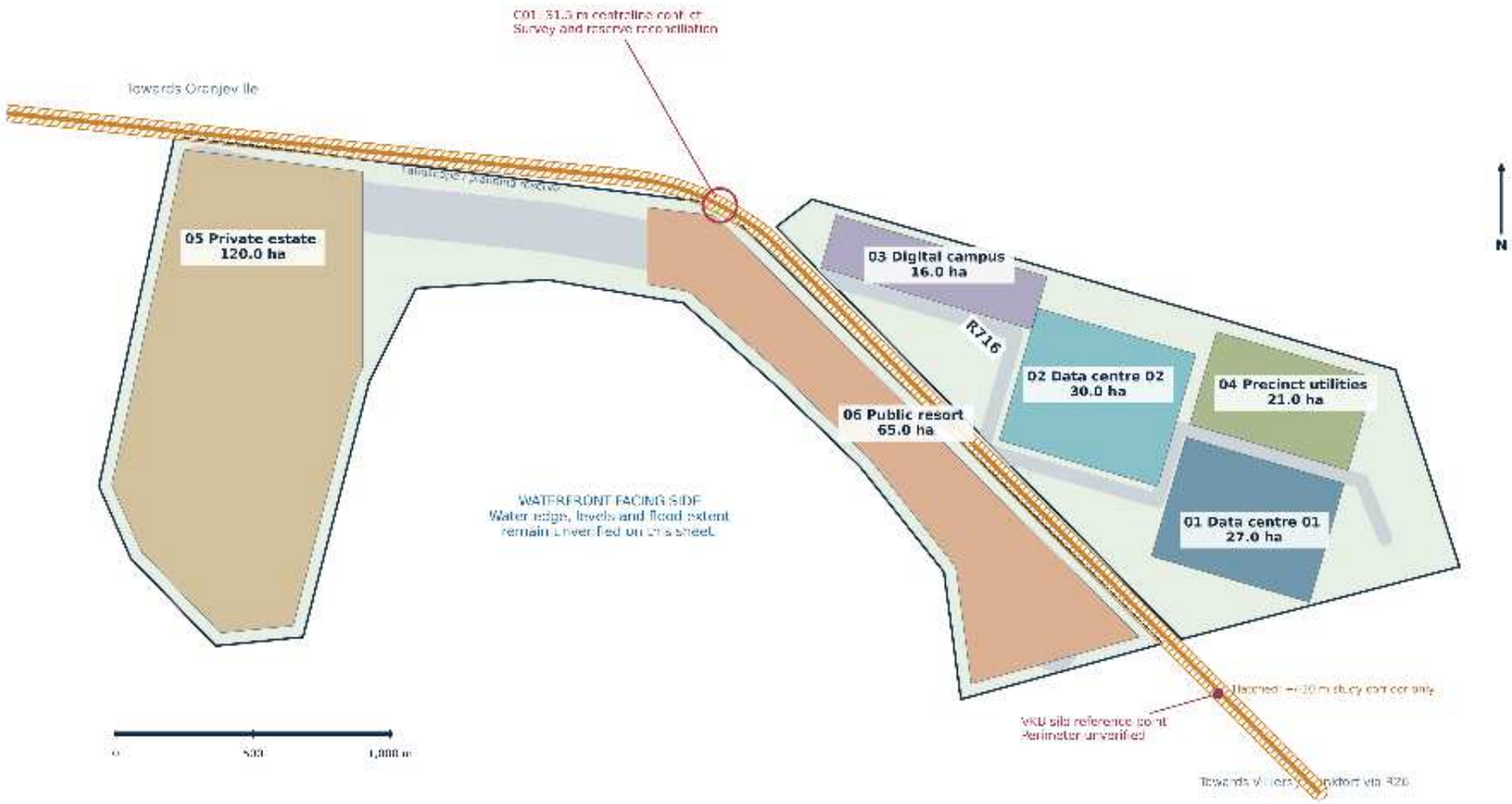
Component	Area (ha)	Basis
Western outline	270.67	Gross concept parcel
Eastern outline	185.06	Gross concept parcel
01 AI data centre 01	27.01	Facility envelope
02 AI data centre 02	30.01	Facility envelope
03 Advanced Digital Technologies Campus	16.01	Facility envelope
04 Precinct utilities	21.01	Facility envelope
05 Private lifestyle estate	120.00	Facility envelope
06 Public resort and waterfront	65.00	Facility envelope
Access and service reservations	35.00	Outside the six envelopes
Landscape and planning reserve	141.70	Outside the six envelopes
Total adopted extent	455.73	Geodesic area; counted once

The six envelopes total **279.03 ha**. Their internal roads, yards and landscape are included within those envelopes. The additional 35.00 ha and 141.70 ha are separate reservations. Rounded items may not sum exactly to the rounded total.

UTM drawing area: **455.57 ha**. Geodesic land budget: **455.73 ha**. The 0.16 ha difference reflects projection scale; it is not additional land. The inherited geodesic allocation balance differs by about 3.3 m² through segmentation. Net developable area requires survey and constraint deductions.

FD-MP-002 | HOLD POINTS

Constraints that control the next revision



Constraint	Recorded condition	Release evidence
R716 bend	About 31.5 m of the mapped centreline intersects the western outline.	Reconcile survey, legal road reserve and parcel boundary.
Water-facing land	Shoreline, storage-servitude, flood and drainage extents have not been located in the model.	Survey and specialist delineation; confirm current DWS position.
Silos and existing assets	The silo point is shown. Its outer perimeter, access and operating impacts are unverified.	Asset survey, boundary evidence and neighbour interface assessment.

