

Designing with Wolves

A mountain with a wolf on it stands a little taller.
– Edward Hoagland, Red Wolves and Black Bears

1 – Attitudes

words and places

2 – Environmental Enrichment Program

document and its implication

3 – Dublin Zoo Wolves in the forest

Wolves and visitors from Detroit Zoo
featured on cover of the Exhibit Design
issue of WAZA magazine



Designing with Wolves

Attitude (feelin' it)

Wolves (and wildlife) in culture and literature

“In a world older and more complete than ours ... gifted with extensions of the senses we have lost or never attained, living by voices we shall never hear. They [animals] are not brethren, they are not underlings; they are other nations, caught with ourselves in the net of life and time.”

– Henry Breston,
The Outhermost House

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Attitudes (feelin' it)

Wolves in culture and literature

*'Oh! grandmother,' she said, 'what big ears you have!'
'All the better to hear you with, my child,' was the reply.*

*'But, grandmother, what big eyes you have!' she said.
'All the better to see you with, my dear.'*

*'But, grandmother, what large hands you have!'
'All the better to hug you with.'*

*'Oh! but, grandmother, what a terrible big mouth you have!'
'All the better to eat you with!'"*

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Attitudes (feelin' it)

Wolves in society and literature

"If you live among wolves you have to act like a wolf."

- Nikita Khrushchev

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Attitudes (feelin' it)

Wolves (and wildlife) in culture and literature

*“The White Man must treat the beasts of this land as his brother. What is man without the beasts? **If all the beasts were gone, man would die from a great loneliness of spirit.** For whatever happens to the beasts, also happens to the man.”*

- Chief Seattle of the Puget Sound Suwamish Tribe (1855)

Choice of Ron Kagan, director of Detroit Zoo

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Attitude (seein' it)

Images of wolves and their home places



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Inspiration images
'American Grassland' habitat at the Detroit Zoo

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Attitude (seein' it)

Images of wolves and their home places



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Attitude (seein' it)

Images from home places of wolves



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Designing with Wolves Attitude (seein' it)

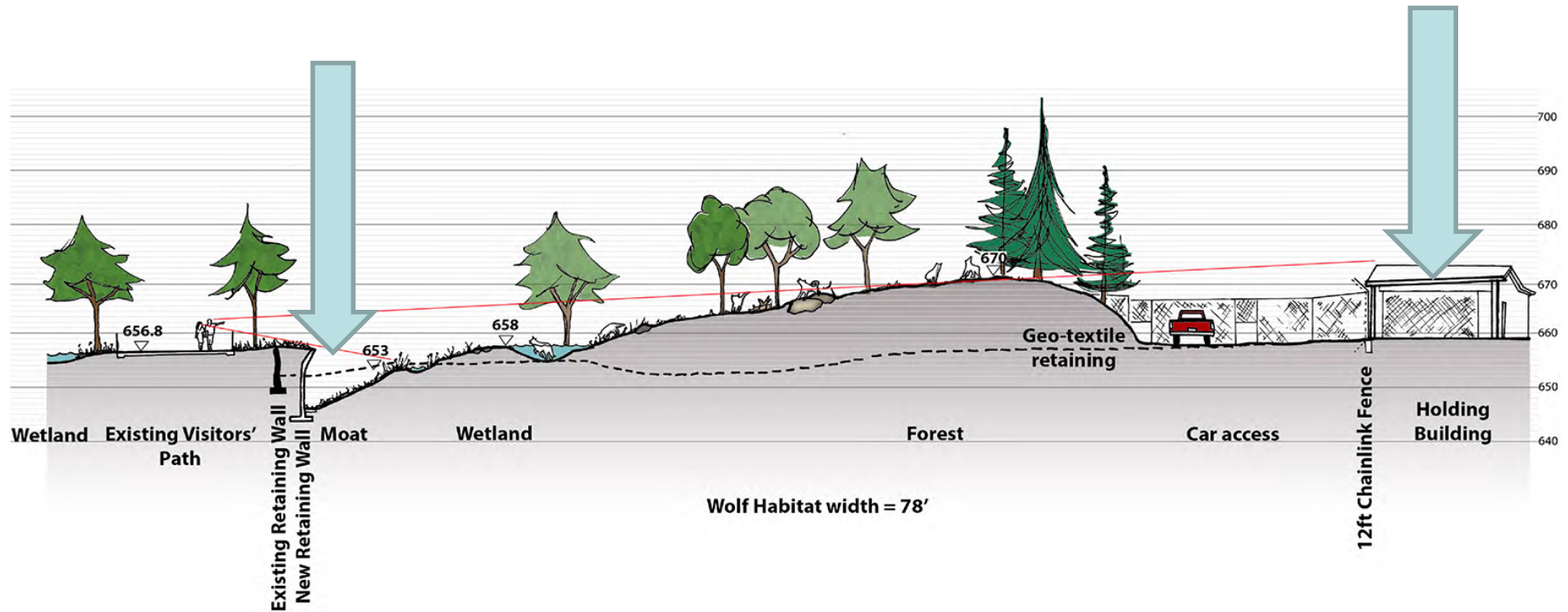
Images from home places of wolves



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Attitude (not seein' that)

