

DESIGN WITH NATURE SEMINAR | NOVEMBER 07 2018

Landscape and Heritage Conservation in India



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OUTLINE OF PRESENTATION

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS

- BACKGROUND
- CHALLENGES, Garden@Fatehabad
- A LANDSCAPE APPROACH, A Temple tank @Bhubhaneshwar
- HISTORIC PLANTING
- HISTORIC NARRATIVES, Lal Bagh@Bengaluru





The Entrance Gate





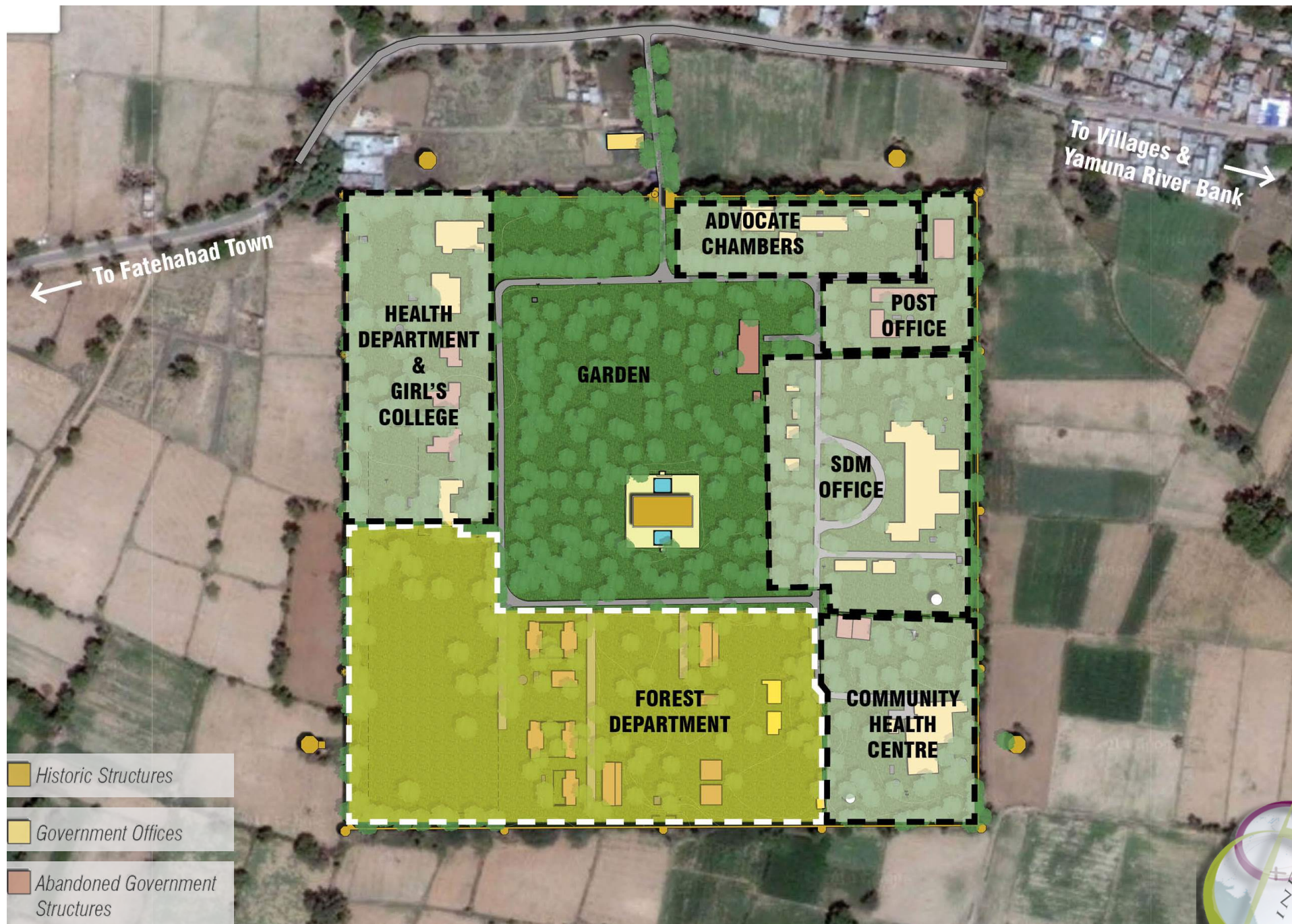
The Entrance Gate





The Baradari



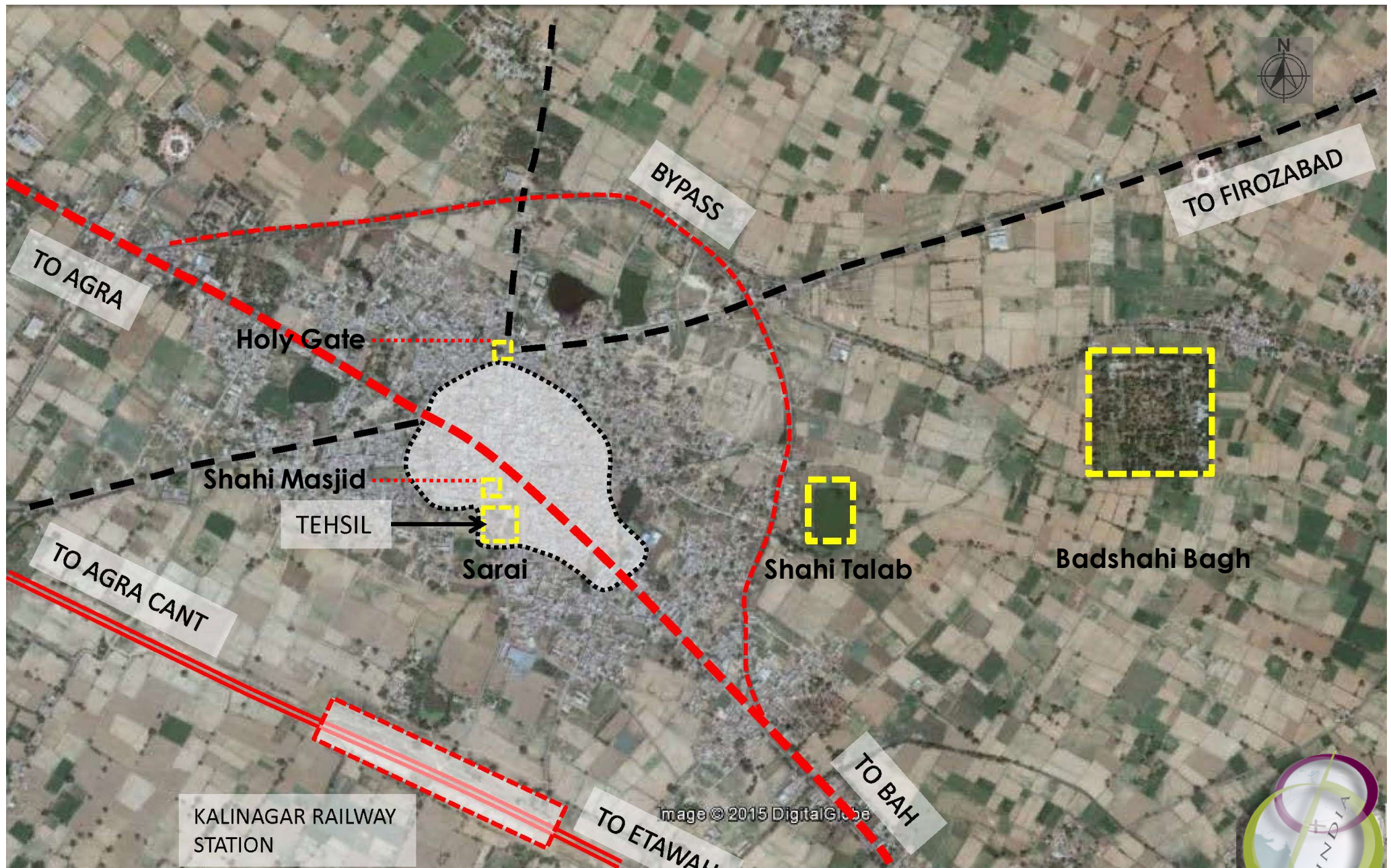


Current Land Use Of Badshahi Bagh

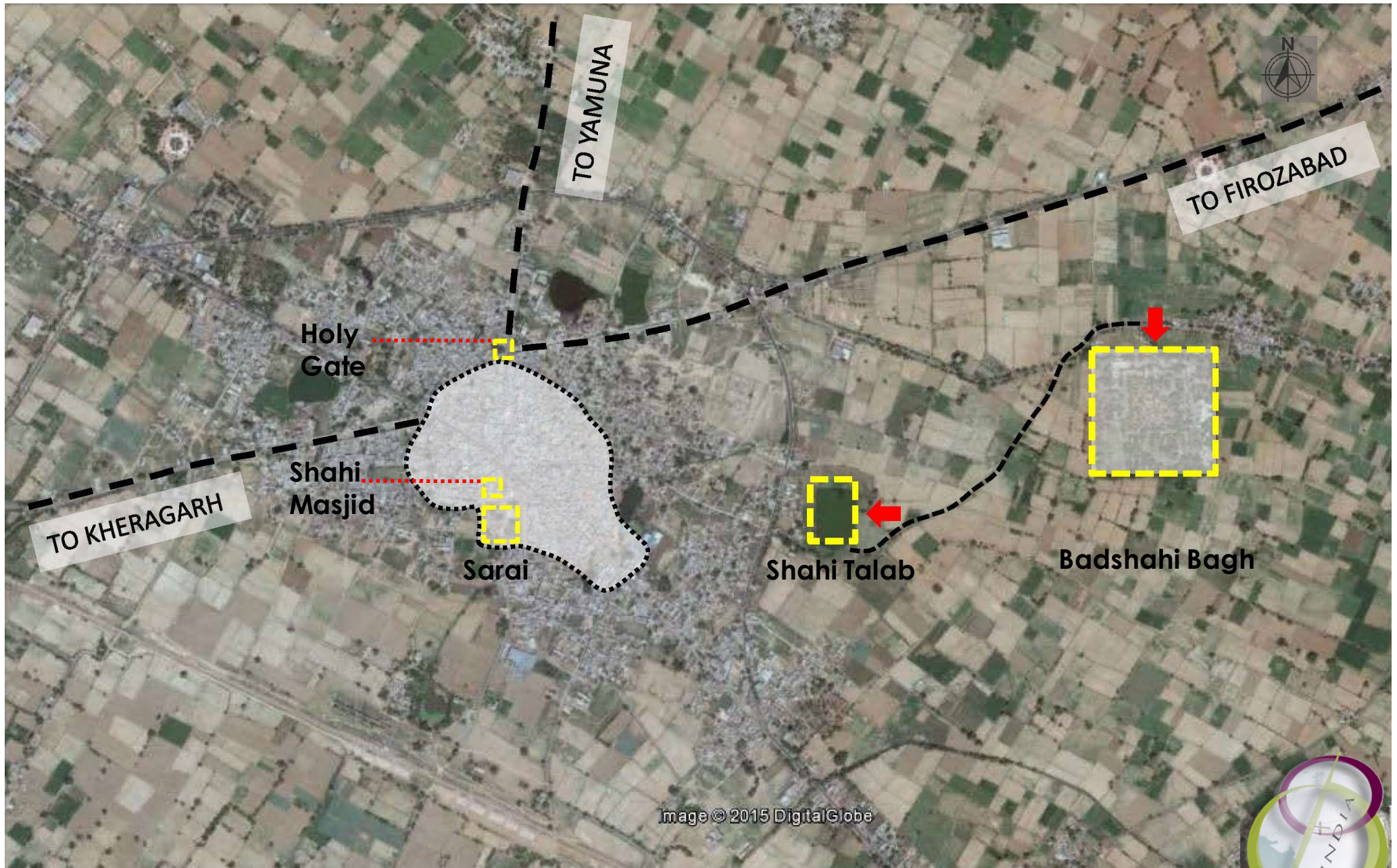


The Battle Of Samugarh Painting c.1658



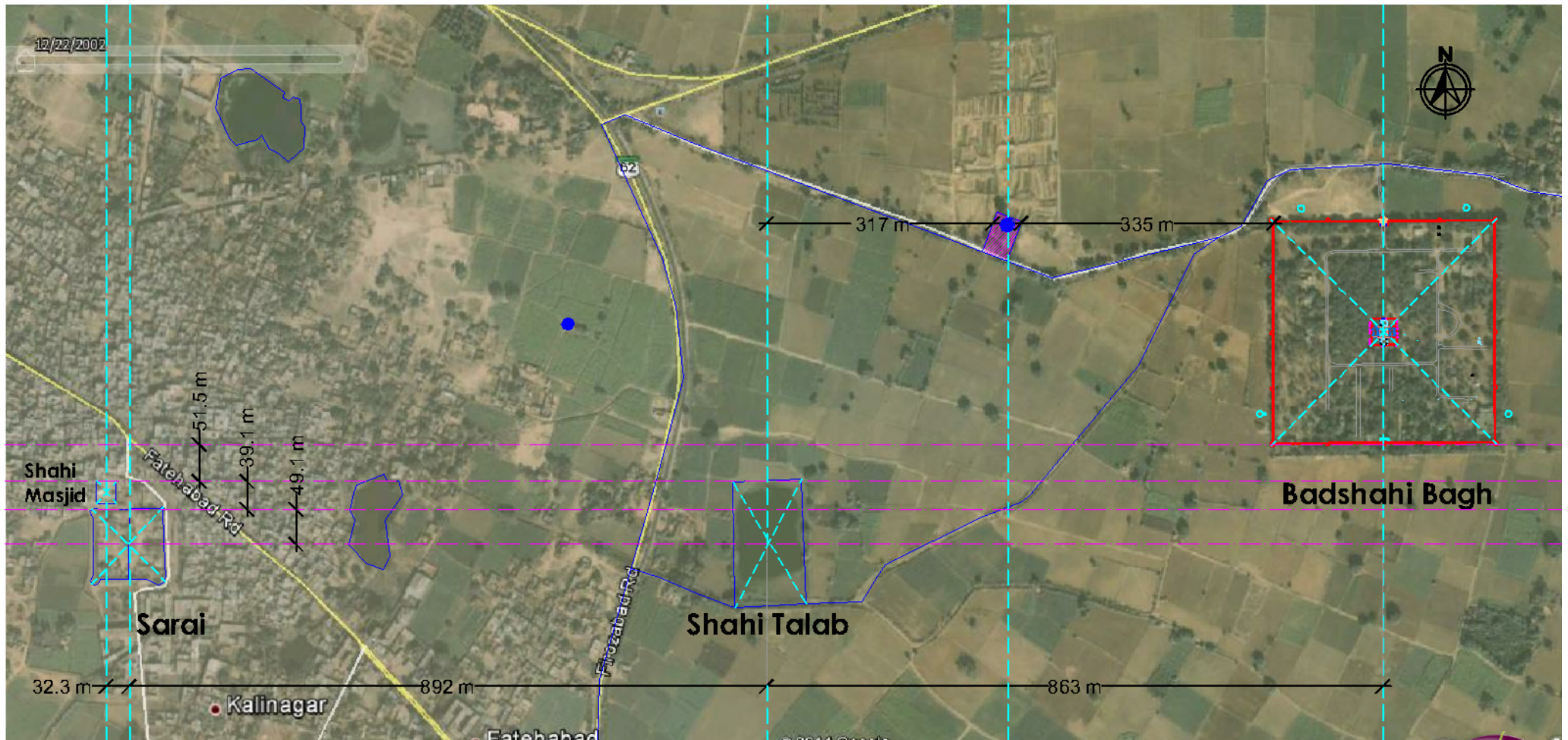


Connectivity Of Fatehabad During British Period And Post- Independence