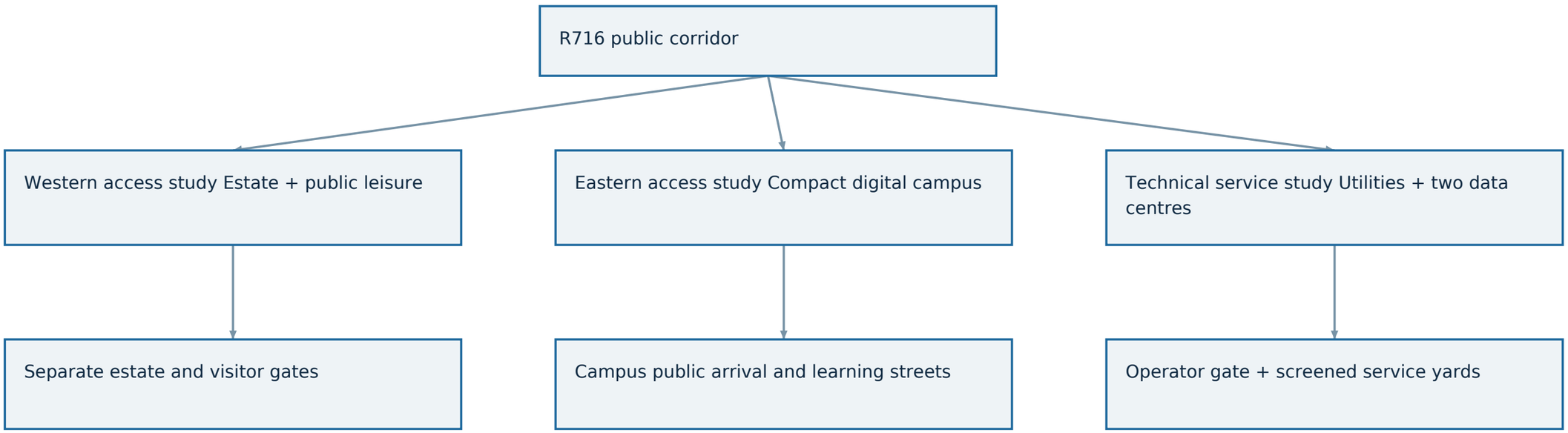
Hatched +/-30 m corridor is a proposed screening band, not a legal reserve, setback or approved road design. No area deduction is made from this arbitrary screening band.

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FD-AC-001 | MOVEMENT HIERARCHY

Access, circulation and security



Movement	Proposed design rule	Required test
Regional road	Keep R716 continuous. Candidate accesses remain subject to road-authority assessment.	Traffic counts, sight distance, junction options, queues and design vehicle swept paths.
Internal vehicles	Test 7 m carriageways for primary loops and 6 m for secondary streets, within wider service corridors.	Traffic, fire access and drainage design. Dimensions are concept targets.
Walking and cycling	Test 2 m clear footways and 3 m shared paths. Connect public facilities without entering the secure data-centre site.	Accessibility, slopes, crossing safety and visitor demand.
Crossing R716	Coordinate utility crossings in agreed corridors. Reserve the option of managed shuttle movement between parcels.	Authority-approved design. No pedestrian bridge, tunnel or new junction is fixed here.

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FD-Z01 | 600 X 450 M ENVELOPE

AI data centre: phased physical test-fit



27.01 ha geodesic envelope
4 x 120 x 70 m data halls
33,600 m² combined hall footprint
45,150 m² total building footprint
51,200 m² indicative total GFA

- Commission Hall 1 first; retain three expansion plots.
- Cooling yards sit beside halls; standby equipment has separate external pads.
- Reception and operations: 110 x 55 m, two storeys. Workshop: 110 x 50 m, one storey.
- Service loop, controlled deliveries and independent emergency access are design requirements.

Halls represent gross buildings, including possible support space. Rack density, white-space proportion, liquid-cooling distribution, fire separation, acoustic treatment and resilience architecture require the selected operator’s brief. All shown dimensions are proposed test-fit dimensions.

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FD-EN-001 | TRANSPARENT ARITHMETIC

Data-centre capacity and demand scenarios

Working scenario: **12 MW IT per hall**, giving **96 MW IT** across eight halls in Zones 01 and 02. This is a proposed sizing test. No power allocation, customer commitment, rack schedule or cooling performance has been verified.

Scenario	IT load	PUE assumption	Indicative DC facility power
First hall	12 MW	1.35	16.2 MW
Eight halls: lower overhead	96 MW	1.20	115.2 MW
Eight halls: base test	96 MW	1.35	129.6 MW
Eight halls: higher overhead	96 MW	1.50	144.0 MW

Formula: facility power = IT power x PUE. These figures exclude campus, estate, public resort and wider network losses. Connection sizing also needs coincidence, power factor, temperature, redundancy and transient studies.

On-site water-use test	First hall at 12 MW IT	Eight halls at 96 MW IT
WUE 0.10 L/kWh IT	28.8 m³/day	230.4 m³/day
WUE 0.40 L/kWh IT	115.2 m³/day	921.6 m³/day
WUE 1.00 L/kWh IT	288.0 m³/day	2,304.0 m³/day

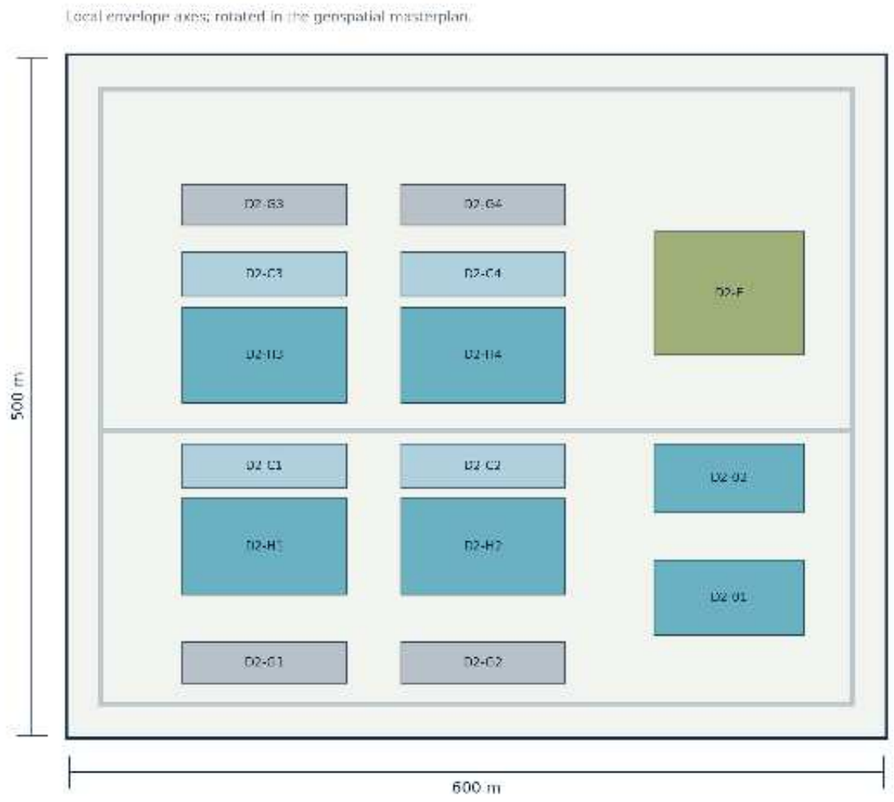
Formula: daily water = MW IT x 24 x WUE, in m³/day, at constant full IT load. The WUE assumptions are sensitivities, not performance claims. Add domestic use, treatment losses and other precinct demand separately. The process-water boundary must be agreed with the cooling vendor.