Hiding barriers and buildings



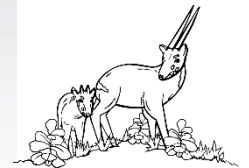
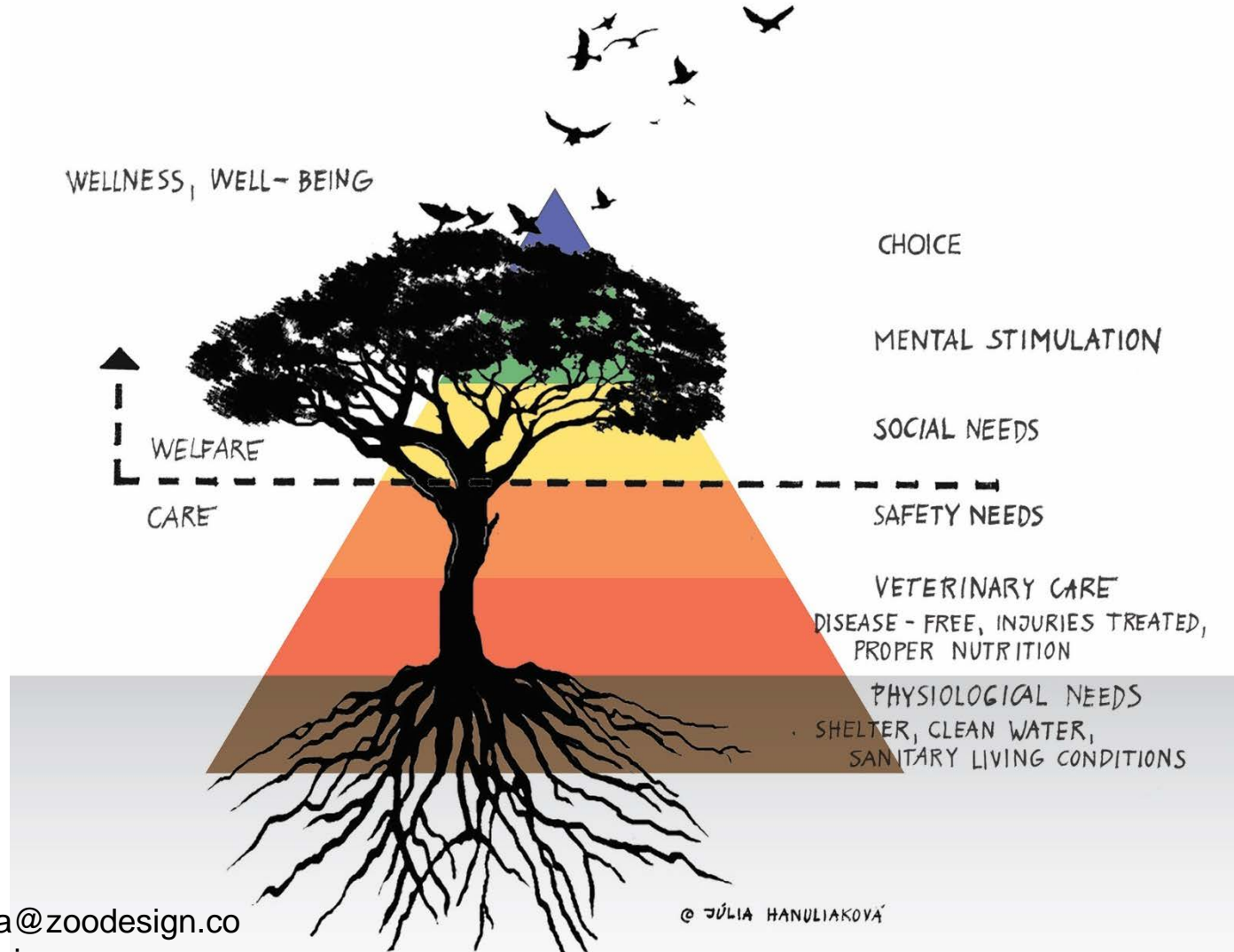
“Only a mountain has lived long enough to listen objectively to the howl of a wolf.”

- Aldo Leopold

Designing with Wolves

Wellness

Maslow's pyramid is a tree



Designing with Wolves

Research (talking with caregivers)

Visiting institutions taking care of wolves and what we learned

Prior to designing our first wolf experience (Zoo Jihlava, Czech Republic) we visited and talked in detail with wolf care takers at many institution:

Wolf Heaven International, Washington, USA

Woodland Park Zoo, Seattle, Washington, USA

Northwest Trek, Eatonville, Washington, USA

Wolf Town, Vashon, Washington, USA

Zoo Schönbrunn, Vienna, Austria

Zoo Olomouc, Czech Republic

Karlova Universita, Czech Republic

Frantisek Susta, **Zoo Praha**, Czech Republic

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Research (talking with caregivers)

Visiting institutions taking care of wolves

Designing for our next project (Detroit Zoo) we added visits to Canadian and US institutions

Yukon Wildlife Park, Whitehorse, Canada

Como Park Zoo, Minnesota, USA

Assiniboine Park Zoo, Winnipeg, Manitoba, Canada

International Wolf Center, Ely, Minnesota, USA

Gaia Zoo, Netherlands

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Environmental Enrichment Program

We are standing on shoulders of giants

Six Environmental Behavioral Enrichment topics

1. Food discovery
2. Scent enrichment
3. Claw care
4. Movement modalities
5. Rest, observation, privacy
6. Acoustic environment

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Environmental Enrichment Program

And another 6 'designers secret' and encouragement to research and innovate

7. Barriers
8. Keepers access to exhibit
9. Transfers
10. Back-of-house
11. Research opportunities
12. Mock-up and experiment opportunities

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Environmental Enrichment Program

Structure

Each topic has 4 subcategories:

- a) Purpose
- b) Approach
- c) Methodology
- d) Examples

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Environmental Enrichment Program: 4) REST, OBSERVATION AREAS, PRIVACY

a) Purpose

- *Increase the amount of time that animals are easily visible in comfortable, natural situations during the course of the day.*
- *Provide a variety of heights, aspects & temperature conditions to enable wolves to change their rest & observation locations based upon their individual needs throughout the course of the day and season.*

b) Approach:

- *Create a variety of niches & surfaces that might be attractive to the animals, depending upon their individual needs.*
- *Ensure that there are spaces that can accommodate more than one animal.*
- *Minimize the perception of human control.*

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Environmental Enrichment Program: **REST, OBSERVATION AREAS, PRIVACY**

c) Methodology

i. Topographical Variety

Provide a variety of heights, aspects & temperature situations so that the wolves can change their resting & observation based upon their individual needs throughout the day / season, including:

- *High / Low*
- *Warm / Cool – Sun / Shade (incl. “cool” and “hot” rocks)*
- *Wet / Dry (in the water when warm / under shelter from rain)*
- *Broad Overview / Intimate Space*
- *Facing South / North / East / West*
- *Close to Guests / At a Distance from Guests*

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Environmental Enrichment Program: REST, OBSERVATION AREAS, PRIVACY

c) Methodology – cont.

ii. Dens

- *Provide dens in the exhibit that allow animals to climb on top of for vantage points as well as use for shelter*
- *Provide shelters over natural dens*
- *Create large ‘community’ shelters*

iii. Privacy

Screen areas of the exhibit with wood fences or vegetation for privacy, especially along the perimeter in non-viewing areas

Comfortable distance from visitors

3m minimum

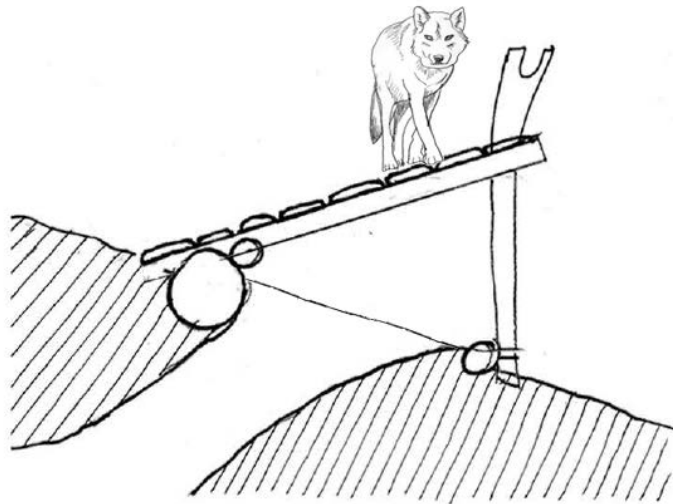
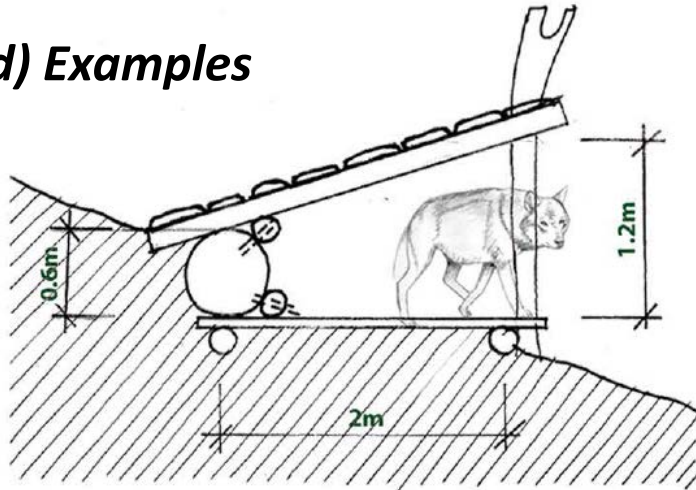
6-10m for lookouts and patrolling

20-30m resting

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Environmental Enrichment Program: 5) REST, OBSERVATION AREAS, PRIVACY

d) Examples



- Rest areas with views and comfortable distance
- Topographical Variety
- **Dens**
- Privacy

Provide dens that allow animals to climb on top of dens.

