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GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE

## Central Zoo Authority



F. No. 19-113/92-CZA(140)(Vol. I)(NS) / 7546

DATE: 06.08.2015

To

The Additional Principal Chief Conservator of Forests (D&P) &  
Special Officer,  
Thrissur Zoological Park,  
Pathur (Kerala)

**Sub:- Revised Master (layout) Plan of the Thrissur Zoological Park, Kerala and proposed designs for the construction at the Thrissur Zoological Park, Kerala-Reg.**

**Ref:- Your office letter no. WL3-7551/95, Dt.23.05.2015.**

Sir,

This has with reference to the power point presentation delivered by Mr. John Coe, consultant architect on the Revised Master (layout) Plan of Thrissur Zoological Park, Kerala and designs for the proposed construction at the Thrissur Zoological Park, Kerala before the members of the Expert Group on Zoo Designing of the Central Zoo Authority in its 62<sup>nd</sup> meeting held on 13.07.2015. After detailed deliberation the following observations were made:-

### A. Revised Master Layout Plan:

Members on scrutiny of revised layout plan of Thrissur Zoological Park-Wildlife Conservation & Research Centre, Puthur, Kerala, recommended the same for approval.

### B. Designs of enclosures:

Members on scrutiny of designs on proposed construction of following enclosures at Thrissur Zoological Park-Wildlife Conservation & Research Centre, Puthur, Kerala, approved the designs given below subject to incorporation of following suggestions:

#### 1. Design of proposed construction of Biodiversity Centre:

- Advised to explore providing more space.
- Suggested to create a tunnel for Porcupine.
- Term 'office' may be replaced with 'Research Centre'.

*Contd..*

B-1 Wing, 6<sup>th</sup> Floor, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.

**2. Design of proposed construction of enclosure for Mugger Crocodile and Gharial exhibit:**

- a) Exhibit provided may be used to house not more than one male and two females.

**3. Design of proposed construction of Great Aviary:**

**4. Design of proposed construction of enclosure for Nilgiri langur:**

**5. Design of proposed construction of enclosure for Lion tailed macaque:**

**6. Design of proposed construction of enclosure for Leopard:**

- a) Care should be taken to avoid animal getting out of enclosure by care in joining moat and barrier.  
b) Kraal corner should be rounded off.  
c) Covered exercise yards may be provided elsewhere.  
d) From feeding cells, access should be direct to paddock.  
e) Suggested to provide one covered and one open kraal.

**7. Design of proposed construction of enclosure for Tiger:**

- a) Covered excessive yard may be removed.  
b) Sharp edges to be removed.

**8. Design of proposed construction of enclosure for Asiatic lion:**

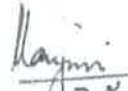
- a) Covered exercise yard may be removed.  
b) Sharp edges to be removed.

**9. Design of proposed construction of enclosure for Gaur:**

*(Revised Lay out plan)*

The dully signed copies of Great Aviary, Nilgiri langur, Lion tailed macaque and others are enclosed with this letter with a request to submit the amended copies of Biodiversity Centre, enclosure for Mugger Crocodile , Gharial, Leopard, Tiger and Asiatic Lion for its final approval.

**Yours faithfully**

  
**(Vinod Ranjan)**  
7.8.13  
**Member Secretary**

*Write*  
**Encl: as above**

**Copy to** The Chief Wildlife Warden, Govt. of Kerala for favour of information.

**B-1 Wing, 6<sup>th</sup> Floor, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.**



## **THRISSUR ZOOLOGICAL PARK**

Wildlife Conservation & Research Centre, Puthur

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**DPR - STAGE 3**

### **EXHIBIT DESIGNS**

**DRAWINGS FOR STATUTORY APPROVAL**

27th March, 2015

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## **GAUR EXHIBIT**





**EXHIBIT 12\_ INDIAN GAUR (*Bos gaurus*)**

PROPOSED COLLECTION PLAN	MALE	FEMALE	TOTAL
	2	2	4
<b>AREA STATEMENT</b>			
EXHIBIT AREA STANDARDS (as per CZA rules)	1500 sqm PER PAIR	200 sqm PER ADDITIONAL ANIMAL	REQUIRED TOTAL 1900 sqm
<b>PROPOSED AREAS</b>			
EXHIBIT AREA	2746 sqm		
MOAT AREA	115 sqm		
OFF-EXHIBIT HOLDING AREA	420 sqm (Kraal building 149 sqm, Exercise yard 271 sqm)		
<b>BARRIER DETAILS PROPOSED</b>			
FRONT, REAR AND SIDE BARRIER	COMBINATION OF CLAY BANKS (LOW WALLS) OF MIN 1.5M HEIGHT, CATTLE GRIDS AND RAIL BARRIER OF 1.5M HEIGHT, DRY MOAT 3M WIDE, 2.5M DEPTH (ALONG TRAM ROAD)		ALL BARRIERS PROPOSED ARE AS PER CZA STANDARDS
OTHER DETAILS	ADDITIONAL HOT WIRES SHALL BE PROVIDED FOR ALL BARRIERS		
<b>ENRICHMENT DETAILS</b>			
EXHIBIT AREA	MUD WALLOW		

**ANIMAL EXHIBIT AREA:**

- The Indian Gaur exhibit area has an approximate width of 65 m and depth of 35m. To control erosion typical in hoofed animal exhibits, the ground is carefully graded to have a maximum slope of 3% at all points.
- The path that connects the exhibit to the holding area also maintains the 3% slope.
- A Mud Wallow is provided in the exhibit.