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FD-Z02 | 600 X 500 M ENVELOPE

Data centre 02: additional computing space



30.01 ha geodesic envelope
4 x 120 x 70 m additional halls
33,600 m² hall footprint
45,150 m² total building footprint
51,200 m² indicative GFA

- Zone 02 replaces the former campus allocation.
- A second controlled operator compound provides a service loop, cooling yards, standby plant and an electrical compound.
- The combined DC land envelope is 57.02 ha. Eight halls provide 67,200 m² of gross hall footprint.
- Release this compound against contracted demand and confirmed service capacity.

The 96 MW ultimate IT scenario assumes 12 MW per hall across both compounds. Shared utilities, feeder topology, route diversity and resilience require redesign for this enlarged scenario. No increased bulk-services capacity has been confirmed.

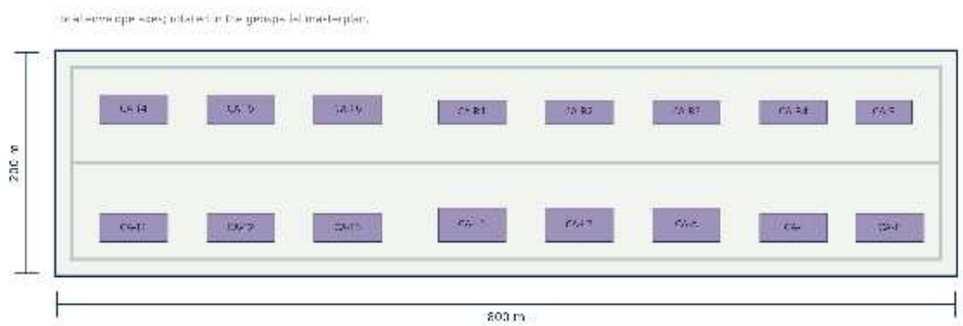
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FD-Z03 | COMPACT 800 X 200 M ENVELOPE

Digital Campus relocated to Zone 03



Programme	Footprint basis	Indicative GFA
6 teaching blocks	60 x 25 m each; two storeys	18,000 m²
2 applied labs	60 x 30 m each; one storey	3,600 m²
4 residence blocks	60 x 20 m each; three storeys	14,400 m²
Library / administration + innovation	Two storeys; includes enterprise incubation	6,600 m²
Events / dining + recreation pavilion	Single storey	2,500 m²
TOTAL	23,200 m² building footprint	45,100 m²

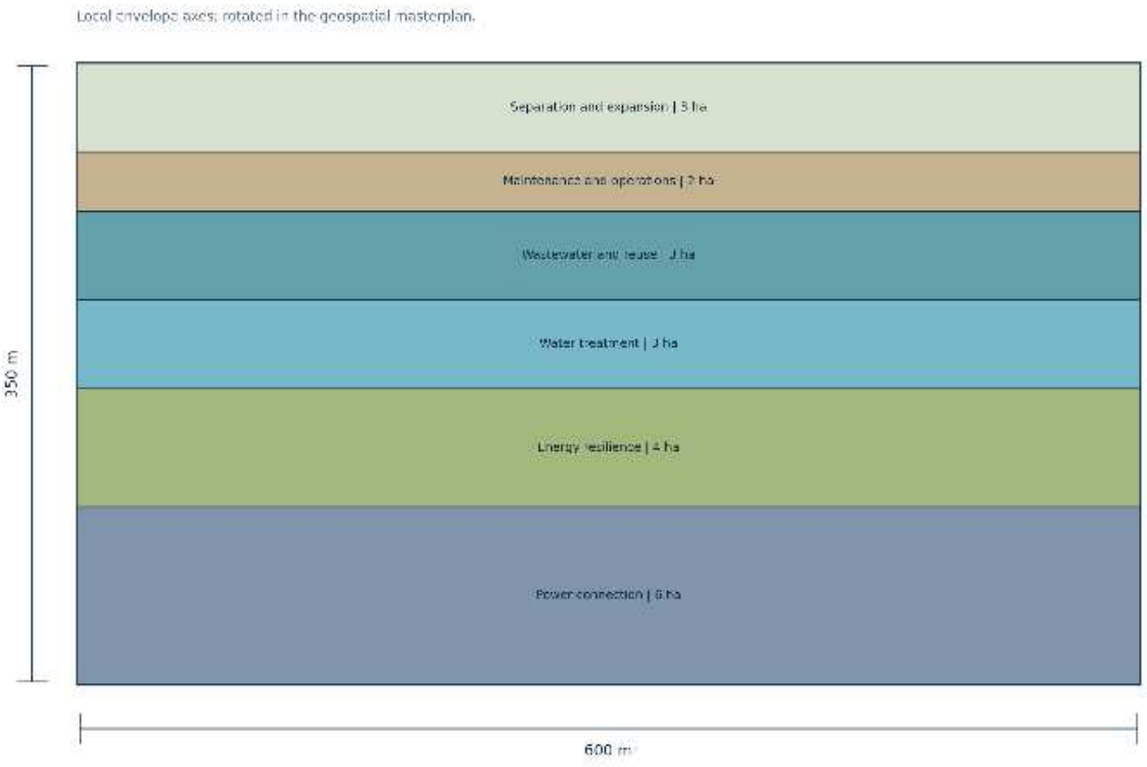
The campus occupies 16.01 ha. A linear pedestrian spine links buildings across the narrow envelope; perimeter circulation serves deliveries and emergency access. Recreation uses compact courts and shared amenities. The former standalone enterprise layout is replaced; incubation remains within the campus innovation centre.

