



# **NPDES/SDS Permit Inspection Compliance Determination Guidance Manual**

## **Purpose**

This guidance is for use by MPCA staff to determine the compliance rating of a feedlot that has coverage under an NPDES/SDS permit. The compliance rating is based on the conditions found during the full inspection process which occurs at an NPDES permitted feedlot on a regularly scheduled basis (i.e. twice within a five year period). An inspection done for the sole purpose of following up on a complaint or to check on construction activity is not considered to fulfill the requirements of a full inspection unless all components of the facility are reviewed as described in the “full inspection” definition provided below.

The purpose of the regularly scheduled inspection is to determine the compliance rating for a site with coverage under an NPDES permit. The compliance rating will be based on the conditions of the facility at the time of the inspection(s) and there will be one compliance rating per permit. For those owners who have permitted multiple sites under one permit document there will be one compliance rating per permit.

This guidance provides compliance ratings for various components of a full inspection, such as the physical condition of the manure storage area or the adequacy of records. There are also suggested staff actions and owner/operator actions included as needed. These compliance ratings and actions are generic responses to commonly found problems and are not intended to replace the best professional judgment of staff. The unique nature of feedlots does not provide for a standard response to every situation; however it is important to maintain consistency across the program.

This guidance document also only addresses how to interpret the results of a single full inspection at a facility. After a compliance determination has been made for the most recent inspection, staff may decide additional action is warranted by the agency based on the results from previous inspections or other information sources. The action best suited to the specific facility and situation should be determined through a discussion with a supervisor and/or other staff, or in a permit or enforcement forum.

## **Definitions**

**Full Inspection** - A “full inspection” includes a facility (as defined in MNG440000) walk over, review of records and reports and any site specific situations that may occur, and an interview with the owner/operator. The full inspection may be done by one or more staff, or completed in one or more site visits. The review of records and reports may be completed on site at the time of the inspection or staff can request a copy to review before or after the site visit.



**Compliance** – After the full inspection is complete a determination is made that the facility meets the requirements of the permit and applicable state and federal rules and regulations. The facility is a “low” risk to the environment.

**Conditional Compliance** – During the full inspection staff note one or more items that need to be addressed by the owner/operator. These items do not present a high risk to the environment and can be corrected within the next 4-6 weeks.

**Non-Compliance** – During the full inspection staff note one or more items that create a high risk to the environment.

**Compliance Rating** – After the results of the full inspection findings have been compiled and reviewed a determination is made as to whether the facility is in Compliance, Conditional Compliance or Non-compliance. The guidance document will provide instructions on what the compliance rating should be for commonly found situations.

## **Section I. On-Site Walkover**

### **A. Animal Holding Areas (barns, open lots)**

Animal holding areas includes any of the structures at the Facility that meet the definition of “animal feedlot” under state rule or “animal feeding operation” under federal regulation. In this document animal holding areas are separated into three main categories: total confinement barns, partial confinement barns, and open lots. A feedlot facility can consist of one, any two or all three of these categories.

#### **1. Total Confinement Barns**

##### **What to look for during an inspection:**

- Seepage of manure under or around the barn walls such that it can come into contact with precipitation (rain or snowmelt waters) and there are no runoff controls
- Clean precipitation entering barn
- Poultry barn floors that are not maintained according to Minn. R. pt. 7020.2120 (this applies to those barns that were constructed since this rule became effective – see the factsheet “Technical Guidelines for Poultry Barn Floors”)
- Leaching to groundwater through barn floors made from sandy soils or on bedrock
- Build up of dust, feathers, etc. around ventilation fans where precipitation can come in contact with it
- Manure, litter, soiled bedding, spoiled feed that has accumulated outside of the barn as a result of from barn cleaning, moving animals in and out, etc.

The following table gives a summary of the compliance rating and suggested owner and/or staff action for each of these problems.