Connectivity Of Fatehabad during Mughal period





Historic Sites In Fatehabad, Analysis on Google Earth Map, Dated 22Dec 2002



A King's Orchard

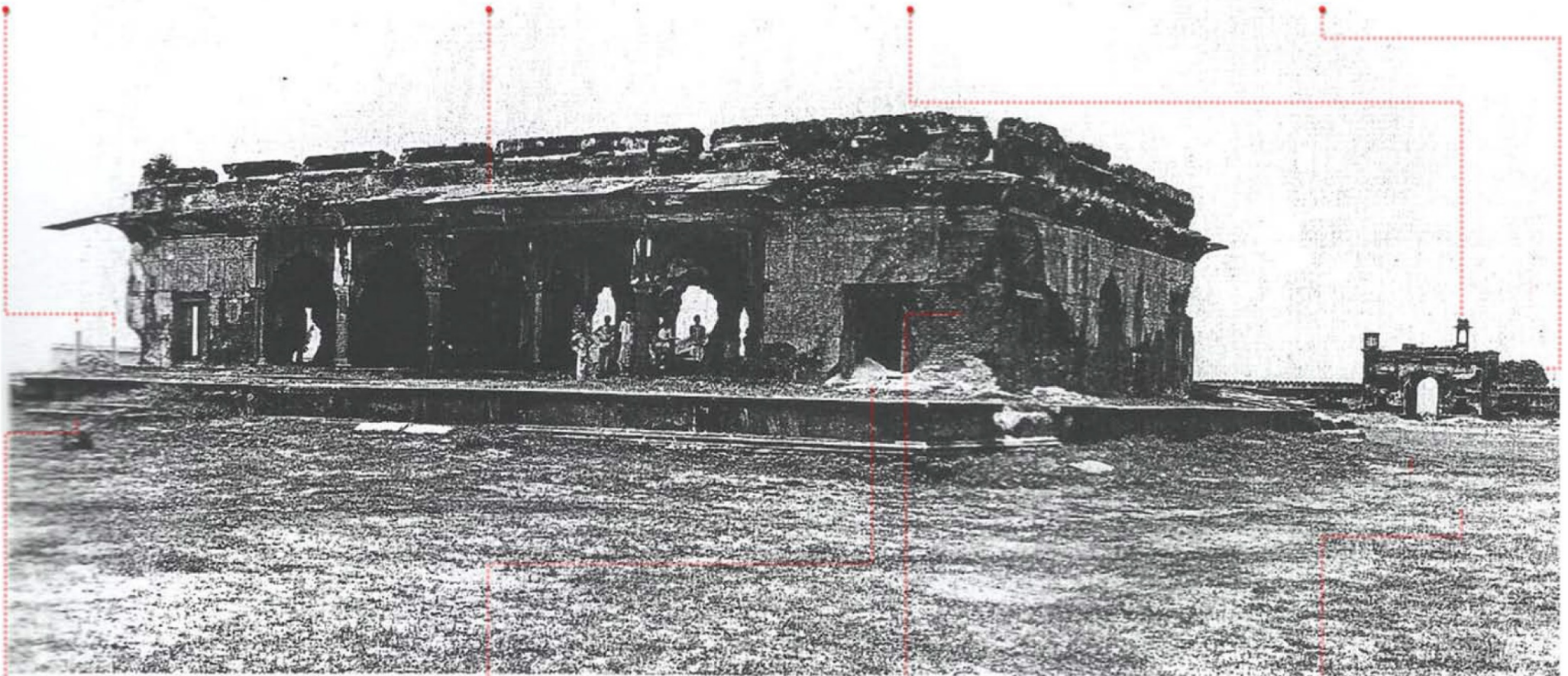
Badshahi Bagh – Bagh, Maqbara or Shikargah?

Two unidentified structures can be seen on the East Boundary Wall

Roof Of Baradari intact

Additional chhatra can be seen on entrance gate

Large tree seen near entrance gate



Steps of planter visible

Debris from deteriorating walls of the Baradari

Deteriorating walls of Baradari

No trace of vegetation/ planting



A King's Orchard

Where do we go from here?

Any effort for conservation in such a scenario will need to address recent developments while formulating a viable plan for sustainable heritage management.