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FD-Z04 | 600 X 350 M ENVELOPE

Precinct utilities and operations



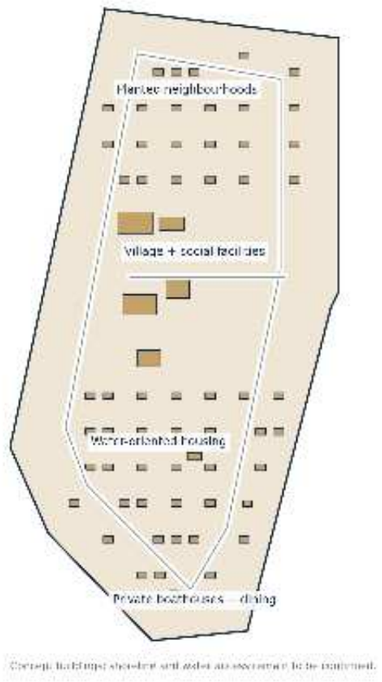
- 6 ha: power connection, switching and distribution study.
- 4 ha: storage, resilience and energy systems study.
- 3 ha: water reception, treatment and storage.
- 3 ha: wastewater treatment and reuse.
- 2 ha: maintenance, stores and operations.
- 3 ha: separation, drainage and expansion.

These functional reservations sum to 21 ha in local projected coordinates. Detailed plant footprints and safe separations will reshape the arrangement.

Utilities serve contracted customers through metered interfaces. Water and wastewater functions require separation from electrical plant and access routes. The 21 ha reservation does not demonstrate energy self-sufficiency or a confirmed bulk-services solution.

FD-Z05 | 120.00 HA CONCEPT ENVELOPE

Lifestyle estate: land use and neighbourhoods



Internal allocation	ha
Water-oriented housing	16
Planted residential neighbourhoods	28
Village housing	16
Social / civic / local retail sites	12
Estate amenities	6
Local streets and services	18
Landscape and drainage	24
TOTAL	120

Village facilities are grouped near the centre. Social-site planning allowances: school 6 ha, primary care 2 ha, civic/community 2 ha and local retail 2 ha. Operators and demand will determine the final mix.

Water-oriented housing is an aspiration tied to a future surveyed and authorised interface. The drawing uses representative footprint patterns. It contains no cadastral subdivisions, plot sale offer or guarantee of direct waterfront access.

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FD-AR-001 | WORKING MARKET-TEST SCENARIO

Estate yield and architectural character

Housing component	Net residential land	Test density	Illustrative dwellings
Water-oriented homes	16 ha	7.5 dwellings/ha	120
Planted neighbourhoods	28 ha	10 dwellings/ha	280
Village apartments / townhouses	16 ha	20 dwellings/ha	320
TOTAL	60 ha	12 dwellings/ha weighted	720

The gross estate density is **6 dwellings/ha** across 120 ha. A separate occupancy assumption of three people per dwelling implies 2,160 residents. These values are design scenarios for market, service and social-facility testing.

Water-oriented homes

Test one and two storeys, shaded terraces and landscape setbacks determined after environmental and water-edge studies.

Planted neighbourhoods

Use grouped homes, connected footpaths and low-speed streets. Retain space for drainage and substantial planting.

Village centre

Test two to four storeys around a walkable mixed-use core. Confirm parking, servicing, accessibility and fire access during detailed design.

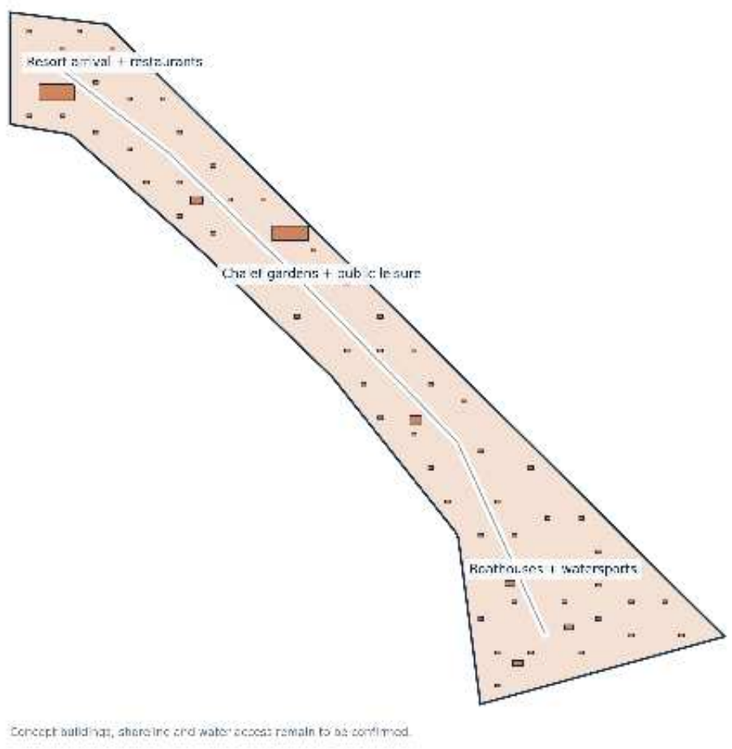
Building heights and materials are proposed design parameters. Market absorption, affordability, tenure products, school capacity and clinical service requirements have not been established.

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FD-Z06 | 65.00 HA ENVELOPE

Public chalet resort and waterfront leisure



Internal allocation	ha
Chalet neighbourhoods	20
Public park / leisure lawns	16
Dining, reception and wellness	7
Boathouses / watersports support	4
Access, parking and servicing	8
Landscape and drainage	10
TOTAL	65

Chalet test-fit: 60 single-storey units, each with a proposed 12 x 8 m footprint (96 m²). Combined chalet footprint: 5,760 m². Initial release: 24; later release: 36. Bed numbers, unit layouts, demand and operating model remain open.

Two public boathouses, two waterfront restaurant test-fits and a watersports rental / safety base are included on land. Promenades, picnic lawns, swimming-pool / wellness areas and event gardens support public leisure. Direct water access and jetty locations require shoreline and rights verification.

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FD-WF-001 | DISTINCT WATERFRONT SETTINGS

Private estate and public resort experiences

Private estate waterfront

Two private boathouse test-fits, a waterfront restaurant, clubhouse, landscaped walks and resident gathering spaces. Maintain resident access controls and privacy along the estate edge.

Public resort waterfront

Chalets in garden clusters, public restaurants, two public boathouses, watersports hire and safety support, picnic lawns and leisure areas. Provide a separate visitor arrival and operating system.

