

Visionary Masterplan & Landscape Experience

Main master plan and Labeling

"Water as ecological spine + Genius Loci heritage + Citadel-inspired layering = sustainable future park."

Future Forest of Erbil



A-Conservation Zones-Native Flora Garden

- 1 Medical & Aromatic Garden
- 2 Endangered Species Zone
- 3 Ethnobotanical Garden
- 4 Arboretum

B-Tourism&Public Engagement

- 5 Walking Trails: Paths for visitors through nature zones.
- 6 Mountain Trail: Advanced hiking paths.
- 7 Bird watching Tower: Structure for observing birds.
- 8 Lake& Wetlands: Biodiversity and cooling zones.
- 9 Eco-Lodges: Sustainable accommodation.
- 10 Camping Area: Eco-friendly camping sites.
- 12 Cultural Events Plaza: Open-air cultural space.

C-Cultural&Heritage Integration

- 13 Traditional plants garden: plants used in Kurdish life.
- 14 Herbal Market: local eco-product and herbs.
- 15 Heritage Structures: Exhibits of Kurdish rural architecture.
- 16 Outdoor Ethnobotany Museum: Cultural interpretation paths

D-Sustainability&Infrastructure

- 17 Water Harvesting: Rainwater collection system
- 18 Greywater Treatment: Natural water recycling.
- 19 Composting Facility: Organic waste recycling.
- 20 Renewable Energy Zone: Solar and wind installation.
- 21 Green parking: Eco-friendly parking design.

E-Support&Services

- 22 Main Entrance: Visitor access and orientation.
- 23 Administration: park management offices.
- 24 Cafes&Rest Areas: Refreshments and relaxation.
- 25 Restrooms: Accessible eco-toilets.
- 26 Electric Transport: Eco-friendly internal mobility

F-Hospitality Facilities

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- 41 Accessibility and Connectivity



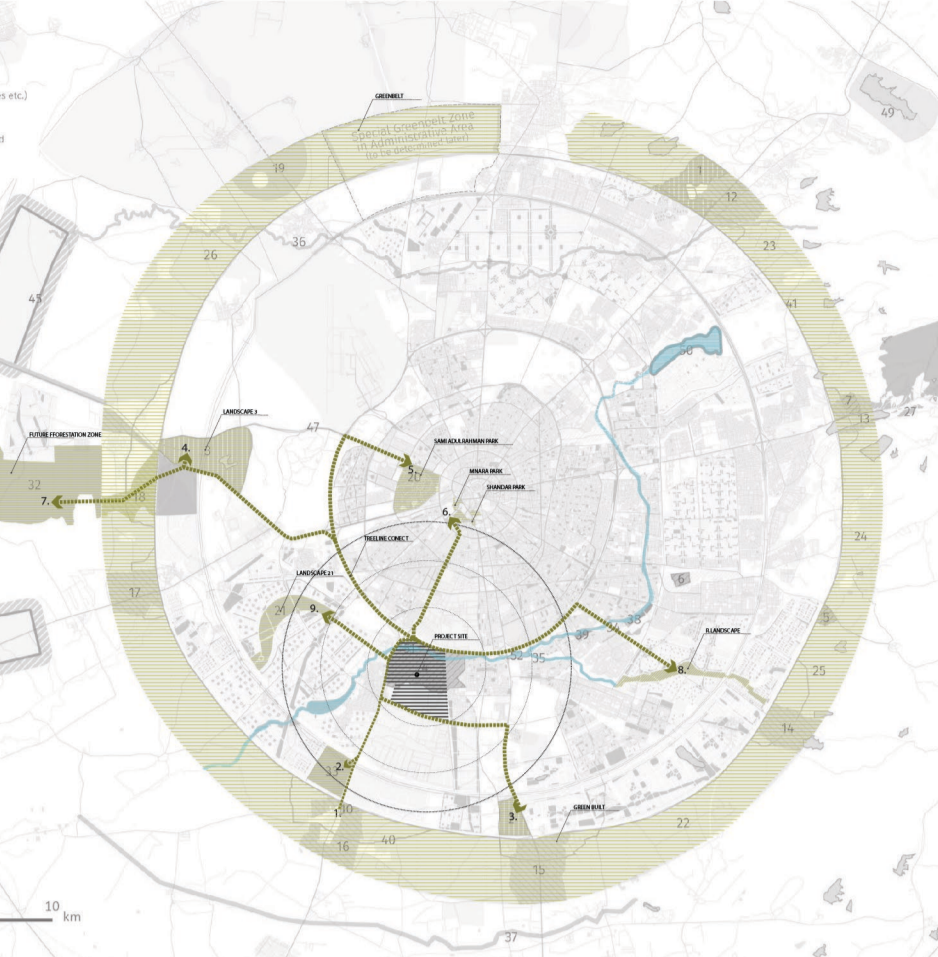
Site Analysis & Strategic Framework

"Water as ecological spine + Genius Loci heritage + Citadel-inspired layering = sustainable future park."

1 Green typology and UGI urban green infrastructure Global Green network

UGI (Urban Green Infrastructure)

Park-to-Park Connectivity
Create strong greenways linking the park to major city parks (Sam Abdulrahman, Meera, Joudat, Treina Boulevards)
Use tree-lined streets as ecological spines to connect fragmented green spaces and guide pedestrian/cycling flows.
Blue-Green Corridors (Southern Green Way)
Enhance the water stream that crosses the park into a continuous ecological and recreational corridor linking neighborhoods.



Global and Ecological Network Enhancement

1. Part of a Larger Green System: The park strengthens Eilat's green urban infrastructure, positioning itself as a vital link within the city and as a contributor to the wider global ecological network.
2. Connecting the Green Belt: The site presents an opportunity to establish a direct link between the park and the surrounding green belt, reinforcing ecological continuity.
3. Green Corridors Along Roads: By integrating tree-lined ring roads and major streets, the park will connect seamlessly with Eilat's urban fabric, linking to landmark open spaces such as Sam Abdulrahman Park and other key parks in the city.
4. Future west Afforestation area: The project has the potential to extend to reach toward regional afforestation areas, ensuring long-term ecological resilience and continuity.

2 Public realm and open urban spaces link, to city amenity

City & Regional Scale

Axial Connection to the Citadel (City Center)

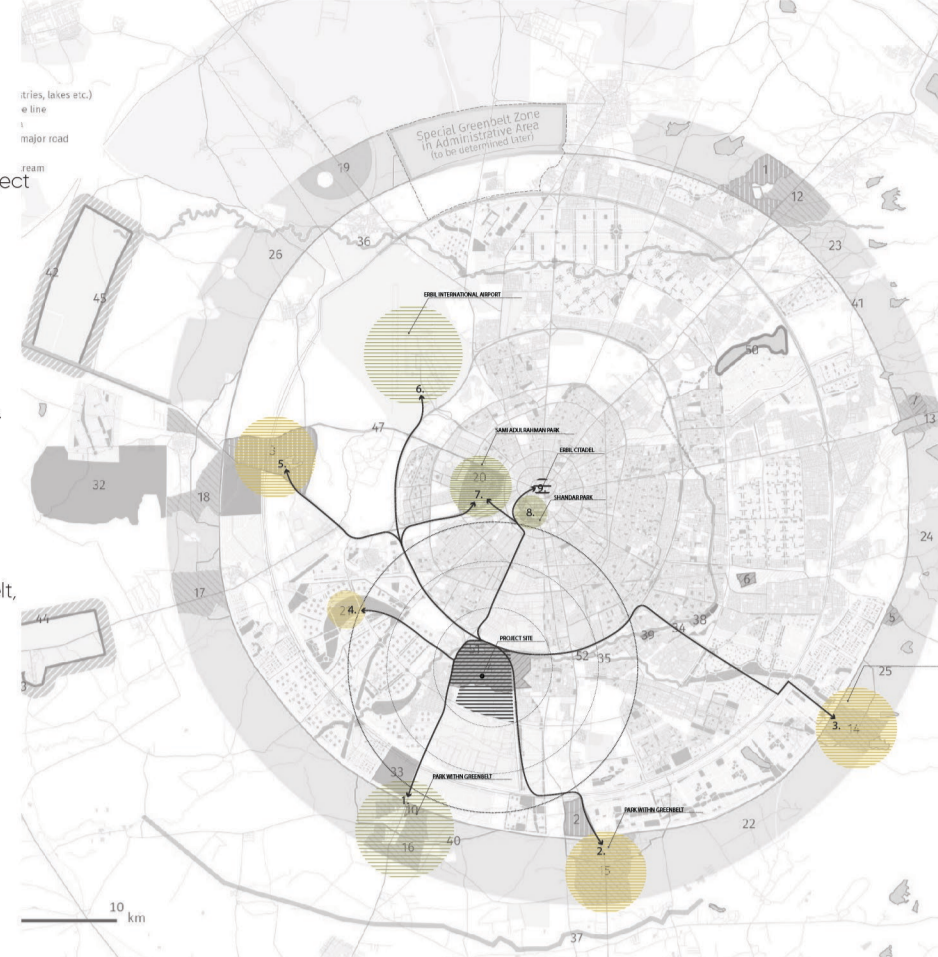
Highlight and strengthen the axial line from the project site to the Eilat Citadel, making it a symbolic and functional green-cultural corridor.
Integrate view corridors, pathways, and cultural programming along this axis.

Airport as a Gateway

Use the proximity to Eilat International Airport as an opportunity to create a "green gateway" for visitors.
Enhance connections with the airport through landscape boundaries, welcoming plazas, and wayfinding.

Greenbelt Anchoring

Link the project site directly with the outer Greenbelt, ensuring continuity of ecological and recreational networks.
Position the park as an urban node within the greenbelt.



3 Connections and road Hierarchy

Road Hierarchy and Connections

The project site is strategically located between the city center and the ring road, connected by secondary streets and intercity roads.
This suggests the site should function as a connector or transition zone between inner urban areas and outer expansions.

1. Accessibility & Nodes

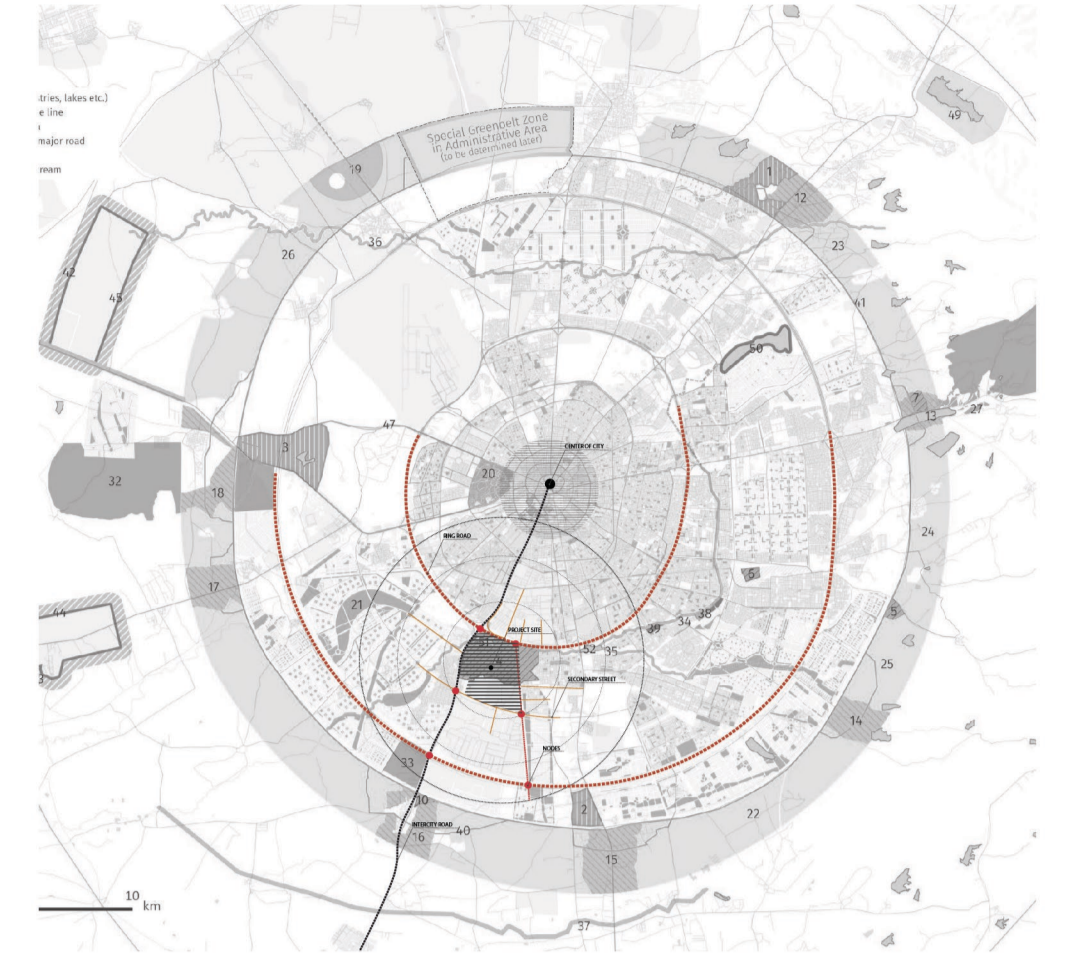
The presence of multiple nodes and interconnections nearby strengthens the site as a potential hub for cultural, commercial, or ecological activities.
Strategies can focus on reinforcing these nodes as entry points and gateways.