- Build new dens in view of visitors
- Shelter dens that wolves dig to become part of visitors' experience

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Environmental Enrichment Program: 1) FOOD DISCOVERY

d) Examples



- Food Tubes, at least 2, from shelters
- Bungee Feeders, at least 2
- Lure Line, at least 2, along habitat floor or strung above in the trees with food hanging low
- **Food Cashing**, keepers, **visitors**, timed-release caches located throughout habitat
- **Fish Foraging**, provide seasonal live fish (carp) in pool ?
- Carcass Feeding, public viewing ?
- Novel Food Enrichment, seasonal variety
- Catching of local wildlife

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Environmental Enrichment Program: 3) CLAW and FOOT CARE



- **Provide dig sites with a variety of substrates:** Mulch, sand, pea gravel, soil, etc.
- Rougher substrates like gravel or crushed granite help wear down claws
- **Deter digging by placing gravel or steel mesh around barriers or sensitive structures.** W. dislike digging in gravel and digging / walking on steel mesh.
- **! Structural substrates pose a challenge for wolves, avoid concrete foundations**



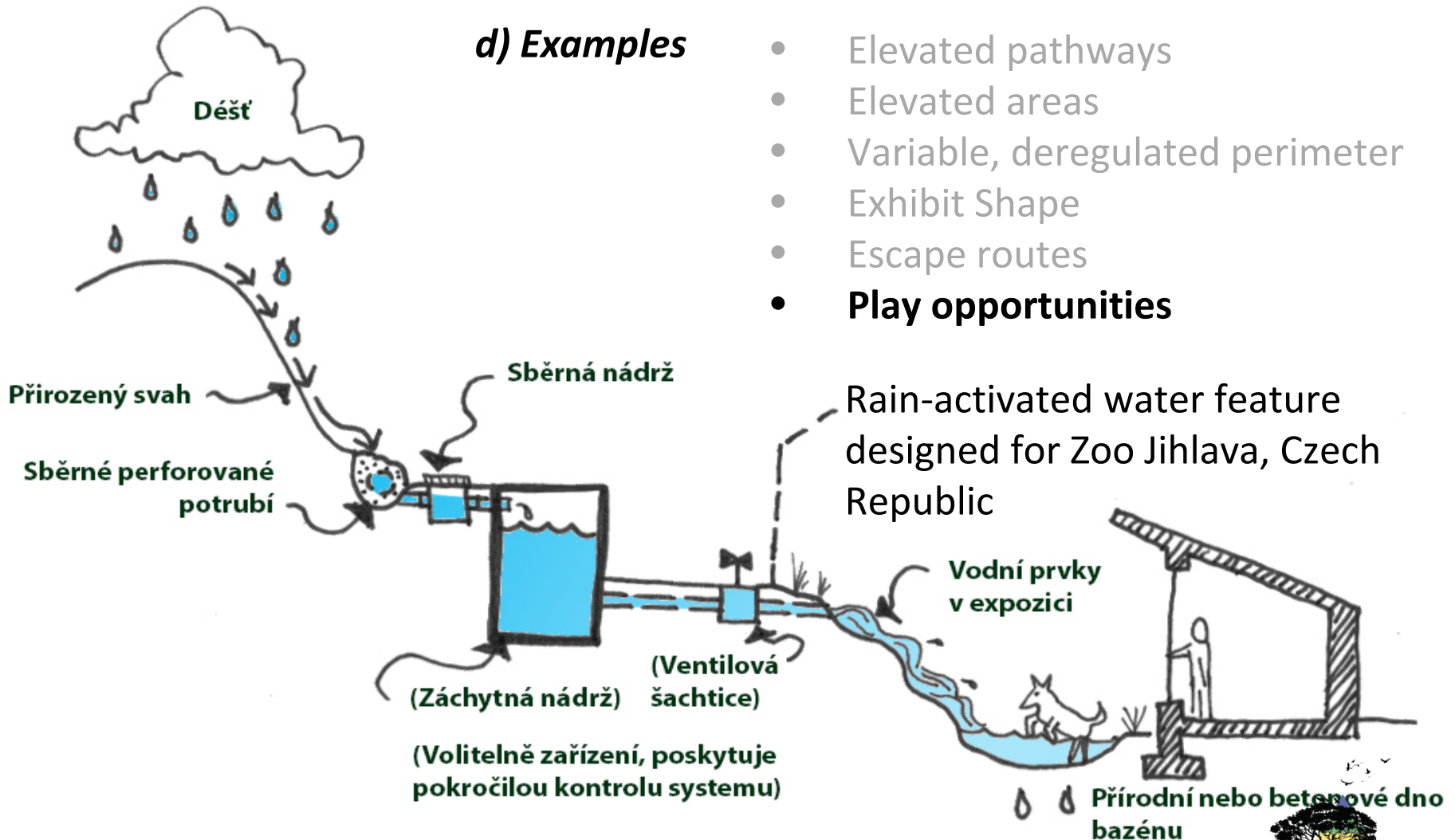
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Environmental Enrichment Program: 4) MOVEMENT MODALITIES