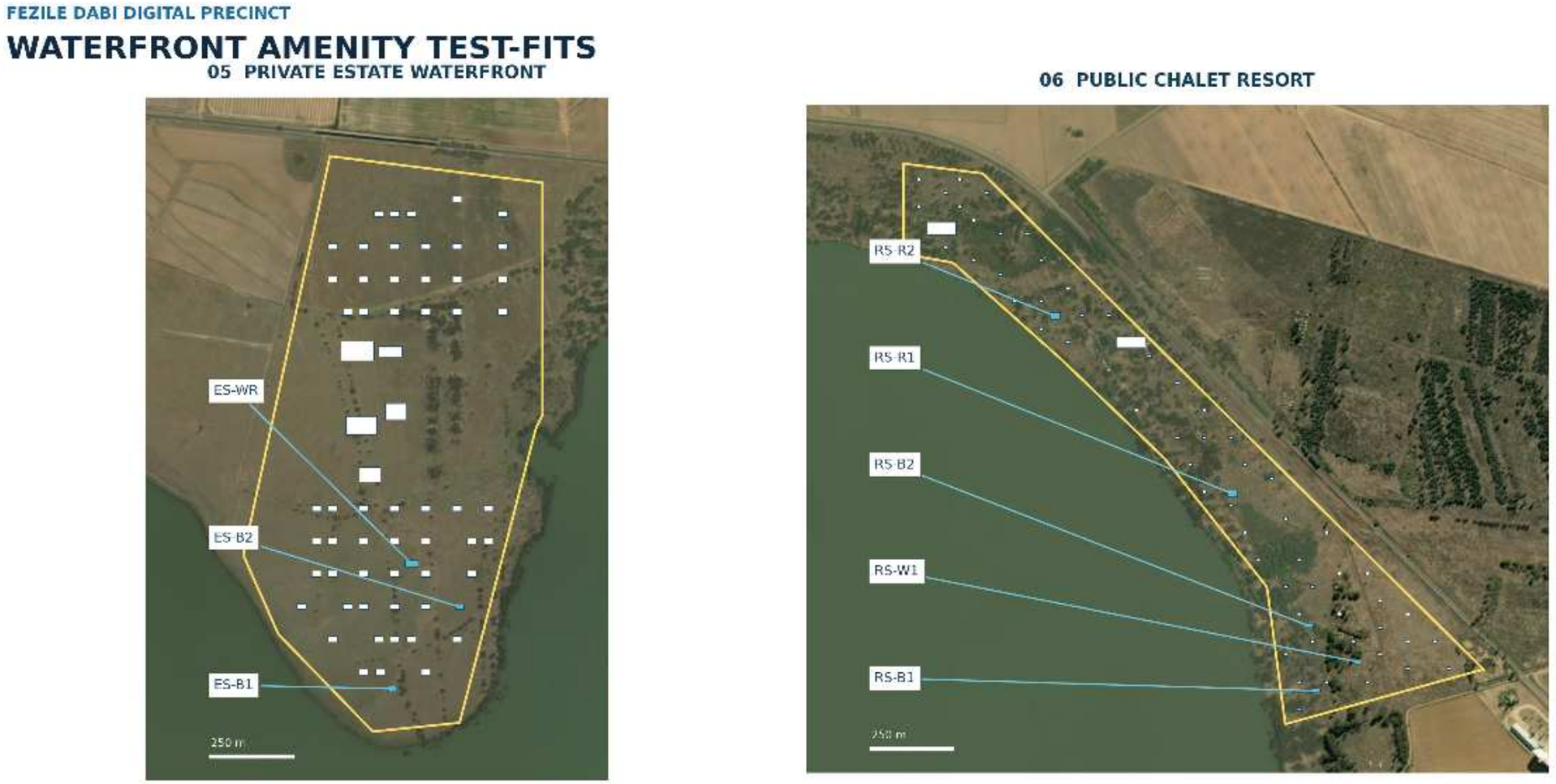
Feature	Concept provision	Design condition
Boathouses	Estate: 2 x 400 m². Public resort: 2 x 300 m².	Landside building test-fits; launching / water access remain to be established.
Waterfront dining	Estate: 800 m². Public resort: 2 x 600 m².	Terraces, servicing, waste and noise to be coordinated with homes and chalets.
Watersports base	Public rental / safety building: 240 m².	Storage, training, rescue arrangements and operator brief required.
Water activity character	Small sailing craft, kayaks, paddleboards and low-speed leisure boating.	Visual proposals for the Vaal Dam waterfront; navigation areas and permissions remain unassessed.
Water-edge structures	Small jetty / landing concepts appear in architectural images.	No surveyed construction position, dredging, berth count or authorised marina is established.

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FD-WF-002 | LANDSIDE BUILDINGS AND CHALET LAYOUT

Waterfront amenity test-fits



The amenity buildings are placed inside their concept envelopes. Shoreline setbacks, water access, flood safety, habitats and operating rights remain to be determined. The resort diagram places 60 chalet footprints; it establishes no bed capacity or market demand.

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FD-LS-001 | LANDSCAPE AS INFRASTRUCTURE

Landscape, drainage and open-space structure

141.70 ha common planning reserve

The inherited reserve surrounds the facility envelopes. It carries uncertainty for landscape, drainage, road-reserve reconciliation and further constraint work. It is not a measured ecological conservation area.

Internal landscape allowances

Estate landscape and drainage: 24 ha within the 120 ha estate. The public resort includes 16 ha of park / leisure and 10 ha of landscape / drainage within its 65 ha. These areas are already inside the six envelopes.