**OFF EXHIBIT ANIMAL HOLDING AREA:**

- The Off exhibit Animal Holding area contains a Kraal building (149 sqm) and an Exercise Yard (271 sqm).
- The Kraal (Night Shelter) has 4 cubicles each of size 3m x 3.6m x 2.5m height. All cubicles have floor drains. A Keeper Room (9sqm), Hay store (9sqm) and a Keeper Aisle of 3m provides food and other services to the animals.
- There is an extra stall for the Single Bull. The Exercise Yard is also partitioned with a 1.5m height steel railing to give an area exclusively to the Bull.

**SERVICE ASPECTS:**

- Both the Exhibit area and the Off exhibit Animal Holding area are provided with adequate Service access from the Service road. They have Service Gates with a 3m wide service road connection that allows entry of Service vehicles into the exhibit if required.
- The entry/ exit gates for animals to / from the exhibit have provision for Keeper control and operation from Service areas.
- A store for Hay and other supplies is provided.

**INTRODUCTION:**

The Indian Gaur exhibit is located on a relatively mildly sloped valley on the South eastern slopes of the Asiatic Lion exhibit. The exhibit has an area of 2746 sqm. Ample animal viewing is possible from the higher land on the western and southern sides. Viewing is also possible from the Tram road that runs along the eastern side. A lower path runs parallel to the Big Cat exhibits leading to the Gaur. This path rejoins the main Visitor Path and further connects to the Tram Station on the peripheral Tram / Service road. Being the last exhibit in the first phase of the project, visitors have the option to climb onto the tram to return to the orientation centre.

**BARRIER DETAILS:**

- **FRONT, SIDE BARRIER:** All along the Visitor Viewing edge, there is a level difference to the exhibit which allows for a series of stepped walls. The lower of these walls is finished as a Clay Bank barrier of at least 1.5m height.
- **REAR BARRIER:** The rear barrier along the Tram road has a dry moat 3m wide, 2.5m deep, with Hot wires.
- The STAND OFF BARRIER of 110cm height along the edge of the Animal Viewing pockets controls public access to the exhibit. It continues between the Viewing areas as a hidden fence of 100cm height in the vegetation. A series of walls and a wide belt of hedge planting and trees separate the exhibit from the Standoff barrier.





**THRISSUR ZOOLOGICAL PARK**  
Wildlife Conservation & Research Centre, Puthur

**DPR - STAGE 3:**  
DRAWINGS FOR STATUTORY APPROVAL  
**EXHIBIT NAME:**  
INDIAN GAUR  
**DRAWING TITLE:**  
LOCATION PLAN  
**DRAWING NO:** DPR/S3/GAU/01  
**DATE:** 27.03.2015  
**REVISION:**