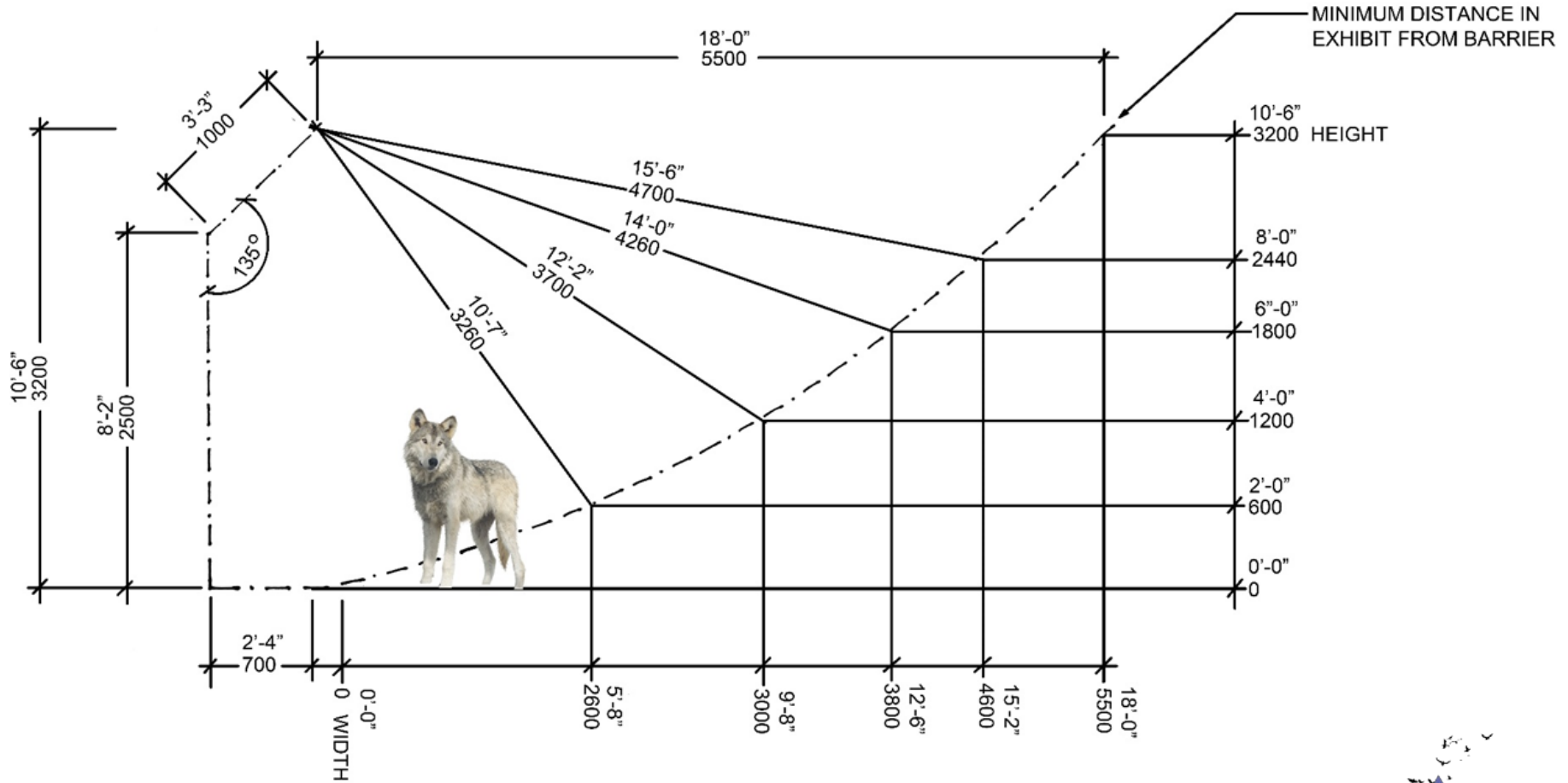
d) Examples

- Elevated pathways
- Elevated areas
- Variable, deregulated perimeter
- Exhibit Shape
- Escape routes
- **Play opportunities**



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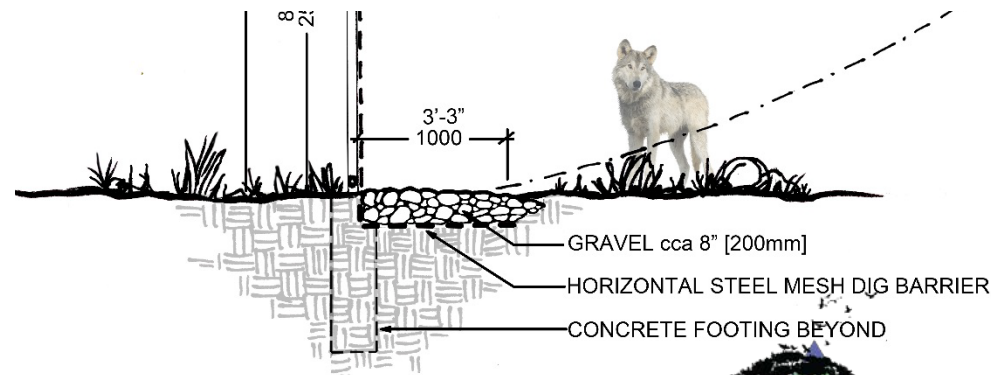
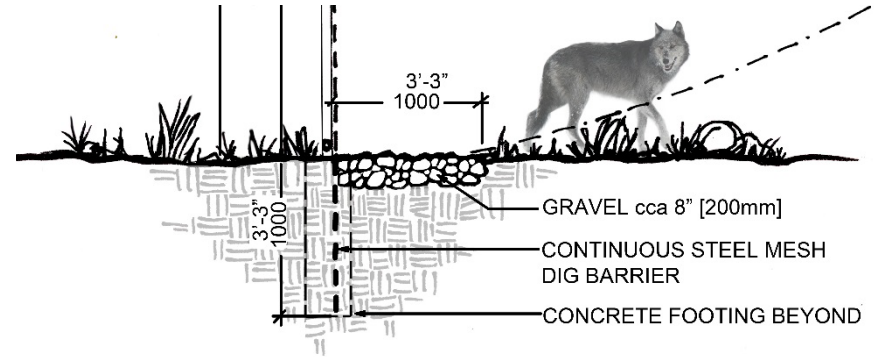
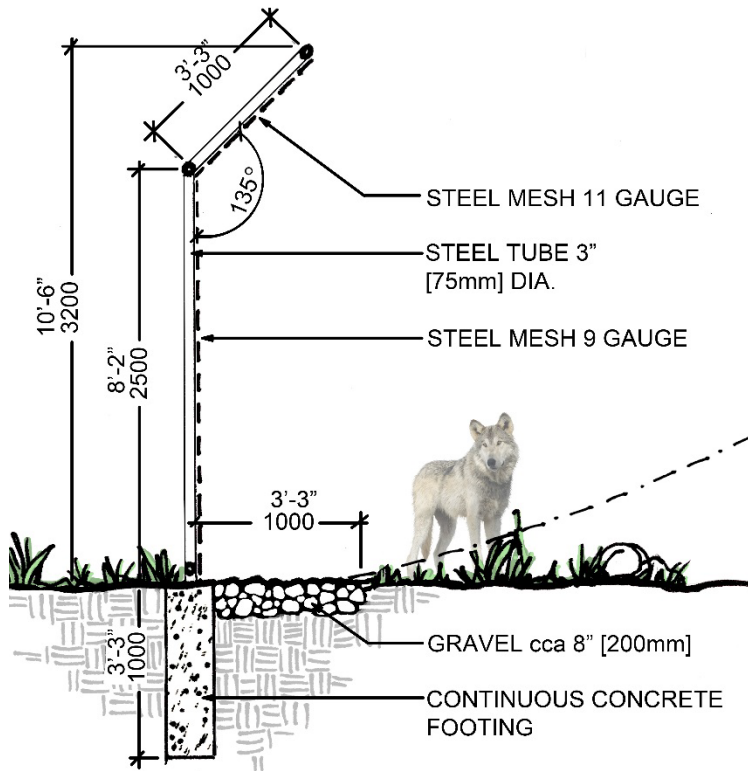
Environmental Enrichment Program: 7) Barriers



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Environmental Enrichment Program: 7) Barriers

