



83 Registered Post



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 62nd 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, 6th 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:

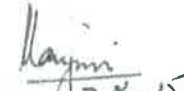
- a) Covered exercise yard may be removed.
b) Sharp edges to be removed.

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, 6th Floor, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.



THRISSUR ZOOLOGICAL PARK

Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3

EXHIBIT DESIGNS

DRAWINGS FOR STATUTORY APPROVAL

27th March, 2015

LEOPARD EXHIBIT



EXHIBIT 09_ LEOPARD (*Panthera pardus*)

PROPOSED COLLECTION PLAN	MALE	FEMALE	TOTAL
	2	2	4
AREA STATEMENT			
EXHIBIT AREA STANDARDS (as per CZA rules)	500 sqm PER PAIR	100 sqm PER ADDITIONAL ANIMAL	REQUIRED TOTAL 700 sqm
PROPOSED AREAS			
EXHIBIT AREA	1523 sqm		
OFF-EXHIBIT HOLDING AREA	534 sqm (Kraal building 163 sqm, Exercise yard 326sqm, External keeper Circulation areas 45 sqm)		
BARRIER DETAILS PROPOSED			
FRONT BARRIER	U SHAPED DRY MOAT OF WIDTH 8M AND DEPTH 5M	ALL BARRIERS PROPOSED ARE AS PER CZA STANDARDS	
REAR AND SIDE BARRIER	CHAINLINK FENCE 5M HEIGHT WITH ADDITIONAL 1.5M BARBED WIRE OVERHANG AT 60 DEG ANGLE.		
OTHER DETAILS	OVER HANG FENCE WITH HOT WIRE (for all barriers)		
ENRICHMENT DETAILS			
EXHIBIT AREA	DEAD FALL LOGS, SHALLOW POOL, ARTIFICIAL ROCK WORK etc		
KRAAL AREA	BRANCHES HUNG FROM ROOF FRAME, LEDGES AND SLEEPING PLATFORMS etc		

INTRODUCTION:

The Leopard exhibit is located in the Eastern portion of the Zoo on a North East facing slope. The exhibit has an area of 1523 sqm on a sloping terrain. There are two Animal viewing pockets along the Visitor path and two Viewing Shelters with viewing through toughened glass panels.

BARRIER DETAILS:

- **FRONT BARRIER:** The exhibit has a U shaped DRY MOAT along the front boundary aligned parallel to the Visitor path. The moat has an 8m horizontal width at the top and a depth of 5m with an overhang fence with HOT WIRE barrier.
- **REAR BARRIER:** The rear barrier is a Fence of height with an additional 1.5m overhang at 60 deg with barbed wire. The fence is hidden (from visitor viewing) with planting.
- The **STAND OFF BARRIER** of 110cm height along the edge of the Animal Viewing pockets controls public access to the moat. It continues between the Viewing areas as a hidden fence of 100cm height in the vegetation.
- The two Animal viewing pockets are defined by giant boulders and there is an interesting third 'Key hole' viewing point through a slit in the boulder arrangement.
- A minimum width 1.5m of hedge planting separates the moat from the Standoff barrier.

- At two points, closer animal viewing through glass is facilitated in the **VIEWING SHELTERS**. The exterior architectural concept of these shelters emulates a mass of a group of rocks and dead trees with shrubs and thickets that is common in the local hills.

ANIMAL EXHIBIT AREA:

- The Leopard exhibit area has an approximate width of 60 m and depth of 20m. The exhibit has a mildly sloping area in the front which allows for closer glass viewing of the animal.
- A series of artificial rock works and cliffs steps up the rear portion of the exhibit.
- Two sets of rugged steps lead to the off exhibit animal holding areas which is screened by a wide belt of planting. Low height bamboos and tall grasses screen the Kraal building behind from the visitor.
- Larger trees are planted only in the central zone which has a clear 9m clearance from the inner moat edge.

OFF EXHIBIT ANIMAL HOLDING AREA:

- The Off exhibit Animal Holding area contains a Kraal building (163 sqm) and an Exercise Yard (326 sqm).
- The Kraal (Night Shelter) has 7 cubicles each of min. size 1.8m x 3m x 2.5m height. All cubicles have floor drains. There is direct connection from the cubicles to the exhibit as well as the exercise yard.
- A separate larger cubicle with attached Cubbing den and CCTV provision is also provided.
- The open to sky areas of the Exercise Yard has an Overhead Mesh with minimum 5m height
- A Keeper Room, Utility room and a Keeper Aisle of 2.5m provides food and other services to the animals.

EXHIBIT ENRICHMENT ASPECTS:

- By providing a variety of substrates, levels and complexities in the exhibit, the leopards are encouraged to move around and exercise in the zoo enclosure.
- Dead trees, Rocks, Sway Branches, ledges and sleeping platforms are provided in the exhibit as well as the off exhibit holding area.

SERVICE ASPECTS:

- Both the Exhibit area and the Off exhibit Animal Holding area are provided with Services from the Service road.
- The entry/ exit gates for animals to / from the exhibit have provision for Keeper control and operation from Service areas.
- The Keeper / utility room in the Kraal has provision for Storage, Kitchenette, sink and refrigerator.



THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

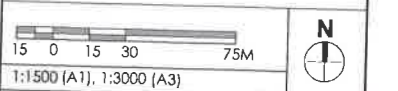
DPR -STAGE 3:
DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:
LEOPARD

DRAWING TITLE:
LOCATION PLAN

DRAWING NO:	DATE:	REVISION:
DPR/S3/LEO/01	27.03.2015	

SCALE:
1:1500 (A1), 1:3000 (A3)



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 Vyttila, Cochin, India - 682019
Australia Phone: +91 484 4036526, 4046526
Email: jon@jcoedesign.com Email: mail@ideadesign.org

Jon Charles Coe, AIA, FASLA, ARAZPA
Jon Coe Design Pty Ltd., Australia.

Billy E Menon, M Arch, AIA, AIUD
Idea Design, Cochin.