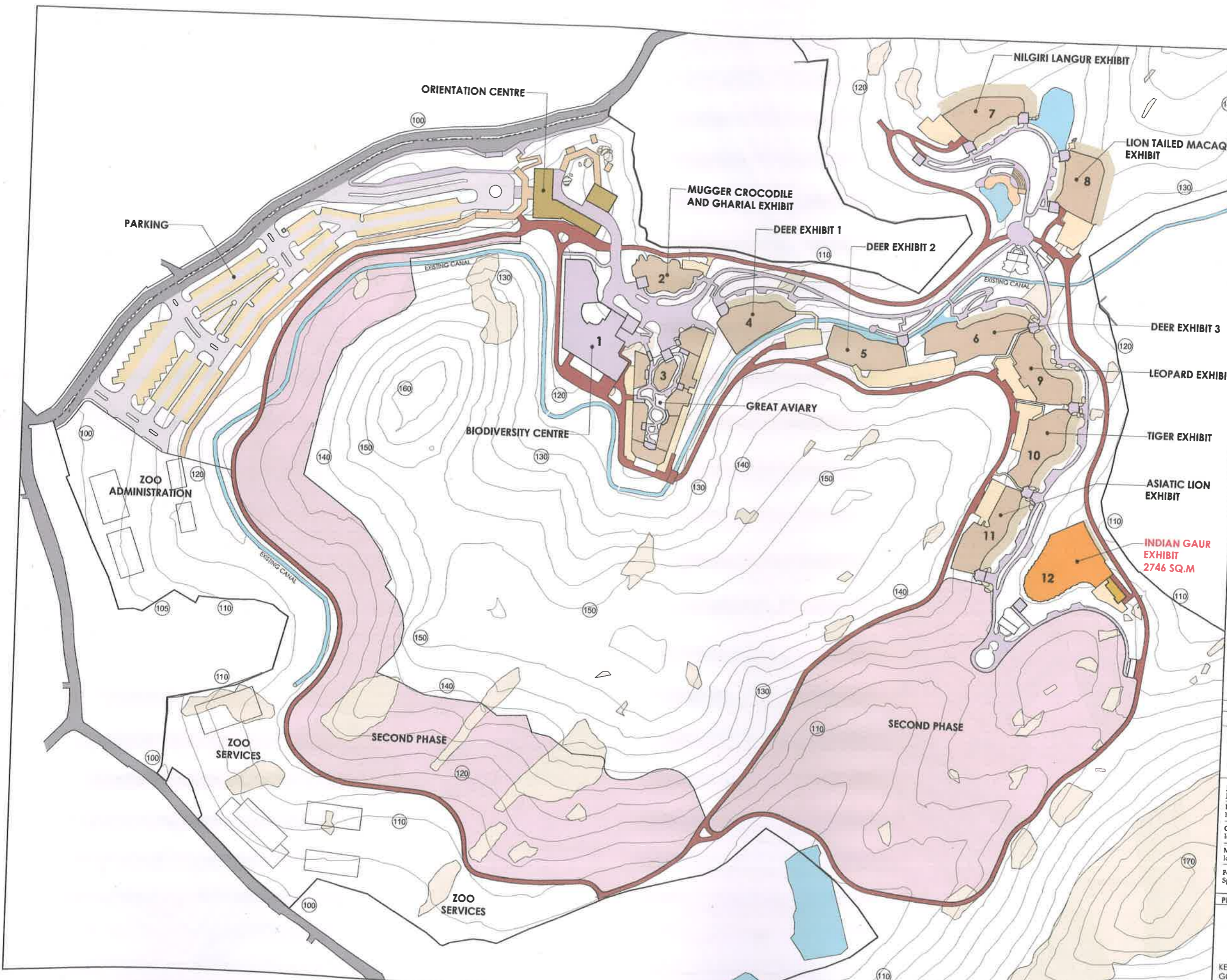
**SCALE:**  
1:1500 (A1), 1:3000 (A3)  
15 0 15 30 75M

- LEGEND:**
- VISITOR PATH
  - TRAM / SERVICE ROAD
  - ORIENTATION CENTRE
  - EXHIBITS**
  - 1. BIODIVERSITY CENTRE
  - 2. MUGGER CROCODILE AND GHARIAL
  - 3. GREAT AVIARY
  - 4. DEER 1
  - 5. DEER 2
  - 6. DEER 3
  - 7. NILGIRI LANGUR
  - 8. LION TAILED MACAQUE
  - 9. LEOPARD
  - 10. TIGER
  - 11. ASIATIC LION
  - 12. INDIAN GAUR

**CONSULTANTS:**  
**Jon Coe Design - Idea Design Consortium**  
Jon Coe Design Pty Ltd. Idea Design  
250 Mt. Riddell Road 30/1596-D, Narayanan Assan Road  
Healesville, VIC 3777 Vythila, Cochin, India - 682019  
Australia Phone: +91 484 4036526, 4046526  
Email: jon@joncoedesign.com Email: mural@ideadesign.org

Jon Charles Coe, AILA, FASLA, ARAZIA  
Jon Coe Design Pty Ltd., Australia.  
Biley E Menon, M Arch, AIA, ARD  
Idea Design, Cochin.  
Chitra Biley, B Arch, MIA, AISOLA  
Idea Design, Cochin.  
Michael Little, MLA  
Idea Design, Bangalore  
Felix Varkeykunj, M Tech  
Spoton Engineering Software Services, Emakulam

**PROJECT BY:**  
KERALA FOREST DEPARTMENT  
GOVERNMENT OF KERALA  
FOREST HEADQUARTERS, VAZHUTHACAUD,  
THIRUVANANTHAPURAM - 695014  
KERALA, INDIA





*May 7.8.15*

Member Secretary  
Central Zoo Authority  
(Ministry of Environment & Forests)  
Govt. of India, New Delhi



**THIRISSUR ZOOLOGICAL PARK**  
Wildlife Conservation & Research Centre, Pulthur

DPR - STAGE 3:  
DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:  
INDIAN GAUR

DRAWING TITLE:  
EXHIBIT PLAN

DRAWING NO:	DATE:	REVISION:
DPR/S3/GAU/02	27.03.2015	

SCALE:  
2 0 2 4 10M  
1:200 (A1), 1:400 (A3)

- LEGEND:
- (125) EXISTING CONTOUR LEVEL
  - +118 PROPOSED LEVEL
  - BW BOTTOM OF WALL
  - TW TOP OF WALL
  - G1 SECTION NAME
  - PROPOSED LOW PLANTING
  - PROPOSED PLANTING
  - EXISTING BAMBOO CLUMBS
  - EXISTING ROCK

COLLECTION PLAN:

MALE	FEMALE	TOTAL
2	2	4

AREA STATEMENT:

