

Stockmanship and Low-Stress Handling

Understanding Cattle Behavior

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There are three basic means of communicating with livestock. Very simply they are:

- **Sight**
- **Sound**
- **Touch**

Cattle prefer to communicate through line of sight. Good stockmanship and low-stress handling can only be accomplished when a complete understanding of how a prey animal responds to line of sight and adoption of these in livestock handling are in place. Understanding the link between cattle's eyesight and their movement and behavior is critical in handling and in facility design.

Noise of any kind, but in particular the human voice, is usually stressful and marginally successful in getting the desired result. Sound should be used as a secondary method of communication and preferably only used when sight and position is not adequate. Distracting sounds shift cattle's focus away from the desired direction.

Touch is really only useful in situations where animals are confined and additional stimulus is needed to get cattle to move or respond. Effective touch does not include the use of driving aids such as hotshots or sorting sticks or paddles.

There are five basic principles of cattle behavior that when used properly can improve the ease and speed of working cattle while reducing stress and increasing efficiency. Those principles are:

1. Cattle want to see you.

Understanding vision is foundational to handler positioning and cattle response. Cattle have excellent peripheral vision with the exceptions of blind spots directly behind (large) and in front of (small) them. When working from behind and to keep cattle from turning, it is important to stay in their sight by moving from side to side.

2. Cattle want to go around you.

This is also related to the desire to maintain visual contact allowing the handler to get in a position such that, when cattle do go around them, the cattle are pointed directly at the intended gate or destination. They'll think it was their idea to go there.

3. Cattle want to be with and will go to other cattle.

A herding instinct is natural among 'prey' animals. Stockmen can take advantage of this natural instinct as they work from the front of cattle. Start in front - the back will follow.

4. Cattle want to remove pressure.

The natural instinct of a cow is to return to the last known safe or comfortable place. This behavior is in response to pressure and their desire to remove pressure. Handlers use this to

their advantage when sorting and moving cattle from one corral to another. The simple principle of the return box or "Bud Box" takes advantage of this instinct.

5. Cattle can only process one main thought at a time.

If cattle are thinking about anything other than what you are asking them to do, change their focus *before* putting pressure on them.

Handling Cattle In Confinement Operations

Handling cattle in confinement operations is somewhat different than handling cattle in open pastures or large feeding pens. The main difference is the cattle's inability to remove pressure by moving away from human pressure. Because the entire basis of stockmanship and low-stress handling is pressure and release the handler must be aware that cattle confined in feeding pens may not be able to move far enough away from the handler to completely remove pressure.

Effective stockmanship skills are based on pressure and release. An animal will quickly learn to tolerate pressure and not develop stress if they perceive a way for pressure to be released.

Cattle are intelligent and usually do what they are asked to do. However, if ask incorrectly cattle will likely not respond as the handler intended. When this happens we have come to rely on facilities, equipment or manpower to force cattle to do what is needed. This results in increased stress on cattle and handlers and results in cattle becoming more and more difficult to handle. The job of a handler is to teach an animal to tolerate pressure and stress for short periods of time.

A process of acclimation is critical as cattle are placed in confinement feeding to reduce the flight zone and teach cattle that interaction with humans is not stressful and that the handler understands their need to maintain a safe distance. That safe distance should get smaller and smaller as the feeding period continues.

The role of a handler in stockmanship is to create movement in cattle and then use position to control and manage that movement to the desired result. When cattle loose movement they become reluctant to work. When movement is lost, excessive pressure, force and driving aids are more likely to be used. Creating and managing movement is key to achieving effective stockmanship.

However, when cattle are in confinement there is an inherent loss in movement that makes stockmanship and handling somewhat more difficult. Although feeding pens are smaller there is more than adequate room to get cattle to establish some movement as a group.