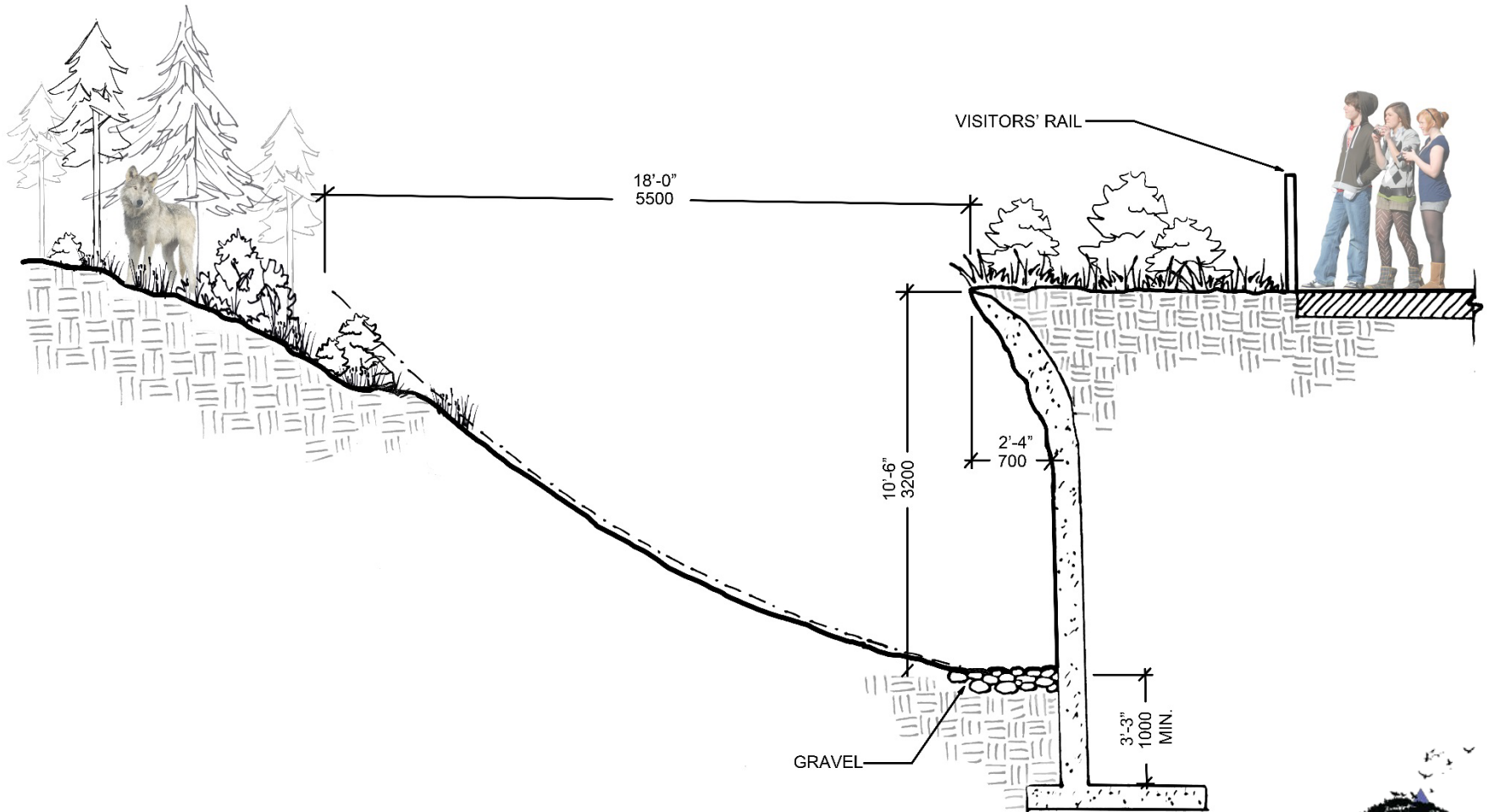
Chain link fence barrier



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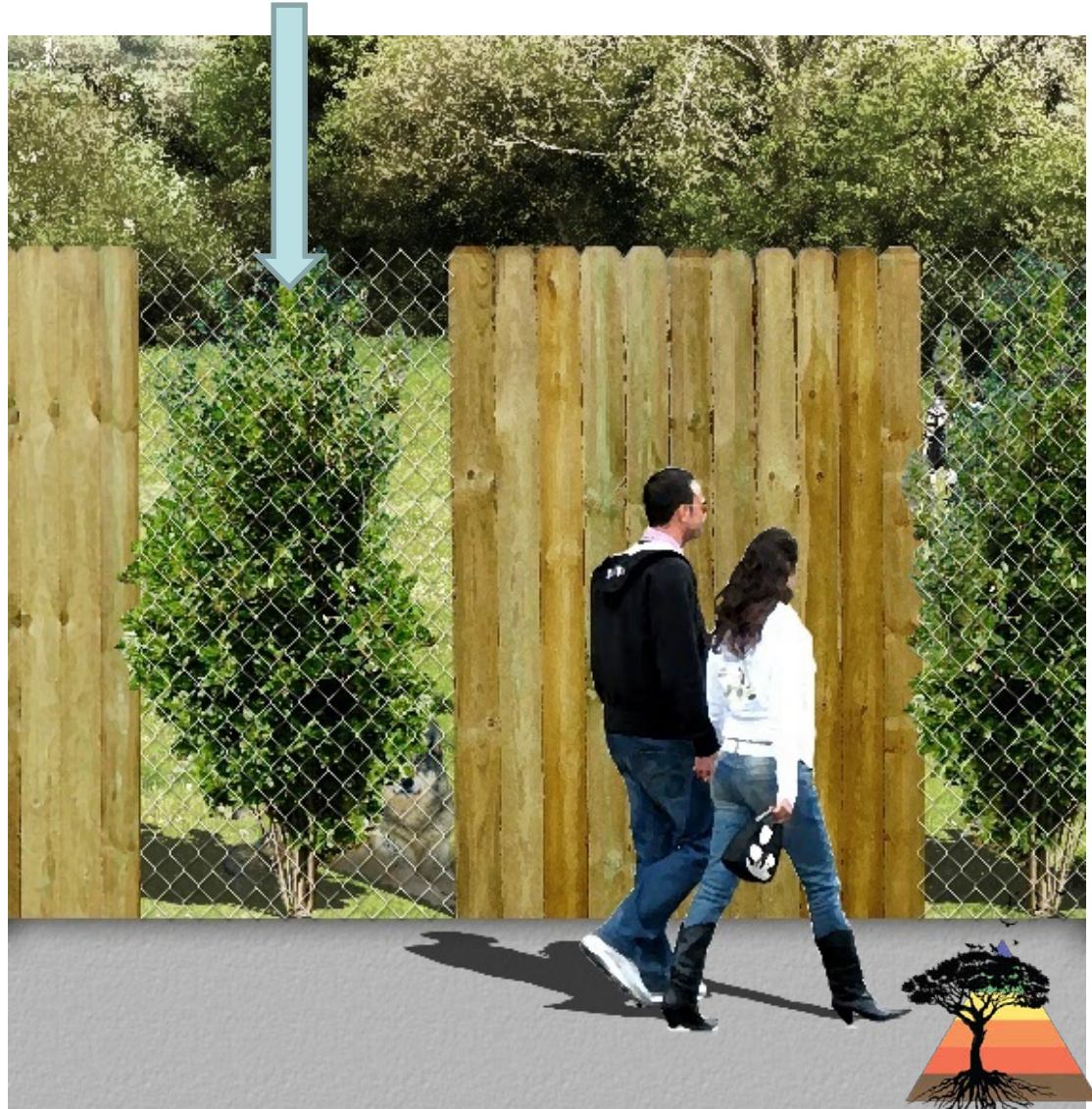