<b>Issue/Problem</b>	<b>Compliance Rating</b>	<b>Owner Action</b>	<b>Staff Action</b>
Seepage under or around the barn walls	Conditional Compliance	Implement corrections needed to control seepage	
Clean precipitation entering barn	Conditional Compliance	Divert precipitation away from barn	
Poultry barn floors not maintained	Conditional Compliance	Make needed repairs to comply with rules	
Leaching to groundwater through barn floors	Potential Non-compliance	Abandon barn or develop plan for MPCA approval to control leaching	Discuss further actions with supervisor
Build up of dust, feathers, etc. around ventilation fans	Conditional Compliance	Clean area and amend O&M plan to include regular schedule for fan cleaning	
Manure, litter, soiled bedding, or spoiled feed accumulation outside barn	Conditional Compliance	Clean area and take appropriate action to prevent reoccurrence	

## 2. Partial Confinement Barns – attached to open lots and/or pastures

### What to look for during an inspection:

- Seepage of manure under or around the barn walls such that it can come into contact with precipitation (rain or snowmelt waters) and there are no runoff controls
- Clean precipitation entering barn
- Leaching to groundwater through barn floors made from sandy soils or on bedrock
- Manure, litter, soiled bedding, spoiled feed that has accumulated outside of the barn as a result of from barn cleaning, moving animals in and out, etc.

See the above table for a summary of the compliance rating and suggested owner and/or staff actions to address each of these problems.

## 3. Open Lots

### What to look for during an inspection:



- Flow of precipitation (clean water) into open lot area such that it becomes contaminated and contributes to the amount of runoff that to be controlled.
- Runoff of manure-contaminated water from off the lot without treatment or collection for later land application
- Leaching to groundwater through sandy soils or bedrock
- Direct conduits to surface waters such as tile inlets within, or adjacent to, the open lot that collect the runoff
- Manure, litter, soiled bedding, spoiled feed that has accumulated outside of the lot as a result of from barn cleaning, moving animals in and out, etc.

Issue/Problem	Compliance Rating	Owner Action	Staff Action
Flow of precipitation into lot	Conditional Compliance	Divert precipitation away from lot	
Uncontrolled open lot runoff	Potential Non-compliance	Develop plan to control runoff or abandon open lot	Discuss further actions with supervisor
Leaching to groundwater through open lot floors	Potential Non-compliance	Abandon lot or develop plan for MPCA approval to control leaching	Discuss further actions with supervisor
Direct conduits to surface waters	Potential Non-compliance	Remove conduits and develop plans as needed to address runoff from open lot	Discuss further actions with supervisor
Manure, litter, soiled bedding, or spoiled feed accumulation outside lot	Conditional Compliance	Clean area and take appropriate action to prevent reoccurrence	

## B. Liquid Manure Storage Areas

### 1. Manure Storage Basins

This part applies to those liquid manure storage areas (LMSAs) that are constructed at or below grade with in-situ liners, compacted cohesive soil liners, synthetic liners or composite liners. These structures may include basins designed solely for storage, lagoons designed for treatment, runoff control basins, or any combination of these uses.

It does not apply to structures constructed totally of concrete, above ground tanks (slurry stores) or solid manure storage areas.

Basin liner types include:



In-situ basin – basin was excavated to design capacity and no additional liner (earthen or otherwise) was installed.

Earthen lined – basin was over excavated at time of construction and a liner installed that consists of compacted cohesive soils that were excavated from the basin area or brought to the site from a “borrow” area.

Synthetic lined – a sheet of synthetic material (HDPE, rubber, etc.) was placed in the excavation as a liner. This synthetic material may or may not have been installed in conjunction with a layer of compacted cohesive soils below and/or a layer of soil material on top of the synthetic sheet to act as a protective barrier.

Geosynthetic lined – a sheet of material made up of synthetic materials bonded with a geological material such as bentonite clay was placed in the excavation as a liner. This geosynthetic material may or may not have been placed in conjunction with a layer of soil material on top to act as a protective barrier and/or a layer of compacted cohesive soil below.

Partial Concrete (does not refer to basins with concrete agitation pads and/or ramps)

- Concrete floor with earthen/other type of walls – This basin is constructed by pouring concrete over the entire floor, then constructing the walls with earthen, synthetic or geosynthetic materials.
- Concrete walls with earthen floor – This basin is constructed with an earthen floor and concrete walls (This was a common practice used to construct concrete pits below barns several years ago and many of these structures are still in use.)
- Partial concrete walls with earthen floor
- Partial concrete floors and partial concrete walls

**What to look for during an inspection of a basin with an in-situ or constructed earthen liner:**

Note: Refer to the flow diagrams below for guidance on the compliance rating to apply to for the various conditions found during the basin inspection.

a. Interior slopes

1) Erosion caused by wave action, rainfall, or inlet scouring

- Is there erosion damage caused by rainfall (i.e. rills, gullies)? How deep?
- Is there scouring at the inlet? How deep?