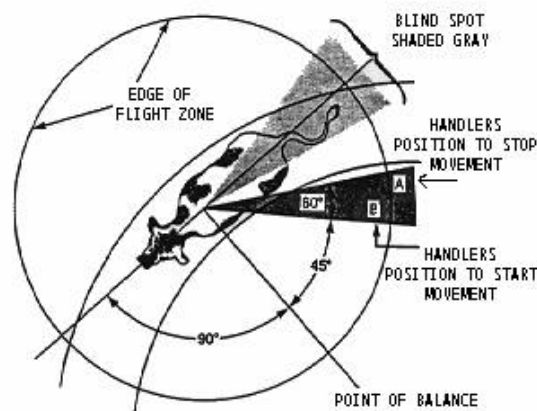
Understanding behavior and handler position can make this much less of a problem when moving cattle out of feeding pens and to processing and shipping facilities. These same principles apply when pulling one animal from the pen or when sorting cattle out of the feeding pens. The entire premise of low-stress handling is keeping stress to a minimum.

In a very simple explanation of *stress... If you decide to do something it is not stressful; if you are forced to do something it will be stressful.* Sound stockmanship involves convincing an animal the intended movement is their idea. *Force* is avoided and *stress* is reduced. The handler has to understand behavior before this can work. To understand behavior a sound understanding of flight zone and point of balance is needed.

Flight zone

The flight zone or “pressure zone” refers to the area around an animal where it begins to feel uncomfortable and perceives pressure. Movement by animal or human into that zone will elicit a response away from that intrusion. Use of the zone allows humans to manage movement in cattle. The most common figure depicting the concept of flight zone and point of balance is shown below.

The most important point to remember about the flight zone is not the zone; it is the area immediately outside the flight zone. Stockmen must learn to anticipate, read and manage this ‘boundary’ area. When approaching an animal it is important to predict the response to your invading the flight zone. If the desired movement is not going to occur, the handler should retreat, reposition and return from a different angle.



Point of Balance

Another key part of effective stockmanship is understanding and manipulating the point of balance. The diagram above indicates the point of balance to be the point of the shoulder. Point of balance varies greatly among animals and is influenced by pressure from front or behind, draw of cattle ahead, push of cattle behind and whether or not they are comfortable going by the handler.

Suffice it to say that the point of balance on any given animal is not necessarily where it is drawn on the diagram above. The point of balance is not static and is actually related to handler position relative to the animal's eye.

Flight zone and point of balance are not static and can be manipulated and changed by human management. Flight zones need to be reduced on wild or nervous cattle and point of balance needs to be moved forward. Both can and should be done with proper handling.

Handling Pointers

Keeping these behavioral principles and methods of communicating in mind, following is a list of ten handling pointers to keep in mind and a few suggestions that will improve the ease of handling cattle, whether they are being gathered from the pasture or processed through the corrals.

1. Slow down so you can be fast. "Never mistake motion for accomplishment"

Patience is a great virtue when moving or working cattle. When handlers get in a hurry, inevitably excessive or incorrect pressure is placed on cattle, which usually results in an unintended reaction from the cattle that must be corrected before work can continue.

Most handlers have the mind set that as they go to a pen they are going through the gate and to the back of the pen to push the cattle out. Often little attention is paid as they enter the gate or move to the back of the pen. *Nothing could be further from what needs to be done when handling cattle effectively.*

It is critical that handlers slow down as they approach cattle. Pay attention to cattle's reaction to your presence and use that to set up the next move.

2. Work from the front to draw cattle to you.

This goes back to the basic principle #1. Cattle can be easily controlled from the front if they are not afraid of a human. (If they are afraid you are a long way from being able to handle cattle using low stress principles). Working from the front maintains their focus on the intended direction of movement. By moving in and out of the flight zone and across the point of balance, cattle can be easily drawn forward and past the handler.

This is a key point in working with cattle in confinement. Pushing cattle out of confinement pens can be difficult and stressful on cattle and handlers. When moving cattle from a pen work from the front and draw the cattle toward the gate or opening. Start flow out into the alleyway and then work from the side of the group to keep flow going out the gate.

3. Cattle must be comfortable to go by you and stay straight.

If cattle are not comfortable going by the handler, they will not work very well. Working from the front requires cattle to be comfortable passing by without balking or spooking. This simple principle facilitates penning, sorting and processing cattle.

As point of balance moves forward (with training), moving, sorting and working cattle gets easier. Thus using the draw of other cattle makes it easier to work and sort cattle in an alley or from one corral to another.