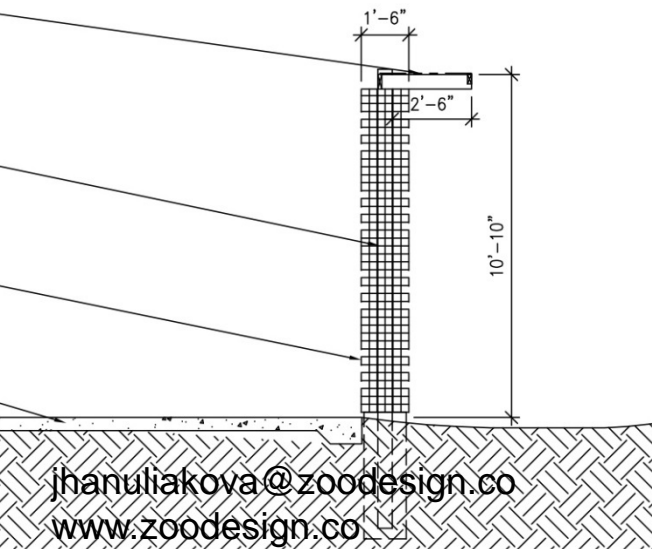
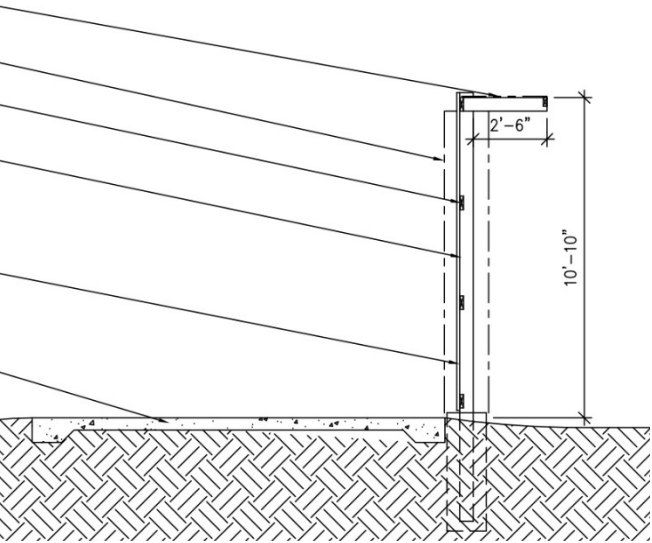
Environmental Enrichment Program: 7) Barriers