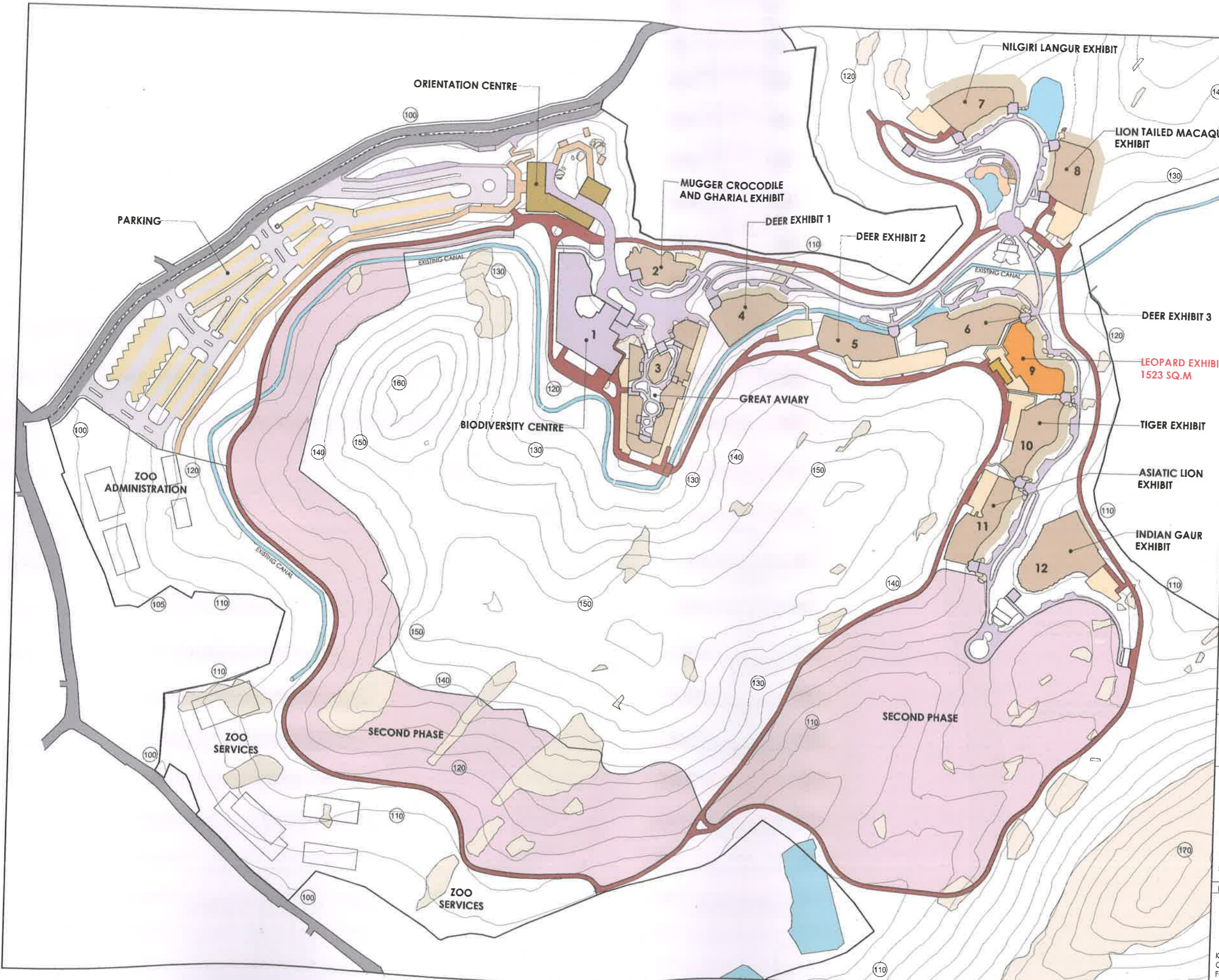
Chitra Biley, B Arch, MIA, AISOI A
Idea Design, Cochin.

Michael Little, MIA
Idea Design, Bangalore

Felix Varkeykunju, M Tech
Spoton Engineering Software Services, Emakulam

PROJECT BY:

KERALA FOREST DEPARTMENT
GOVERNMENT OF KERALA
FOREST HEADQUARTERS, VAZHUTHACAUD,
THIRUVANANTHAPURAM - 695014
KERALA, INDIA





THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR -STAGE 3:
DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:
LEOPARD

DRAWING TITLE:
EXHIBIT PLAN

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

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

- LEGEND:
- (135) EXISTING CONTOUR LEVEL
 - +127 PROPOSED LEVEL
 - L1 SECTION NAME
 - PROPOSED LOW PLANTING
 - PROPOSED PLANTING
 - PROPOSED ROCK
 - EXISTING ROCK
 - OVERHEAD MESH
 - FENCE

COLLECTION PLAN:

MALE	FEMALE	TOTAL
2	2	4

AREA STATEMENT:

LEOPARD EXHIBIT	1523 Sq.m
KRAAL (OFF EXHIBIT HOLDING AREAS)	534 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 4036326, 4046526
Email: jon@joncoedesign.com Email: mail@ideadesign.org

Jon Charles Coe, AILA, FASLA, ARAZPA
Jon Coe Design Pty Ltd., Australia,
Billey E Menon, M Arch, AILA, AIUD
Idea Design, Cochin.