4. Apply pressure when cattle have a place to go.

Success of handling cattle depends on knowing when and where to apply pressure and how much pressure to apply. The other key component to effective stockmanship is setting the cattle up to go where you want them to go *before* you apply pressure. Equally important is the release of pressure as soon as the desired result is achieved. Low stress livestock handling is not about handling cattle without pressure. In reality it often requires a lot of pressure for a short period of time.

5. Pressure cattle from behind only when absolutely necessary.

Like any 'prey' animal, cattle cannot see directly behind. If you assume a position directly behind cattle (in their blind spot), they will turn to one side or the other in order to see you. To 'drive' cattle in a straight line, assume a position behind their point of balance (shoulder) and off to either side. You can also work in a zig-zag fashion behind the cattle causing them to switch eyes and move straight forward.

Note: Move cattle in smaller groups. Larger groups are difficult to drive behind when motion is lost in the front of the cattle. Excess pressure has to be placed on the cattle in the rear in order to force movement to resume throughout the group.

6. Pressure from the side.

This relates back to working from the front and down the side of an animal and not working from directly behind (in their largest blind spot). By working from the side the eye can be manipulated as needed to move an animal in any direction

7. Going with the flow of cattle slows them down or stops their movement.

It's all about that point of balance – as you move in the same direction cattle are traveling, when you approach a position parallel to their point of balance, they will slow down, and as you pass the point of balance they will stop. The important part in this process is to get the cattle to stop without reversing their direction. Teach them to stop and stay pointed in the direction they were headed.

8. Going against the flow of cattle initiates or accelerates their movement.

Using the point of balance as the tool to initiate movement passing from the front to the back signals an animal to move forward. Once movement is initiated it will normally continue until it is stopped by someone passing the point of balance by moving in front of the point of balance. The ability to start and stop movement works whether in a pasture setting or in the confinement of a crowd alley.

9. When working cattle, move in triangles.

Working in an arch pattern around cattle will simulate movements of a predator which will elicit a response of fight or flight. Move in straight lines when asking for a response from cattle. Move straight toward a point on an animal to get a response. Once movement is initiated the handlers next movement to reposition needs to be in a straight line at an angle away from the movement. Handler movement in the same direction as cattle flow will stop the movement just gained.

Once repositioned the handler can then take a straight direct path back to the cattle to change movement. Move into their flight zone to create or correct movement. Retreating straight away from the flight zone slows or stops movement.

10. Cattle work best when *they* are ready - You have to get them there.

Cattle have to be taught, conditioned and prepared to work. Unfortunately, today's cattle owners are short on time and experienced labor, and consequently, don't spend time acclimating cattle to new production settings. It is a process that will pay dividends for those who do spend the time.

Numerous others will handle your cattle after they have left your care. Bad habits and unruly behavior in cattle and humans is learned. Shouting, whistling, poking and prodding cattle is unnecessary and counterproductive. In fact, they distract cattle from the intended movement. Development of effective stockmanship skills improves worker safety, animal performance and potentially increases income on each individual operation.

Facilities

In working cattle in confinement or any processing facility it is important to keep the principles of behavior in mind as facilities are designed. Anytime we can **create cattle flow where they can go past where we need them to end up** it will make handling and processing easier. Also remember cattle do not like being moved toward a solid sided or closed in area, as they do not perceive a way out of. If it is necessary or desirable to use closed sided processing areas then the design must be large enough for cattle to go past where they need to come back to without causing too much pressure on the cattle.

Many current designs have short changed that last requirement and simply try to rely on forcing cattle to enter the crowding area and using a forcing gate to push them around to the opening into the processing lead up.

There are two basic designs that allow cattle flow to work correctly into the processing area. One is designed using a forcing pen (see figures 1 and 2) commonly called a circular tub or simply "Tub" design. There are literally dozens of variations of tub designs however few work as smoothly as the two below.

The other design is a "Bud Box" (see figure 3). The Bud Box is the simplest to design but requires the better understanding of cattle behavior because there is no way to force an animal out of the Box and into the crowd alley. If handlers/processors of cattle are unwilling or unable to develop and adopt this understanding they should not build or try to use a Bud Box. They should stick to the more expensive designs that will allow people who do not completely understand behavior to get cattle through the facility.