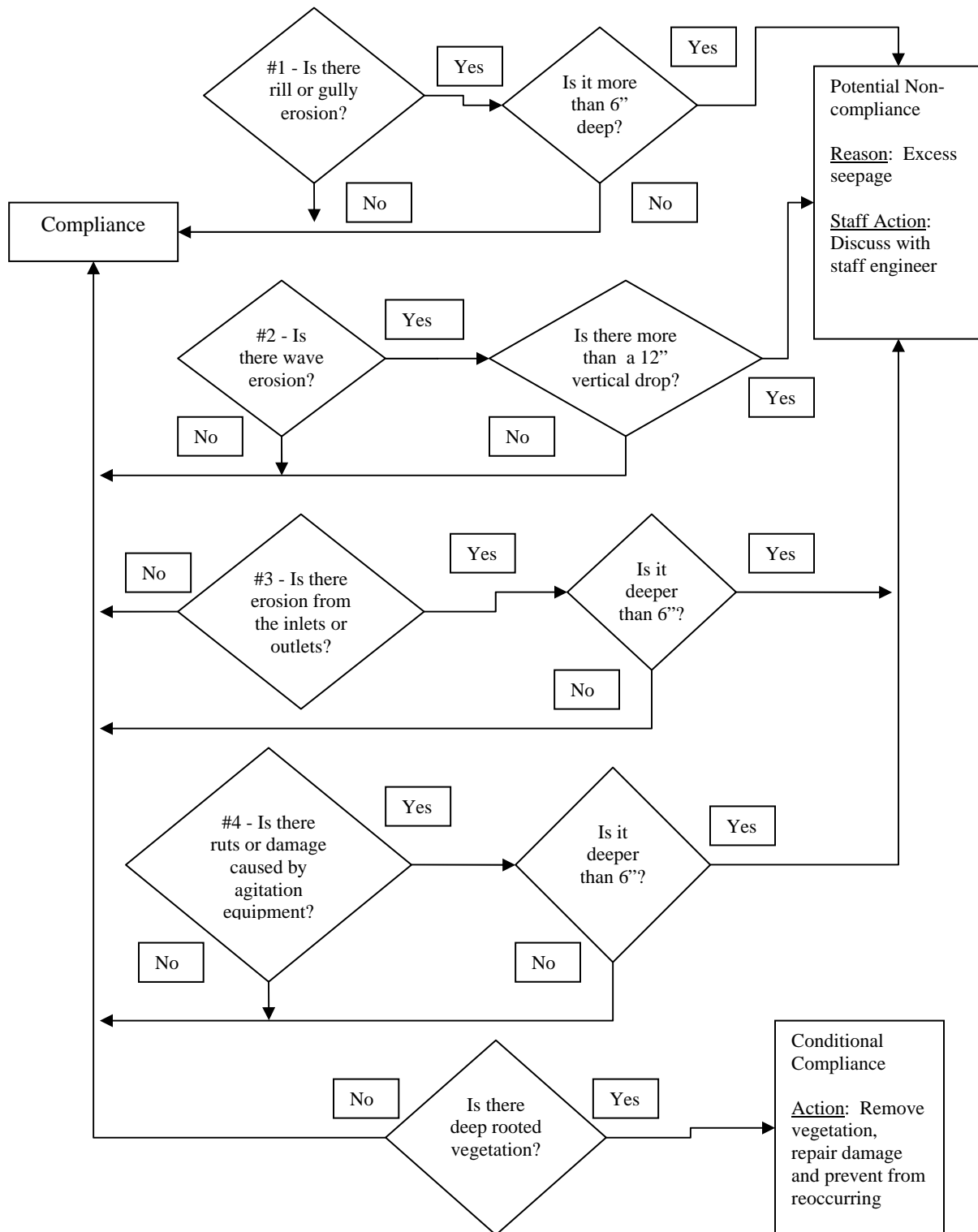
- Is there erosion caused by wave action?
- 2) Ruts or other damage caused by agitation equipment
  - Is there damage caused by agitation equipment? How deep?
- 3) Deep rooted vegetation (trees, brush, cattails, bulrushes, etc.)
  - Is there deep rooted vegetation growing in the interior wall of the basin?
- b. Exterior slopes
  - 1) Erosion caused by rainfall
    - Is there erosion on the exterior walls of the basin? How deep?
  - 2) Rodent burrows
    - Is there any evidence of rodent burrows?
    - Is the vegetation controlled to discourage burrowing and to make it easier to identify problems?
  - 3) Deep rooted vegetation
    - Is there deep rooted vegetation growing in the interior wall of the basin?
  - 4) Seeps or soft spots
    - Are there any seeps or other unexplained wet spots around the exterior walls of the basin that may indicate seepage problems?
- c. Berm – This is the top of the basin wall located between the interior and exterior sidewalls. This area should be at least 8' wide to allow for safe access by machinery.
  - 1) Low spots
    - Are there any low areas along the berm that may indicate settling or other problems?
  - 2) Signs of overflow
    - Are there any signs that the basin is overflowing or has recently overflowed? This may include flattened vegetation, erosion channels, or solids build up on the berm.
- d. Inlets and Outlets