Fig.3.1.1.4f - A view from Entrance gateway



Fig.3.1.1.4j - A view looking out from north face of Baradari



Fig.3.1.1.4g - A view further down the primary view corridor



Fig.3.1.1.4h - Front view of the central Baradari



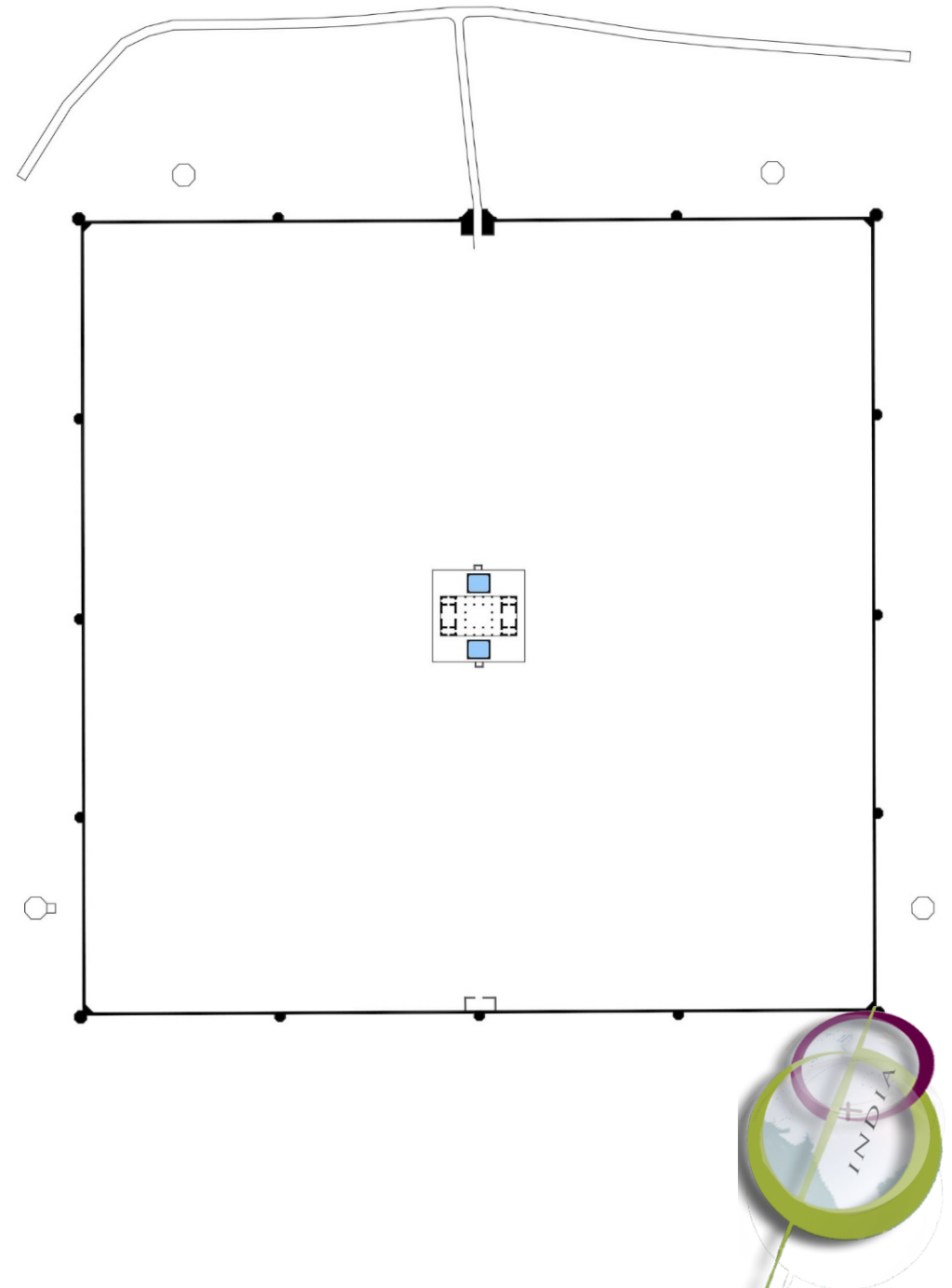
Fig.3.1.1.4i - South view of the central Baradari



A King's Orchard

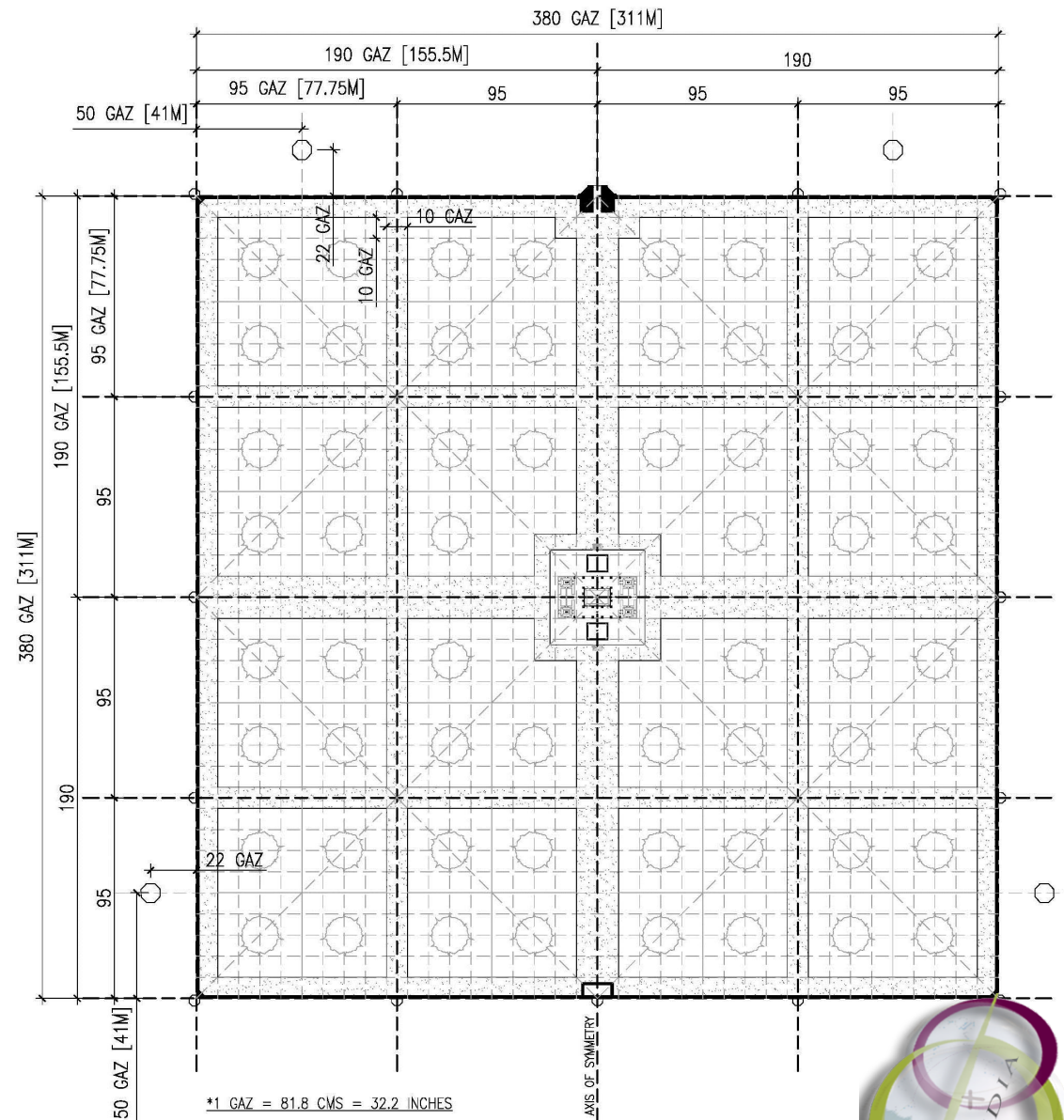
Significance – Garden Layout Grid

Mughal gardens are known to have been laid out in a measuring unit system based on the gaz-ilahi. During the era of Shahjahan the gaz-ilahi measured slightly over 32 inches (Habib 1982). Wescoat (1993) has documented the grid of Janhangir's Tomb Garden at Lahore to be based on a 20 Gaz grid whereas Richard Andre Barraud (2006) has documented multiple grids in the Taj Mahal complex. According to him, the planning of the garden and the riverfront terrace is based on a 23 Gaz grid, while the Jilaukhana and the bazaar and caravanserai complex are planned on a 17 Gaz grid. The metric equivalent of the Gaz in this case was 80.55cms or 31.7 Inches.



Significance – Garden Layout Grid (10 gaz)

The Badshahi Bagh is a perfect square in plan of 311m side. This dimension corresponds to 380 equal parts of the Gaz-ilahi when 1 gaz is taken as 81.84cms or 32.2 Inches. Taking the North-South axis through the centre of the Gateway and Baradari, along which line the garden is symmetrical, each half was divided into equal odd number of grids on the Y-axis such that the centre of the middle chattri is not intersected by a grid line but lies in the centre of two. This gives 19 divisions on each side, each division corresponding to 10 Gaz based on the above mentioned metric unit. This arrangement of the grid allows 16 equal square quadrants aligned with chattris on the X & Y-axis. This study establishes a planning grid of 10 Gaz for the Badshahi Bagh wherein 1 Gaz equals to 81.84cms or 32.2 Inches.



A King's Orchard

Historic Site Management - Short Term Plan



A King's Orchard

Present Day Context – Badshahi Bagh

The garden currently functions as Tehsil headquarters, where most of the government administrative and judicial institutions are housed. There are three enclosures within the garden complex occupying areas on the west and south. They are the Sub-Divisional Magistrate's Office, Community health centre and offices and residences for the Forest department. The north and eastern parts are dotted with various smaller buildings such as Kasturba Gandhi Girls School & hostel, advocate chamber, post office and a number of temporary structures for the notaries. The baradari in the centre is surrounded by a garden which is encircled by a motor able road. An abandoned police station building sits within this central garden.