There is nothing magical or mystical about a Bud Box. It is a facility design that allows the handlers to position themselves correctly to facilitate cattle flow out of the box into either the crowd alley leading to a chute or to a trailer load out. Dimensions are important to successful use of a Box but not as critical as handler position in relation to the stock leaving the Box. Without proper position and attention to detail a Box will only confuse the stock and frustrate the handler.

Always keep in mind that the Tub and Box are a flow- through part of the facility. Cattle should never be stored in a Tub or Box waiting to be sent into the crowd alley or to a trailer. Bring them in and let them flow back out immediately.

The Tub or Box should be large enough to accommodate a volume of cattle adequate to fill the crowd alley or fill a trailer compartment. A crowd alley to a squeeze chute should hold a minimum of 4 cows and might need to hold 20 head depending on the speed of processing. Crowd alleys on cow-calf operations will typically hold 5 to 6 cows. Facilities working calves or yearlings routinely need crowd alleys for 12 to 20 head of cattle.

Remember, the crowd alley will normally not be empty when additional cattle are brought through the Tub or Box. To maintain flow it will be necessary to add additional cattle while one or two still stand in the crowd alley waiting processing. Consequently the length of the crowd alley is important. Ideally the crowd alley would be long enough to hold an adequate number of cattle for processing while more cattle are brought through the Tub or Box - without disrupting flow. A short crowd alley may result in frequent interruptions of cattle flow and processing.

For some reason the industry has migrated toward the crowd alley starting to curve at the entrance from the Tub or Box. The exit from a Tub or a Box and entrance into the crowd alley should be straight for at least two mature cow body lengths. This allows flow to become established without the appearance of entering a dead end crowd alley. Keep it straight for at least 12 feet and then start a curve if warranted (ex. space is limited). Otherwise a long straight crowd alley works very well for processing cattle.

Most operations will need a Box that is **at least** 12 feet wide and 20 feet deep. It can be 14 feet wide and should be if the handler will be horseback. Depending on the size of the cattle being worked it could be 16 feet wide if the handler in the Box will always be horseback. Both the 14 and 16-foot widths are too wide for comfortably working most stock on foot.

A Box can certainly be wider than an alley leading up to it. In fact, going from a 10 or 12-foot alleyway into a wider Box will normally allow the cattle entering the Box to do so faster setting up the transition even better. Do not let the width of an alley dictate the width of the Box.

The length/depth needed is determined by the size of the group handled. Again, group size is dictated by the capacity of the crowd alley or trailer compartment being loaded. The Box needs to be deep enough to allow the cattle to flow to the back of the Box, let the handler close the gate and get in position before the cattle transition out of the back of the Box. Just like a tub system never overfill the Box. Success depends on the flow into, transition, and flow out of the Box.

For most crowd alleys a 20 to 24 foot Box is adequate depth. Any deeper may force the handler working in the Box to move too deep in the Box to initiate flow. As the handler returns to the correct position, their movement with the cattle will stop flow and turn the cattle back. Going with movement slows it or stops it. Neither response is desirable in getting cattle to flow out of the Box.

Other aspects of a Box design that are critical to success relate to whether or not the sides are enclosed. It is absolutely essential to have the end of the Box open sided so cattle are going to light and will build speed as they enter the Box. Entry speed facilitates the transition and correct flow out of the box. Solid (opaque) panels should be limited to the Box's entry gate and the sides of the box closest to the crowd alley and load out exits. Note - solid sides in these areas are not required but may minimize distractions. Load out and crowd alley exit gates must open back flat against the sides of the Box.

A Box used in loading semi-trailers may require additional depth (30 feet maximum) to facilitate filling compartments quickly. If using this same large box for a crowd alley, the addition of a block gate in the Box to shorten it might be a good solution.

In summary, a Box needs to be 12 to 14 feet wide for most operations and 20 to 30 feet deep depending on the number of cattle needed to flow through the system at any given time. Leave the

back open (translucent); cover the sides and entrance gate if necessary. Figure 4. is a corral design utilizing the bud box processing area.

Continually look for ways and opportunities to improve your skills as a stockman. For more information and additional training opportunities go to: <http://www.effectivestockmanship.com>

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Crowding Area Designs

There are several designs that work well. Below are some that should be considered if designing a facility from scratch or redesigning an existing working facility.