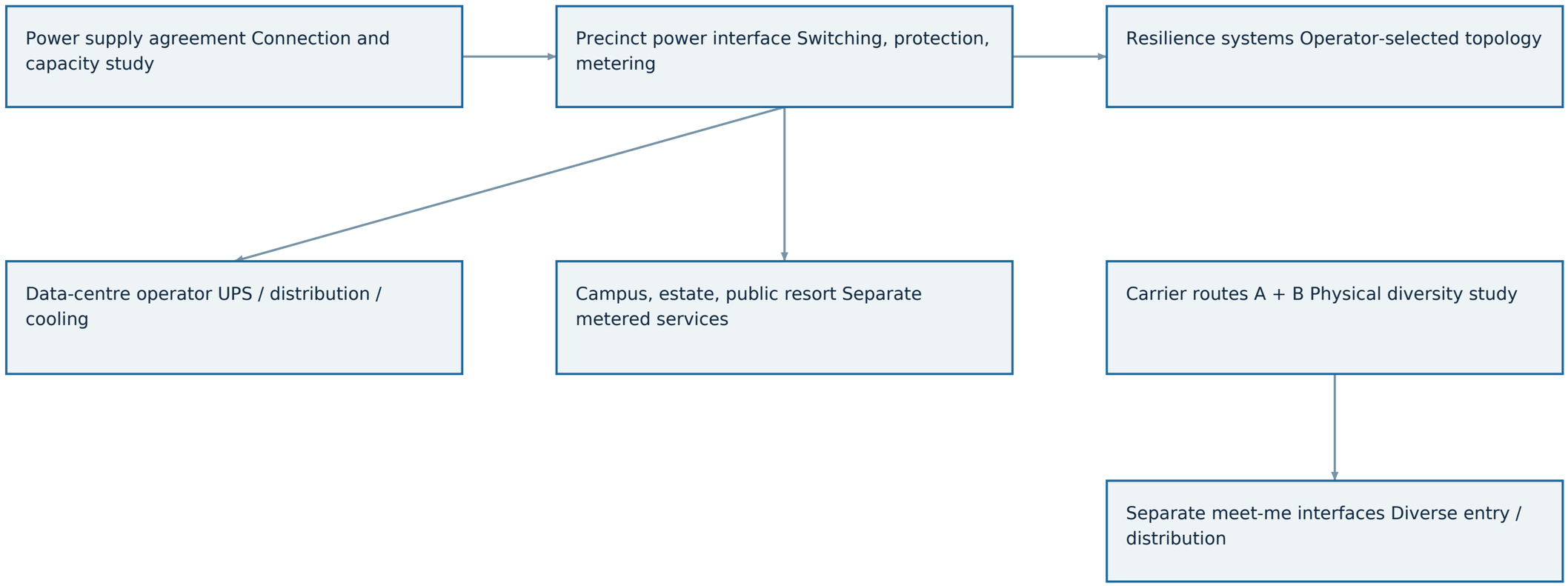
Design element	Proposed treatment	Evidence needed
Existing vegetation	Survey trees and habitats; retain valuable groups in the emerging block plan.	Ecological and arboricultural fieldwork.
Stormwater	Separate clean runoff from contaminated operational areas; reserve treatment and attenuation areas.	Catchment model, rainfall design basis, levels and discharge conditions.
Water-facing edge	Keep structures provisional while the legal and environmental edge is established.	Topography, water levels, flood assessment and servitude/title evidence.
Earthworks	Balance cut and fill where practical; avoid committing to platforms from a flat plan.	Ground model, geotechnics, finished levels and earthworks quantities.
Public realm	Shade routes, provide accessible rest points and coordinate lighting, surveillance and maintenance.	User demand, planting specification, irrigation and operating budget.

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FD-EN-002 | SYSTEM ARCHITECTURE

Power, resilience and communications



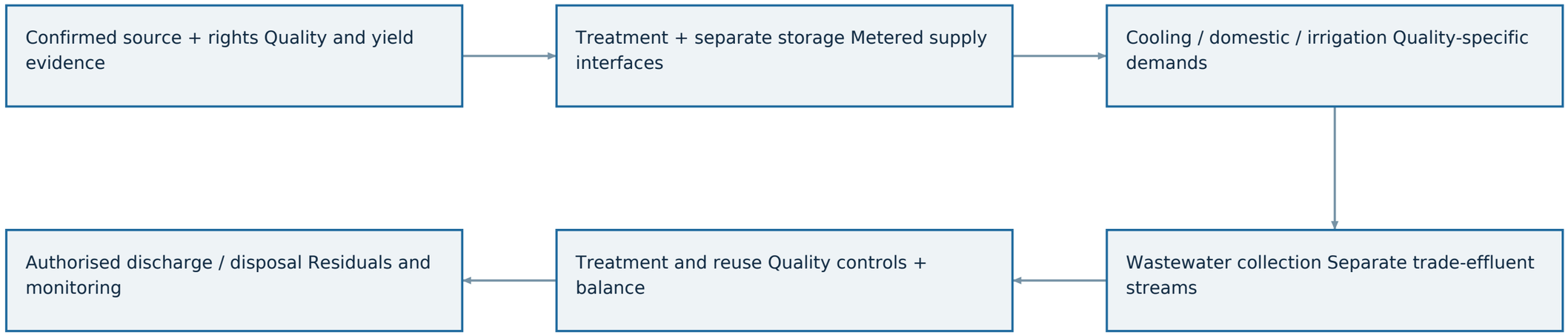
- Select supply capacity and energisation dates from formal studies and offers. No off-site substation, grid route or fibre capacity is confirmed in this package.
- Physical route diversity must be proven end to end, including wayleaves, crossings, ducts, entries and upstream carrier infrastructure. Two contracts alone do not establish route diversity.
- At the first-hall 16.2 MW facility-power scenario, two hours at full load would require 32.4 MWh of usable energy before battery losses and reserve allowances. This arithmetic illustrates scale; no storage specification has been selected.

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FD-EN-003 | PROCESS AND RESPONSIBILITY

Water, wastewater and stormwater



Stormwater: separate catchments, attenuation and approved outfalls

Demand component	Sizing basis	Status
Data-centre process water	IT load, operating profile and verified WUE / cooling system.	Capacity worksheet; vendor confirmation needed.
Estate domestic supply	720 dwellings x assumed occupancy x agreed per-person demand.	Occupancy test: 2,160 residents; demand rate to be agreed.
Campus / public resort / leisure	Student, bed, worker, visitor and event populations plus process loads.	Operating briefs and peak factors outstanding.
Storage and fire water	Service interruption strategy, fire engineering and provider requirements.	No tank volume or fire-flow compliance claimed.