Chitra Billey, B Arch, MLA, AISOLA
Idea Design, Cochin.
Michael Little, M A
Idea Design, Bangalore

Felix Varkeykunju, M Tech
Spoton Engineering Software Services, Ernakulam

PROJECT BY:

KERALA FOREST DEPARTMENT
GOVERNMENT OF KERALA
FOREST HEADQUARTERS, VAZHUTHACAUD,
TRUVANANTHAPURAM - 695014
KERALA, INDIA



C. Syalarki



THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

LEOPARD

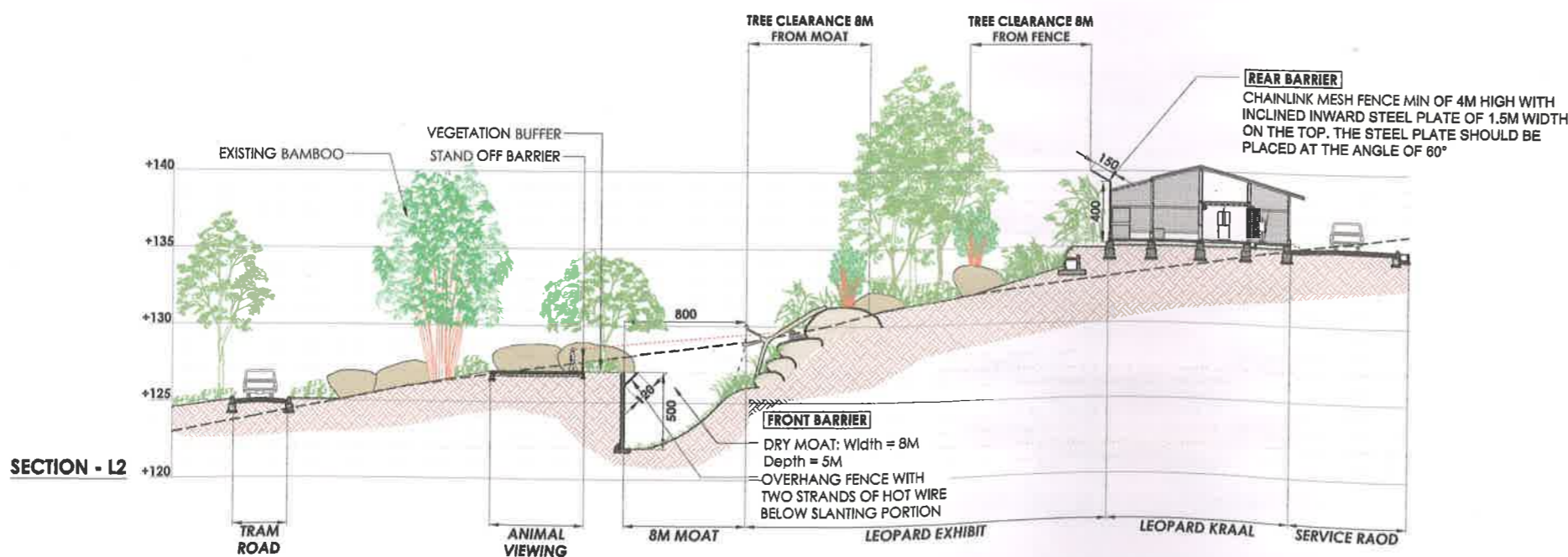
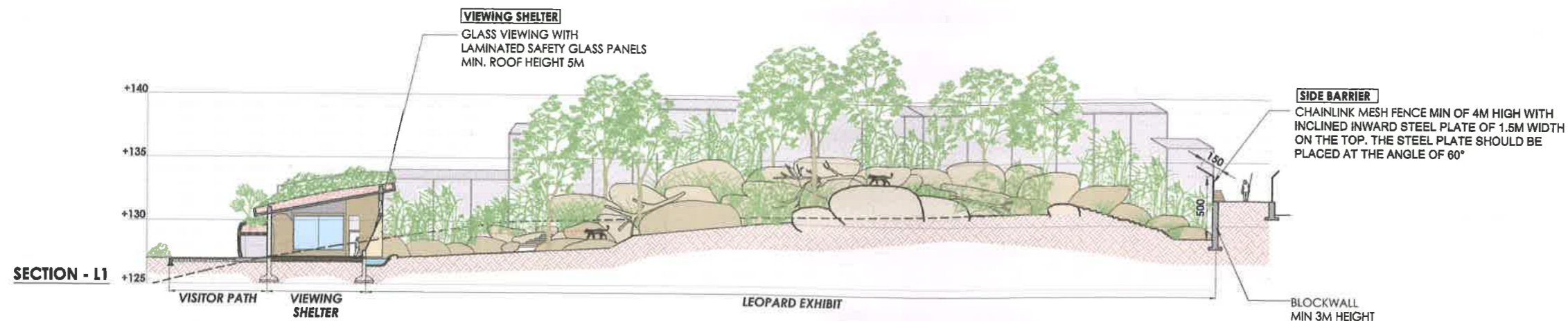
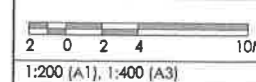
DRAWING TITLE:

EXHIBIT SECTION

DRAWING NO: DATE: REVISION:

DPR/S3/LEO/04 27.03.2015

SCALE:



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: mail@ideadesign.org

Jon Charles Coe, AILA, FASLA, ARAZPA
Jon Coe Design Pty Ltd., Australia.

Billey E Menon, M Arch, AIA, AIUD
Idea Design, Cochin.

Chitra Billey, B Arch, MLA, AISOLA
Idea Design, Cochin.

Michael Little, AIA
Idea Design, Bangalore

Felix Varkeykunju, M.Tech
Spoton Engineering Software Services, Ernakulam

PROJECT BY:

KERALA FOREST DEPARTMENT
GOVERNMENT OF KERALA
FOREST HEADQUARTERS, VAZHUTHACAUD,
THIRUVANANTHAPURAM - 695014
KERALA, INDIA

Handwritten signature and name: C.S. Dalakki



THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:
DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:
LEOPARD

DRAWING TITLE:
KRAAL - PLAN, ELEVATION AND SECTION

DRAWING NO: DPR/S3/LEO/05 DATE: 27.03.2015 REVISION:

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

LEGEND:
 (35) EXISTING CONTOUR LEVEL
 +137 PROPOSED LEVEL
 A SECTION NAME
 PROPOSED PLANTING
 PROPOSED LOW PLANTING
 OVERHEAD MESH
 FENCE

COLLECTION PLAN:

