CDFA ALTERNATIVE MANURE MANAGEMENT SUBCOMMITTEE

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MANURE SEPARATOR SYSTEMS ON CALIFORNIA DAIRIES

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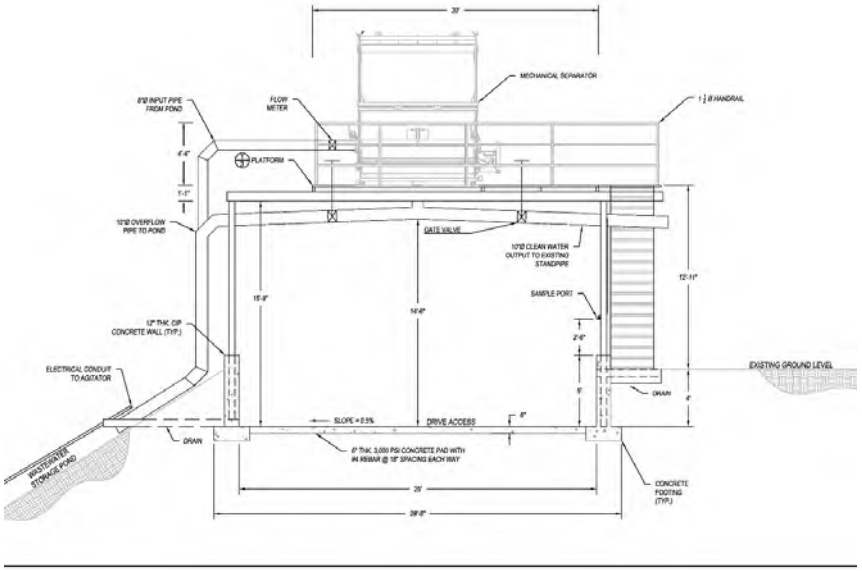
MECHANICAL SEPARATOR DESIGN

- DESIGN QUESTIONS?
  - Location within existing dairy wastewater process
    - Before or after storage lagoon?
    - Adequate space for system, including drying/staking separated material?
    - Electrical service meter/interconnection?
    - Sand Lane / Sand Removal prior?
    - Modifications to Flush System Operations?
    - Location to Store Separated Material



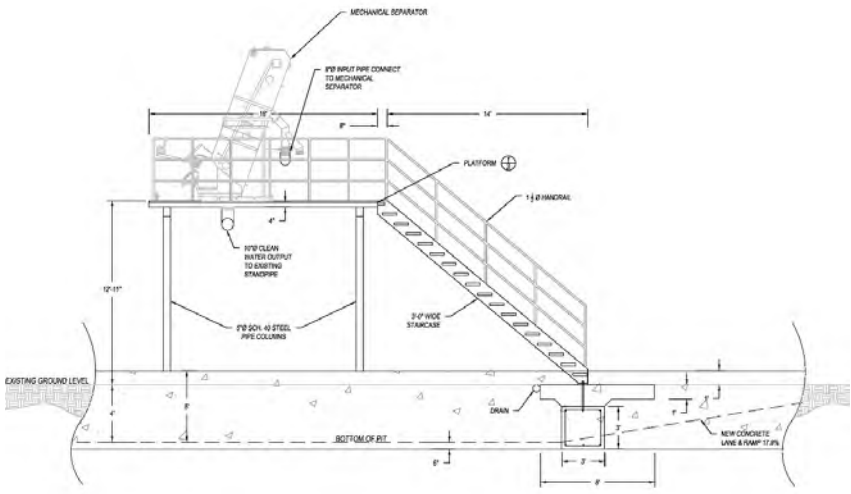
OPERATIONAL PROS AND CONS: MECHANICAL SEPARATION

PROS:

- Provides Bedding for animals
- Less manure in Storage Pond (if installed prior to storage pond)
- More uniform Flush Water (if installed prior to flush pump)
- More Consistent Irrigation Water, Less irrigation pipeline clogs

CONS:

- Ongoing Expense for O&M (electricity, cleaning, maintenance)
- Large Capital Expense
- Requires additional space on a facility, typical facilities already tight on space.
- Required daily management and hauling of manure