2. Green & Ecological Integration

The proximity to designated greenbelt and open areas highlights the potential for ecological corridors.
The site can serve as a bridge between urban density and natural landscapes, embedding sustainability in design.
Urban Hierarchy & Center

4. The concentric city structure emphasizes the city center as the focal point.

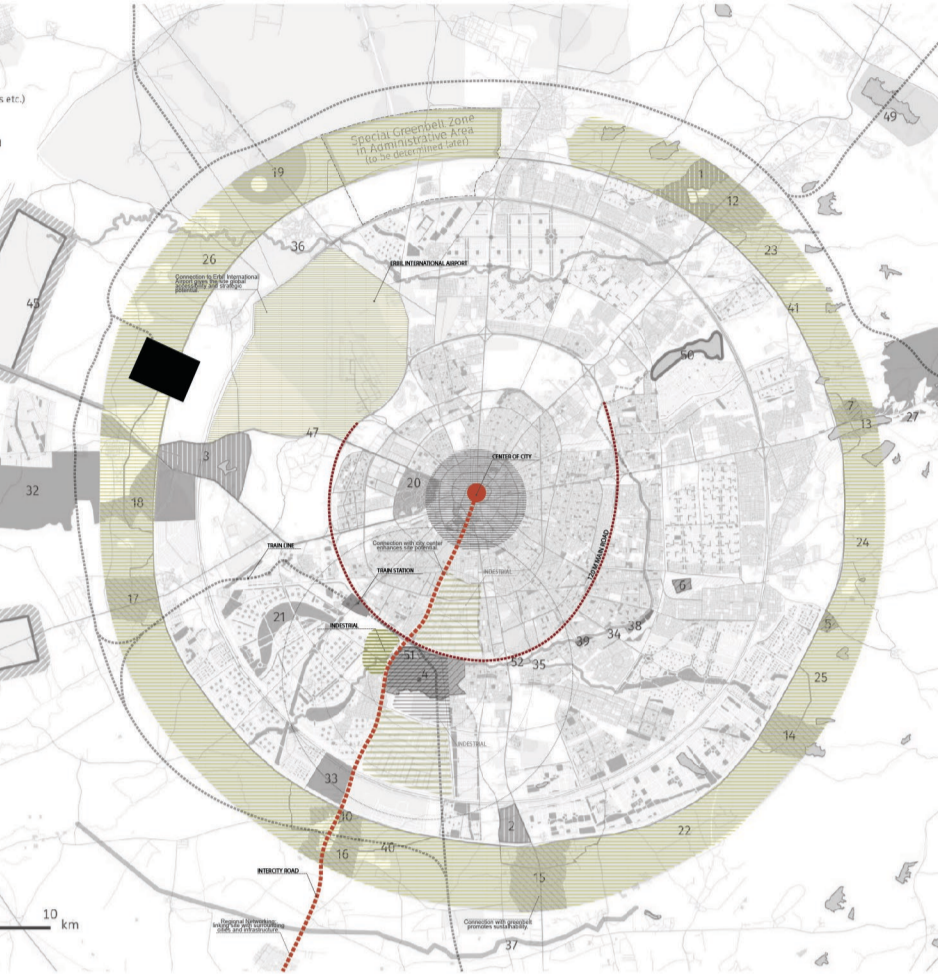
The project should respect this hierarchy by complementing rather than competing with the core - positioning itself as a supportive anchor in the urban system.



4 Opportunities

Opportunities Shaping the Design:

1. Civic Gateway: The main entrance is placed on Makhmour Road, framing a strong connection between Eilat city and the Regina link.
2. Arrival by Train: The train station becomes a defining element, transforming arrival into an experience and ensuring direct access for large events and city-wide gatherings.
3. Future Growth: The western industrial area is envisioned as a flexible extension, allowing the park to evolve and adapt over time.
4. Neighborhood Thresholds: Secondary entrances respond to everyday movements, connecting seamlessly with adjacent communities and pedestrian axes.
5. Global Connectivity: The 120m ring road is reimagined as a connector to the airport, highlighting the park's role not only locally but also as part of a larger regional and international network.



5 Threatens and Constraints

The core of the analysis is the wind direction (marked prominently), which is a critical factor for the site.

The wind appears to blow consistently from the northeast towards the southeast. This is highly significant because two major industrial areas (represented by the green spots) are located precisely upwind (to the northwest) of the project site.

This patterning creates a primary environmental challenge: air pollution and bad odors from these industrial zones are carried directly by the wind across the entire project site.

Further compounding the site's problems are several ground-level issues:

Contaminated Soil: A large area to the north/northeast of the site is highlighted in red, indicating known soil contamination. As this is also upwind, dust and particulate matter from this area could be blown onto the site.

Greenway Pollution: The existing greenways and paths through or near the site are also burdened at conduits for bad odors, trash, and sewage water from neighboring residential areas.

Future Infrastructure Pressure: A planned railway is shown to path along the upper (slightly northern) boundary of the park site, which will introduce future concerns of noise, vibration, and visual intrusion.



6 Strategies for Opportunities

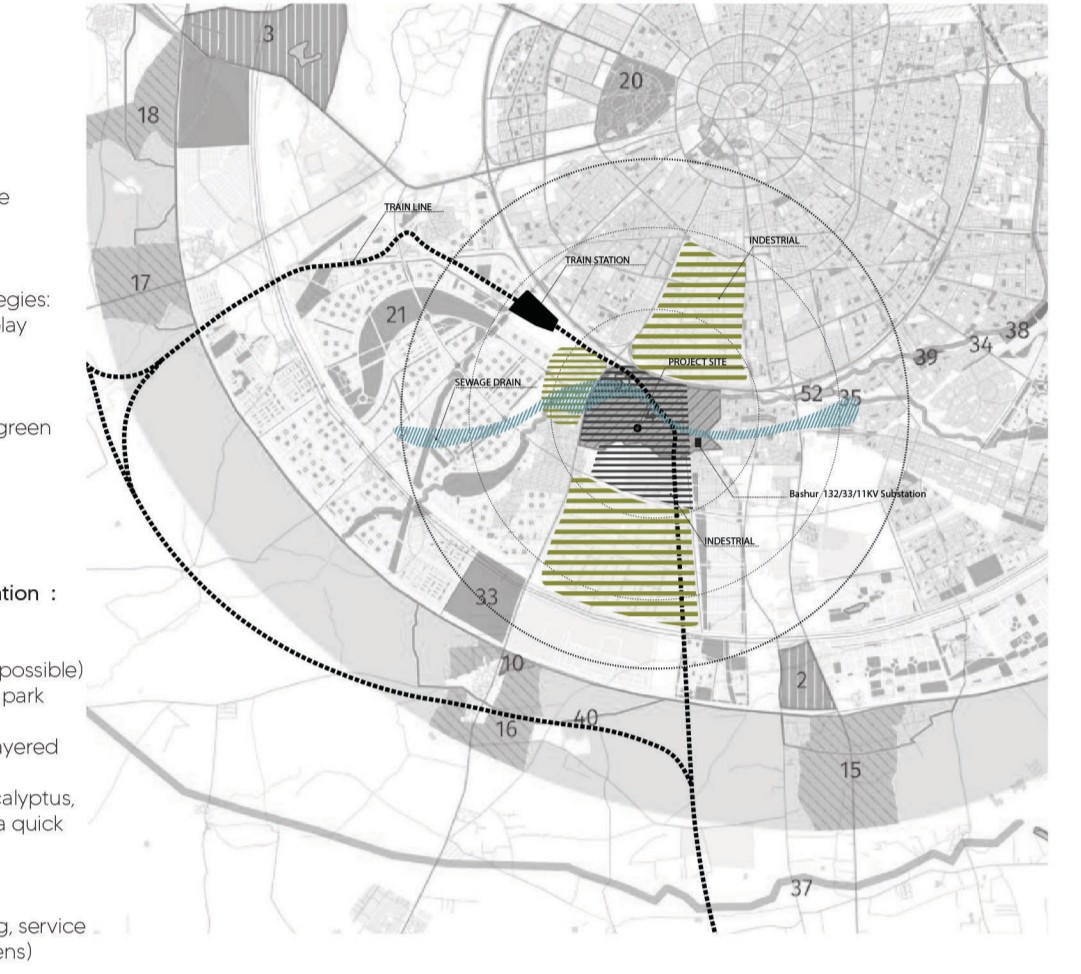
Strategies as a reaction of the site analysis:

1. Screening buffer zones as a forest to isolate industrial, bad smells, noise, and enhance comfort.
2. Contaminate soil spots often combine strategies: excavation in high-risk zones (like children's play areas), capping for general areas, and phytoremediation in buffer zones.
3. Treatment of the Gray water of a southern green way and bad odor and smells make it a lake.
4. Raising the railways when it needed

Regarding the Bahar 132/33/11KV Substation:

1. Buffer Zone & Layering
Create a green buffer belt (30-50m wide if possible) between the electrical station and the main park program.
Use dense evergreen planting (tall trees - layered shrubs) to act as a visual and noise screen.
Consider fast-growing trees like poplar, eucalyptus, pine, or local drought-resistant species for a quick green curtain.

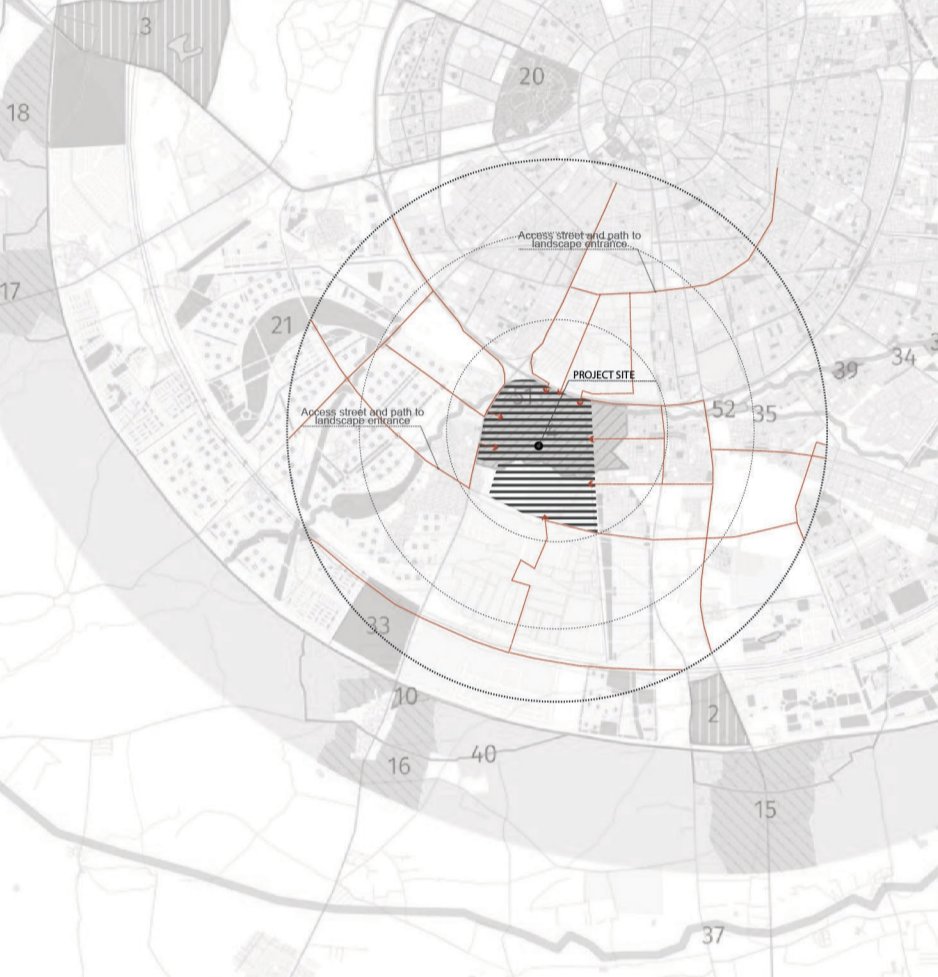
2. Zoning & Program Distribution
Place low-use, transitional functions (parking, service yards, maintenance areas, community gardens) adjacent to the electrical station side.
Shift high-value programs (playgrounds, sports fields, cultural plazas, quiet gardens) away from the station toward the opposite edges of the park.