MALE	FEMALE	TOTAL
2	2	4

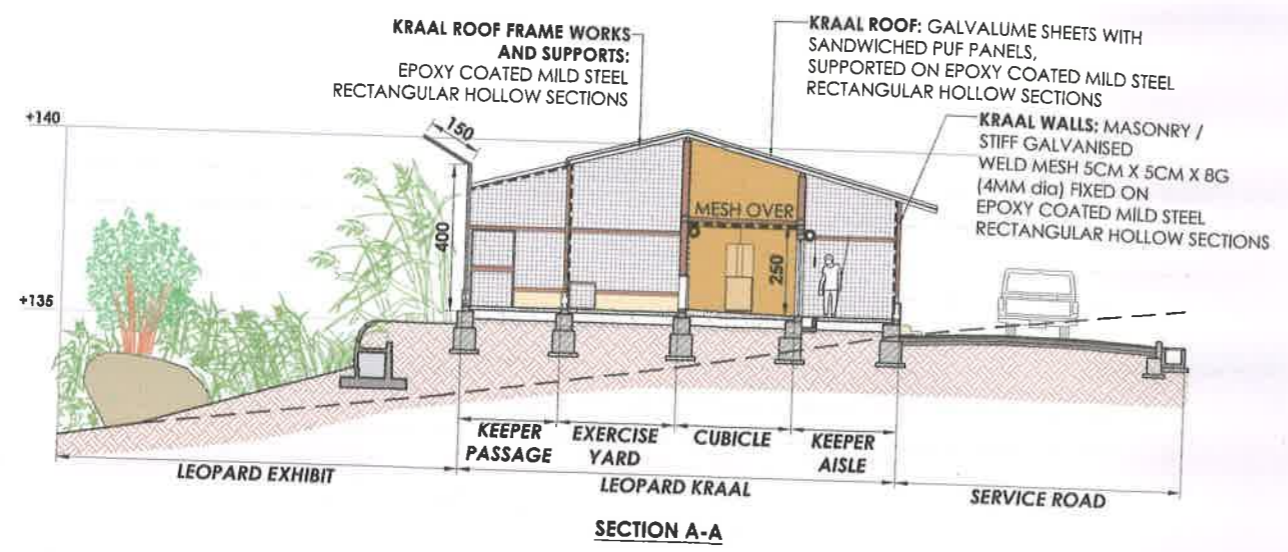
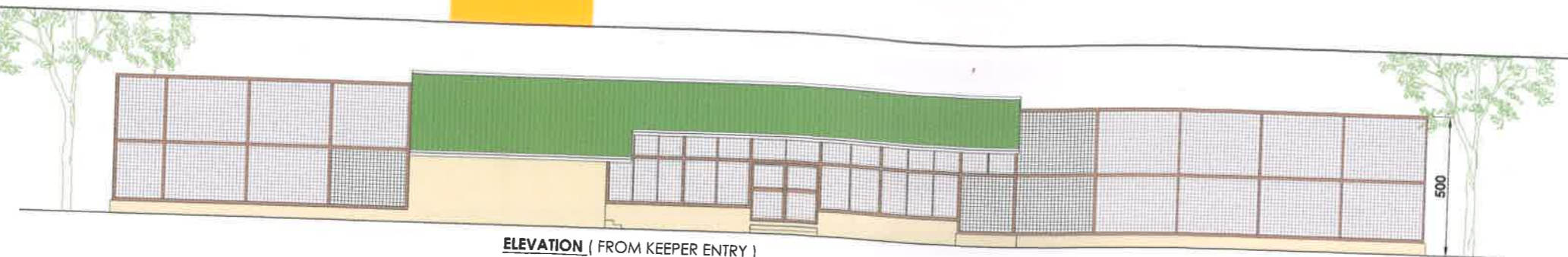
AREA STATEMENT:

KRAAL BUILDING	163 Sq.m
EXERCISE YARD	326 Sq.m
EXTERNAL KEEPER CIRCULATION	45 Sq.m

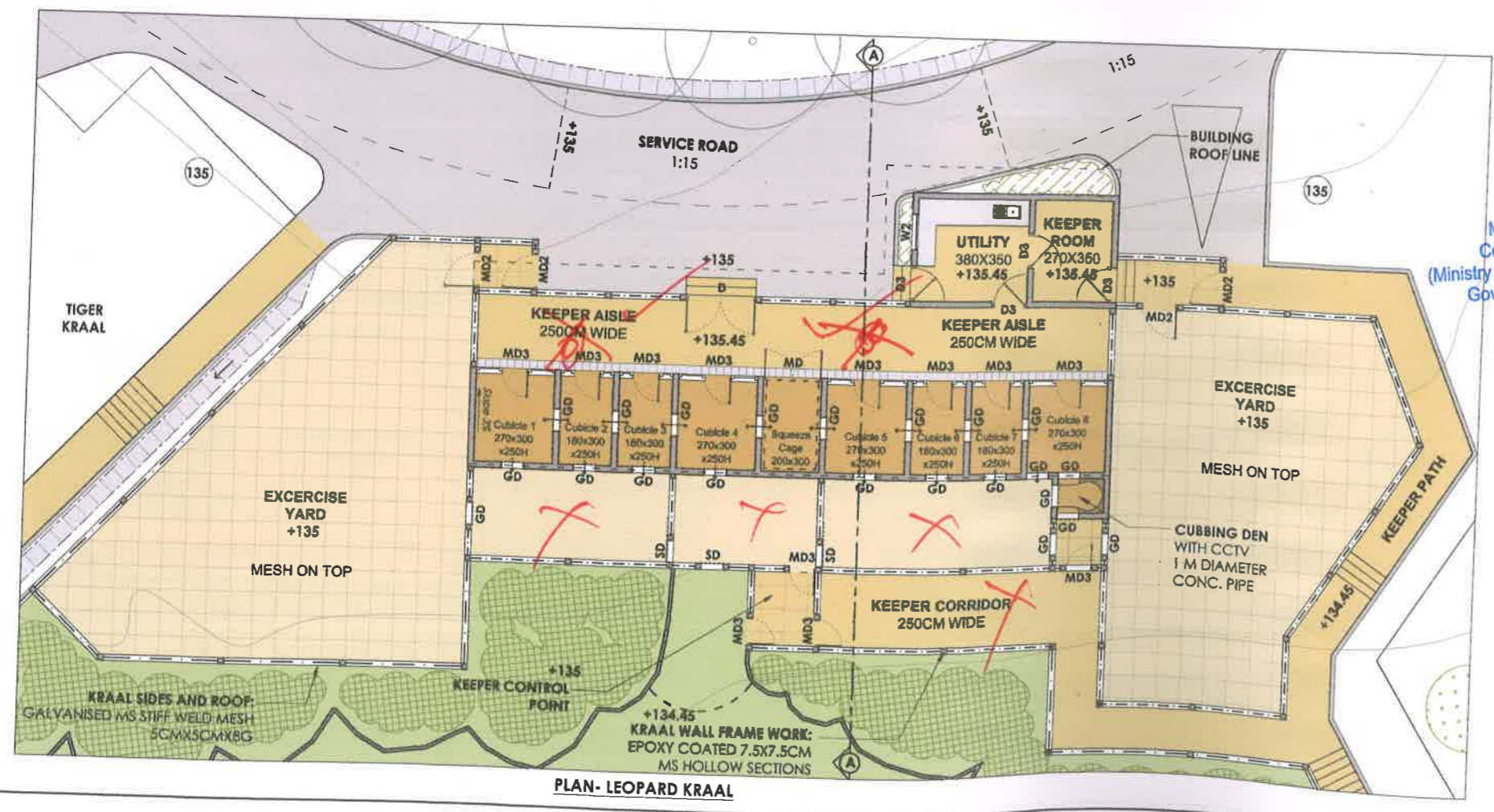
CONSULTANTS:
Jon Coe Design - Idea Design Consortium
 Jon Coe Design Pty Ltd. Idea Design
 250 Mt. Riddell Road 30/1596-D, Narayanan Assan Road
 Heidelberg, VIC 3777 Vyttila, Cochin, India - 682019
 Australia Phone: +91 484 4036526, 4046526
 Email: jon@jonedesign.com Email: mail@ideadesign.org

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

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



May be approx subject to incorporation of changes suggested.



hansini 7.8.15

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

*C. S. Galakki
Apex CDSP
Special officer*

SCHEDULE OF OPENINGS:

Type	Size		Nos.
	Width	Height	
D Main door	240	210	1
D3 Panelled door	120	210	4
MD Mesh door	200	210	1
MD2 Mesh door	120	210	4
MD3 Mesh door	90	210	12
GD Guillotine door	75	90	22
SD Sliding door	75	90	3
W2 Window	120	120	1

REVISED 13.07.2015



THIRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Pulthur

DPR - STAGE 3:
DRAWINGS FOR STATUTORY APPROVAL
EXHIBIT NAME:
LEOPARD
DRAWING TITLE:
KRAAL - PLAN, ELEVATION AND SECTION

DRAWING NO: DPR/S3/LEO/05 (REVISED)
DATE: 13.07.2015
REVISION:

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

- LEGEND:**
- (135) EXISTING CONTOUR LEVEL
 - +137 PROPOSED LEVEL
 - (A) SECTION NAME
 - PROPOSED PLANTING
 - OVERHEAD MESH
 - FENCE
 - BLOCK WALL WITH FENCE

COLLECTION PLAN:

MALE	FEMALE	TOTAL
2	2	4

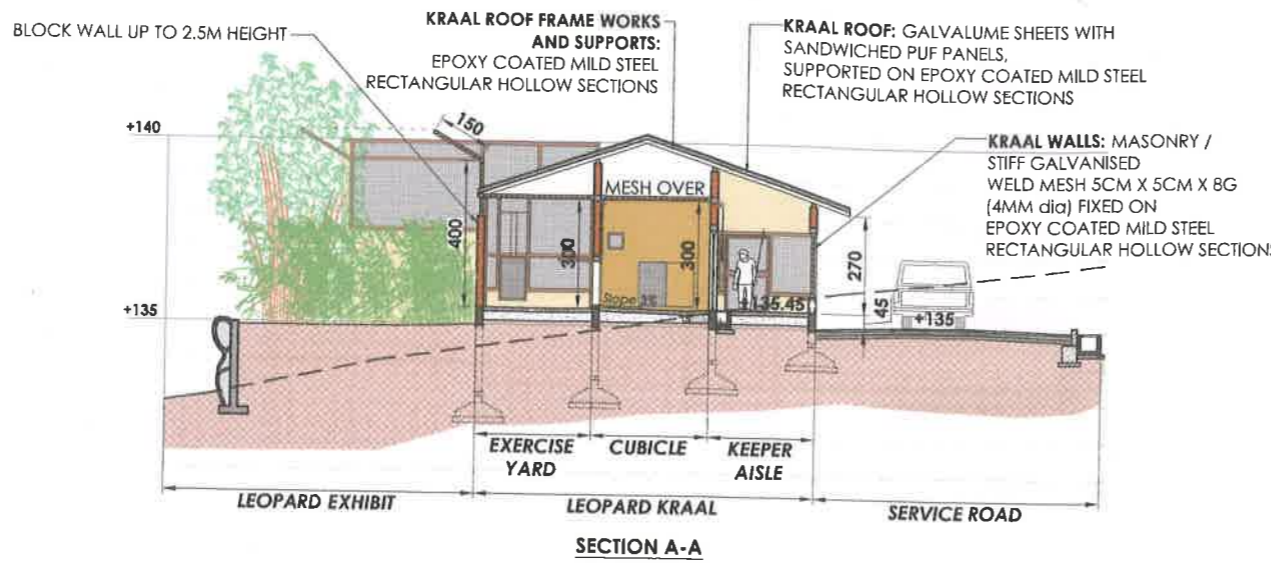
AREA STATEMENT:

KRAAL BUILDING	181 Sq.m
EXERCISE YARD	305 Sq.m

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

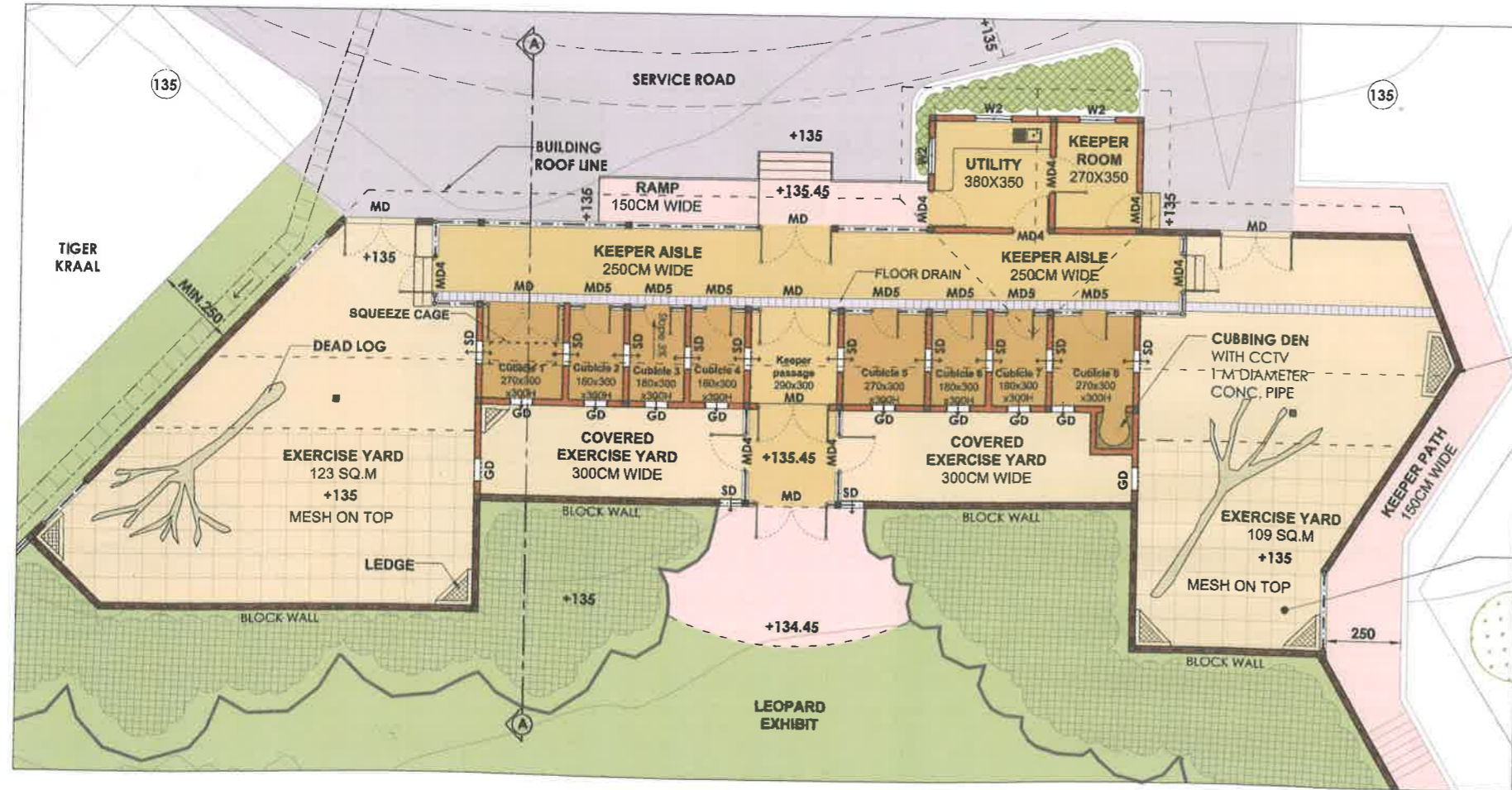
Jon Charles Coe, AILA, FASLA, ARAZDA
Jon Coe Design Pty Ltd., Australia.
Billey E Menon, M Arch, AIA, AIUD
Idea Design, Cochin.
Chitra Billey, B Arch, MIA, AISOLA
Idea Design, Cochin.
Michael Little, MIA
Idea Design, Bangalore.
Felix Varkeykunju, M Tech
Spoton Engineering Software Services, Emakulam

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



SCHEDULE OF OPENINGS:

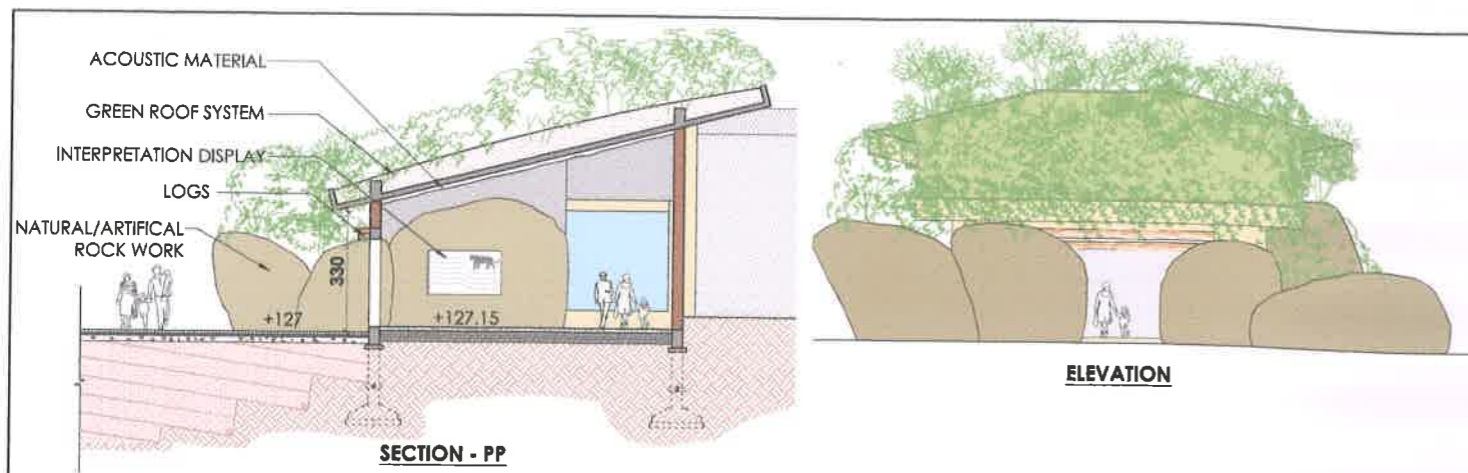
Type	Size		Nos.
	Width	Height	
MD	Mesh door	240 210	7
MD4	Mesh door	120 210	8
MD5	Mesh door	90 210	7
W2	Window	120 120	3
GD	Guillotine door	75 120	10
SD	Sliding door	75 120	10