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FD-AR-002 | PROPOSED DESIGN LANGUAGE

Built form and interface controls

Facility	Built-form proposal	Interface controls to develop
Data centre	Low-rise modular halls; screened cooling and standby plant; robust service elevations.	Acoustics, vibration, light spill, fire and emergency access; final heights from operator design.
Campus	Courtyard clusters with shaded pedestrian routes; teaching and living areas grouped around shared spaces.	Public access, after-hours security, disability access, residence privacy and laboratory servicing.
Data centre 02	Four additional modular halls in a separate controlled compound.	Coordinate plant impacts, resilience, emergency access and shared utility capacity.
Utilities	Functional compounds with maintenance access and expansion reservations.	Hazard, fire, electrical, wastewater and clean-water separation studies.
Estate	Water-oriented homes, planted neighbourhoods and a compact village centre.	Privacy, public-edge access, architectural controls, setbacks and management obligations.
Public resort	Low-rise chalet clusters, restaurants, boathouses and leisure gardens.	Crowd movement, servicing, public access, security, noise, waste and after-hours operations.

Indicative materials: durable masonry and shaded glazing for public buildings, metal-clad technical buildings with screened plant, and locally maintainable paving and landscape systems. Select products through climate, fire, durability, acoustic and cost assessments.

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VISUAL STUDY | FRAMED FROM THE 2 KM CONTEXT MAP

Wide precinct character



Architectural concept illustration framed from the measured 2 km context map. Exact distances are established on the map sheets. Buildings, vegetation and water appearance are illustrative. Satellite reference: Esri, Vantor, Earthstar Geographics and GIS User Community. [S7]

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SATELLITE MOSAIC | THE SAME 2 KM CONTEXT WINDOW

Existing landscape image



Source satellite mosaic for comparison with the preceding architectural concept. It covers the measured 2 km context extent. Image acquisition date and water level are unverified. Source: Esri, Vantor, Earthstar Geographics and GIS User Community; retrieved 3 November 2026. [S7]

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FD-DP-R3
03 NOV 2026
CONCEPT DESIGN

ILLUSTRATIVE VIEWS | PRIVATE ESTATE AND PUBLIC RESORT

Waterfront living and leisure character



Illustrative architectural scenes of the private estate and public resort. Water craft, jetties, building appearance and leisure use are design intentions. The location is the Vaal Dam waterfront. Shoreline, flood, environmental and operating conditions remain to be established.

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FD-PH-001 | RELEASE GATES

Phasing through evidence and demand

Stage	Physical release	Evidence required before commitment
P0 | Establish the site	Surveys, title and rights schedule, constraints, demand and utility feasibility.	Agreed net developable extent; identified parties and rights; viable access and service routes.
P1 | Enable the first development	Selected access, services corridors, utility interfaces and first operational compounds.	Permits and approvals applicable to the works; provider agreements; design and funded cost plan.
P2 | First operating cluster	First data hall in 01; first campus teaching/lab provision and incubation in 03.	Operator/customer contracts, equipment procurement, commissioning and acceptance plan.
P3 | Place-making release	Estate village and private waterfront amenities; first 24 public resort chalets and shared leisure facilities.	Residential and leisure market evidence; service capacity; operating and maintenance arrangements.
P4 | Expand proven components	Remaining halls in 01, new data centre 02, campus expansion, later estate phases and 36 additional chalets.	Measured performance and contracted demand; funded capacity expansion and verified constraints.

The technical, residential and leisure investments can have separate funding and operating structures. Every release must satisfy its own services and rights dependencies. Calendar completion dates and construction durations remain uncommitted.

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FD-PP-001 | WORK PACKAGES AND ACCEPTANCE OUTPUTS

Project preparation and consultant brief

WP	Workstream	Lead role	Acceptance output
01	Survey + cadastral	Land surveyor	SG/title match, terrain, assets, road and water interfaces.
02	Land + planning	Legal / town planning	Rights matrix, jurisdiction, development applications and land-control conditions.
03	Water + environment	EAP / hydrologist / ecologist	Constraint map, water-related rights route, specialist studies and approval strategy.
04	Ground conditions	Geotechnical engineer	Investigation results, foundation/earthworks basis and material risks.
05	Transport + civil	Traffic / civil engineers	Access options, swept paths, circulation, levels, drainage and services plan.
06	Power + digital networks	Electrical / ICT engineers	Power and fibre options, provider evidence, route diversity and phasing.
07	Facilities + public realm	Architect / landscape architect	Operator-led brief, coordinated buildings, accommodation schedule and design controls.
08	Cost + commercial	QS / development finance / market team	Measured cost plan, quotes, demand studies, funding and delivery model.
09	Assurance + integration	Project manager / independent reviewers	Interface register, schedule, change control, design review and gate recommendation.

Appoint the team against these acceptance outputs. Agree fees, survey extents and investigation scopes through proposals. A construction budget cannot be substantiated from the parcel image alone.

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FD-QS-001 | EDITABLE, UNPRICED SCHEDULE

Cost plan framework and quantity boundary

Cost package	Current quantity basis	Needed for pricing
Land and rights	455.73 ha gross concept extent	Titles, acquisition/lease terms, servitudes and transaction costs.
Technical buildings	113,500 m² footprint; 147,500 m² indicative GFA	QS measurement, specifications and appropriate rates by building type.
Data-centre systems	96 MW IT ultimate scenario	Operator equipment, electrical/cooling topology and supplier pricing.
Estate	720-dwelling scenario	Unit mix, floor areas, construction specification and demand validation.
Public resort	65 ha envelope; 60-chalet scenario	Facility briefs, floor areas, landscape and operating model.
Bulk and precinct infrastructure	Capacity and route quantities outstanding	Power/water/fibre offers; pipe, cable, road, earthworks and storage quantities.
Development costs	Project-specific allowances outstanding	Professional fees, approvals, contingency, escalation, finance and tax treatment.

The CSV cost framework deliberately leaves rates and amounts empty. No total construction CAPEX, land purchase price, investment return or jobs estimate is claimed. The earlier R30,000/ha land-rate scenario is excluded pending a verified transaction basis.

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FD-GV-001 | PROPOSED DELIVERY STRUCTURE

Responsibilities and operating interfaces

Party / function	Proposed responsibility	Evidence or agreement
FDDC as project sponsor	Coordinate scope, land discussions, work packages, investment interfaces and stage gates.	Project mandate, decision authority, funding and reporting arrangements.
Landowners / rights holders	Establish lawful access, tenure, use rights and conditions for each parcel.	Executed instruments checked against current title and survey.
Facility operators	Define performance, capacities, security, commissioning and operating requirements.	Operator briefs, service agreements and acceptance criteria.
Utility providers / service entities	Define connection, capacity, quality, metering, maintenance and outages.	Formal offers, connection and operating agreements.
Public authorities	Determine applicable planning, road, water, environmental and building processes.	Jurisdiction and an application-specific approval schedule.
Estate / leisure management	Manage shared facilities, public/private interfaces, maintenance and user access.	Governance, budgets, rules and operating contracts.
Independent professional team	Prepare coordinated designs and verify completion of each design gate.	Appointments, discipline deliverables, review records and signed submissions.