7 Entrances and Accessibility

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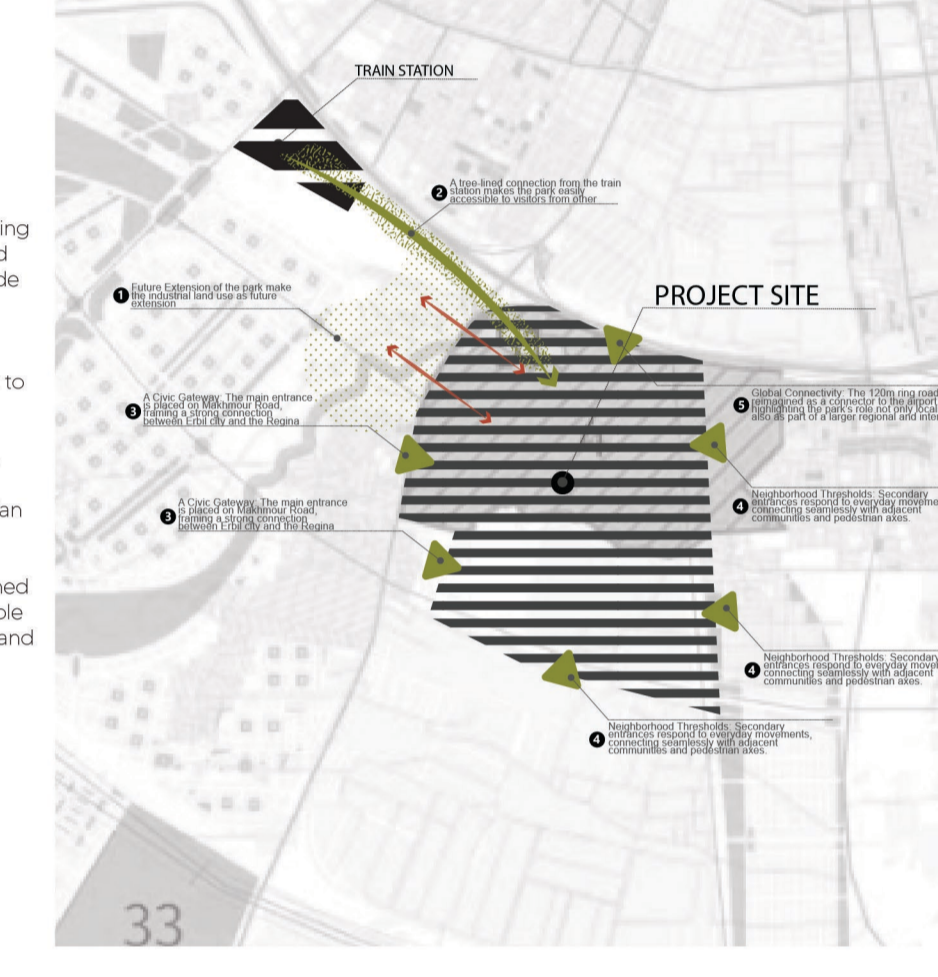
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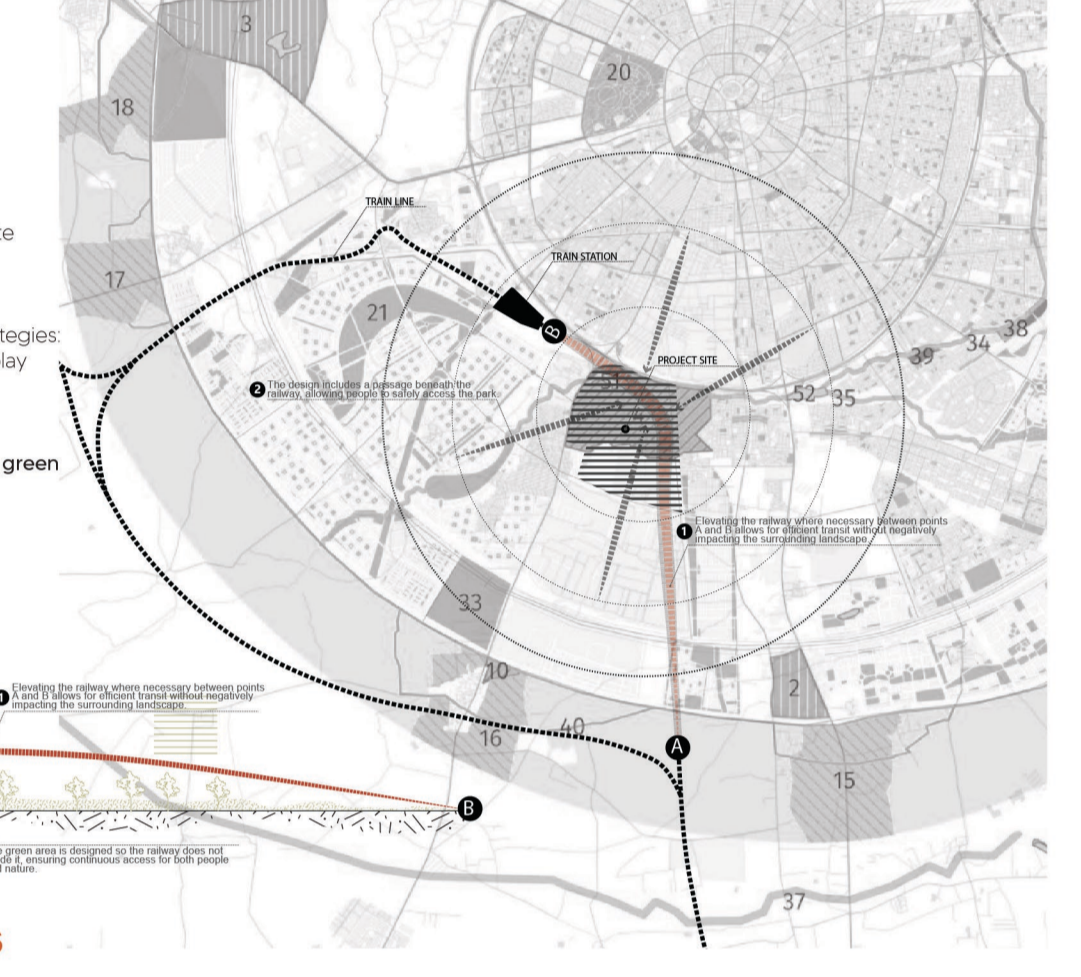
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10 Land use

Design strategies for the Land use map:

1. The park will be a huge green element to serve the residential neighborhood attached to the heart of the project.
2. Designating Conservation zone to the heart of the project: areas from noise and providing a special accessibility to these spaces, such as: Endangered plantations zone, ethnobotanical garden, medical, etc.
3. Most of the park's edges will be designated as green forested buffer zones, with groups of trees and densification. These will create a natural boundary that provides privacy from adjacent residential areas while shielding and enhancing the park's ongoing activities.
4. Main entrances will be a reflect of the flow of people from 120 m ring road, Makhmour road and the other side of the park.



11 Noise Map

Design strategies for the Noise map:

Forest Belts / Green Screens at both sides of the Industrial areas:
Dense tree planting with mixed-height vegetation (shrubs + trees) creates a natural acoustic barrier.
Works both as sound absorption and as a visual softening element.
In your case, the forest line at the industrial side is well-placed.

Buffer Zoning of Activities
Place active/quiet functions (playgrounds, sports fields, amphitheaters) near the noise edges.
Reserve quiet functions (camping areas, Eco lodges, recreational quiet zones, picnic lawns) deeper inside away from the noise sources.

Topography Manipulation
A mountain trail activity can be designated along one of the edges as a design element in response to the site condition.



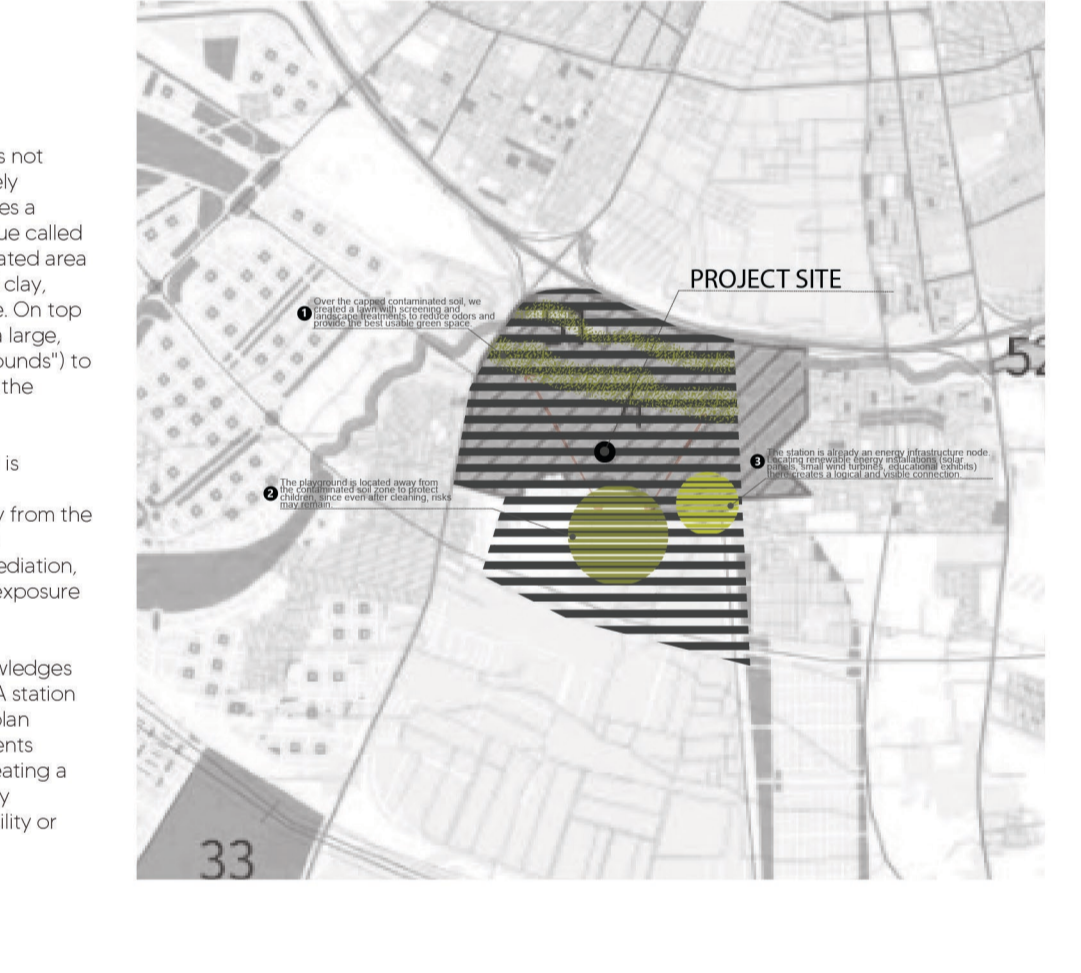
12 Design Strategies

Design strategies:

Capping Contaminated Soil: The design does not remove the historically contaminated soil (likely identified in a previous analysis). Instead, it uses a standard environmental remediation technique called "capping." This involves sealing the contaminated area with a protective barrier layer (often made of clay, geotextiles, or clean soil) to prevent exposure. On top of this safe cap, the designers have created a large, open, grassy mound ("maximum accepted mound") to provide valuable and usable green space for the community.

Prioritizing Safety: A key safety consideration is highlighted: the placement of the children's playground. It is intentionally located far away from the zones of capped contamination. This cautious approach acknowledges that even after remediation, it's prudent to minimize potential long-term exposure for the most vulnerable users.