EXERCISE YARD:
SIDES:-
LOWER 2.5M HEIGHT BLOCKWALL, UPPER 2.5M HEIGHT GALVANISED CHAIN LINK FENCE 5CM X 5CM X 8GUAGE (4MM dia) FIXED ON EPOXY COATED MILD STEEL RHS FOR STRUCTURAL POSTS
ROOF:-
GALVANISED CHAIN LINK FENCE 5CM X 5CM X 8GUAGE (4MM dia) FIXED ON EPOXY COATED MILD STEEL RHS FOR STRUCTURAL POSTS

EXERCISE YARD:
5M CLEAR HEIGHT

Handwritten signature in blue ink.



LEOPARD EXHIBIT AREA	
EXHIBIT AREA	1523 SQ.M.
FRONT BARRIER	U SHAPED WET MOAT- 8M HORIZONTAL WIDTH AT TOP, 5M DEPTH AND INCLINED OVERHANG FENCE WITH HOT WIRE
REAR AND SIDE BARRIER	4M HT CHAIN LINK FENCE WITH ADDITIONAL 1.5 M CHAIN LINK AND BARBED WIRE OVERHANG AT 60° ANGLE
CHAIN LINK MESH FIXING DETAILS	CHAIN LINK FENCE 5CM X 5CM X 8G (4MM) FIXED ON 75MM X 75MM X 6MM EPOXY FINISHED GI ANGLE POSTS. MESH SHALL BE PLACED ON THE INNER SIDE OF THE STRUCTURAL POST AND SHALL BE EMBEDDED IN THE MASONRY BASE SLOPED BOTH WAYS TO PREVENT ACCUMULATION OF WATER AND URINE.
ANIMAL VIEWING	ANIMAL VIEWING AT TWO POCKETS ALONG VISITOR PATH. ADDITIONAL GLASS VIEWING AT TWO PLACES FROM VIEWING SHELTERS.
ENRICHMENT FEATURES	DEAD FALL LOGS HUNG , SHALLOW POOL , ROCKS AND BOULDERS
SERVICE ACCESS	KEEPER ACCESS INTO THE EXHIBIT IS PROVIDED

THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:
DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:
LEOPARD

DRAWING TITLE:
TYPICAL DETAILS - VIEWING SHELTER AND STAND OFF BARRIER

DRAWING NO: DPR/S3/LEO/06	DATE: 27.03.2015	REVISION:
-------------------------------------	----------------------------	------------------