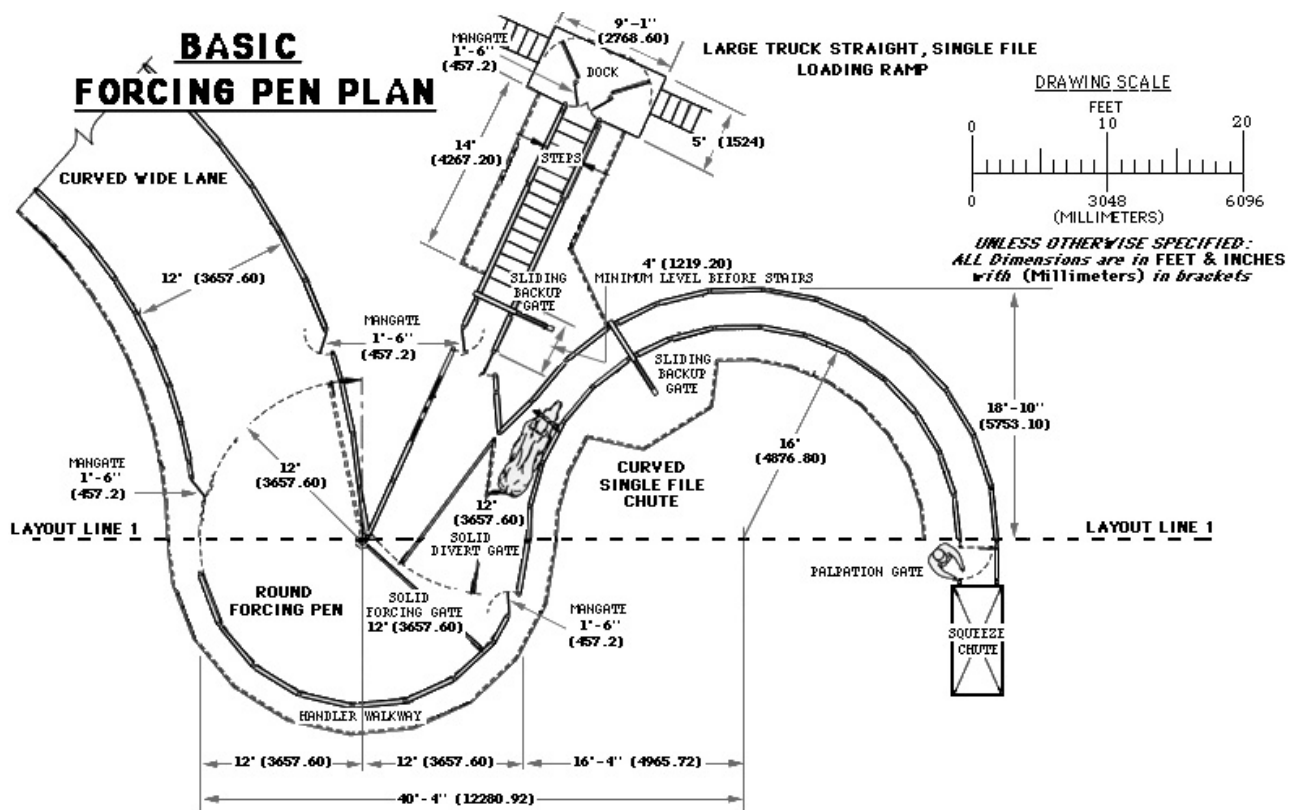


Figure 1. Processing area for handling a large number of cattle.