Integrating Infrastructure: The design acknowledges and incorporates existing site infrastructure. A station is already identified as an energy node. The plan seems to leverage this by locating new elements (possibly a building or plaza) to the north, creating a logical and visible connection to these energy installations, suggesting a theme of sustainability or industrial heritage.



12 Green Belt Forest & Buffer Strategy

Green Belt Forest & Buffer Strategy

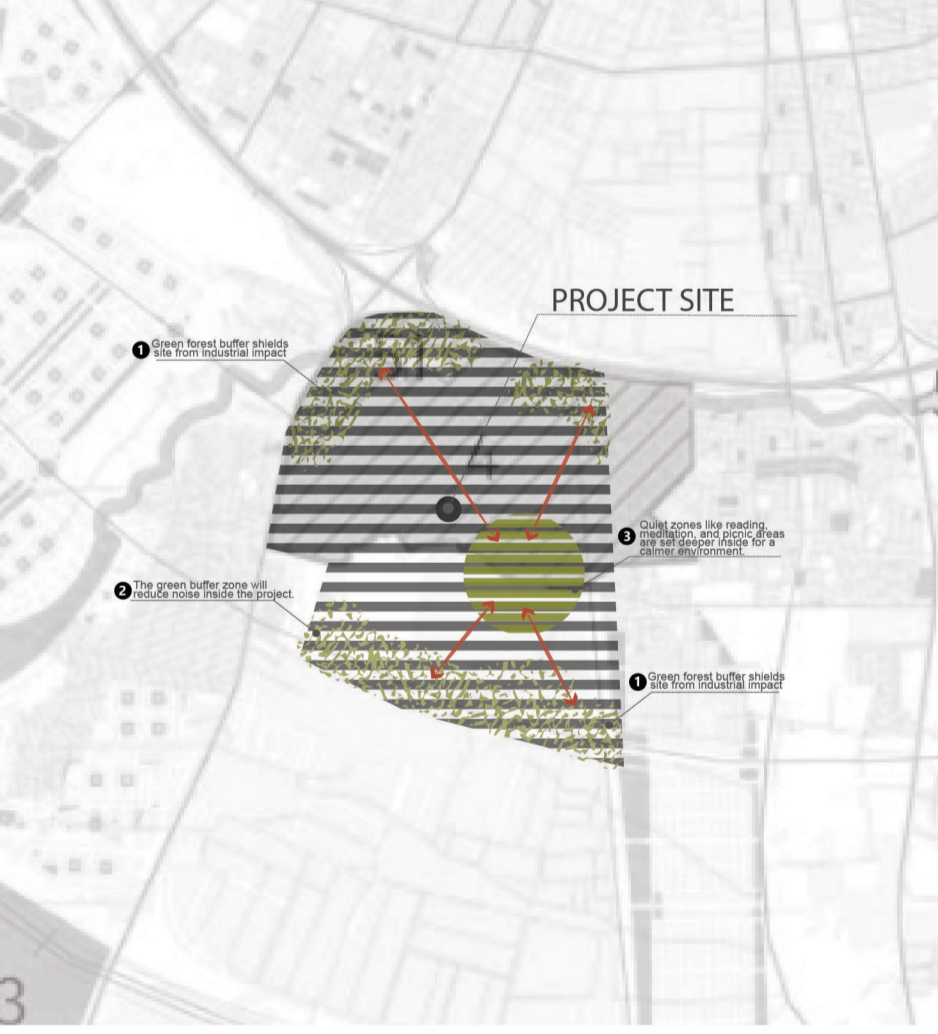
The design establishes a continuous green belt forest surrounding the entire project site.
This strategy serves multiple ecological and urban functions.

Buffer from Industrial Areas
The site is bordered by several industrial zones that generate noise, air pollution, and visual disturbance.
The forest belt acts as a natural shield, filtering dust and pollutants while creating a calmer interior park environment.

Noise Reduction & Climate Regulation
Dense layers of native trees and shrubs form a living barrier, significantly reducing traffic and industrial noise.
The vegetation moderates the microclimate by providing shade, cooling, and wind protection.

Quiet Core Zones
Activities requiring silence, such as reading gardens, meditation areas, and cultural nodes, are placed deeper inside, buffered by the surrounding forest for tranquility.

Green Network Connectivity
The belt is not only a protective layer but also a strategic connector to larger regional green corridors.
It ties the park into Eilat's wider ecological and urban green infrastructure, supporting biodiversity flows (birds, pollinators, small mammals) and enhancing resilience.



13 Topography & Surface Analysis of the Park Site

This analysis highlights the longitudinal and latitudinal differences across the project site, revealing how the natural topography becomes a strong element in the park's design strategy.

The three sections shown cut across the site in different directions, mapping the height variations and landform profiles.

Elevations range from lower depressions (-37-38m) to higher ridges (1-50-52m), demonstrating a diverse topographic character.

These variations suggest opportunities for playful surface design - using slopes, ridges, and valleys to create dynamic, tactile experiences.

The topography will guide water flow, vegetation distribution, and design, ensuring park feels both natural and ecological.

Rather than flattening, the design embraces the surface play, emphasizing "sloped into slopes, lakes in natural depressions, and walking trails that rise and dip with the land."

Main Strategy:
The park design will use the site's natural topographic play as its backbone, shaping circulation, planting zones, and activity placement around the terrain's natural rhythms. This approach highlights ecological authenticity while offering visitors a more immersive and varied landscape experience.



Master Plan / Functional Zoning Map

"Water as ecological spine + Genius Loci heritage + Citadel-inspired layering = sustainable future park."



Main master plan and Labeling

The Erbil Ecological Park is conceived as a living ecological and cultural infrastructure, shaping Erbil's future as a sustainable city. Anchored by a water spine of lakes, wetlands, and streams, the park creates biodiversity, cools the urban climate, and creates a resilient ecological network.

A dual circulation language defines the design: flowing natural pathways guide visitors through open lawns, hills, and woodlands, while a citadel-inspired alley system creates intimate courtyards and shaded cultural pockets.

The zoning balances ecological restoration (arboretum, native flora, wetlands) with cultural and heritage anchors (herbal market, heritage structures, ethnobotanical garden) and active recreation (swimming pool complex, amphitheater, sports grounds).

Industrial relics of the site are preserved as sculptural landmarks, reinforcing the Genius Loci and transforming the memory of place into an artful landscape.

The result is more than a park: it is a green lung, cultural canvas, and ecological engine for Erbil's 2050 vision.

A-Conservation Zones-Native Flora Garden

- 1 Medical & Aromatic Garden
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Connectivity / Mobility & Systems Map

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The zoning balances ecological restoration (arboretum, native flora, wetlands) with cultural and heritage anchors (herbal market, heritage structures, ethnobotanical garden) and active recreation (swimming pool complex, amphitheater, sports grounds).

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Narrative Framework & Ecological Strategies

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1 Main Concept of the Project

Main Concept - Erbil Ecological Park

The Erbil Ecological Park is envisioned as a resilient ecological and cultural landscape, designed to respond to the climate challenges of today while celebrating the unique identity and memory of place. Anchored in the Erbil Master Plan 2050 vision for a sustainable city, the park emerges as both an ecological repair strategy and a civic landmark.

Primary Layer - Adaptive Ecological Flow

The main circulation system follows organic and adaptive patterns inspired by natural hydrology and topography. Lawns, forest belts, restored wetlands, and playful topographic interventions create a flowing, climate-responsive framework that enhances cooling, stormwater retention, and biodiversity habitat. This establishes the ecological backbone of the park.

Secondary Layer - Cultural Memory of the City

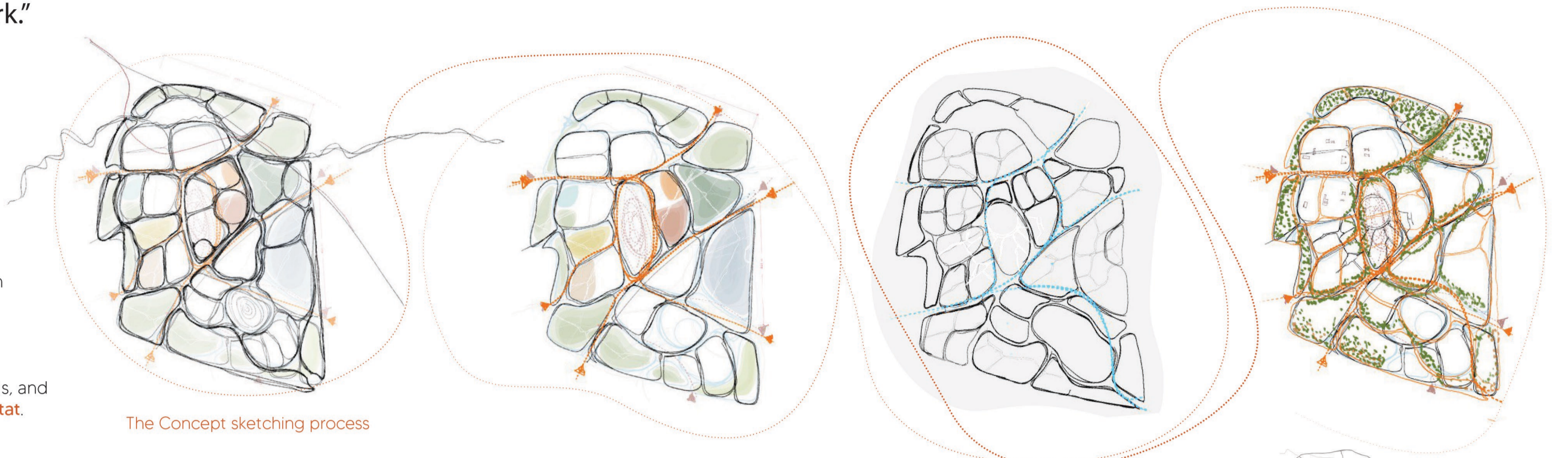
At a finer scale, narrow alleyways inspired by the urban grain of the Erbil Citadel weave through the park's zones, generating shaded pathways, human-scaled courtyards, and intimate cultural gardens. This secondary network layers history onto the ecological framework, allowing visitors to experience the park as a living extension of Erbil's heritage.

Genius Loci - Industrial Heritage Reimagined

A distinctive feature of the design is the integration of existing crushed stone machines and industrial remnants from the site. Instead of erasing this history, these structures are transformed into sculptural landmarks, ecological follies, and art canvases. Covered with climbing vegetation and embedded within lawns and groves, they become powerful symbols of cultural memory and transformation-bridging the industrial past with the ecological future.

Vision

The Erbil Ecological Park is not a neutral green space but a place of identity, resilience, and memory. It embodies the idea that contemporary landscape architecture must not only restore ecosystems but also embrace cultural narratives and the spirit of place (Genius Loci). Through this approach, the park becomes Erbil's living laboratory of sustainability, where ecology, heritage, and contemporary life converge.