A King's Orchard

Historic Site Management - Long Term Plan



Proposed Area for Interpretation Centre

Main Entrance Pathway with Seasonal Plants

Secondary Pathway with Scented Plants

Khirmi Tree Grove

Seating Area

Tree Grove

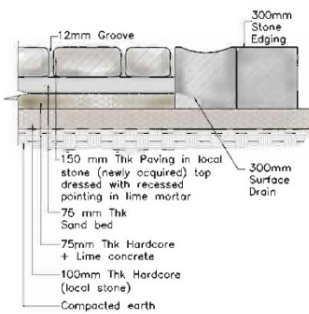
Open Area around Baradari (Grass, Gravel etc)

Tented Accomodation for Visitors (November-April)

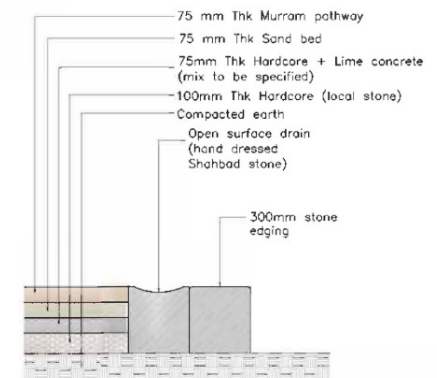
Space for Day time Activities such as Research Workshops

Proposed Area for Garden Centre and Educational Centre

Opening in Boundary Wall can be used as alternate Entry



Entrance Area Paving Detail D1
Scale 1:20

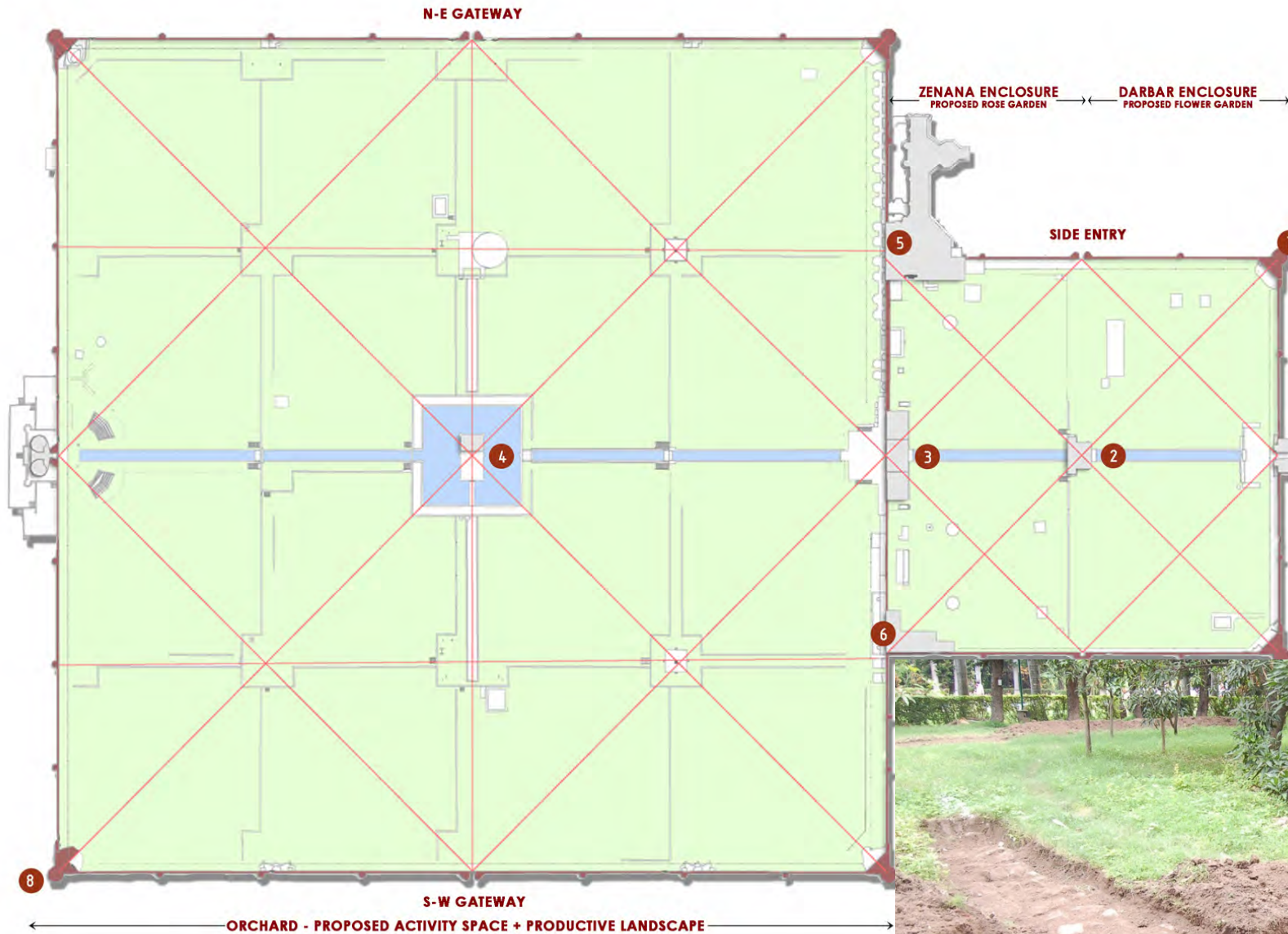


Pathway Detail D2
Scale 1:20



Site Section





LEGEND

1. MAIN ENTRANCE GATEWAY
2. SHISH MAHAL
3. RANG MAHAL
4. JAL MAHAL
5. NEW MOTEL
6. OLD MOTEL
7. CORNER BASTION
8. BASTIONS





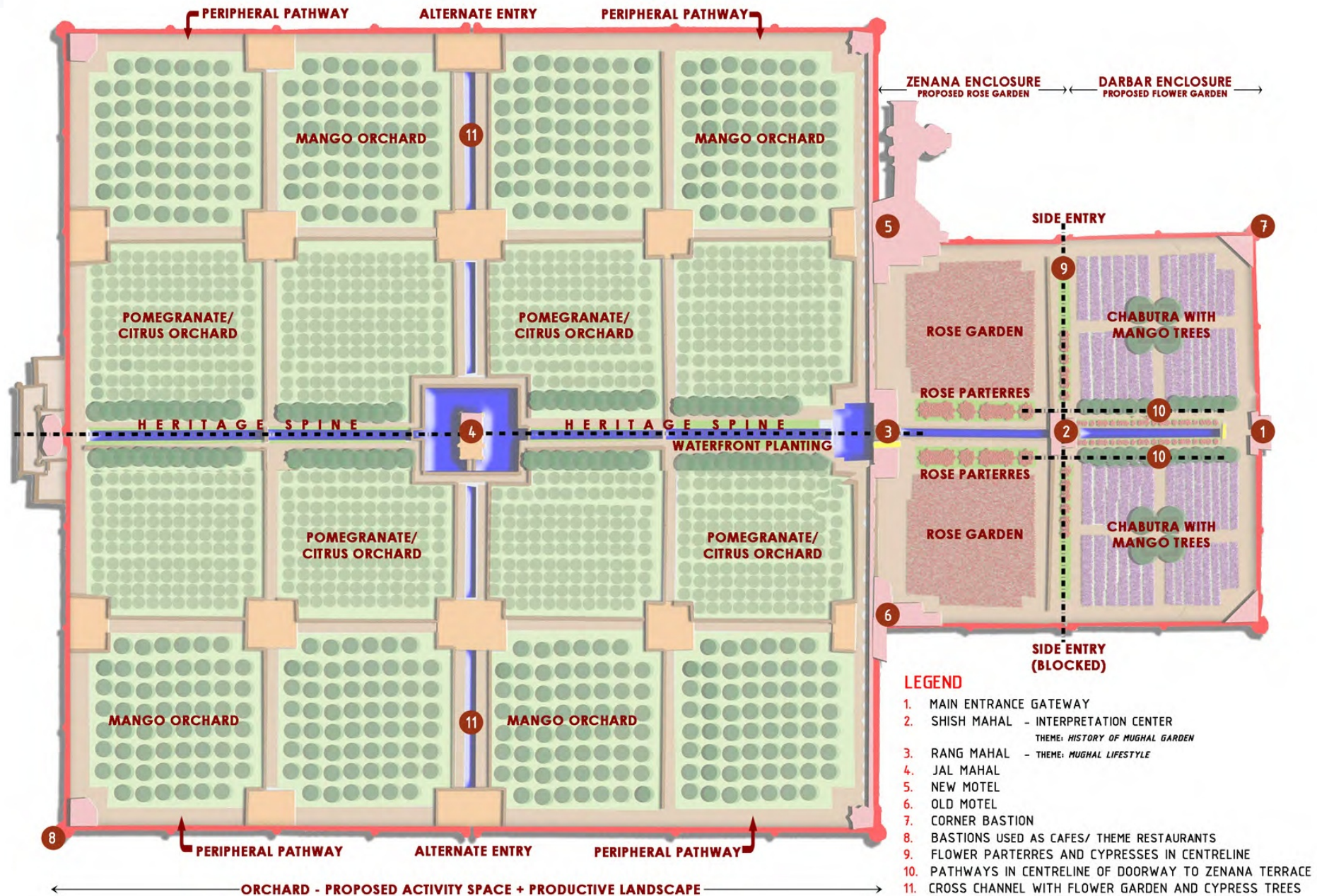
LOCATION	OBSERVATIONS	INFORMATION FROM REFERENCES/OTHER SOURCES	ANALYSIS	PRELIMINARY CONSERVATION STRATEGY
TERRACE 1	<ul style="list-style-type: none"> Profusely flowering purple bougainvillea at entrance and all along boundary wall. Mango orchard quite haphazardly planted without any apparent system or grid as compared to the plots of the lower garden Row of palms, line of hedge and row of Saru (probably incorrectly identified) all heighten the length of this vista. 	<ul style="list-style-type: none"> "...masses of purple bougainvillea fell in brilliant festoons of welcome over the glittering white-washed surface of the entrance buildings."(Stuart, 208) "...here two fine old mango trees with spreading gnarled arms cast a dense shade..." (Stuart, 208) "Only a few big Cypresses remain of the original avenues that led upto the garden house. But close by the water, roses, jasmine and palms still flourish..."(Stuart, 211) "Behind the Cypress trees, stone edgings show where long parterres of flowers once made a blaze of colour, while large chabutras shaded by mango trees form the centre of the design on each side."(Stuart, 211) 	<ul style="list-style-type: none"> The disturbed pattern of the orchard and location of nursery indicate that all the trees were not planted at the same time and there was probably another use for these plots. This is reiterated in Stuart's reference as well. 	<ul style="list-style-type: none"> The presence of flower beds and therefore a flower garden and the presence of two aging mango trees in the early 20th century accounts need to be investigated on site. This could lead to a conjectural design of a quadripartite garden in each of the north and south plots with mango trees in the central Chabutras where today exists a nursery and mango orchard respectively.