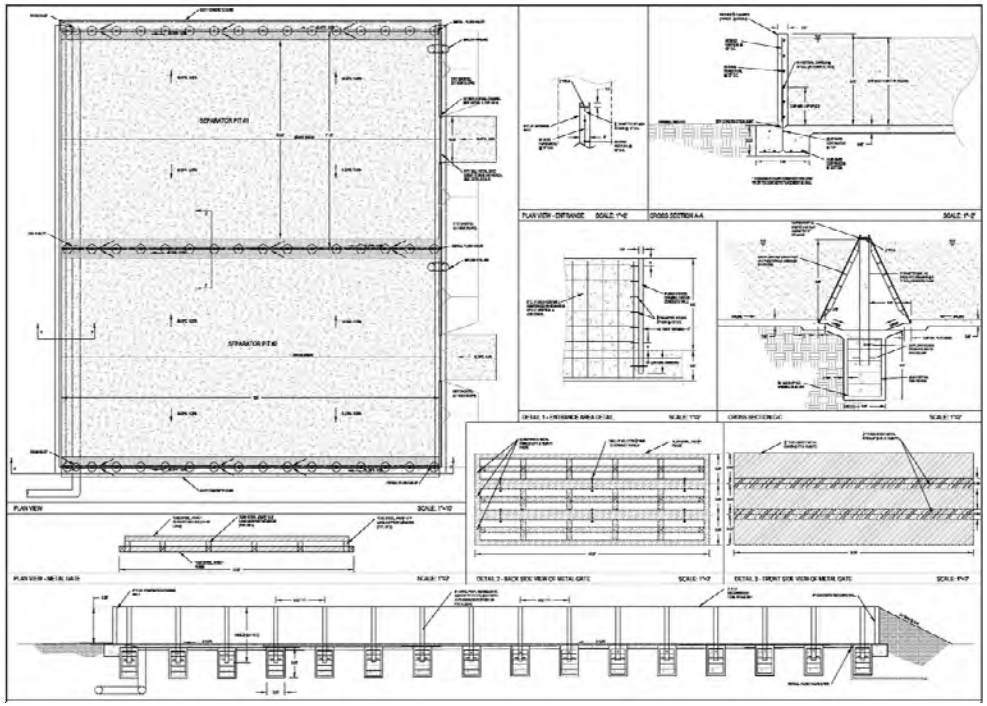
EXAMPLE PICTURES


SEPARATORS
(3)
SEPARATED
MATERIAL
TRACTOR/WAGON
TO HAUL MATERIAL

WEEPING WALLS DESIGN

DESIGN QUESTIONS?

- Location within existing dairy wastewater process
  - Requires Adequate area prior to storage pond?
  - Modifications to Flush System Operations?
  - Number of Cells for adequate dry time during winter months?
  - Location to store separated material?



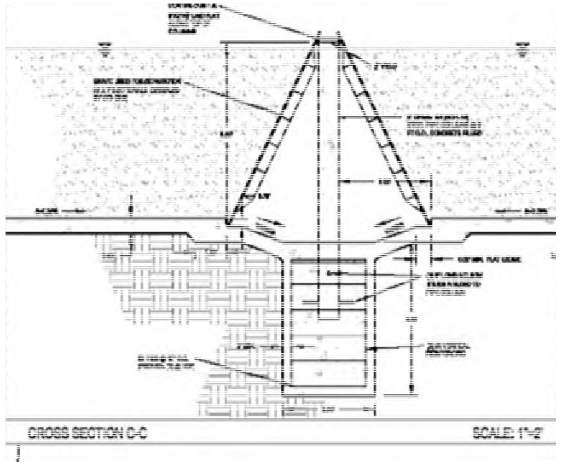
OPERATIONAL PROS AND CONS: WEEPING WALLS

PROS:

- Less manure in Storage Pond
- More uniform Flush Water
- More Consistent Irrigation Water, Less irrigation pipeline clogs
- No mechanical parts/electrical
- Bi-Weekly or Monthly Manure hauling

CONS:

- Very Large Capital Expense
- Requires large amount of space on a facility, typical facilities already tight on space.
- Separated Material not consistent for bedding without extra work



EXAMPLE PICTURES