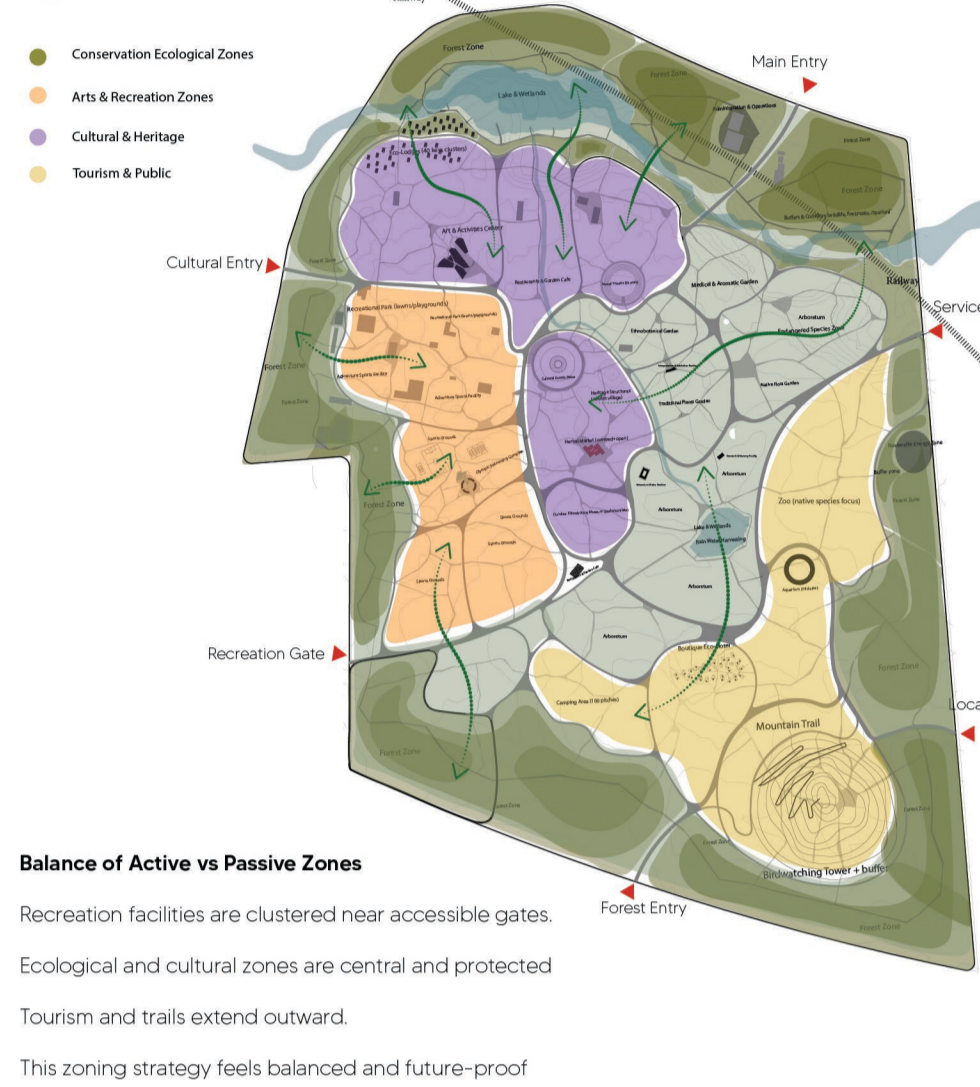


The Concept sketching process



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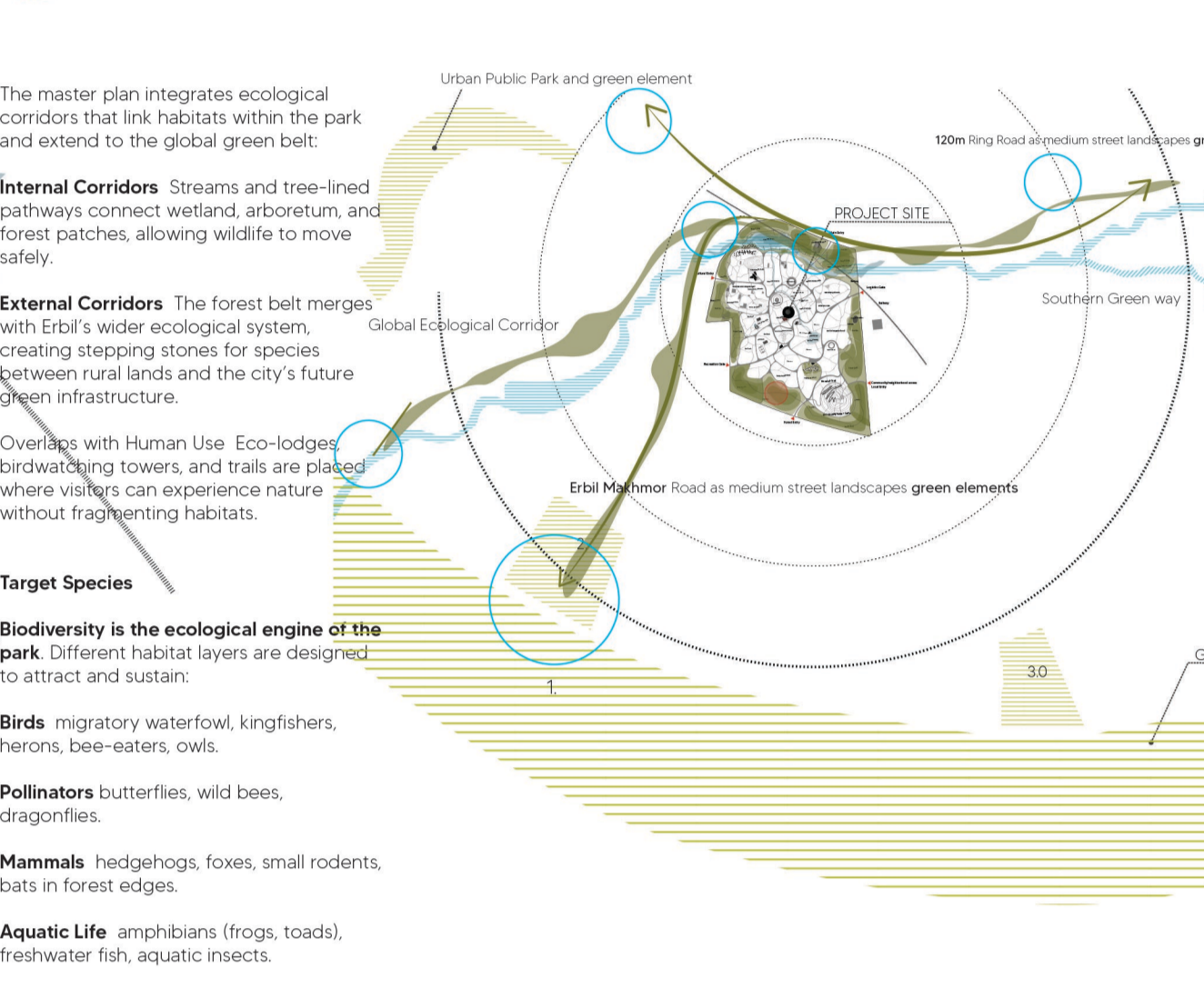
2 Main Zoning scheme



Balance of Active vs Passive Zones

Recreation facilities are clustered near accessible gates. Ecological and cultural zones are central and protected. Tourism and trails extend outward. This zoning strategy feels balanced and future-proof.

3 Internal and External Ecological Corridor to the Global green Network

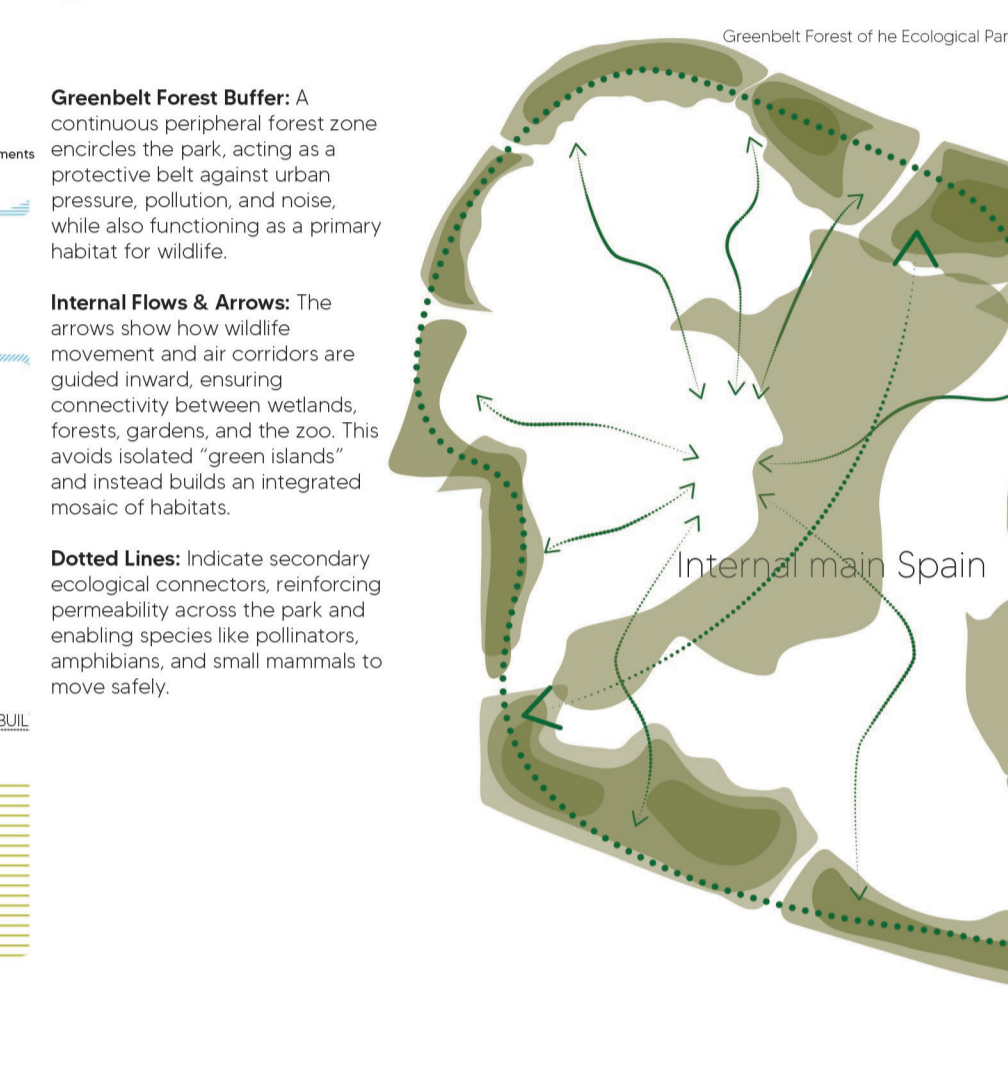


Biodiversity is the ecological engine of the park

Culture-friendly habitats are designed to attract and sustain:

- Birds:** migratory waterfowl, Kingfishers, herons, bee-eaters, owls, dragonflies.
- Pollinators:** butterflies, wild bees, dragonflies.
- Mammals:** hedgehogs, foxes, small rodents, bats in forest edges.
- Aquatic Life:** amphibians (frogs, toads), freshwater fish, aquatic insects.

4 Internal Ecological Corridors



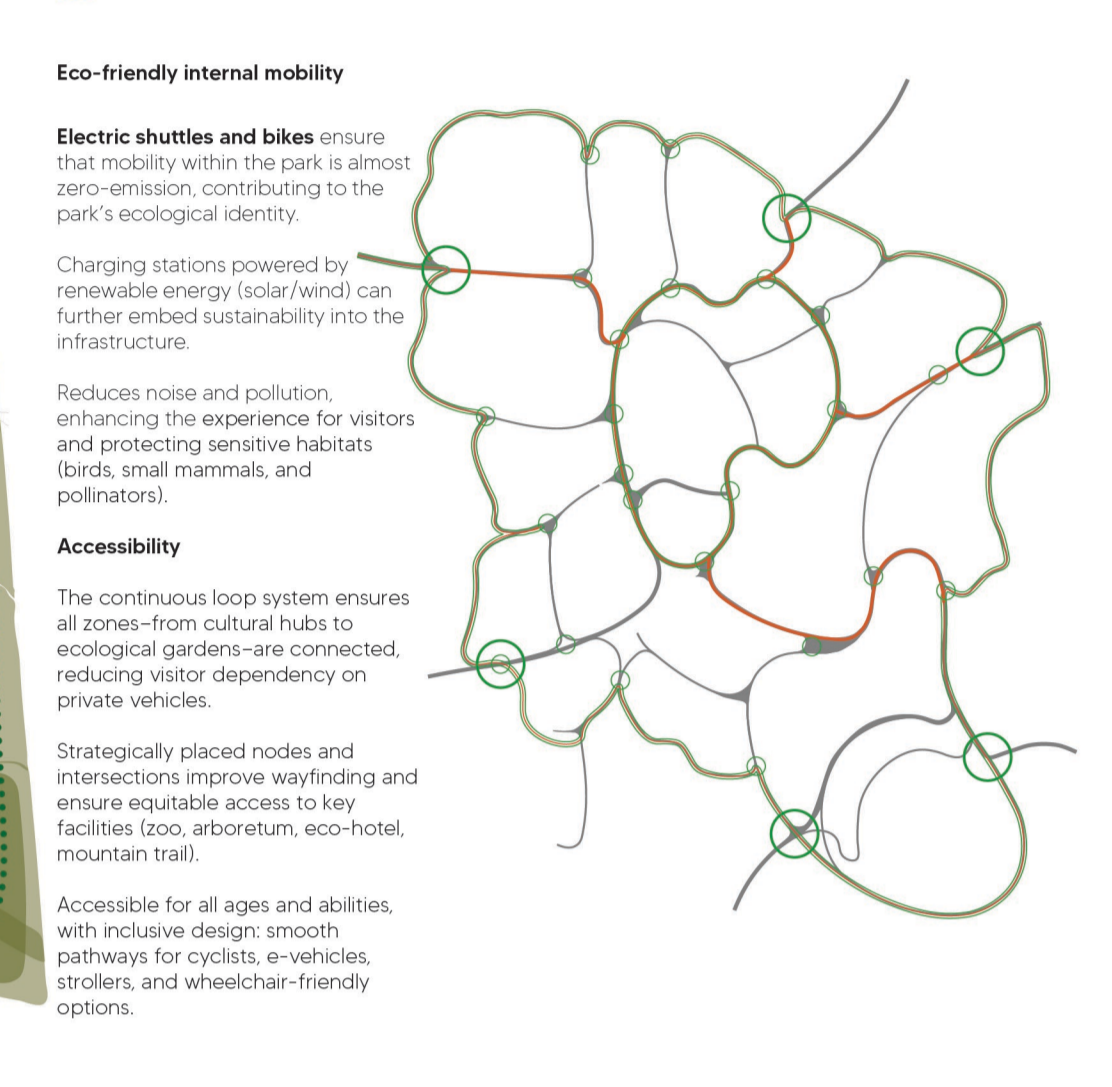
Greenbelt Forest Buffer

A continuous peripheral forest zone encircles the park, acting as a protective belt against urban pressure, pollution, and noise, while also functioning as a primary habitat for wildlife.