- 1) Stability/condition of pipelines
  - 2) Condition of other types of conveyances to or from the basin (i.e. earthen or concrete channels)
- e. Cover
- 1) Synthetic cover (permeable or impermeable)
  - 2) Natural forming crust
  - 3) Other
- f. Other Issues
- 1) Floating debris in basin (medical waste, light bulbs, etc.)
  - 2) Fence
  - 3) Recycle or transfer pumps, valves, and controls
  - 4) Clean water diversions



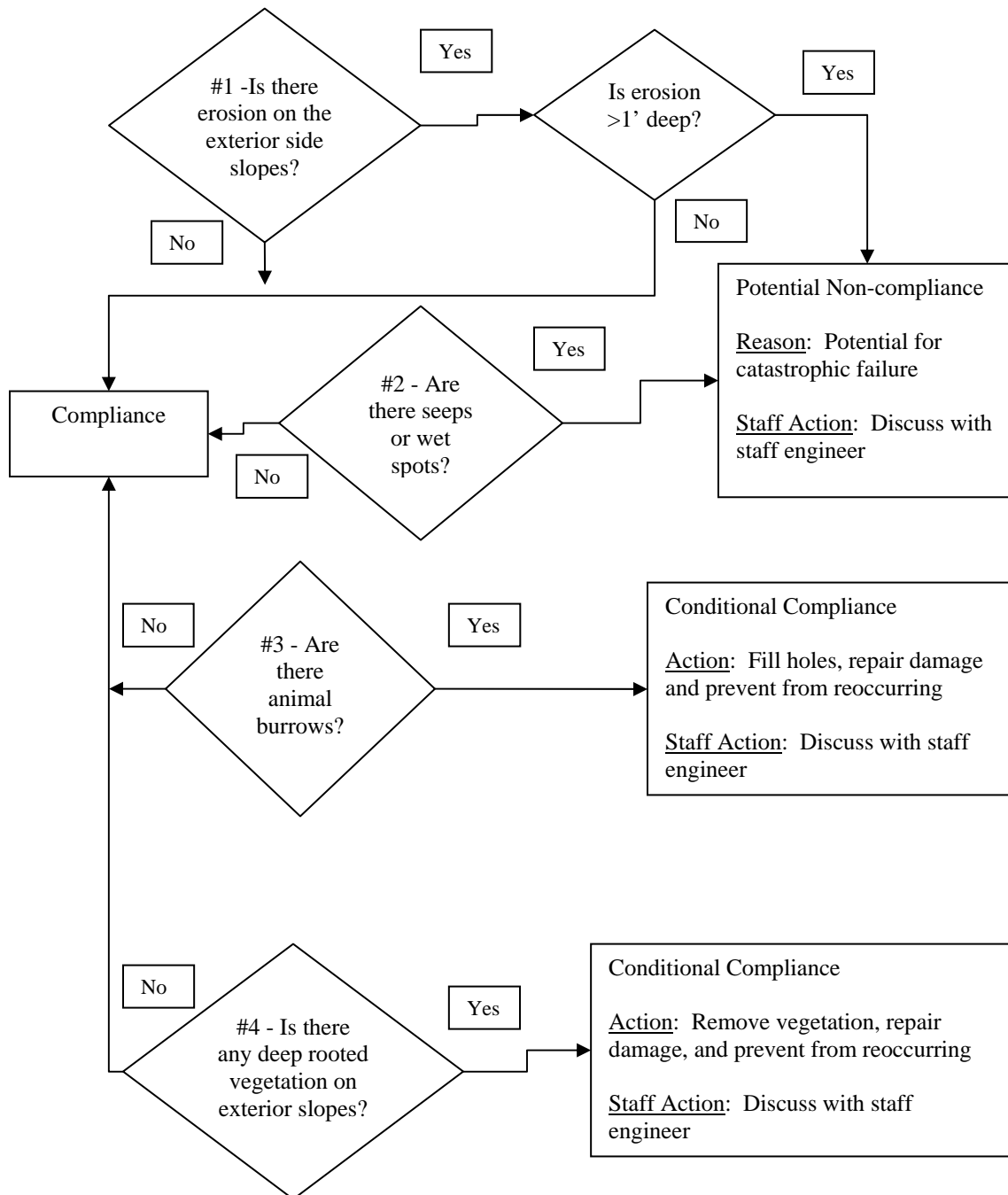
## Physical Condition of Basin Interior Slopes