LOCATION	OBSERVATIONS	INFORMATION FROM REFERENCES/OTHER SOURCES	ANALYSIS	PRELIMINARY CONSERVATION STRATEGY
TERRACE 1	<ul style="list-style-type: none"> • Presence of a row of aging Cypress trees at the western edge of this terrace. • While the row of palms is approximately equidistant from the central water channel, the row of Saru (??) trees on the south terrace are at a distance of approx. two meters greater than the row on the north terrace w.r.t the edge of the water feature. 	<ul style="list-style-type: none"> • “First came the great high gateway which formed the double purpose of entrance hall and quarters for the guard; beyond extended a large flower garden laid out in parterres beside the stream, at the end of which was the men's dining-room.” (Stuart, Chapter 1) • “...fine purple masses of the Bougainvillea climber are an addition which the original designers would have welcomed; and these are well worth leading more profusely along the interior of the entrance wall” (Geddes, 7) • “The few surviving Cypresses indicate the original design, and their rows should therefore be completed...Outside these again the palm lines should be completed even with the labour of setting back the existing border of shrubbery (Hibiscus, Acalypha, Russlia etc. to which Jasmine, roses etc. may be added).”(Geddes, 7) 	<ul style="list-style-type: none"> • The location of the Saru (species to be correctly identified) trees behind the hedges may be an indication of these being planted over a row of existing, aged Cypress trees as mentioned in the reference. This would match the design as the western edges of both the plots indicate remains of a row of Cypress trees which fit in the Mughal design. • There is mention of lawns existing at that time as well 	<ul style="list-style-type: none"> • A row of palm trees seem to have existed in the early part of last century but their location will need to be ascertained w.r.t to the distance from the central canal. • The list of plants next to the water may be recreated from the Villiers Stuart sketch and from list of plants commonly used in Mughal gardens in the late seventeenth century.

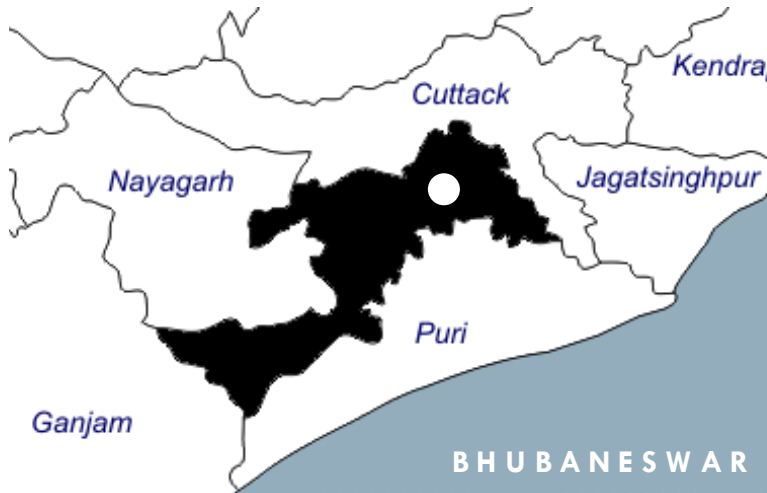
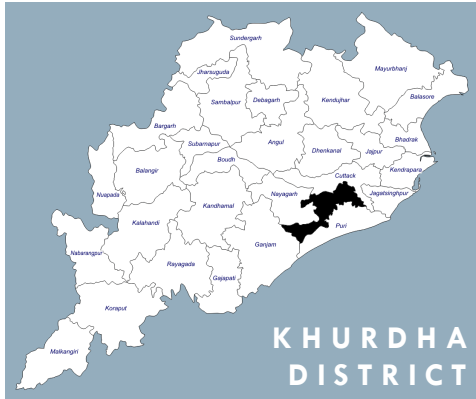




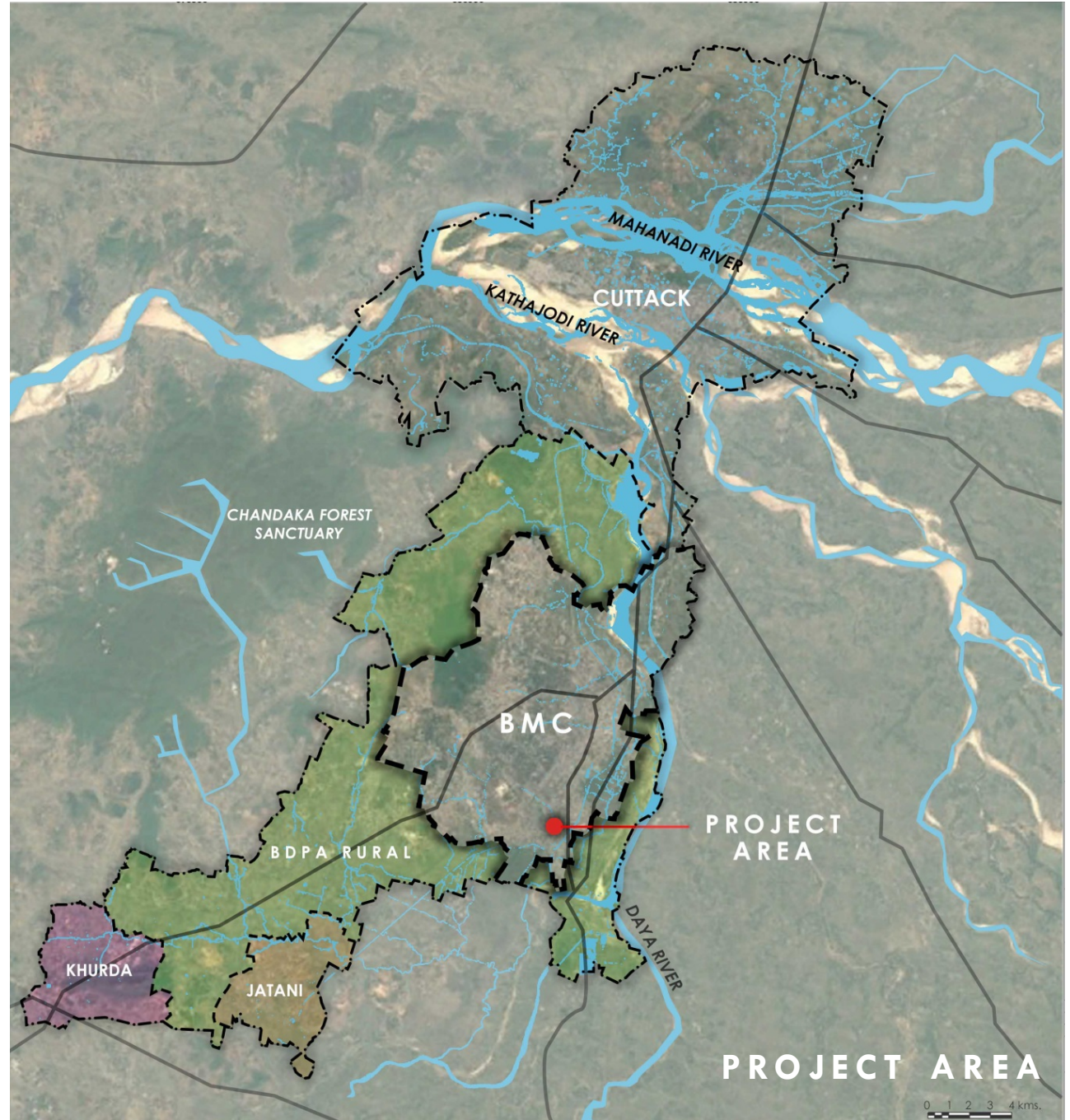
**ART HISTORIAN***Identification of Plant Palette***CONSERVATION ARCHITECT***The view of the building should not be obliterated***ECOLOGIST***Plants should not be invasive*Source : http://www.vikalpsangam.org/static/media/uploads/Environment_and_Ecology/vinay_2_rj_park.jpg**LANDSCAPE ARCHAEOLOGIST***Species should not interfere with subterranean heritage*

LOCATION OF PROJECT AREA

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS



The project area is located in the Old Bhubaneswar Town area of the Bhubaneswar Municipal Corporation within the BDPA (Bhubaneswar Development Planning Authority) extents