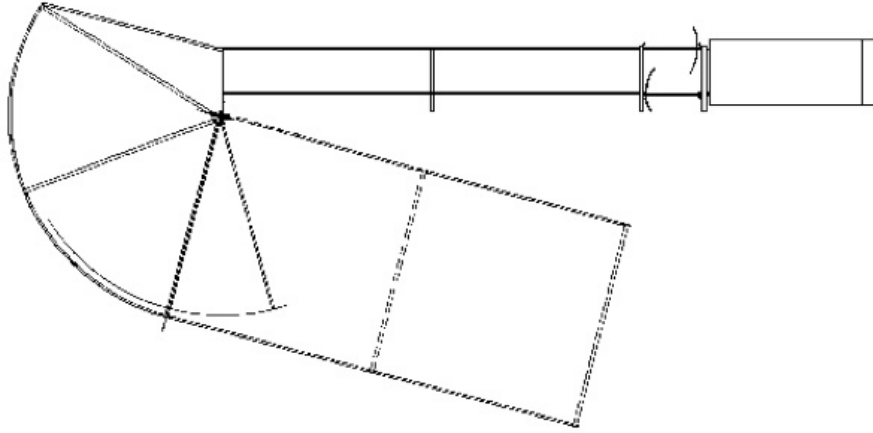
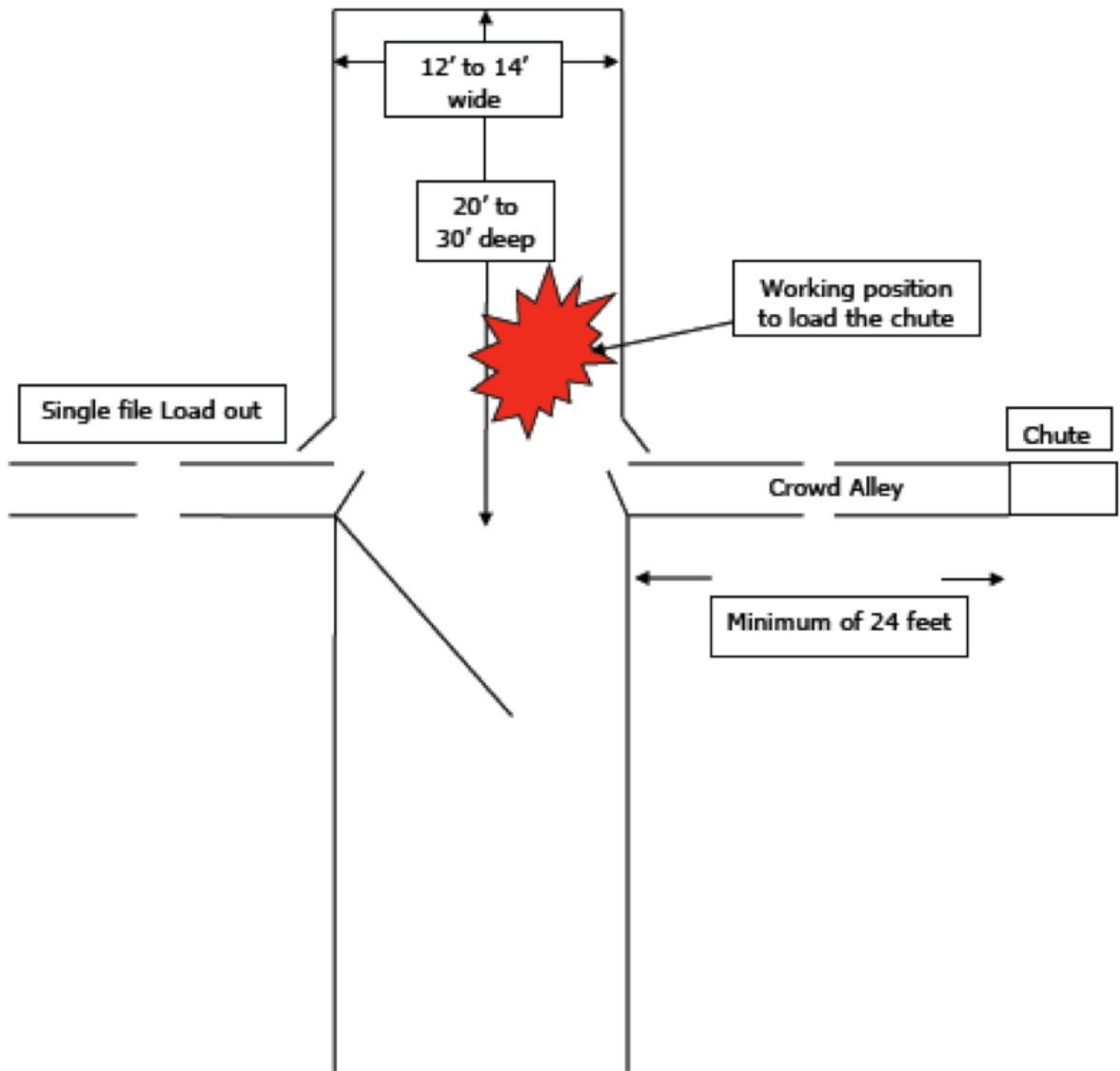