INDIAN GAUR EXHIBIT	2746 Sq.m
KRAAL (OFF EXHIBIT HOLDING AREAS)	420 Sq.m

CONSULTANTS:  
**Jon Coe Design - Idea Design Consortium**  
Jon Coe Design Pty Ltd. Idea Design  
250 Mt. Riddell Road 30/1596-D, Narayanan Assan Road  
Healesville, VIC 3777 Vyttila, Cochin, India - 682019  
Australia Phone: +91 484 4036526, 4046526  
Email: jon@joncoedesign.com Email: mal@ideadesign.org

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Idea Design, Cochin.  
Michael Little, MIA  
Idea Design, Bangalore  
Felix Varkeykunju, M Tech  
Spoton Engineering Software Services, Emakulam

PROJECT BY:  
*C.S. Yalakkal*  
KERALA FOREST DEPARTMENT  
GOVERNMENT OF KERALA  
FOREST HEADQUARTERS, VAZHUTHACAUD,  
THIRUVANANTHAPURAM - 695014  
KERALA, INDIA

*May be approved*







**THRISSUR ZOOLOGICAL PARK**  
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

INDIAN GAUR

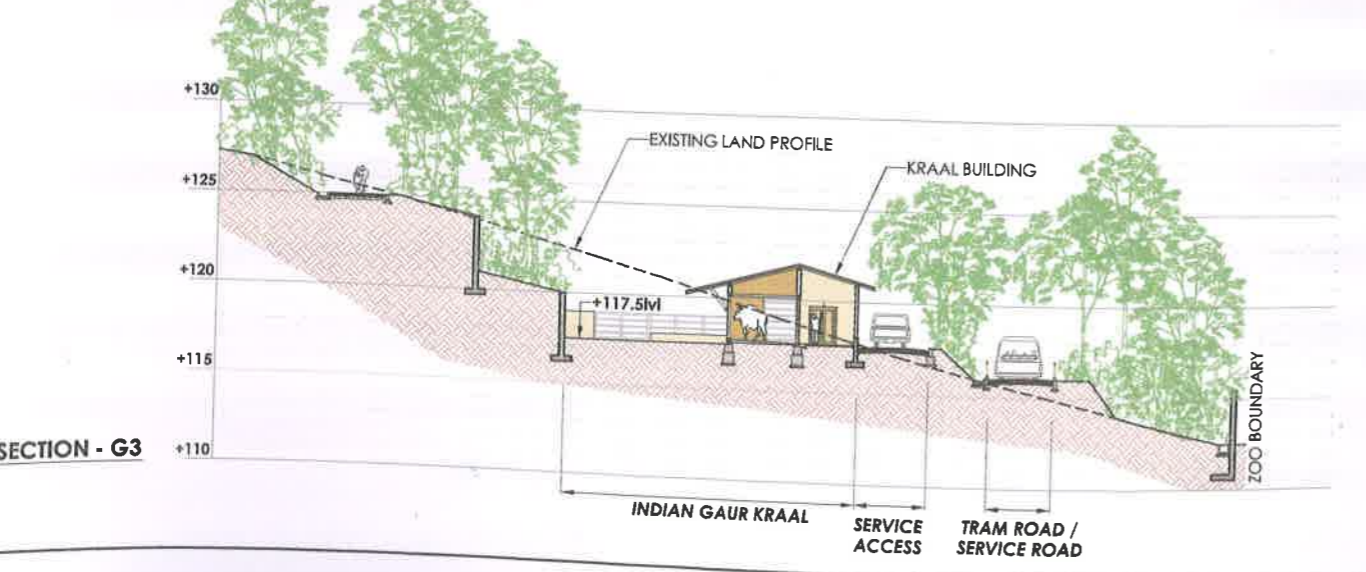
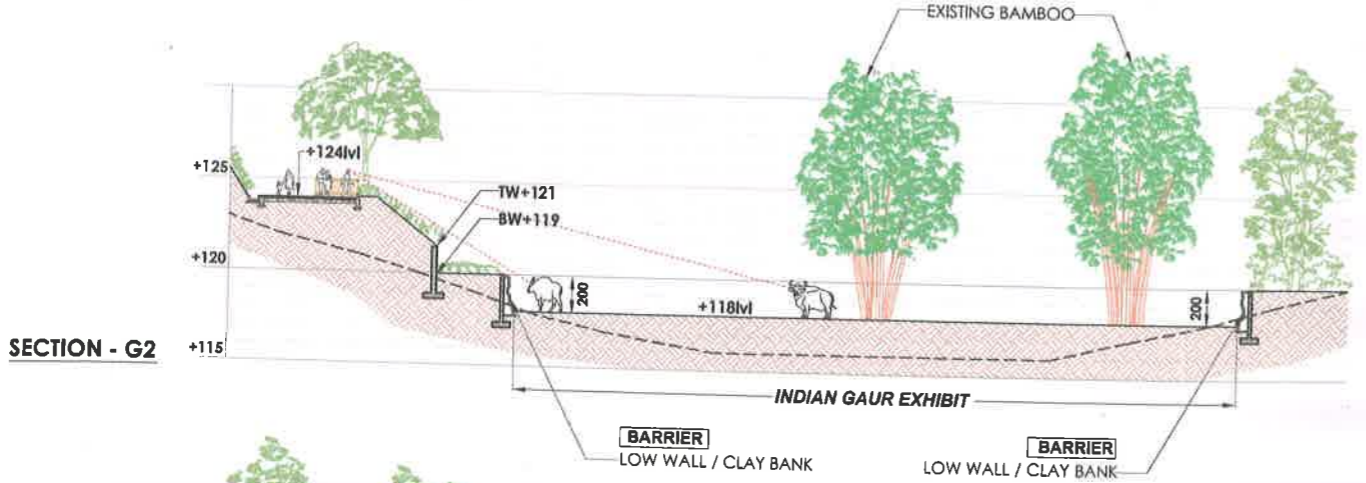
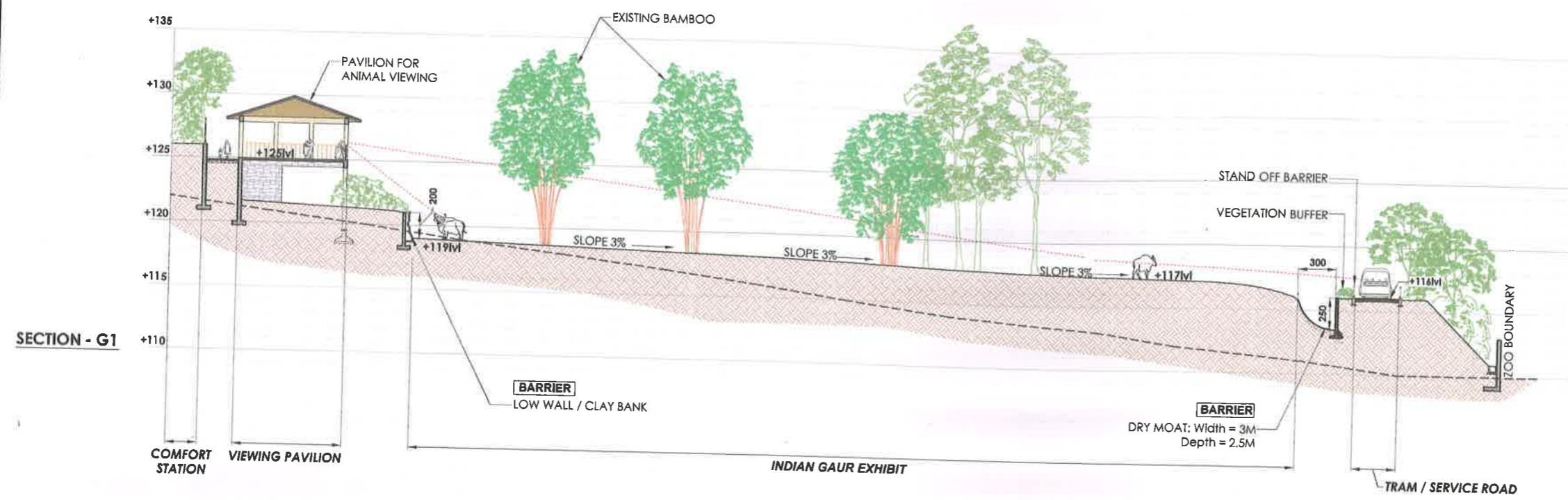
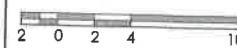
DRAWING TITLE:

SECTION G1, G2 & G3

DRAWING NO:	DATE:	REVISION:
DPR/S3/GAU/04	27.03.2015	

SCALE:

1:200 (A1), 1:400 (A3)



*C. Sivalakki*

**CONSULTANTS:**  
**Jon Coe Design - Idea Design Consortium**  
Jon Coe Design Pty Ltd. Idea Design  
250 Mt. Riddell Road 30/159-D, Narayanan Assan Road  
Healesville, VIC 3777 Vyttila, Cochin, India - 682019  
Australia Phone: +91 484 4036528, 4045526  
Email: jon@joncoedesign.com Email: mail@ideadesign.org

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THIRUVANANTHAPURAM - 695014  
KERALA, INDIA





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Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

INDIAN GAUR

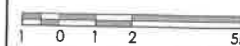
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KRAAL PLAN

DRAWING NO: DATE: REVISION:

DPR/S3/GAU/05 27.03.2015

SCALE:



1:100 (A1), 1:200 (A3)



LEGEND:

(125) EXISTING CONTOUR LEVEL

+118 PROPOSED LEVEL

BW BOTTOM OF WALL

TW TOP OF WALL

(X) SECTION NAME

COLLECTION PLAN:

MALE	FEMALE	TOTAL
2	2	4

AREA STATEMENT:

KRAAL BUILDING	149 Sq.m
EXERCISE YARD	271 Sq.m

SCHEDULE OF OPENINGS:

	Type	Size		Nos.
		Width	Height	
D	Main door	180	210	1
D1	Panelled door	150	210	1
D2	Panelled door	120	210	1
SD	Sliding door	180	210	5
SD1	Sliding door	150	210	5
SD2	Sliding door	90	210	5
W2	Window	120	120	2