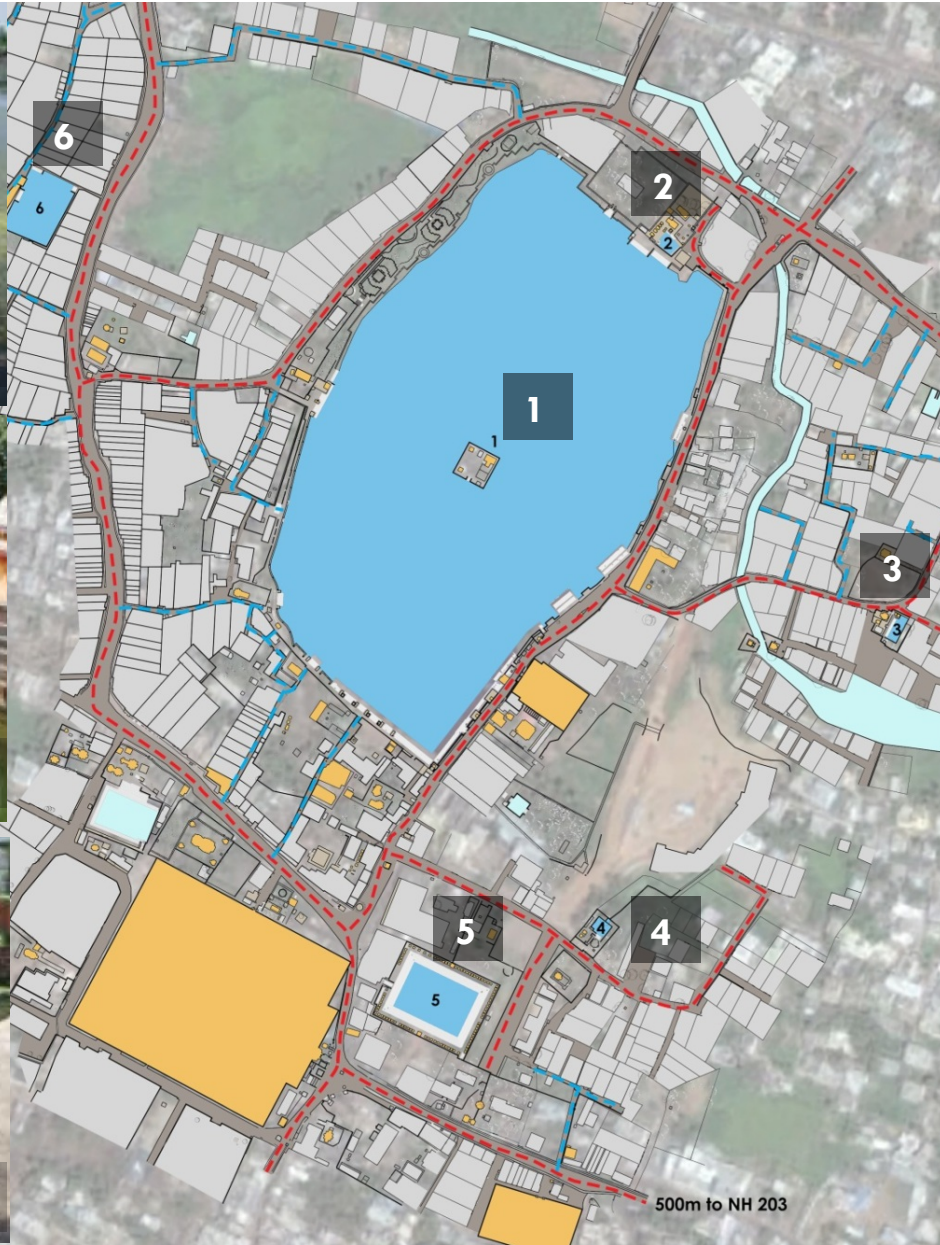
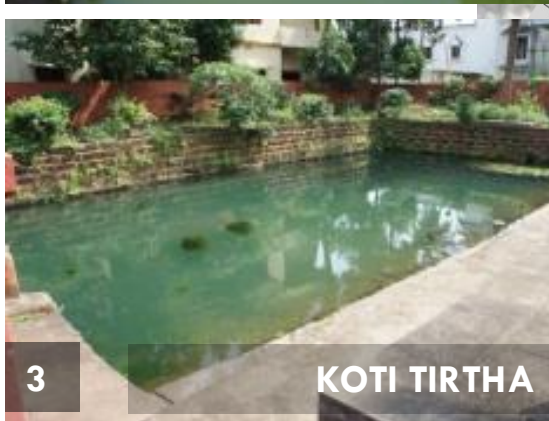


REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS



PROJECT AREA TANKS

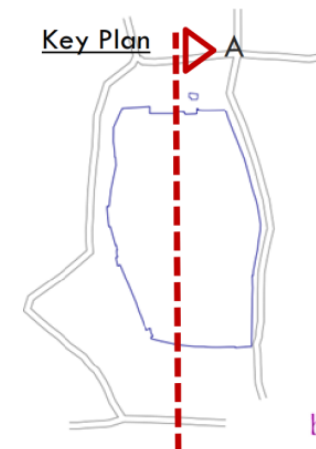
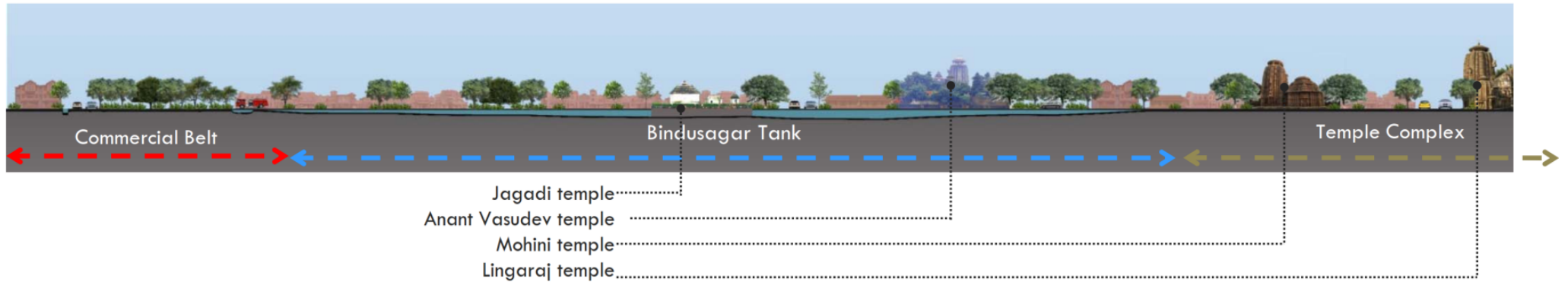
REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS



TANK:SECTIONS

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS

1. BINDUSAGAR TANK



Bindusagar tank – Section AA

SITE ISSUES

PROJECT CONTEXT LEVEL

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS

Degradation of Existing Natural Resource

Unutilized Natural Resource

Lack of User Friendly Streetscape on major Roads like Rath Road, Bindusagar Road etc.

Unused Open public Areas are decaying and losing the historic character

Conflict between vehicular & pedestrian traffic, and daily activities

Degradation of Existing Natural Resource

Threat - loss of identity due to Unplanned Development of Existing Open Areas

Missing Historic Linkages

PROJECT AREA ISSUES

LEGEND:

- BMC Boundary
- Highway
- +++++ Railway Line
- Project Area
- Natural Heritage
- Cultural Heritage
- Ekamra Kshetra

LIST OF TANKS

1. BINDUSAGAR TANK
2. GODAVARI KUND
3. KOTI TIRTHA TANK
4. GANGA YAMUNA TANK
5. DEVI PADAHARA TANK
6. GODIPOKHARI TANK

0 50 100m



PROPOSALS

BINDUSAGAR TANK: SOUTHERN GHAT & PROMENADE

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS



Sari
Temple

Sukasari
Temple

Proposed Gateway to access Bindusagar Tank
from Lingaraj Temple through historic lanes

Interpretation panels on existing
edge walls to display historic
information and local wall art

Sacred & Flowering planting at
upper level to enhance the
ecology and view of tank

Mohini Temple



PROPOSALS

BINDUSAGAR TANK:SHOSHI (NORTH) GHAT

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS



Proposed semi shaded area for religious and cultural activities

Uttareshwar Temple

Existing platform to be used by Pandas & priests to perform cremation rituals, which currently in practice on eastern edge

Edge planting along existing boundary wall

Mohini Temple



PLANNING ISSUES

PROJECT CONTEXT LEVEL

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS

LACK OF INFRASTRUCTURE

- Sewerage Network
- Storm Water Network
- Parking Facilities

LACK OF PUBLIC AMENITIES

- Resting Spaces
- Drinking Water Facilities
- Sanitation Facilities

PROJECT AREA PLANNING ISSUES

LEGEND:

- BMC Boundary
- Highway
- +++++ Railway Line
- Project Area
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LIST OF TANKS

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LACK OF SITE ELEMENTS

- Lighting
- Signage
- Trash Bins
- Visitor Centers

LACK OF DEVELOPMENT GUIDELINES FOR HISTORIC CITY

- Building Typologies & Height
- Landuse Pattern
- Streetscape (Hierarchy of roads)