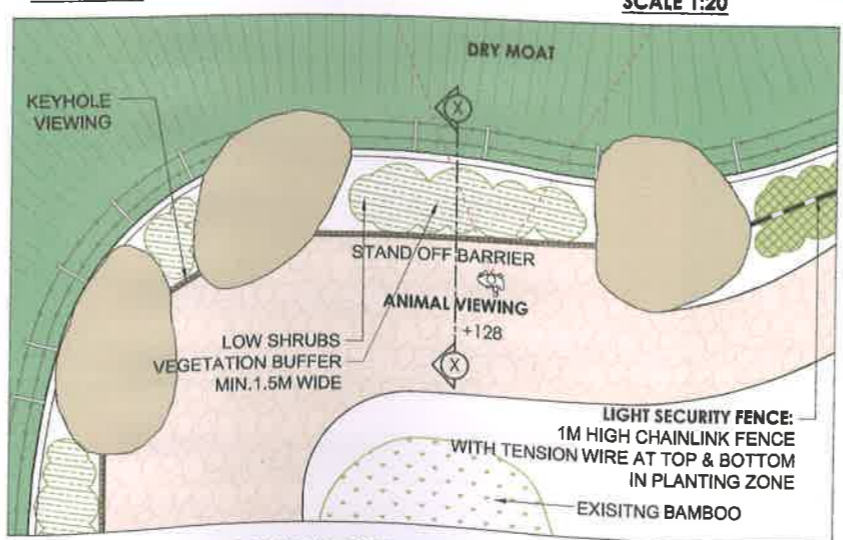
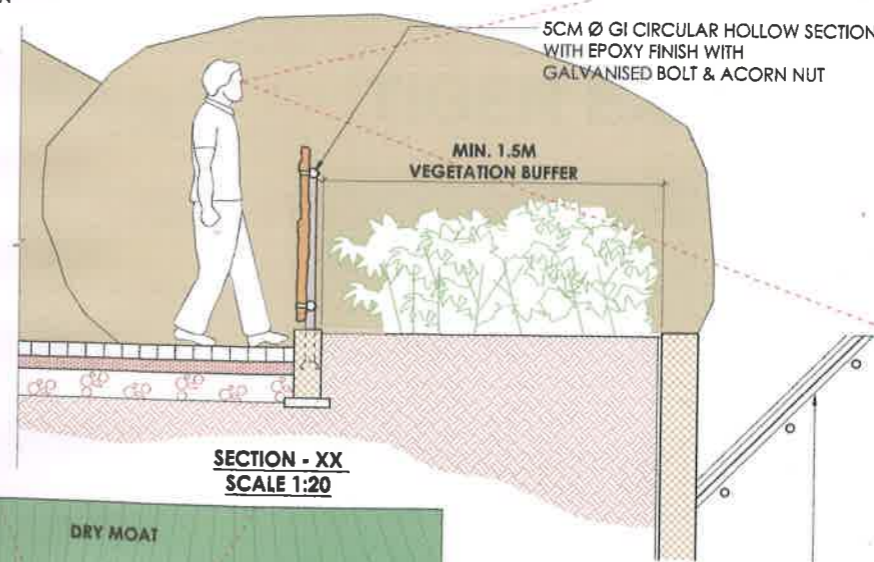
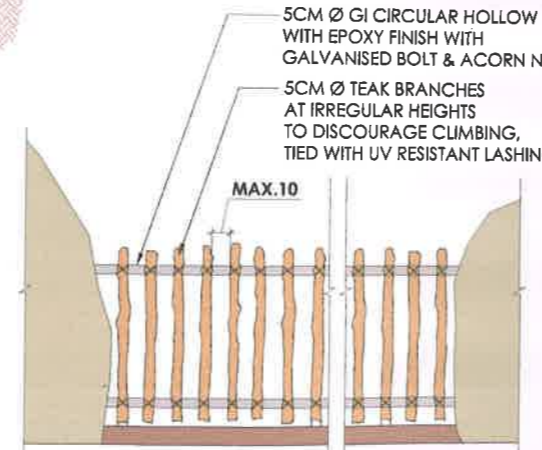
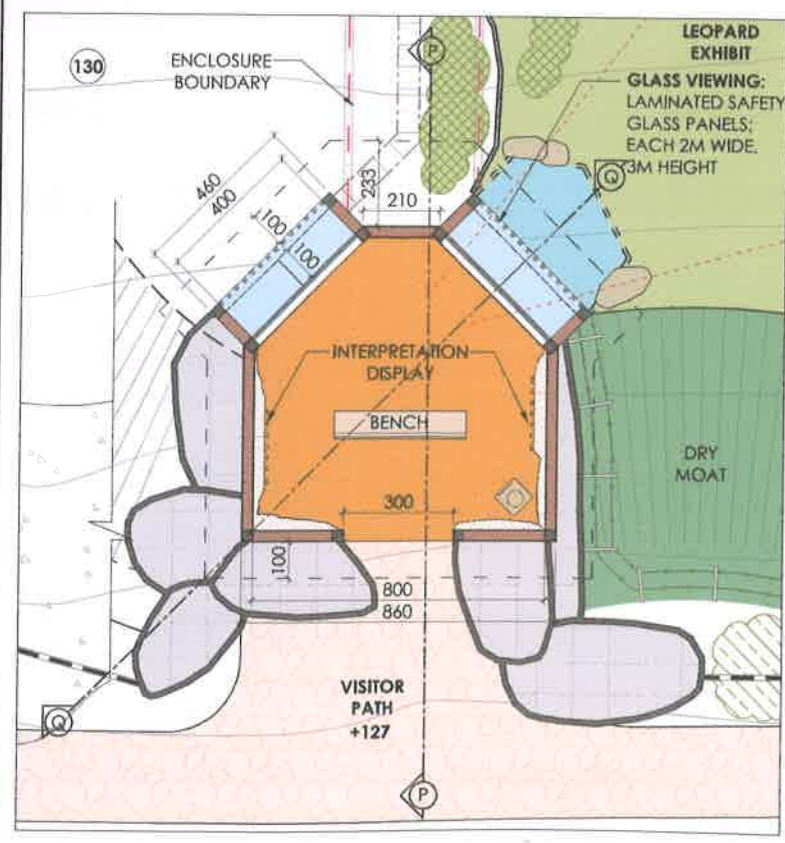


OFF EXHIBIT HOLDING AREAS	
TOTAL AREA	534 SQ.M.
EXERCISE YARD	326 SQ.M. (MESH ON TOP)
KRAAL BUILDING	163 SQ.M. (TOP COVERED)
FEEDING CUBICLES	8 NUMBERS, EACH OF SIZE MIN 3M X 1.8M X 2.5M HEIGHT
CUBBING DEN	WITH 1M Ø CONCRETE PIPE AND PROVISION FOR CCTV
ACCESS	THE KRAAL SHALL BE DIRECTLY CONNECTED TO THE EXHIBIT WITH A RACEWAY WITH MESH ON TOP.
ENRICHMENT FEATURES	DEAD WOOD LOGS AND BRANCHES, LEDGES, ETC
SERVICE ACCESS	PARKING AND ACCESS FOR SERVICE VEHICLES TO THE KRAAL FROM SERVICE ROAD

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

LEGEND:

- +127 PROPOSED LEVEL
- P SECTION NAME
- PROPOSED PLANTING
- PROPOSED LOW PLANTING
- FENCE



OVERHANG FENCE WITH THREE STRANDS OF HOT WIRE BELOW SLANTING PORTION

C. S. Yalakan

TYPICAL VIEWING SHELTER - PLAN
AREA- 55 SQ.M

TYPICAL STAND OFF BARRIER DETAIL - PLAN

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@jondesign.com Email: mail@ideadesign.org

Jon Charles Coe, AILA, PASLA, ARAZPA
Jon Coe Design Pty Ltd., Australia.
Biley E Menon, M Arch, AIA, AIUD
Idea Design, Cochin.
Chitra Biley, B Arch, MLA, AISOLA
Idea Design, Cochin.
Michael Little, MLA
Idea Design, Bangalore.
Felix Varkeykunju, M Tech
Spoton Engineering Software Services, Ernakulam

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