Internal Flows & Arrows: The arrows show how wildlife movements and air corridors are guided inward, ensuring connectivity between wetlands, forests, gardens, and the zoo. This avoids isolated 'green islands' and instead builds an integrated mosaic of habitats.

Dotted Lines: Indicate secondary ecological connectors, reinforcing permeability across the park and enabling species like pollinators, amphibians, and small mammals to move safely.

5 Loop Cycling Road system and Electric Transport



Eco-friendly internal mobility

Electric shuttles and bikes ensure that mobility within the park is almost zero-emission, contributing to the park's ecological identity.

Charging stations powered by renewable energy (solar/wind) can further embed sustainability into the infrastructure.

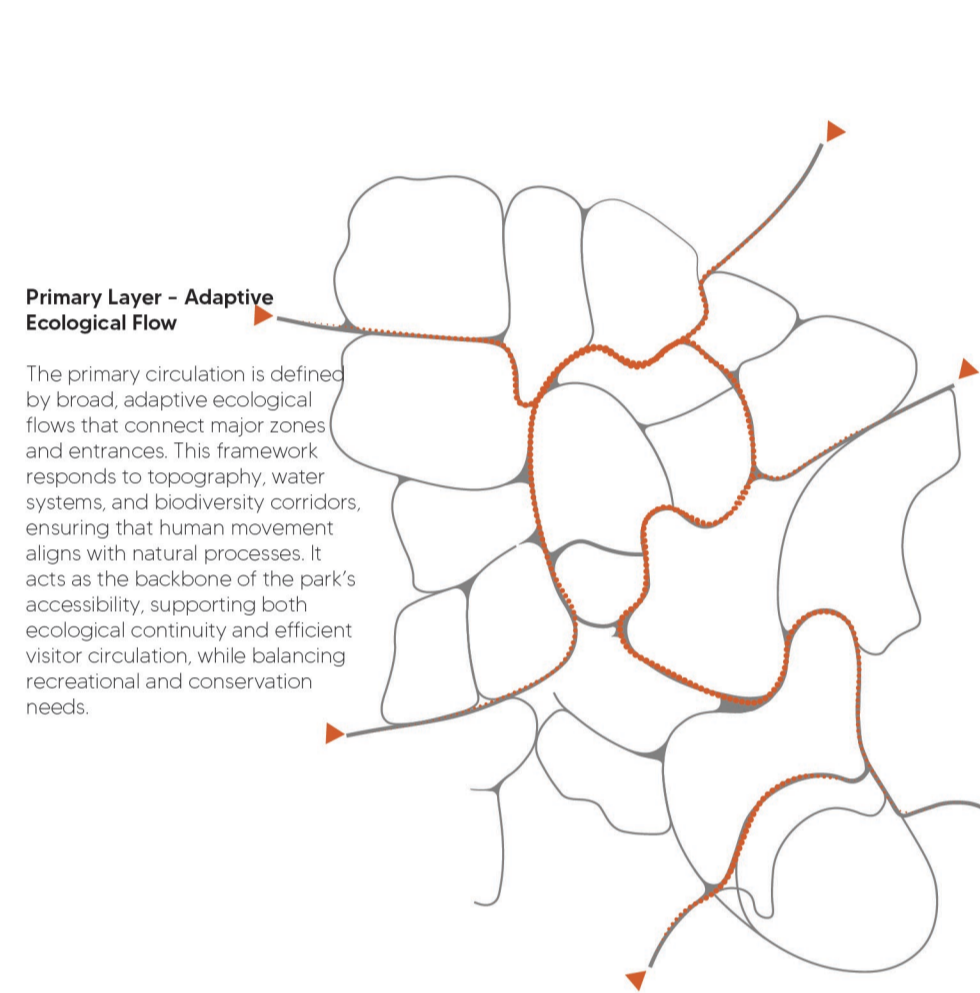
Reduces noise and pollution, enhancing the experience for visitors and protecting sensitive habitats (birds, small mammals, and pollinators).

Accessibility: The continuous loop system ensures all zones from cultural hubs to ecological gardens are connected, reducing water dependency on private vehicles.

Strategically placed nodes and intersections improve wayfinding and ensure equitable access to key facilities (zoo, arboretum, eco-hotel, mountain trail).

Accessible for all ages and abilities, with inclusive design, smooth pathways for strollers, wheelchairs, scooters, and wheelchair-friendly options.

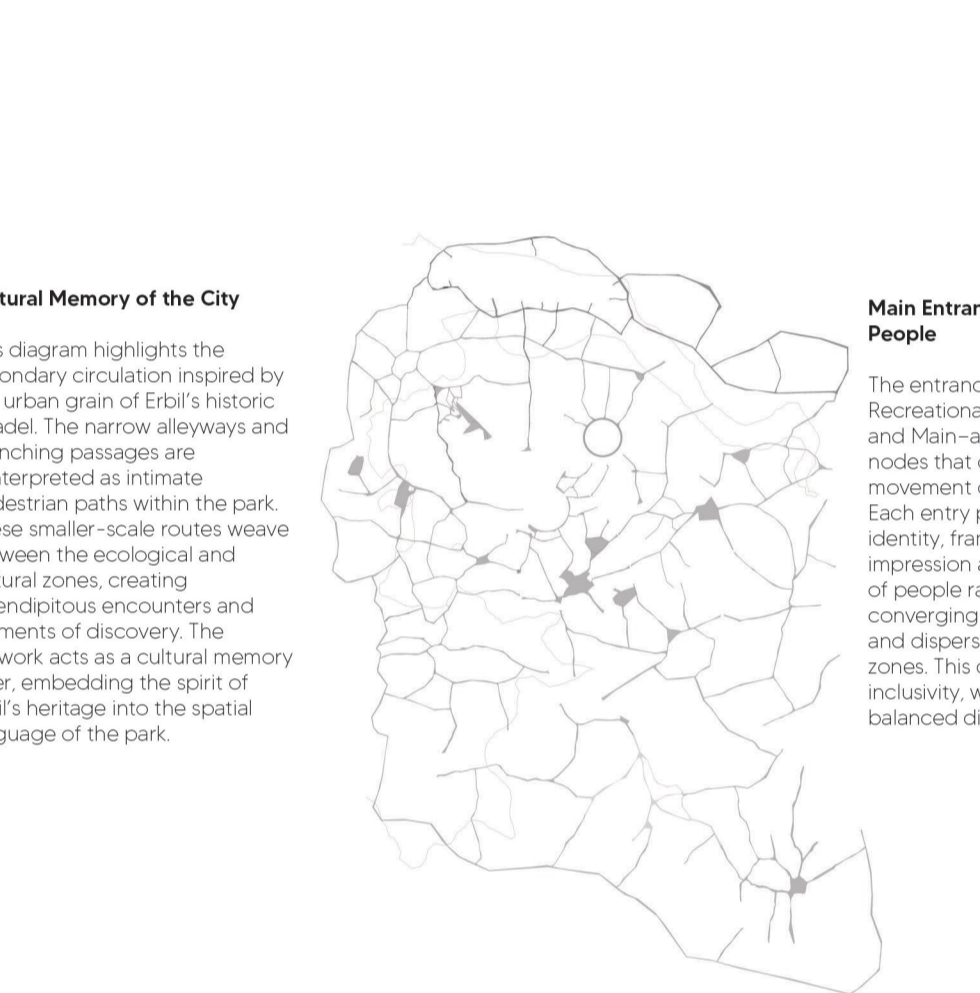
6 Primary Layer - Adaptive Ecological Flow



Primary Layer - Adaptive Ecological Flow

The primary circulation is defined by broad, adaptive ecological flows that connect major zones and entrances. This framework responds to topography, water systems, and biodiversity corridors, ensuring that human movement aligns with natural processes. It acts as the backbone of the park's accessibility, supporting both ecological continuity and efficient visitor circulation, while balancing recreational and conservation needs.

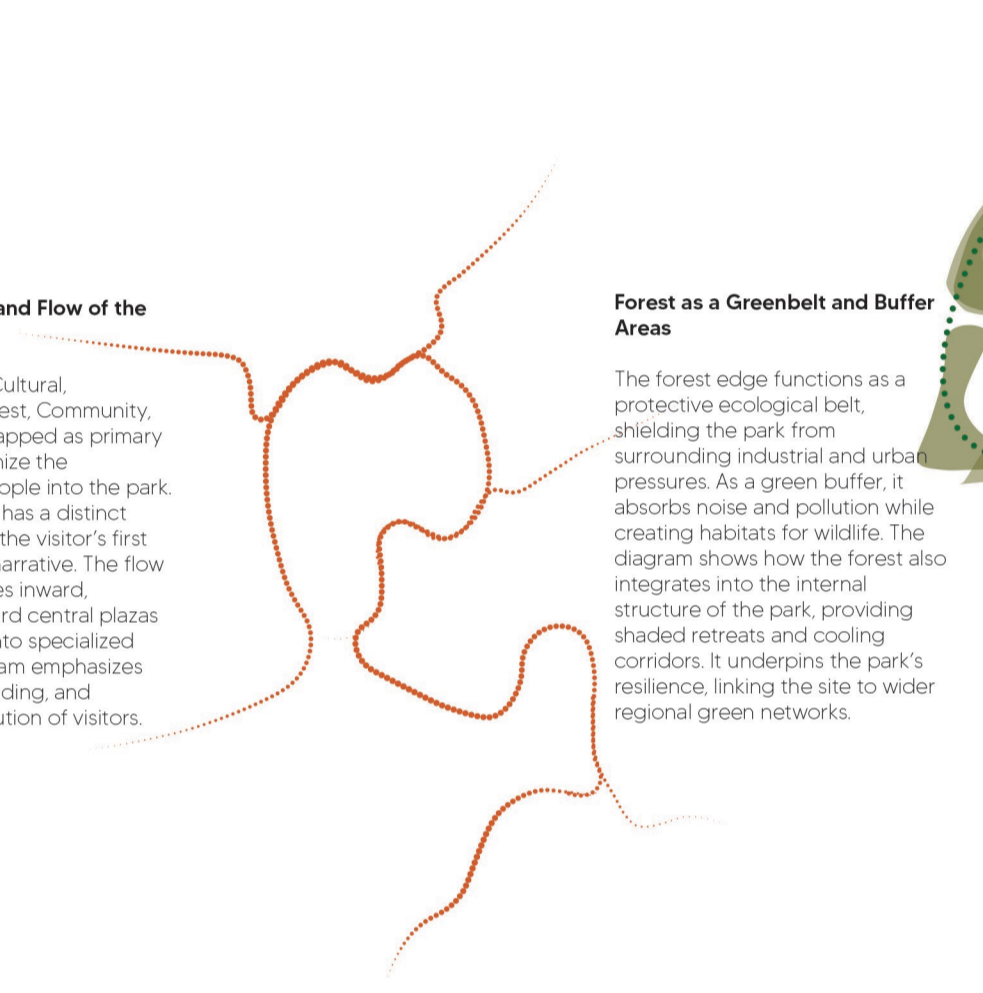
7 Cultural Memory of the City



Cultural Memory of the City

This diagram highlights the secondary circulation inspired by the urban grain of Erbil's Citadel. The narrow alleyways and branching passages are reimagined as intimate pedestrian paths within the park. These smaller-scale routes weave between the ecological and cultural zones, creating serendipitous encounters and moments of discovery. The network acts as a cultural memory layer, embedding the spirit of Erbil's heritage into the spatial language of the park.

