Mixed Species Management and Facility Design
NC Zoo’s Watani Plains

- African Savannah
- 40-acres
- Heavily-turfed
- Dotted with shade trees
- 2-acre lake
- Large pond
- Mud wallows
- Artificial termite mounds that double as feeders
Species list

Bongo
Fringe-eared oryx
Nile lechwe
Sitatunga
Thomson’s gazelle

Common Waterbuck
Greater kudu
Ostrich
Spur-winged geese
White rhino
Challenges

- Insufficient winter housing
- Herd dynamics
- Logistics for capture and restraint
- Managing breeding herds
- Managing nutrition
The Holding

Exhibit

Old Complex

Rhino Yards

Rhino Barn

Holding Yards

Holding Barns

Treatment Barn
Renovation Goals

- Provide more winter housing
- Accommodate large herds of mixed species antelope
- Improved Management of veterinary cases
- Sort individuals
- Accommodate surplus antelope
- Add quarantine space
- Allow for operant conditioning
Goals (continued)

- Enhance rhino breeding program
- Accommodate surplus animals
- Manage pre-shipment
- Add quarantine space
- Accommodate “teaser” male
- Accommodate special situations, e.g. veterinary, reproduction
- Add retirement space
The North Carolina Zoo’s
Watani Grassland Reserve
African Plains Barns Complex
E/R Barn
Rhinos on exhibit

Termite mound feeders

Alfalfa creep

Heated shelter
Rhino Annex aka Surplus Rhino Holding

- 20’x20’ holding stalls x2
- 13’x20’ shift stall
- Static training chute
- In-Floor Radiant Heat
- Supplemental radiant overhead heating
- Resilient flooring
Two 1-acre holding paddocks
Small side holding yard
Renovation Goals

- Provide more winter housing
- Accommodate large herds of mixed species antelope
- Improved Management of veterinary cases
- Sort individuals
- Accommodate surplus antelope
- Add quarantine space
- Allow for operant conditioning
Hoofstock Holding Barn

- 55’x35’ community stall
- Two 15’x12’ holding stalls
- In-floor radiant heating
- Large doors operated by hydraulics
- Access to chute system
Hoofstock Holding Barns

35’x50’ community stalls

2 small culling/holding stalls

Access to chute system
Holding

Large front paddocks x3
~ 1 acre each

Smaller side paddocks x4
~ 75’x75’ each
- Hydraulic tamer
- Drop floor tamer
- Six 10’x20’ stalls
  - Procedure
  - Recovery
  - Holding x2
  - Hand-rearing x2
- Quarantine yard
- Small stall paddocks x2

**Hoofstock Treatment Barn**

- Keeper office with restroom
- Food prep kitchen w/ ice machine & W/D
- Workshop/ storage
**Chute System** (seen in blue)

- Connects all antelope barns
- Loading ramp for shipments
- Pushboard system
  - aka: Mad-maxium antelope mover
4’-wide main chute connecting new barns to treatment barn

4’-wide chute connecting treatment barn to old barn complex

Adjustable height loading ramp
8’-wide culling chute from large paddocks to 4’ chute

Normal gate set up to allow access between large paddocks

Gate set up to push animals from large paddock into small side paddock

Gate set up to push from large paddock to culling chute
Mad-maxium push board system

How it works
Problems

- Continued difficulty sorting individuals
  - Entrance into chute system
  - Isolation from the herd

- Conflicts with public visibility

- Problems with physical restraints
  - right angles
  - Gap in the follow distance

- Limited use of treatment stall