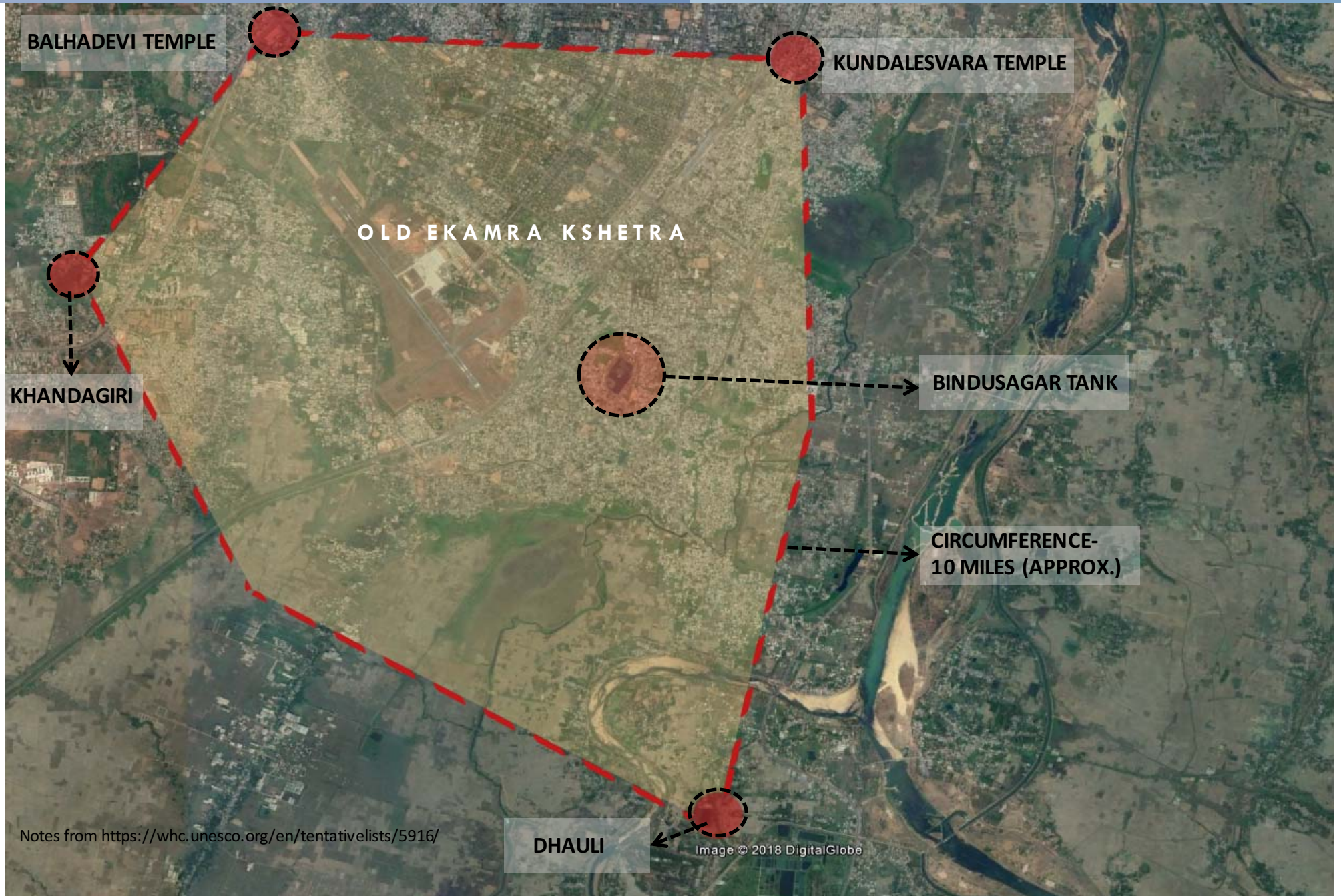
0 50 100m



Source: Survey by author
Format: CAD file, rastered as photoShop

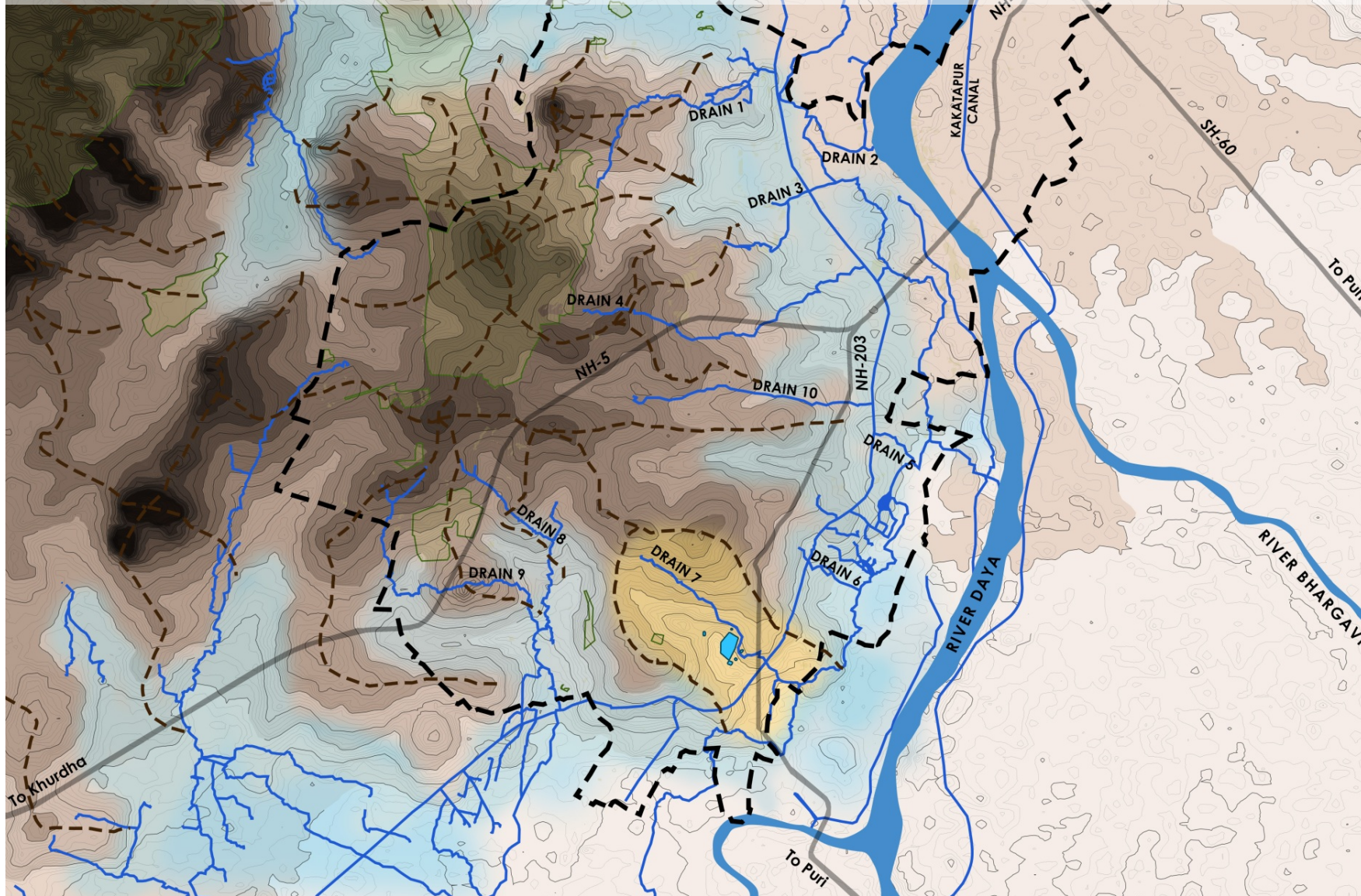
HISTORICAL EKAMRA KSHETRA

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS



CATCHMENT AREA DELINEATION AS PER PHYSIOGRAPHY

- Various natural drains flows from north east to south east towards daya river
- The drain formation is a result of topographic setting of the region
- Drain no 7 plays a vital role as all the tanks in study area are part of the catchment of Drain no 7



URBAN CONTEXT PHYSIOGRAPHY & DRAINAGE

LEGEND:

- Municipal Boundary
- Highway
- Ridge
- Watersheds
- Study Area

ELEVATION MAP LEGEND:

10-20m
20-30m
30-40m
40-50m
50-60m
60-70m
70-80m
80-90m
90-100m
Above 100m

0 1 2 kms.



CATCHMENT AREA DELINEATION PROJECT AREA

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANKS

PROJECT AREA CATCHMENT DELINEATION

LEGEND:

- National Highway
- Landmark
- Ridge
- Ekamra Kshetra
- Wards under study area

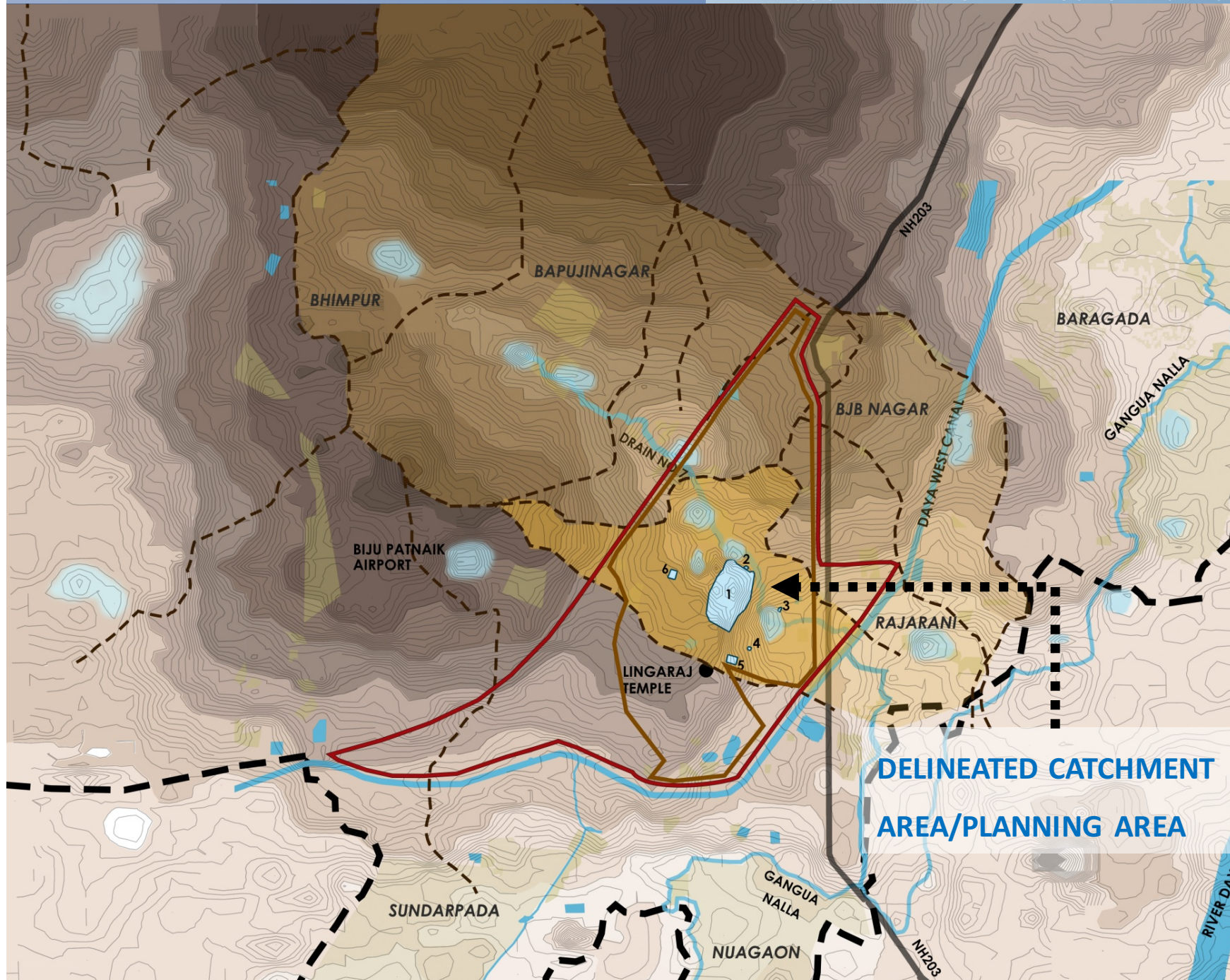
ELEVATION MAP LEGEND:

- | | |
|-----------|-----------|
| Below 15m | 35-40m |
| 15-20m | 40-45m |
| 20-25m | 45-50m |
| 25-30m | Above 50m |
| 30-35m | |

LIST OF TANKS

1. BINDUSAGAR TANK
2. GODAVARI KUND
3. KOTI TIRTHA TANK
4. GANGA YAMUNA TANK
5. DEVI PADAHARA TANK
6. GODIPOKHARI TANK

0 312.5 625m





HISTORIC PLANTING

A Contextual Approach to Heritage Precincts in
India



NUPUR PROTHI KHANNA
INTACH SCHOLARSHIP 2014-15

Cover Slide Credits

Painting by Muzher Ally Khan, 1848 Delhi : A living Heritage, INTACH

Pinjore : www.crci.co.in/Shalimar Garden : <http://www.bl.uk/onlinegallery/onlineex/apac/photocoll/s/019pho000000222u00068000.html>

COMPONENTS OF PRESENTATION

REJUVENATION OF BINDUSAGAR & ITS PERIPHERY TANK

AESTHETICS

AUTHENTICITY

AVAILABILITY

ON-SITE EXECUTION



AESTHETICS

AUTHENTICITY

AVAILABILITY

ON-SITE EXECUTION

HISTORIC EVOLUTION OF PLANTING AESTHETICS



Source: <http://www.shunya.net/Pictures/NorthIndia/Delhi/LodiGarden18.jpg>



MOHAMMAD SHAH'S TOMB, LODHI GARDEN | SAYYID DYNASTY

HISTORIC PLANTING : A CONTEXTUAL APPROACH TO HERITAGE PRECINCTS IN INDIA

**COMPANY
GARDEN,
Saharanpur
Botanical Garden,
Uttar Pradesh**

**ACHARYA
JAGADISH
CHANDRA BOSE
INDIAN BOTANIC
GARDEN
Shibpur, Kolkata**

**EMPRESS
BOTANICAL
GARDEN
Pune**

**BOTANICAL
GARDEN
Chennai**

**LAL BAGH
BOTANICAL
GARDEN
Bangalore**

Source : <http://7c427fa958a190ba89d7-e151928c3d69a5a4a2d07a8bf3efa90a.r74.cf2.rackcdn.com/403220-3.jpg>



INDIA OFFICE IN LONDON

- (14 KILOMETRES OF SHELVES OF VOLUMES, FILES AND BOXES OF PAPERS,
- 70,000 VOLUMES OF OFFICIAL PUBLICATIONS
- 105,000 MANUSCRIPT AND PRINTED MAPS, COMPRISE THE ARCHIVES)



AESTHETICS

AUTHENTICITY

AVAILABILITY

ON-SITE EXECUTION

SUBSUMING HISTORIC GARDENS AND PARKS UNDER HISTORIC LANDSCAPE



Image © 2016 DigitalGlobe

Google earth

SIRPUR | 5TH TO 8TH AD

HISTORIC PLANTING : A CONTEXTUAL APPROACH TO HERITAGE PRECINCTS IN INDIA

AESTHETICS

AUTHENTICITY

AVAILABILITY

ON-SITE EXECUTION

CONCEPT OF AUTHENTICITY IN PLANTING



Source : http://upload.wikimedia.org/wikipedia/commons/7/7d/Pachira_magu_daka_House.jpg

Source : <https://pbs.twimg.com/media/BIXGdZDCcAAPPs.ippa>

THE THIGALA COMMUNITY

HISTORIC PLANTING : A CONTEXTUAL APPROACH TO HERITAGE PRECINCTS IN INDIA

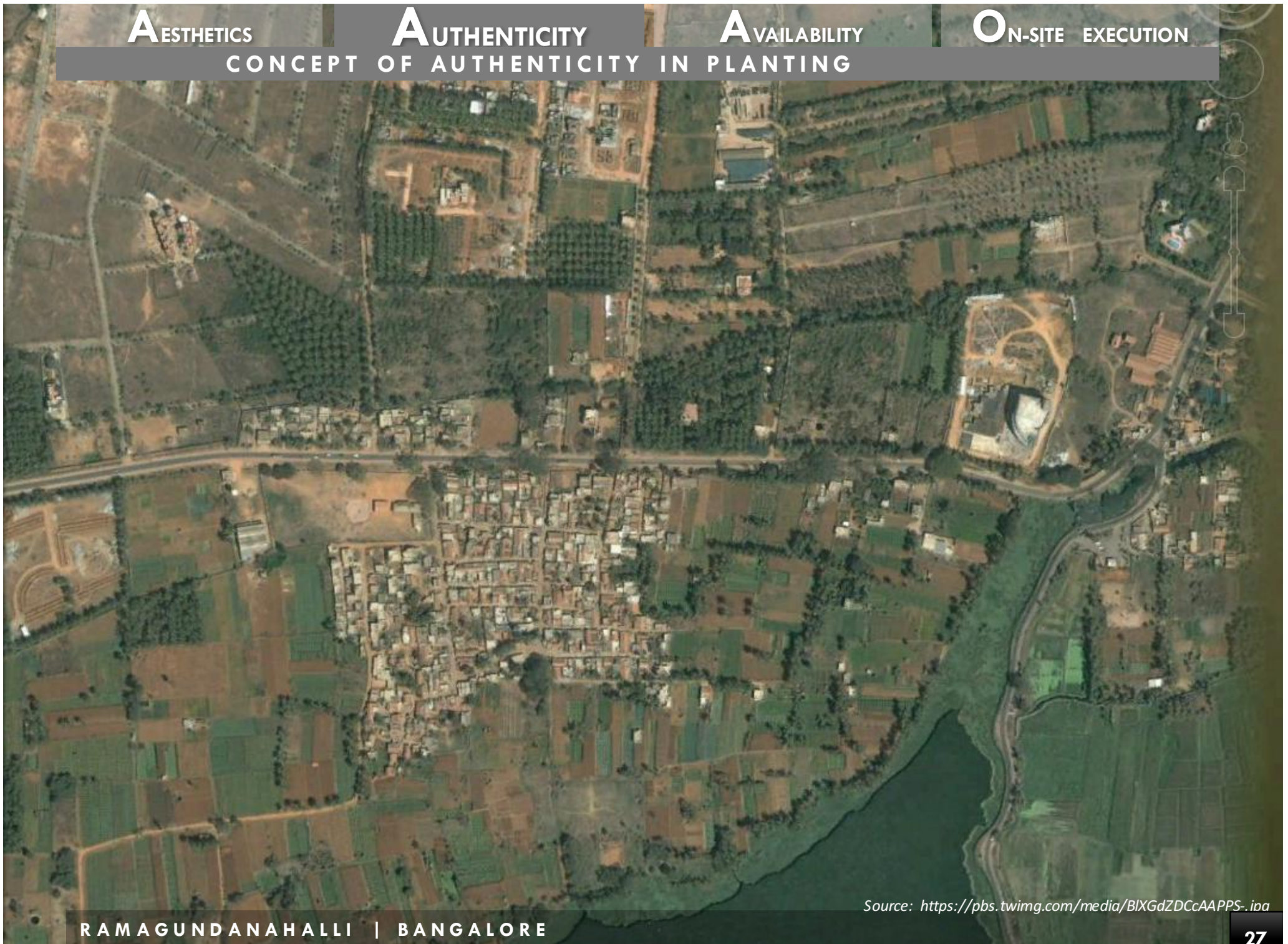
AESTHETICS

AUTHENTICITY

AVAILABILITY

ON-SITE EXECUTION

CONCEPT OF AUTHENTICITY IN PLANTING



Source: <https://pbs.twimg.com/media/BLXGdZDCcAAPS.ippa>

RAMAGUNDANAHALLI | BANGALORE

HISTORIC PLANTING : A CONTEXTUAL APPROACH TO HERITAGE PRECINCTS IN INDIA

WAY FORWARD

Reading the landscape

Delineating boundaries and buffers of based on terrain and natural features and natural cycles

A Landscape approach to be applied for understanding the site, and offering long term solutions

Site Intervention/Interpretation: interweaving narratives of natural context in interpretation and design

Nature based solutions and SDG Goals (World Water Week, Stockholm)

Time for Pilots is over (Jeremy Rifkin, Climate change planning ISOCARP Plenary, Bodo)

Cross fertilisation and across silos of expertise

Community driven solutions: Finding champions for the cause amongst communities, experts, political leadership

"We've all got both light and dark inside us.
What matters is the part we choose to act on.
That's who we really are."

- J.K. Rowling

*Team Beyond Built
wishes you a very*



Happy Diwali



Beyond Built Pvt. Ltd.
New Delhi
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Culture Nature Journey, Symposium on Heritage and Democracy at 19th General Assembly, Delhi, 12th-13th December 2017

Culture Nature Journey, World Congress of IFLA (International Federation of Landscape Architects, Singapore, 18th -20th July 2018

Culture Nature Journey, US ICOMOS, San Francisco, Forward Together, 13-16th November 2018

Thank you for listening

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www.beyondbuilt.in