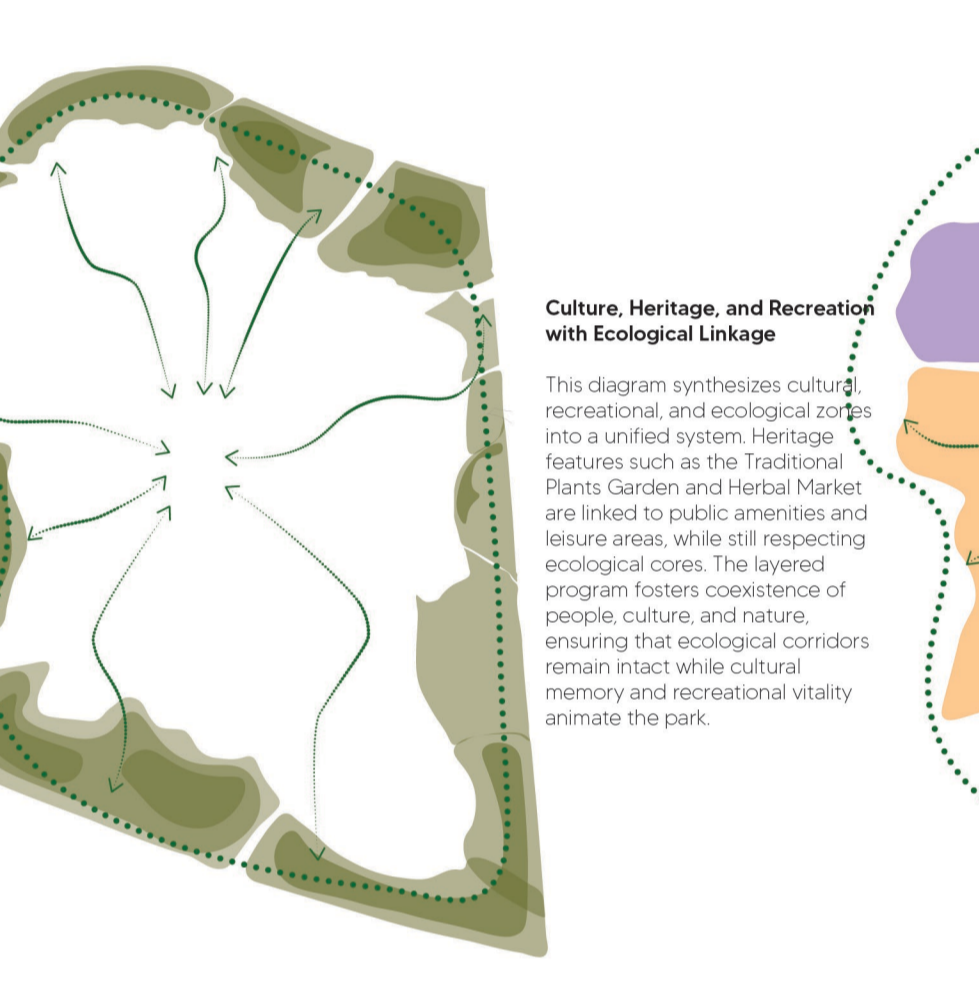
8 Main Entrances and Flow of the People



Main Entrances and Flow of the People

The entrances-Cultural, Recreational, Forest, Community, and Main-are mapped as primary nodes that organize the movement of people into the park. Each entry point has a distinct identity, framing the visitor's first impression and narrative. The flow of people radiates inward, converging toward central plazas and dispersing into specialized zones. This diagram emphasizes inclusivity, wayfinding, and a balanced distribution of visitors.

9 Forest as a Greenbelt and Buffer Areas



Forest as a Greenbelt and Buffer Areas

The forest functions as a protective ecological belt, shielding the park from surrounding industrial and urban pressures. As a green buffer, it absorbs noise and pollution while creating habitats for wildlife. The diagram shows how the forest also integrates into the internal structure of the park, providing shaded retreats and cooling corridors. It underpins the park's resilience, linking the site to wider regional green networks.

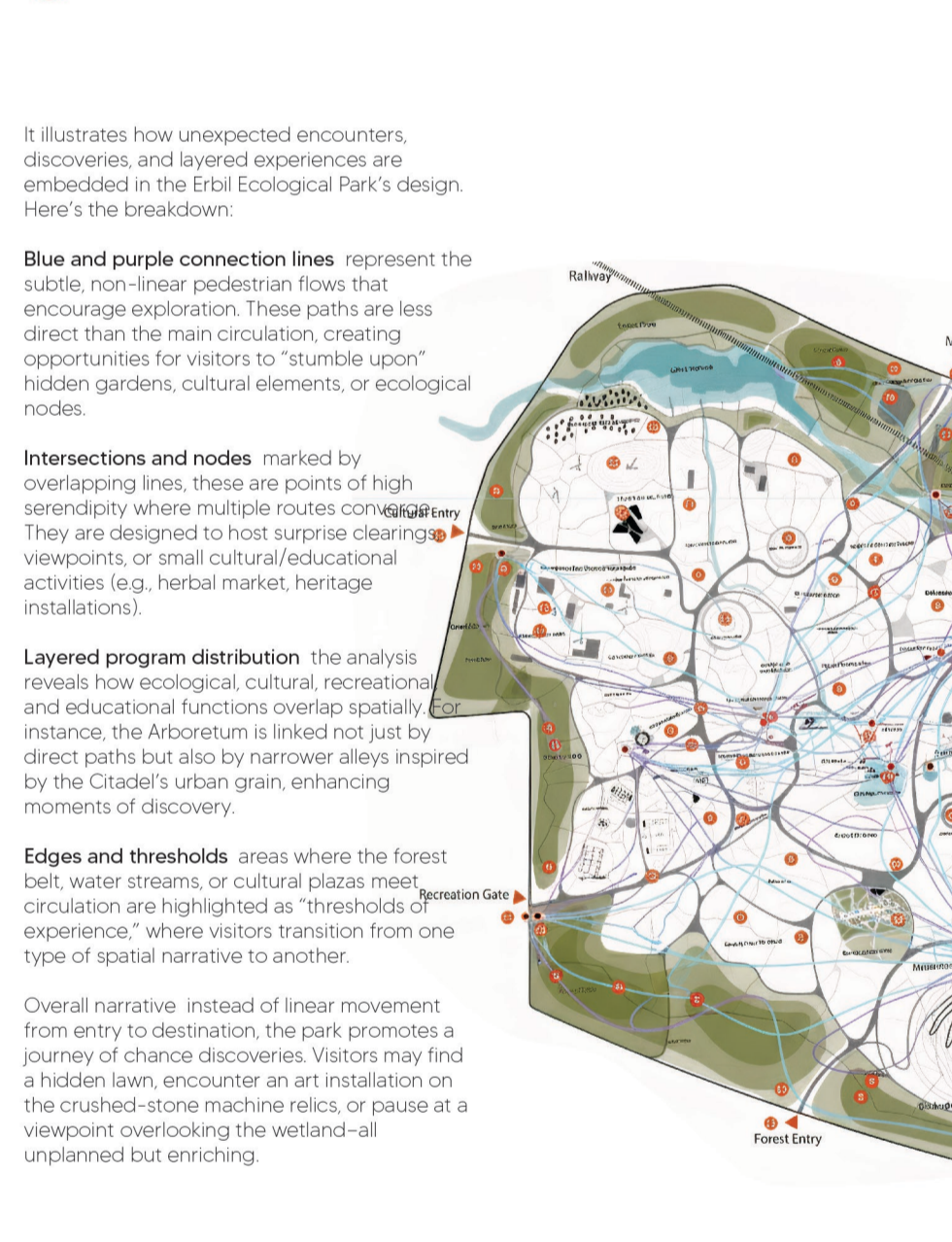
10 Culture, Heritage, and Recreation with Ecological Linkage



Culture, Heritage, and Recreation with Ecological Linkage

This diagram synthesizes cultural, recreational, and ecological zones into a unified system. Heritage features such as the Traditional Parks Garden and Herbal Market are linked to public amenities and leisure areas, while still respecting ecological cores. The layered program fosters coexistence of people, culture, and nature, ensuring that ecological corridors remain intact while cultural memory and recreational vitality animate the park.

11 Serendipity Space Analysis



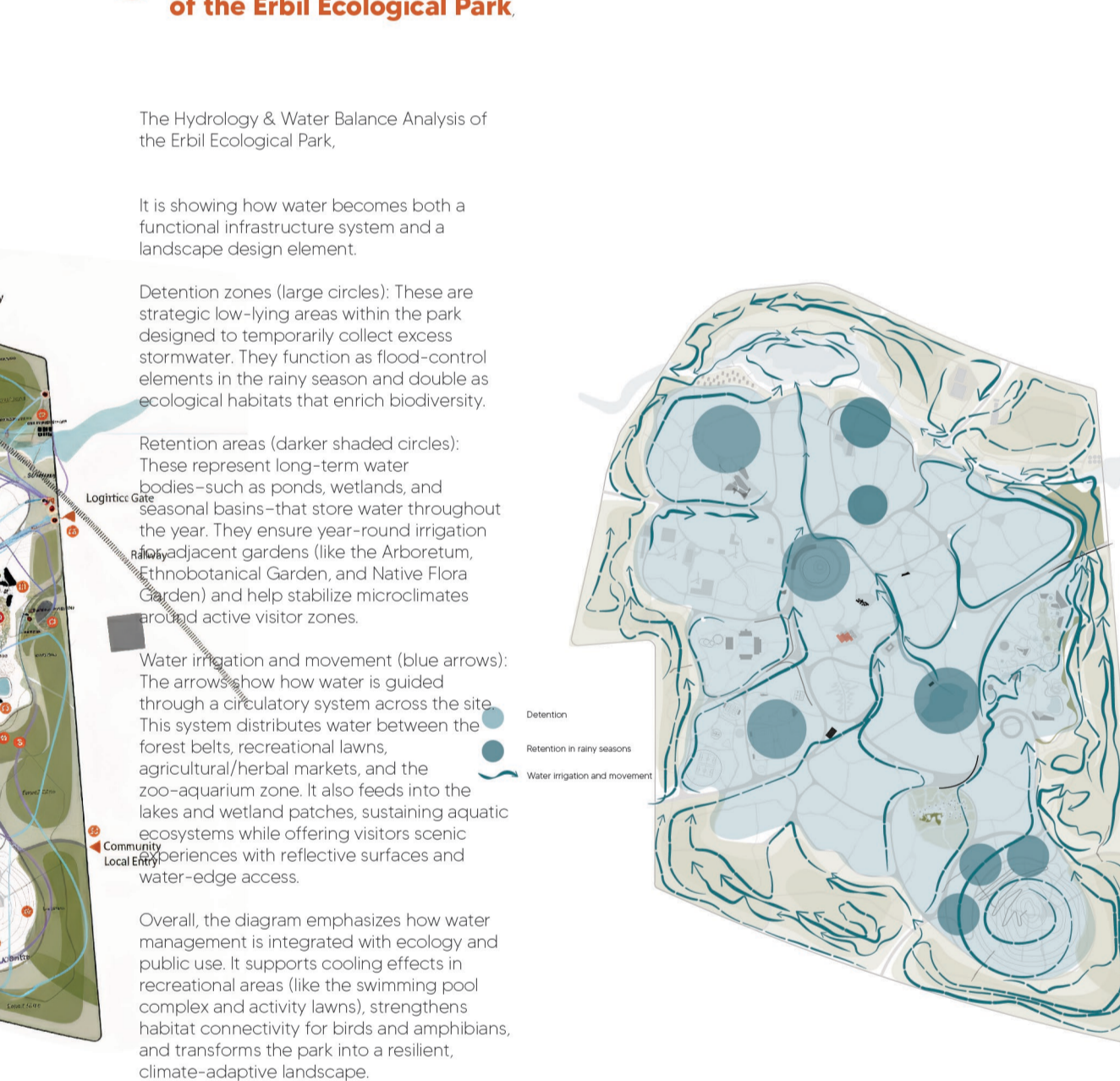
Serendipity Space Analysis

It illustrates how unexpected encounters, discoveries, and layered experiences are embedded in the Erbil Ecological Park's design. Here's the breakdown:

- Blue and purple connection lines:** represent the subtle, non-linear pedestrian flows that encourage exploration. These paths are less direct than the main circulation, creating opportunities for visitors to "stumble upon" hidden gardens, cultural elements, or ecological nodes.
- Interactions and nodes:** marked by overlapping lines, these are points of high serendipity where multiple routes converge. They are designed to host surprise encounters, pop-ups, or small cultural/educational activities (e.g., herbal market, heritage installations).
- Layered program distribution:** the analysis reveals how ecological, cultural, recreational, and educational functions overlap spatially. For instance, the Arboretum is linked not just by direct paths but also by narrower alleys inspired by the Citadel's urban grain, enhancing moments of discovery.
- Edges and thresholds:** areas where the forest belt, water streams, or cultural plazas meet circulation are highlighted as "thresholds of experience," where visitors transition from one type of space narrative to another.

