DATASHEET

LON6

CyrusOne Data Center

Iver Heath, Buckinghamshire
Seven Hills Rd, Iver Heath
Iver SL0 0PA

Introduction

CyrusOne LON6 is a transformative, sustainable, biodiverse, and community-focused data center development strategically located in Iver Heath, Buckinghamshire, close to Iver Grid Supply Point, and able to serve both West London Availability Zones. The facility will deliver 90 MW of IT capacity to 30,000 sqm highly complex technical infrastructure across ten 9 MW data halls designed to be fully integrated into the landscape. The development project will restore and reconnect communities, delivering 71% Biodiversity Net Gain through the creation of an ecologically rich parkland and new habitats that will enhance the quality of the Colne Valley Regional Park. A training center will improve economic and educational opportunities for the local and wider area through the extension of CyrusOne's successful partnership with UTC Heathrow.

Overview

- 90 MW IT capacity delivered to 30,000 sqm of world class technical space
- Designed to achieve BREEAM “Excellent” certification as a minimum
- Powered by 100% renewable energy, in line with all CyrusOne European data centers since 2021
- Features extensive landscaping with public access to lakes and woodland, including a bridleway connecting to ancient woodland, delivering a 71% Biodiversity Net Gain
- Set to include a stone gabion clad training center with industry-specific facilities for employees and students within the campus
- Provision of onsite photovoltaic panels will deliver 64% of the regulated office energy demand
- Low PUE achieved through highly efficient design and equipment selections, utilising free-cooling technology and optimised operating temperatures in accordance with ASHRAE Standards
- Low WUE achieved through utilisation of closed loop chilled water system and no evaporative cooling

BIODIVERSITY

The project will restore and reconnect the landscape, improving the site's biodiversity through the creation of an ecologically rich parkland and new habitats, enhancing the quality of Colne Valley Regional Park through:

- Planting over 670 trees (including 145 fruit trees), alongside over 7,000 sqm of woodland and 90,600 sqm of mixed meadow areas and acid grassland.
- Creating 18 acres of new green space featuring public-access lakes and woodland, connected by a bridleway to ancient woodland, with 6.7 acres dedicated exclusively to wildlife preservation and natural habitat, delivering a Biodiversity Net Gain of 71%.
- Restoring and repairing a new landscape link between areas of ancient woodland, resulting in a wildlife corridor.
- Collecting, treating and reusing rainwater on site in combination with the use of free air cooling from ambient air whenever possible.

Sustainable Design and Construction

BREEAM CERTIFICATION

Sustainability and biodiversity will play a central role in the new data center, the campus is designed to achieve a BREEAM "Excellent" certification as a minimum ensuring it complies with multiple sustainable criteria including:

- Best practice site waste management delivered through a Site Waste Management Plan (SWMP) and a Zero Waste to Landfill (ZWL) plan with the use of recycled aggregates.
- Utilizing building materials which provide optimum environmental performance with minimal environmental impact over the building's full life cycle.
- Staff and contractors sourced locally where possible to support the local economy.
- Protection of existing ecological features to mitigate the impact to the environment throughout the construction process.
- Best practice design for health, well-being, and occupancy ensuring thermal comfort, lighting and control, indoor air quality, and acoustic performance, and encouraging reduction in car travel through the provision of cyclist facilities.

Sustainable Design and Construction

COMMUNITY

The project will serve as an inclusive hub for the local community, ensuring that the development is both acknowledging and giving back, offering a diverse array of benefits tailored to meet their needs and interests through:

- Incorporating a new stone gabion glad training center with industry specific facilities for employees and students sitting within the campus, an extension of CyrusOne's successful partnership with UTC Heathrow.
- Gifting land to Buckinghamshire council to allow for a safer and more efficient traffic light-controlled junction between Seven Hills Road and Denham Road.
- New cycle paths and woodland trails to provide the community with improved access to and enjoyment of the surrounding natural environment.
- A long-term Landscape Ecological Management Plan for maintenance and continued public access to the open space for a minimum of 25 years.
- An estimated 580 full time equivalent (FTE) construction jobs will be created, with a further 540 FTE skilled positions required to run the facility once operational, boosting the local economy with competitive salaries.

AESTHETICS, HEALTH AND WELLBEING

The facility is thoughtfully integrated and sunk into the natural landscape, featuring green roofs and walls that blend seamlessly with the surroundings. Designed with both employees and customers in mind, it creates a warm and welcoming environment, fostering comfort and connection to nature through:

- Creating a landscaped 'hidden valley' access road around the building, featuring terraced designs that provide natural daylight and fresh air to timber-framed offices while offering striking views.
- Providing accessible parking facilities with dedicated disabled spaces and electric vehicle charging hubs in 50% of all parking spaces.

EMISSIONS AND RENEWABLE ENERGY

- Energy supply will be procured from 100% renewable energy sources provided by SSEN directly from Iver Grid Supply Point (GSP).
- To reduce nox emissions, all generators are provided with selective catalytic reduction (scr) systems and can run on hvo fuels procured from secondary oil sources. This typically offers up to 5x reduction on standard nox emissions.
- On site photovoltaic panels will deliver 64% of the regulated office energy demand.

HEAT RE-USE

- Provision within the design to export recovered heat from the chilled water system.