Figure 2. Modified tub design for operations requiring less volume of cattle into the crowd alley



Bud Box Dimensions		
Handler	Width	Depth*
Always on foot	12'	minimum 20'
Afoot and horseback	14'	20-30'
Always horseback	16'	maximum 30'
*Dictated by size of groups handled.		

Figure 3.

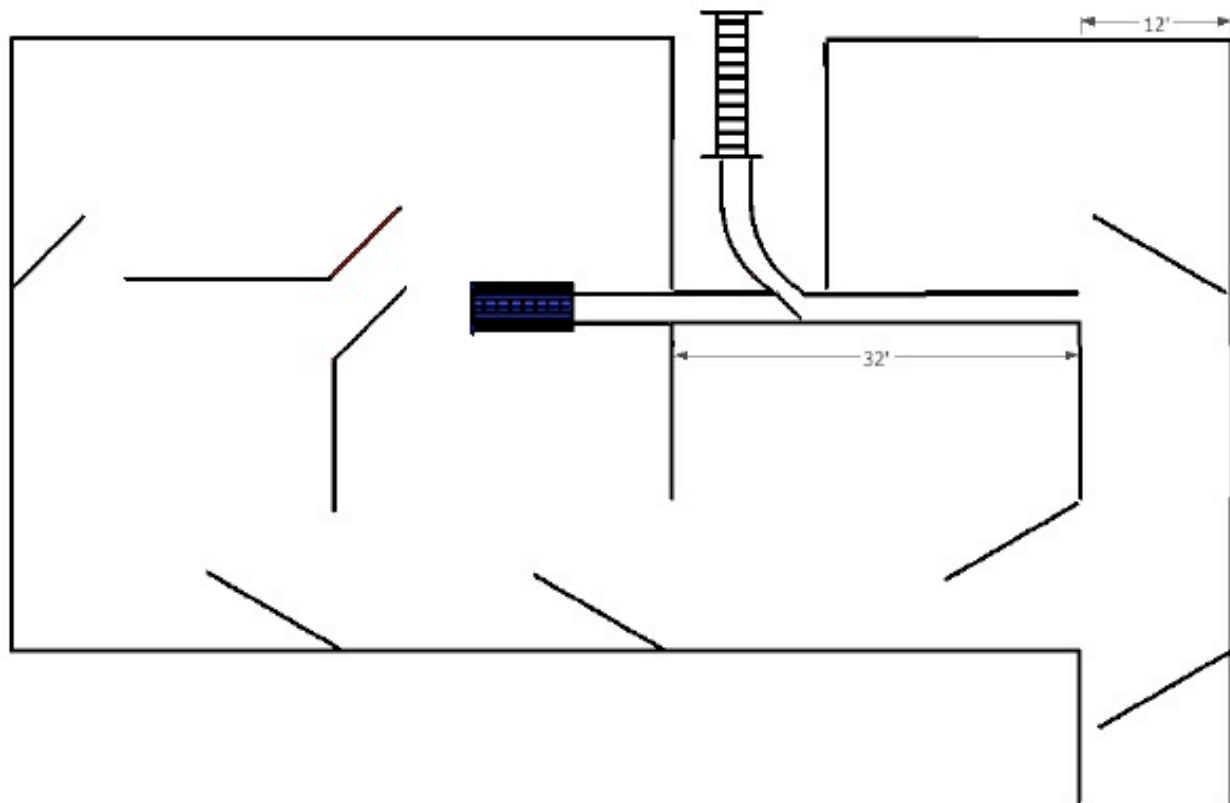


Figure 4. Corral design layout utilizing a Bud Box concept for use in processing cattle and sorting cattle in a confinement feeding operation. Processing areas should not be inside the confinement feeding area but rather located outside the feeding facility.