Overall narrative: Instead of linear movement from entry to destination, the park promotes a journey of chance discoveries. Visitors may find a hidden lawn, encounter an art installation on the crushed-stone machine relics, or pause at a viewpoint overlooking the wetland-all unplanned but enriching.

12 The Hydrology & Water Balance Analysis of the Erbil Ecological Park



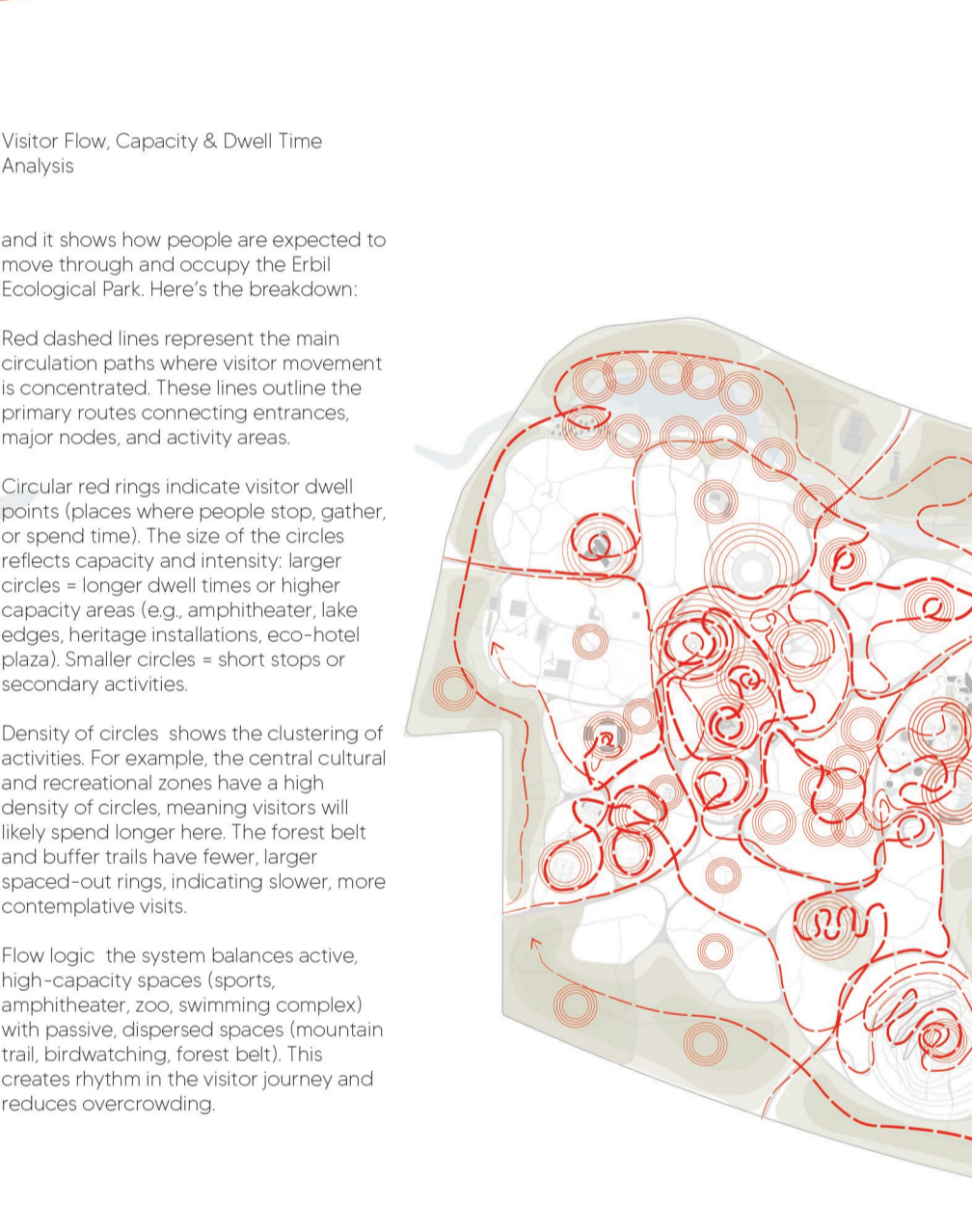
The Hydrology & Water Balance Analysis of the Erbil Ecological Park

It is showing how water becomes both a functional infrastructure system and a landscape design element.

- Water inflow:** how water is guided through a circulatory system across the site.
- Retention zones (large circles):** These are strategic low-lying areas within the park designed to collect excess stormwater. They function as flood-control basins in the rainy season and double as ecological habitats that enrich biodiversity.
- Retention areas (darker shaded circles):** These represent long-term water storage such as ponds, wetlands, and seasonal basins that store water throughout the year. They ensure year-round irrigation for agricultural gardens like the Arboretum, Ethnobotanical Garden, and Native Flora Garden and help stabilize microclimates, creating active visitor zones.
- Water infiltration and movement (blue arrows):** The diagram shows how water is guided through a circulatory system across the site.

Overall, the diagram emphasizes how water management, integrated with ecology and public use, it supports cooling effects in recreational areas like the swimming pool complex and activity lawn, strengthens habitat connectivity for birds and amphibians, and transforms the park into a resilient, climate-adaptive landscape.

13 Visitor Flow, Capacity & Dwell Time Analysis



Visitor Flow, Capacity & Dwell Time Analysis

and it shows how people are expected to move through and occupy the Erbil Ecological Park. Here's the breakdown:

- Red dashed lines:** represent the main circulation paths where visitor movement is concentrated. These lines outline the primary routes connecting entrances, major nodes, and activity areas.
- Circular red rings:** indicate visitor dwell points (places where people stop, gather, or spend time). The size of the circles reflects capacity and intensity: larger circles = longer dwell times or higher capacity areas (e.g., amphitheater, lake edges, heritage installations, eco hotel plaza). Smaller circles = short stops or secondary activities.
- Density of circles:** shows the clustering of activities. For example, the central cultural and recreational zones have a high density of circles, meaning visitors will likely spend longer here. The forest belt and buffer trails have fewer, larger spaced-out rings, indicating slower, more contemplative visits.
- Flow logic:** the system balances active, high-capacity spaces (zoo, swimming complex) with passive, dispersed spaces (mountain trail, birdwatching forest belt). This creates rhythm in the visitor journey and reduces overcrowding.

14 Active and Passive Spaces within Erbil Ecological Park



Active and Passive Spaces within Erbil Ecological Park

Active Zones (red/orange): Spaces for dynamic use such as the amphitheater, sports grounds, swimming pool complex, art & activity center, zoo, and hospitality trails. These cluster in central and accessible areas to support visitor engagement.

Passive Zones (blue): Ecological and contemplative areas like the forest belt, arboretum, gardens, wetlands, and mountain trail. Located mainly along the periphery, they provide immersion in nature and serve as ecological corridors.

Transition Zones (yellow/orange): Flexible areas like walking trails, picnic lawns, and open clearings that bridge active and passive functions.

The park balances social vibrancy and ecological resilience, offering lively hubs alongside quiet restorative spaces, ensuring diverse user experiences while protecting natural systems.

15 Post-Performance of the Park Design

The Erbil Ecological Park emerges as a layered ecological and cultural framework where design strategies, hydrology, and heritage converge into a resilient system. At its core is the principle of "water as ecological spine," transforming stormwater into both infrastructure and landscape. Seasonal retention and retention zones act as flood-control basins in the rainy months and ecological habitats throughout the year, while irrigation channels and wetlands sustain biodiversity, cooling, and scenic reflective surfaces. Around this backbone, a continuous greenbelt forest buffer shields the park from urban and industrial pressure, absorbing pollution, reducing noise, and linking the site to Erbil's wider ecological corridors. Within this protective edge, zones are carefully layered: recreational hubs and sports complexes cluster near main entrances for accessibility; central gardens such as the Arboretum, Ethnobotanical Garden, and Native Flora Garden provide spaces of ecological education; and industrial relics are reimagined as sculptural follies, rooting the park in its Genius Loci. This design process ensures a balance between active, cultural, and passive zones, allowing the park to perform as both a civic landmark and a regenerative ecological system.

15 The circulation system embodies this multi-layered strategy

The circulation system embodies this multi-layered strategy. The primary ecological flow follows the logic of topography and hydrology, weaving broad, organic pathways that connect major nodes while doubling as biodiversity corridors. This is overlaid with the secondary cultural memory network, a finer grain of pedestrian alleys inspired by the Erbil Citadel. These shaded walkways, courtyards, and branching passages guide visitors through gardens, wetlands, and cultural nodes, creating serendipitous encounters and thresholds of experience. Supporting maps and diagrams reinforce the park's logic: hydrology analysis traces retention basins, water movement, and irrigation loops; visitor-flow diagrams highlight dwell points at amphitheaters, lake edges, and eco-hotels; climate and zoning overlays show how active recreation, cultural programs, and ecological zones coexist without fragmentation. Together, these layers create a park that is not linear but exploratory—where visitors are invited into a journey of discovery, encountering hidden gardens, bird habitats, heritage installations, and playful topography. The result is a living laboratory of sustainability, where ecology, culture, and memory intertwine, shaping Erbil's future as a resilient and identity-driven city.

15 Serendipity Spaces & Hidden Journeys

The Erbil Ecological Park is designed not only for direct movement but also for unexpected discovery. Beyond the main circulation, subtle blue and purple paths create non-linear pedestrian flows that encourage visitors to wander off the direct routes and "stumble upon" hidden experiences. These winding alleys, inspired by the urban grain of the Citadel, lead to shaded courtyards, secret gardens, and ecological nodes. At key intersections, serendipity points are formed: shaded paths converge into small clearings, viewpoints over wetlands, or cultural installations like the reimagined crushed-stone machines. These interventions become surprise moments of pause, where cultural memory and ecological richness overlap. The design weaves programmatic diversity so that a visitor moving between the Arboretum, Herbal Market, or birdwatching tower may encounter playful basins, art installations, or serene escape along the way. In this way, serendipity is not accidental but curated through spatial layering—ensuring every journey through the park feels unique, immersive, and filled with chance discoveries.

16 Ecological and Environmental Resilience

As its foundation, the Erbil Ecological Park is conceived as a living ecological system, where every design move integrates biodiversity, regulates climate, and restores balance between people and nature. The forest greenbelt buffer shields the site from urban pressures, absorbing air and noise pollution while providing continuous habitats for birds, mammals, and pollinators. Wetlands, lakes, and seasonal retention basins function as stormwater regulators, transforming excess rain into thriving aquatic ecosystems that sustain amphibians, insects, and migratory species. Intense ecological corridors—tree-lined paths, meadows, and riparian edges—create safe movement networks for wildlife, ensuring no habitat becomes isolated. Planning strategies favor native and drought-resistant species, reducing irrigation needs while adapting to the region's climate extremes. In turn, aromatic and ethnobotanical gardens promote cultural memory while attracting pollinators and enriching microclimates. This integration of ecology and design produces a park that is not only recreational but also acts as a climate-adaptive infrastructure, delivering cooler microclimates, improved air quality, and enhanced groundwater recharge. In essence, the park is both sanctuary and engine—a resilient ecological landscape designed to sustain itself while supporting Erbil's future environmental health.