The 2022 provincial tender identifies the historical resort in Metsimaholo. Confirm present municipal jurisdiction across the entire new extent before naming the approving municipality in agreements or submissions. [S4]

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FD-RG-001 | ITEMS R01-R08

Design-resolution register: site and rights

ID	Priority	Open matter	Proposed lead	Close-out evidence
R01	Critical	Parcel control	Legal + survey	Title/SG evidence and an executed rights schedule for both outlines.
R02	Critical	R716 conflict + reserve	Survey + road authority	Reconciled bend boundary, legal reserve and net area.
R03	Critical	Shoreline / storage / flood	Survey + water specialists	Georeferenced constraints and current authority position.
R04	Critical	Power capacity / timing	Electrical + provider	Feasible connection, capacity, price and energisation pathway.
R05	High	Water source / balance	Civil + water specialist	Lawful source, water balance, quality and treatment/effluent strategy.
R06	High	Silo boundary / operations	Survey + neighbour interface	Asset perimeter, access, dust/noise, traffic and safety interface.
R07	High	Municipal jurisdiction / land use	Planner + legal	Current municipal overlay and land-use approval route.
R08	High	Ground / ecology / heritage	Specialist team	Field studies that confirm or reduce buildable envelopes.

All items are OPEN at this issue. Critical denotes an unresolved matter capable of changing the development basis. The register is a prioritisation proposal, not a quantified probability or financial-risk model.

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FD-RG-002 | ITEMS R09-R16

Design-resolution register: capacity and delivery

ID	Priority	Open matter	Proposed lead	Close-out evidence
R09	High	Carrier diversity / wayleaves	ICT team	Route evidence, capacity, latency and protected entry strategy.
R10	High	Traffic / crossing strategy	Traffic engineer	Approved access design, queues, vehicles and pedestrian strategy.
R11	High	Data-centre operator requirements	Operator + designers	Workload, rack, cooling, fire, resilience and security brief.
R12	High	Estate and commercial demand	Market + sponsor	Absorption, unit/tenancy mix, affordability and committed counterparties.
R13	High	Leisure rights and operating model	Legal + leisure operator	Current DWS process, agreed public access and sustainable operation.
R14	High	Service corridors and levels	Civil + all disciplines	Coordinated route and level model with separations and easements.
R15	High	Cost and funding	QS + finance	Measured cost plan, provider quotes, contingencies and phase funding.
R16	Medium	Existing assets / construction logistics	Survey + construction team	Condition survey, retention/demolition plan and construction access.

Review the register at every design meeting. Assign named owners, dates and closure evidence when appointments are made. Issue R3 only after material geometry and service changes have been reconciled across drawings, schedules and the spatial model.

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FD-QA-001 | REPRODUCIBLE SPATIAL CHECKS

Checks completed and remaining design limits

Check	Result	Interpretation
Parcel / zone containment	All six facility envelopes contained	Checked against the supplied concept outlines in UTM 35S.
Facility overlap	Effectively zero	Numerical residue is below 0.000001 m².
New asset containment	All new asset polygons contained	No proposed building or equipment polygon extends outside its facility envelope.
Scheduled building overlap	0.00 m²	Checked for the 28 dimensioned technical buildings.
Technical building schedule	113,500 m² footprint; 147,500 m² GFA	GFA is footprint x assumed storeys. Equipment yards and estate/leisure patterns excluded.
Road discrepancy	31.47 m centreline intersection	Retained as an open source-geometry issue.
Area basis	455.7293 ha geodesic; 455.5668 ha projected	Projection difference recorded; no extra land inferred.
Survey and engineering assurance	Outstanding	No terrain, structural, hydraulic, electrical protection, fire or statutory compliance certification.

Self-review: the weakest inputs are parcel rights, water-edge constraints and service availability. The illustrated architectural outcomes, imagery acquisition dates and the 96 MW / 720-dwelling / 60-chalet scenarios can change materially after these inputs are verified. Geometry checks establish internal drawing consistency only.

FD-DC-001 | TRACEABLE DESIGN INFORMATION

Sources, issue control and file guide

Ref	Source	Use / limitation
S1	Client instructions and attachment	Parcel reference image retained. Latest instruction: 02 becomes additional DC; campus moves to 03; public resort chalets and waterfront amenities added.
S2	Recovered project geometry	JF-01-R1 Masterplan GeoJSON, KML, area schedule and design PDF; current project files retrieved 3 November 2026.
S3	Mapped road	OpenStreetMap way 152509912, source file dated 3 November 2026. © OpenStreetMap contributors, ODbL 1.0.
S4	Historical resort evidence	Free State DPWI, DPWFS EOI 010/2021, February 2022 erratum, TOR §§1.3, 2.1, 6.1 and 7.1. Historical 139.9810 ha resort extent and R716 context.
S5	Historical water context	DWS, Vaal Dam Final Resource Management Plan (2015), institutional and shoreline provisions. Used as historical background.
S6	Water-planning update	DWS statement, 21 May 2026: Vaal Dam RMP placed on hold for review. This issue does not establish subsequent finalisation or site-specific permission.
S7	Satellite basemap	Esri World Imagery service, exported in UTM 35S on 3 November 2026. Esri, Vantor, Earthstar Geographics and GIS User Community. Acquisition date unverified.
S8	Topographic basemap	Esri World Topographic Map service, exported in UTM 35S on 3 November 2026. Provider attribution retained in map and source metadata.

OpenStreetMap source

OSM attribution and licence

Provincial tender PDF

DWS Vaal Dam plan (2015)

DWS statement (21 May 2026)

Satellite and topographic service directory

Issue FD-DP-R3 | 3 November 2026 | Prepared for FDDC. The ZIP contains this PDF, an A1 masterplan, nine design plates plus three context maps and waterfront visual studies, CAD/GIS data, CSV schedules, validation JSON, visual studies, source references and reproducible scripts. Read README.txt before importing spatial data.