Open moat view

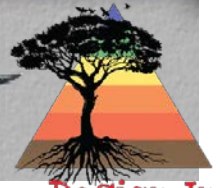


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Environmental Enrichment Program: **7) Barriers**
Wood fence and chain link fence planted basket



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Environmental Enrichment Program: 8) Keepers access to exhibit



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Environmental Enrichment Program: 9) +10) Transfers and back-of-house



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Environmental Enrichment Program: 9) Research Opportunities

- Clawing substrate preferences & longevity of materials (how long is the replacement cycle?).
- Response to acoustic environment (soundscape qualities, preferences for sound shade areas, acoustic prey etc.)
- Habitat substrate preferences
- Habitat area preferences
- Scent preferences and methods for application

10) Mock-up and Experiment Opportunities

Lure Lines, Bungee Feeders, Food caching in objects
Random release feeders

Guests

Response to “acoustic motivators”:

Can we encourage guests to quiet down for an acoustic reward?
How best can we communicate what we want them to do?

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Dublin Zoo Wolves in the forest



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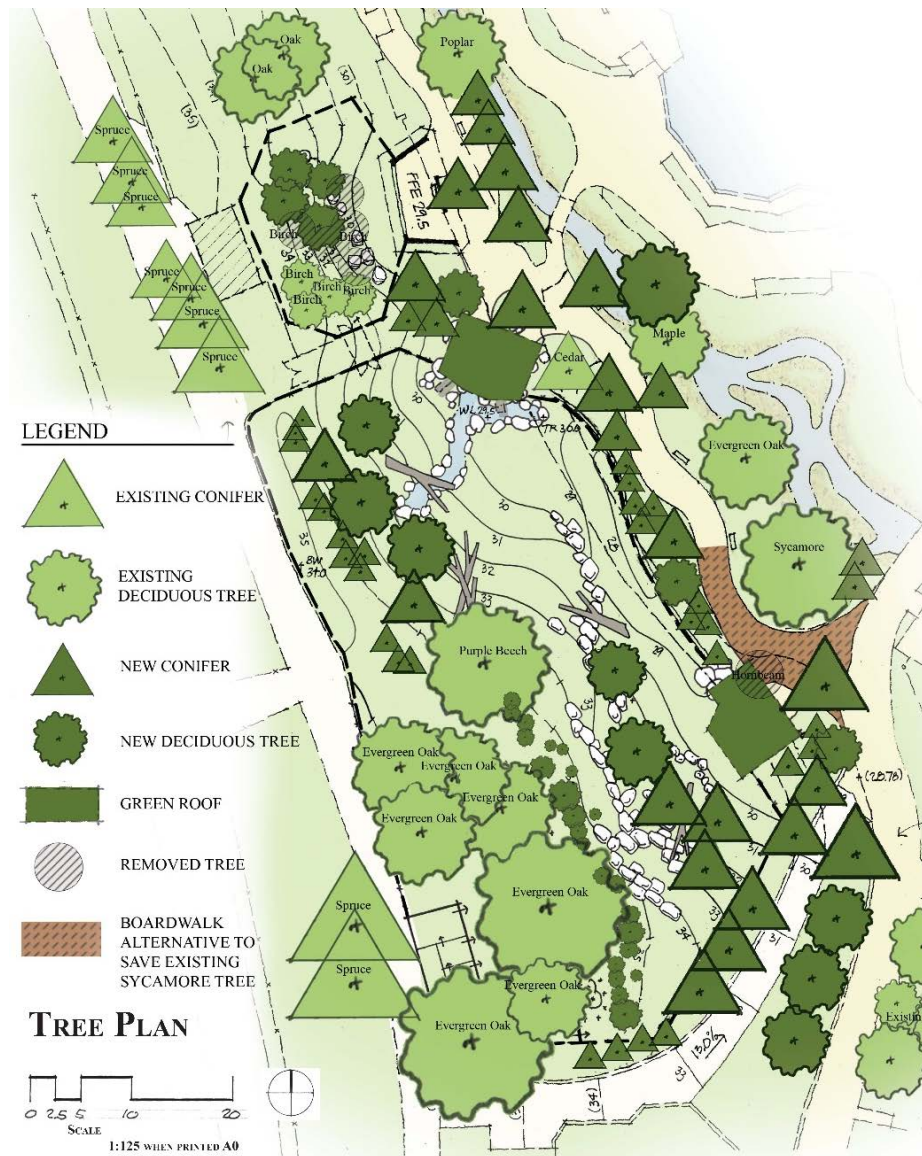
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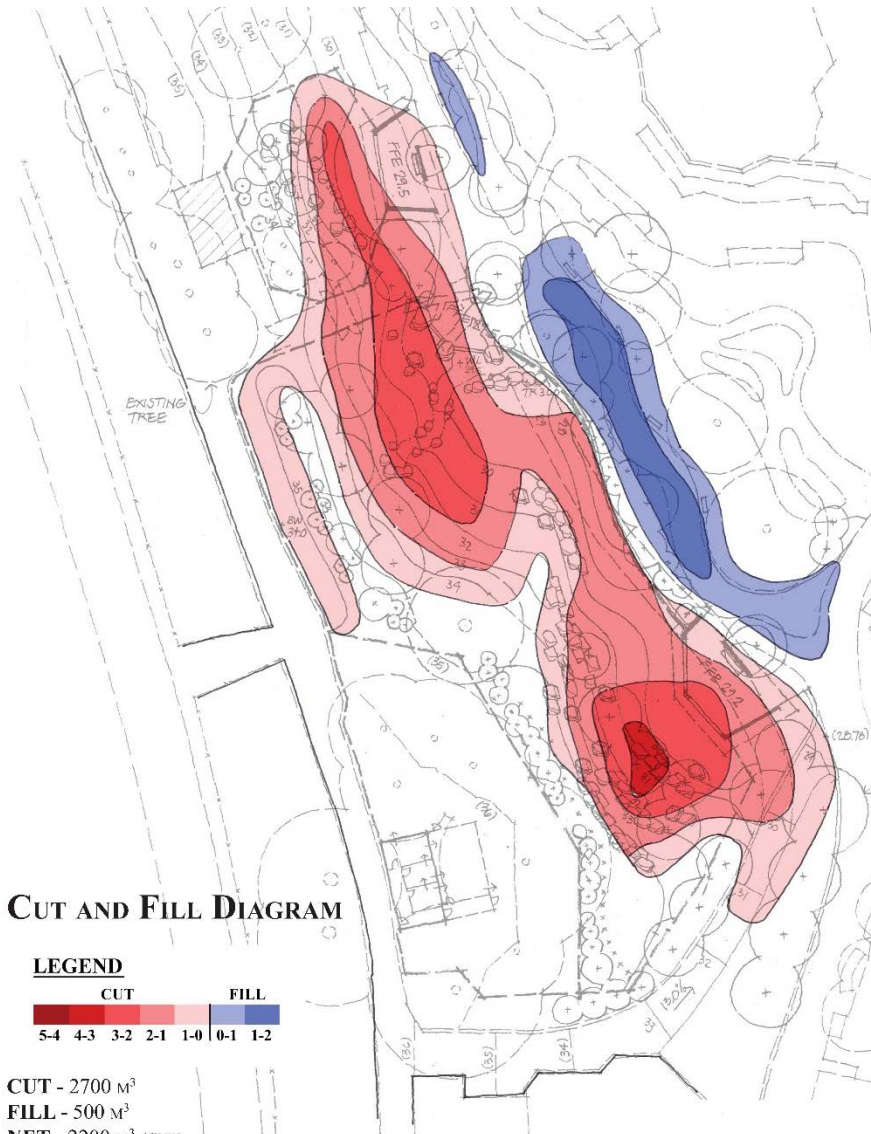
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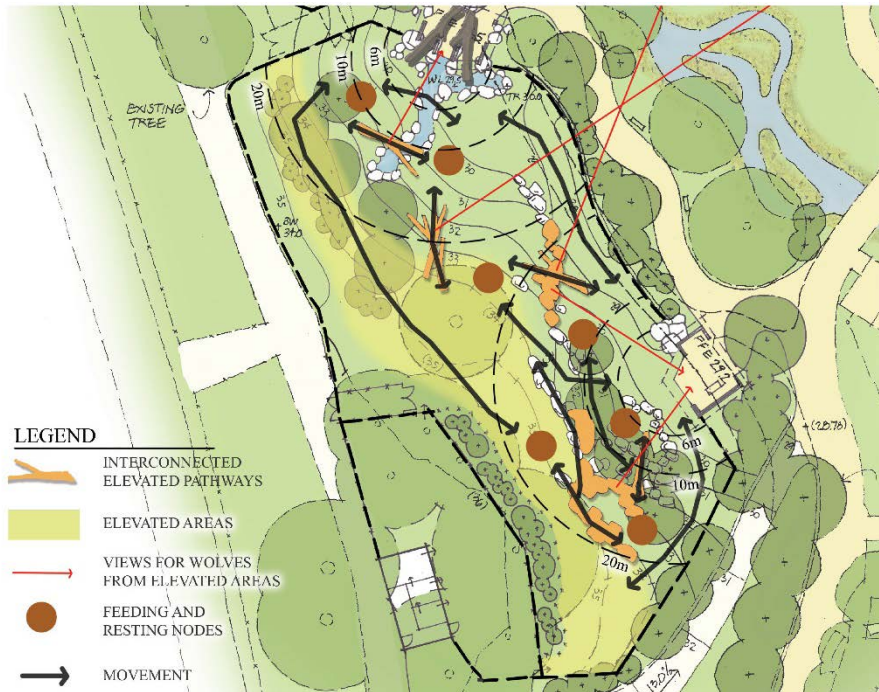
Food discovery