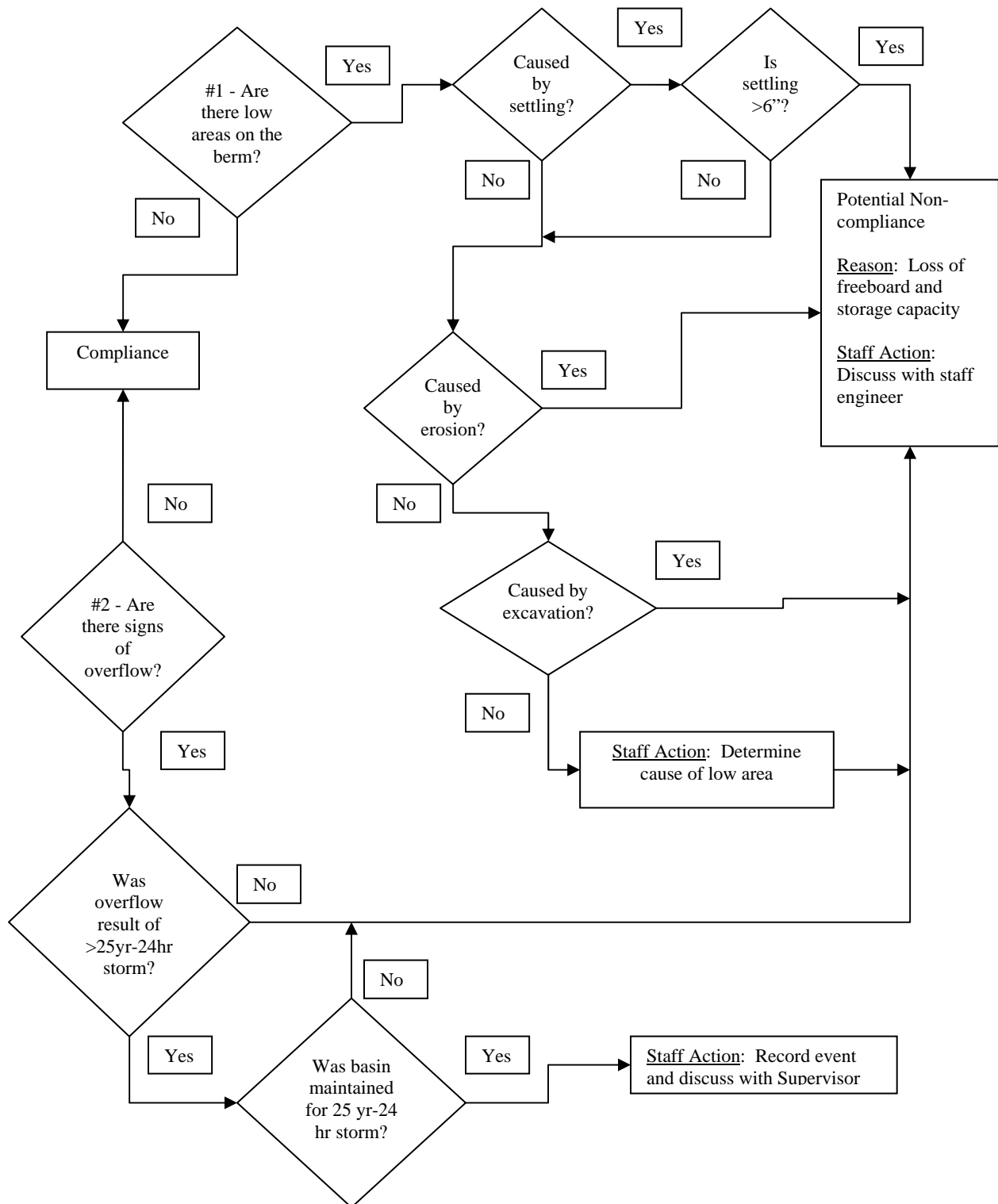






## Physical Condition of Basin Exterior Side Slopes

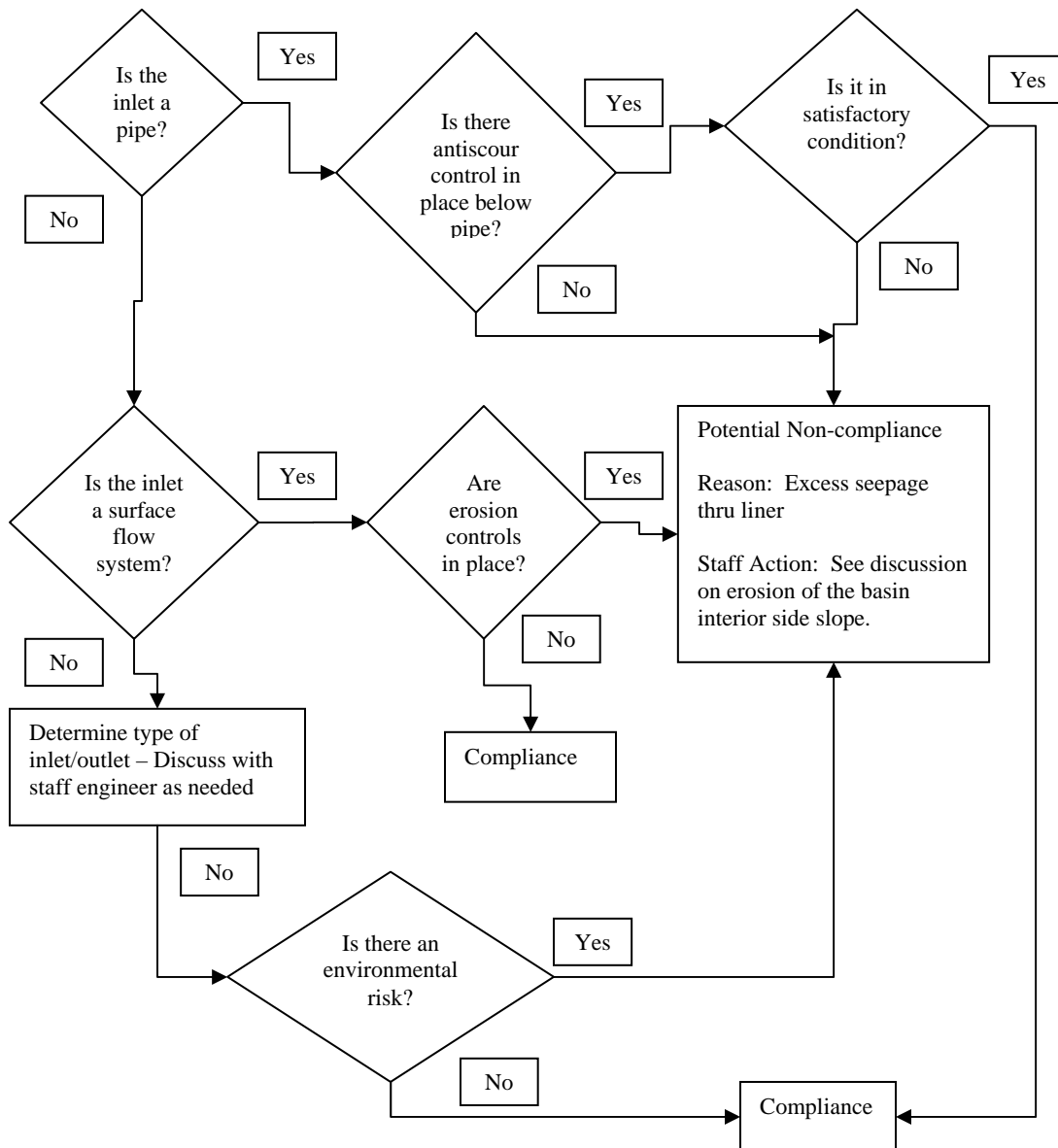