CONSULTANTS:

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Hesleville, VIC 3777 Vyttila, Cochin, India - 682019  
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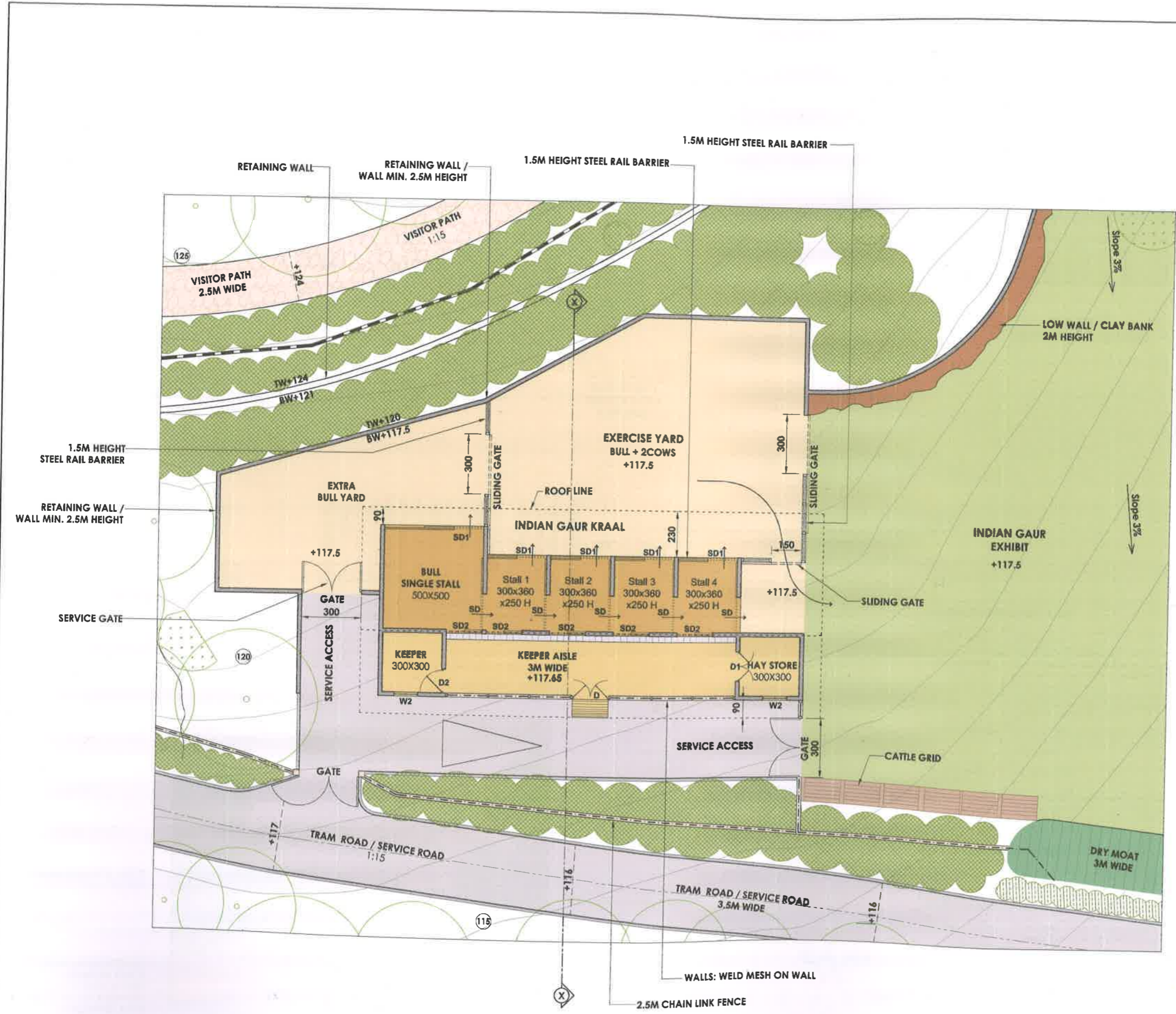
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Spoton Engineering Software Services, Ernakulam

PROJECT BY:

*[Handwritten signature]*  
C.S. Yalakar



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FOREST HEADQUARTERS, VAZHUTHACAUD,  
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KERALA, INDIA





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Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

INDIAN GAUR

DRAWING TITLE:

KRAAL ELEVATION, SECTION AND TYPICAL DETAIL OF STAND OFF BARRIER

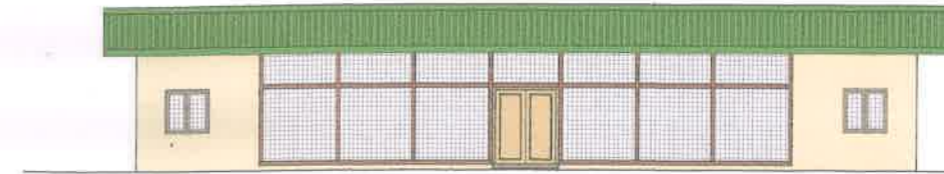
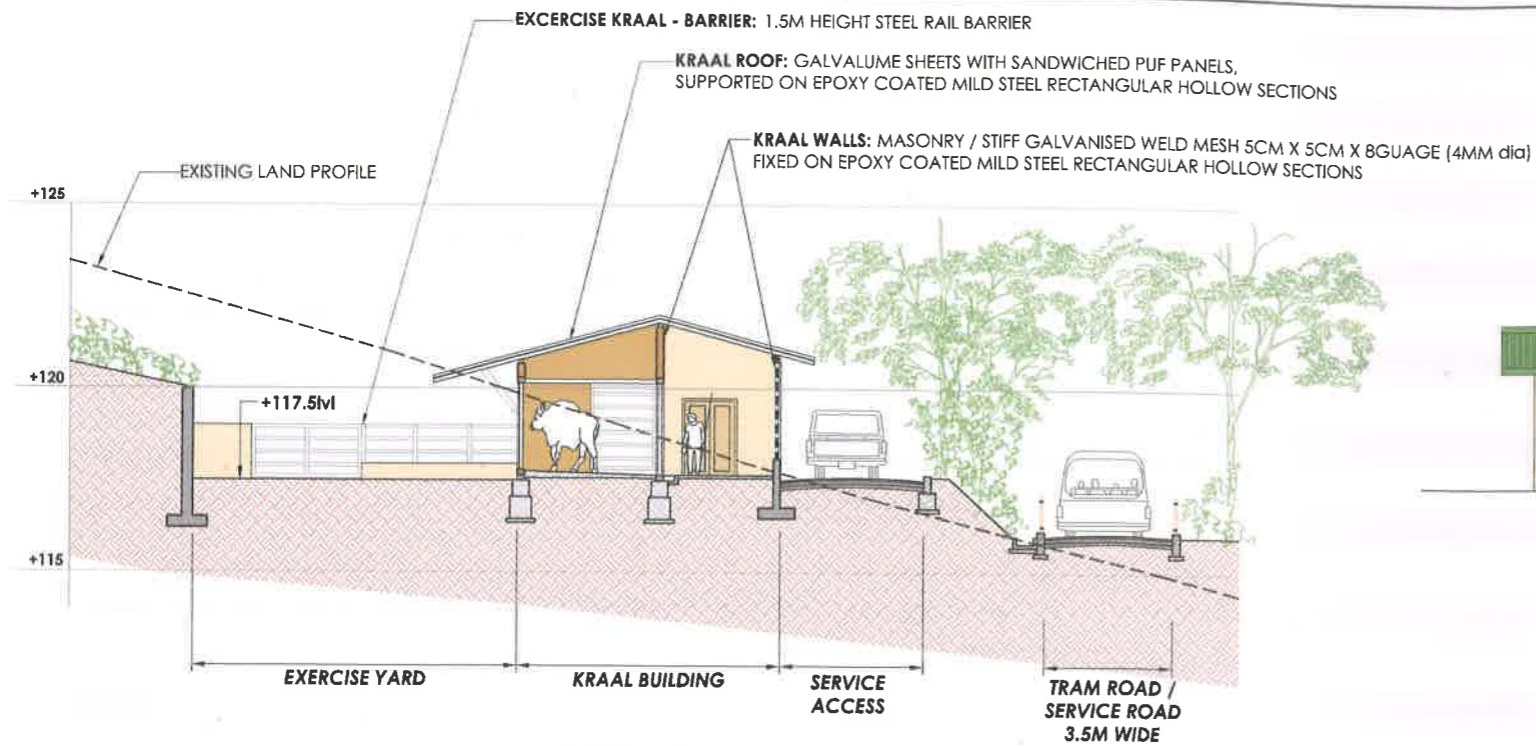
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DPR/S3/GAU/06 27.03.2015

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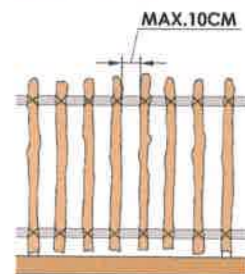
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1:100 (A1), 1:200 (A3)