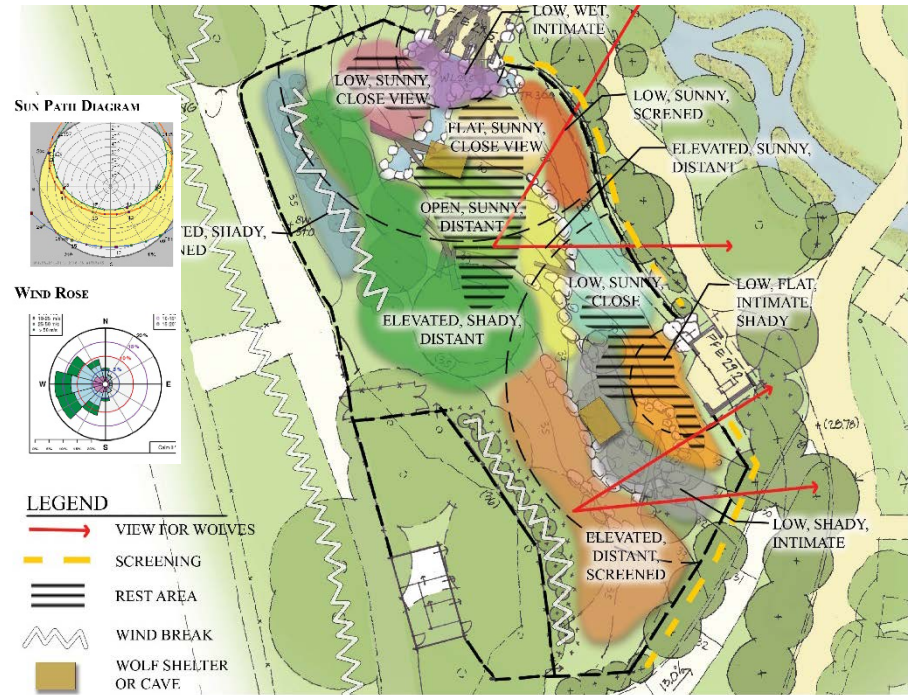
Claw care

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Movement modality



Rest, observation, privacy

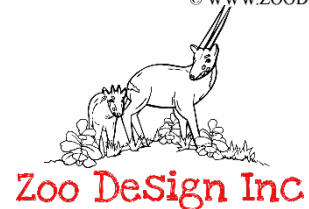
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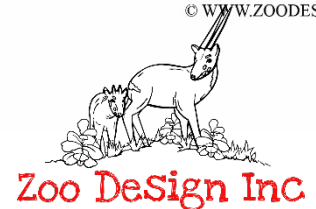
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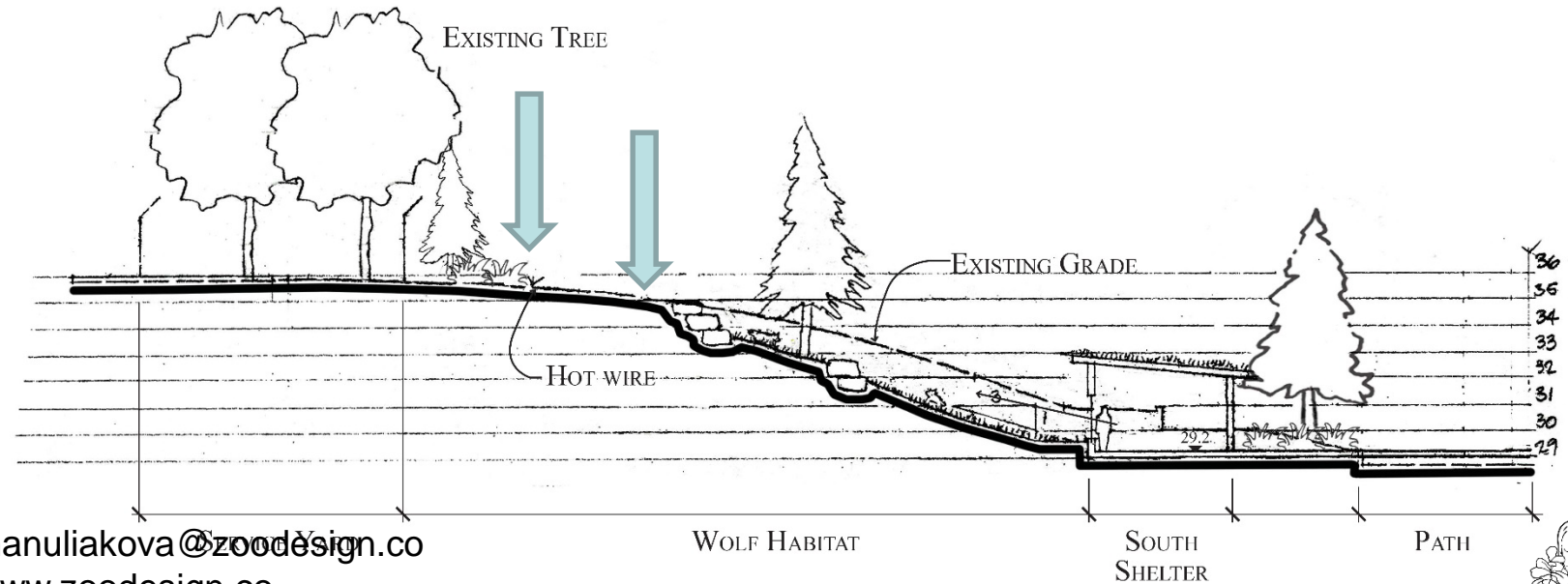
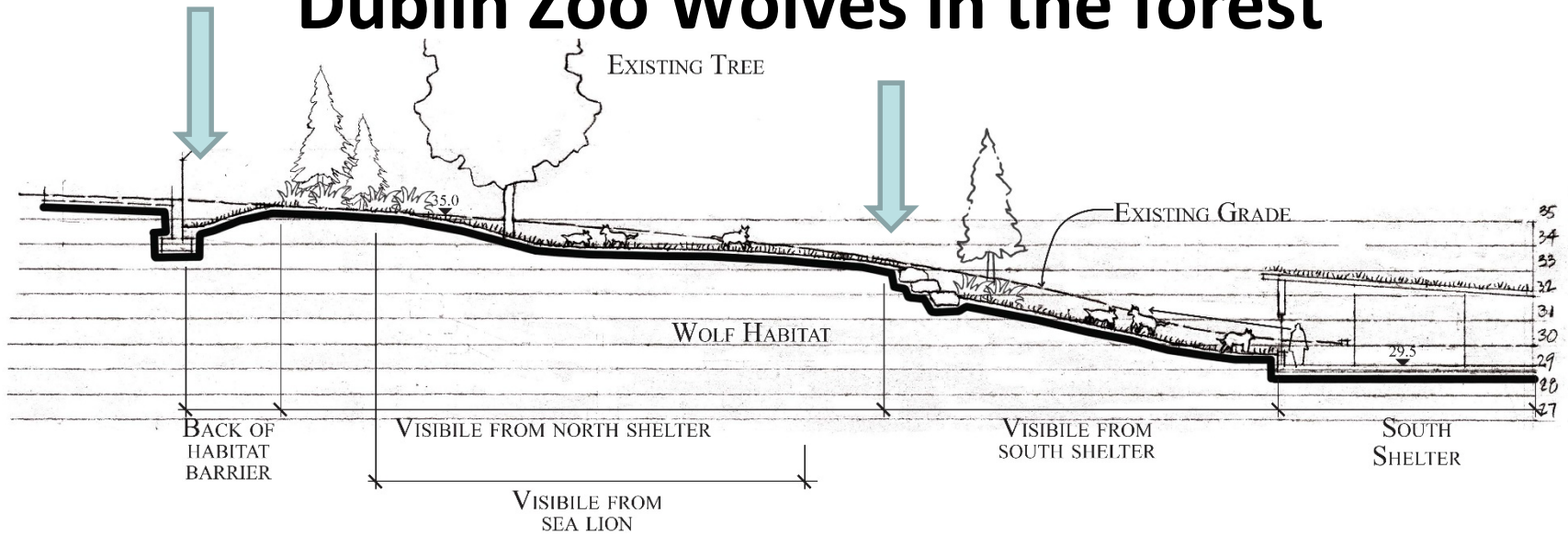
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Dublin Zoo Wolves in the forest





“Wolves may feature in our myths, our history, and our dreams, but they have their own future, their own loves, their own dreams to fulfill.”

– Anthony Miles