Technical Specifications

POWER

- Mains power supplied via 100% rated A&B 132 kV incomers diversely routed active / active with a capacity of 160 MVA
- All IT power metered and charged as consumed
- 9 MW block redundant topology with 7 independent and compartmentalised power blocks per data hall
- 99.999% reliability with the ability for concurrent maintainability
- IT power supplies are derived from primary and reserve feeds from each block via STS's creating a meshed IT distribution topology between all 7 blocks in an N+1 configuration
- 8-minute block redundant UPS topology with 10 x 8-minute battery back-up as standard two UPS systems per block, connected in parallel for 1500kW per power stream
- Fully rated block redundant LV back-up generators with 48-hour fuel autonomy, capable of continuous running, paired with each power stream
- Re-fuelling contracts to ensure timely replacement

COOLING

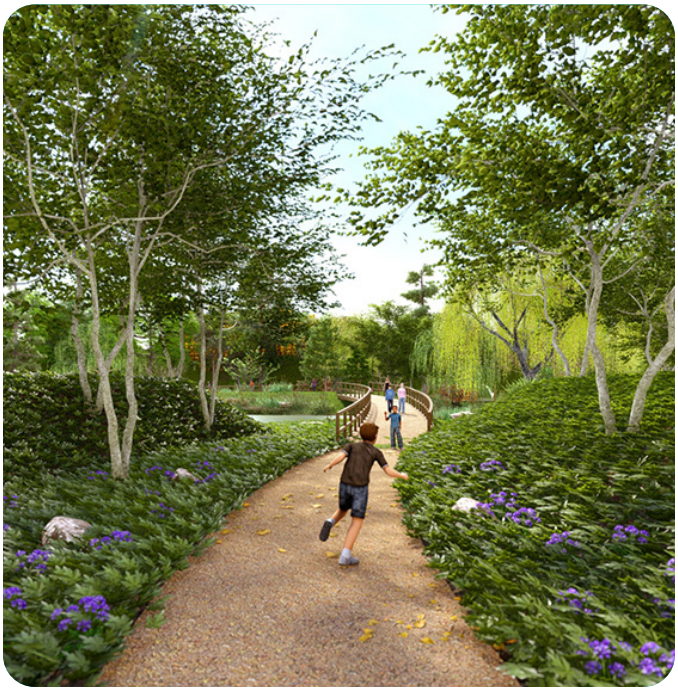
- Cooling configured on a resilient dual fed ring chilled water system
- 9 MW IT capacity cooling solution per hall
- N+1 Free cooling air cooled chillers
- Computer Room Air Handing Units at N+4
- Chilled water circulation pumps N+1
- Low PUE due to cooling solution and optimum chilled water temperatures to maximise the free cooling hours
- Cooling infrastructure individually managed and linked to BMS
- Independently regulated temperature and humidity within each hall
- Power supplies to cooling equipment for full redundancy configured in a block redundant topology

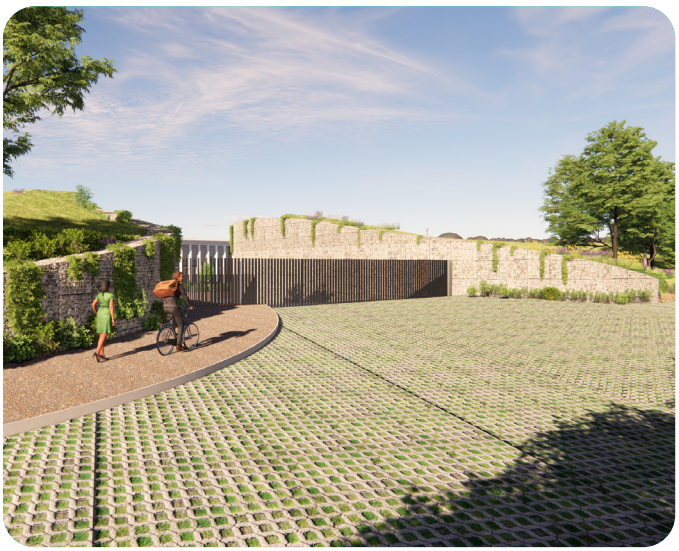
CONNECTIVITY

- Carrier neutral access and diverse fibre connectivity to achieve A&B Meet Me Rooms from multiple fibre providers
- Four diverse fibre routes onto site
- Diverse fibre rings around entire facility to permit multiple building/hall connectivity

FIRE DETECTION AND SUPPRESSION

- In Data Halls and MMR VESDA (Very Early Smoke Detection Apparatus) for early warning, then double knock 2 stage detection
- VESDA (Very Early Smoke Detection Apparatus) for early warning, in LV/UPS Pods
- Fire detection in all rooms, in air plenums and in voids as required and to meet local regulations
- Nitrogen filled pre-action sprinkler system to data halls and MMR's
- Double knock approach sprinkler system to all technical areas, zone activation
- Wet sprinklers pre-charged in Offices and Ancillary spaces





BUILDING & ENERGY MANAGEMENT SYSTEM (BMS & EMS)

- Power and building monitoring systems to provide alarms and live visual graphics in command center
- Power and building monitoring data collection and trend logging for reporting purposes and equipment condition monitoring
- Power surge management
- 24x7x365 on-site M&E engineers undertaking Planned Preventative Maintenance (PPM) programmes
- Real-time monitoring of electrical and mechanical systems

SECURITY

- 2.5 metre high security perimeter fence cast within concrete base
- Vehicle lock at the entrance to site with PAS 68 rated gates to protect from physical attack
- Manned gatehouse at the entrance to site for both vehicle and pedestrian management
- Extensive external CCTV to cover external areas of the buildings, roadways and site extents including the perimeter fence
- 24x7x365 on-site security located in a secure control room, with mobile patrols
- Progressive layers of security to restrict access through the site
- Mantraps with biometric readers into data halls and other areas as required

Site Plan