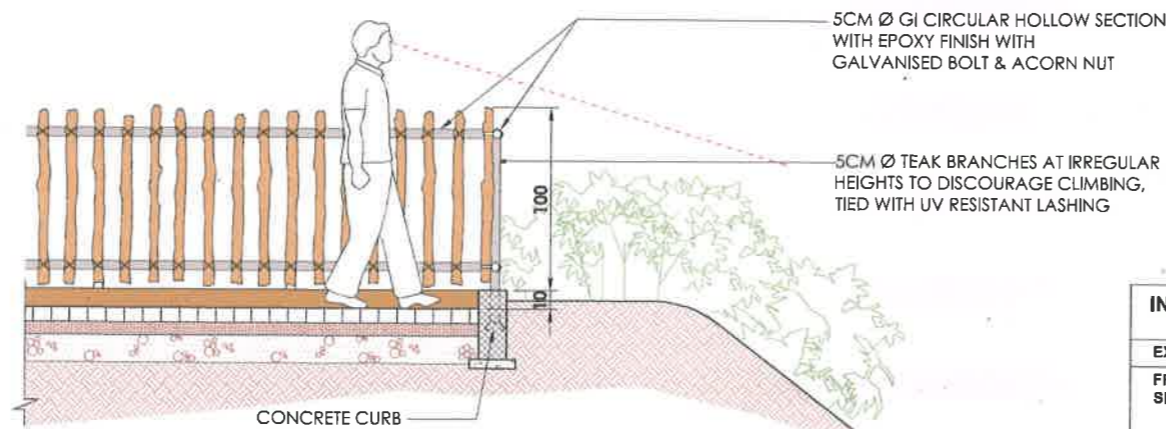


ELEVATION  
(FROM KEEPER ENTRY SIDE)

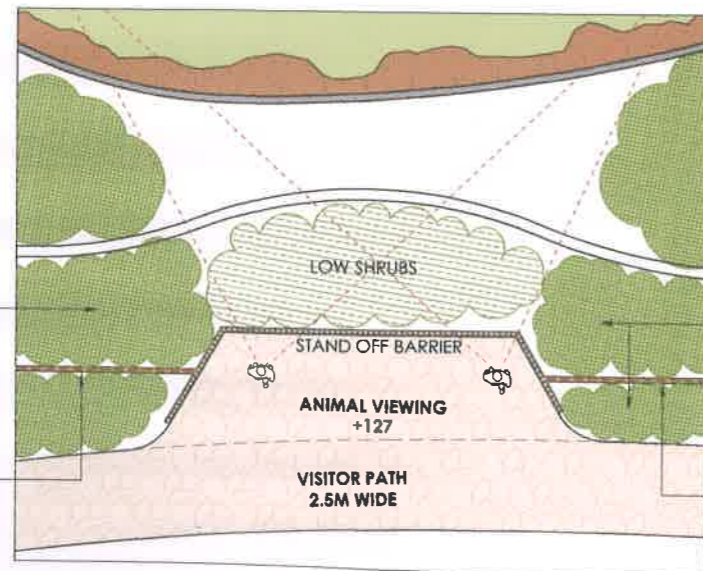
SECTION - XX



TYPICAL ELEVATION -  
SCALE 1:20



SECTION - SCALE 1:20



TYPICAL STAND OFF BARRIER DETAIL - PLAN

INDIAN GAUR EXHIBIT AREA	
EXHIBIT AREA	2746 SQ.M.
FRONT, REAR AND SIDE BARRIER	LOW WALL (CLAY BANKS) 1.5 TO 2M HEIGHT, CATTLE GRID IN COMBINATION WITH CHAIN LINK FENCE OR DRY MOAT: 3M WIDE, 2.5 M DEPTH AND HOT WIRE FENCE
EXHIBIT SURFACE SLOPE	THE EXHIBIT SHALL HAVE A MAXIMUM SLOPE OF 3% AT ALL POINTS SO THAT SURFACE EROSION TYPICAL OF HOOFED ANIMAL EXHIBITS IS MINIMISED
ANIMAL VIEWING	ANIMAL VIEWING AT THREE POCKETS ALONG VISITOR PATH. ADDITIONAL VIEWING AT ONE PLACE FROM VIEWING PAVILION.
ENRICHMENT FEATURES	MUD WALLOW
SERVICE ACCESS	ACCESS FOR KEEPER AND SERVICE VEHICLES INTO THE EXHIBIT THROUGH A SERVICE GATE FROM TRAM / SERVICE ROAD AS WELL AS FROM OFF EXHIBIT HOLDING AREA

OFF EXHIBIT HOLDING AREAS	
TOTAL AREA	420 SQ.M.
EXERCISE YARD	271 SQ.M. (OPEN TO SKY)
KRAAL BUILDING	149 SQ.M. (ROOF COVERED)
FEEDING STALLS	4 NUMBERS, EACH OF MIN SIZE 3M X 3.6M X 2.5M HEIGHT, SEPARATE LARGER BULL SINGLE STALL 5M X 5M
EXTRA BULL YARD	SEPARATED WITH 1.5M HEIGHT STEEL BARRIER
ACCESS TO EXHIBIT	THE KRAAL SHALL BE CONNECTED TO THE EXHIBIT THROUGH A GATES FROM EXECISE YARD AND FEEDING STALLS
SERVICE ACCESS	PARKING & ACCESS FOR SERVICE VEHICLES TO THE KRAAL FROM SERVICE ROAD THROUGH 3M SERVICE GATE
KEEPER ROOM	KEEPER ROOM AND HAY STORE IS PROVIDED IN THE KRAAL BUILDING

CONSULTANTS:

Jon Coe Design - Idea Design Consortium

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250 Mt. Riddell Road 30/1596-D, Narayanan Assan Road  
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GOVERNMENT OF KERALA  
FOREST HEADQUARTERS, VAZHUTHACAUD,  
THIRUVANANTHAPURAM - 695014  
KERALA, INDIA

*Handwritten signature and initials in blue ink.*