**Physical Condition of Basin Berm**



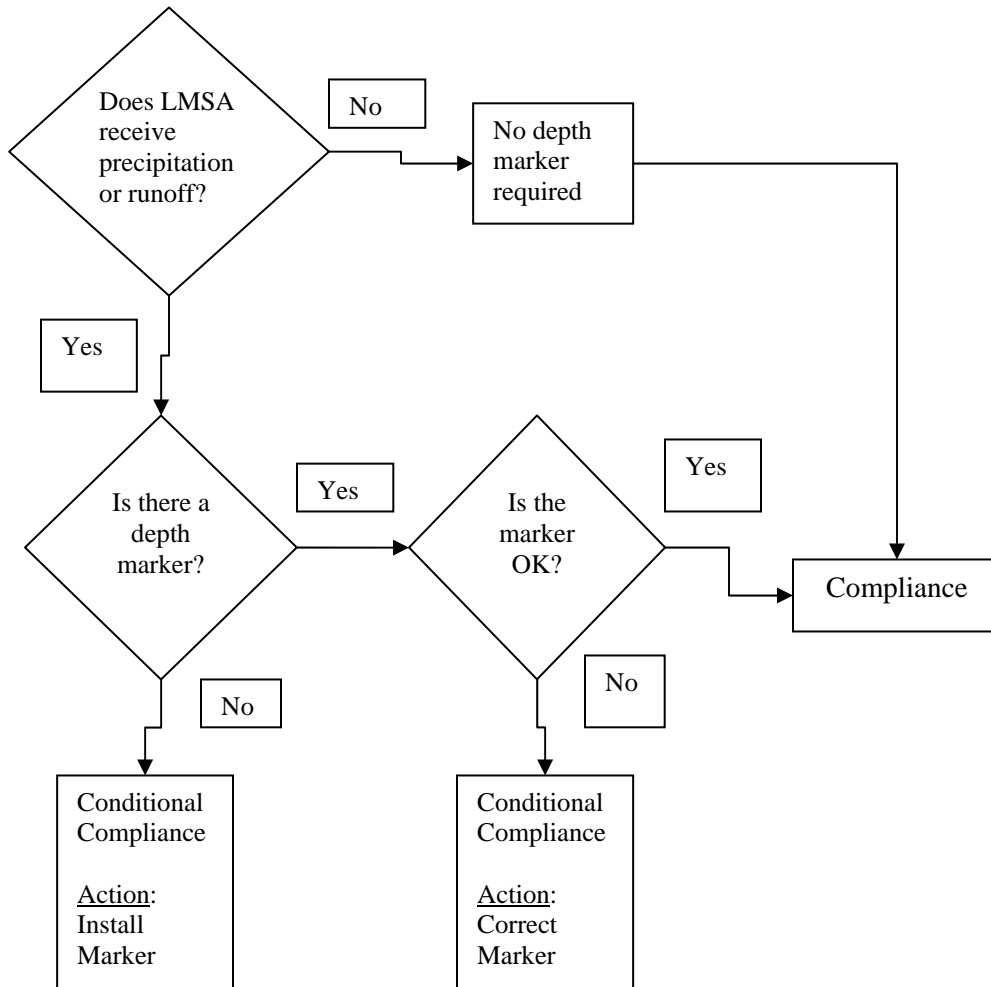
### Inlets to Basin and Outlets Between Structures

Note: Basins are a “no discharge” system. Any outlet from a basin is required to be directed to an area designed to provide storage and/or treatment.





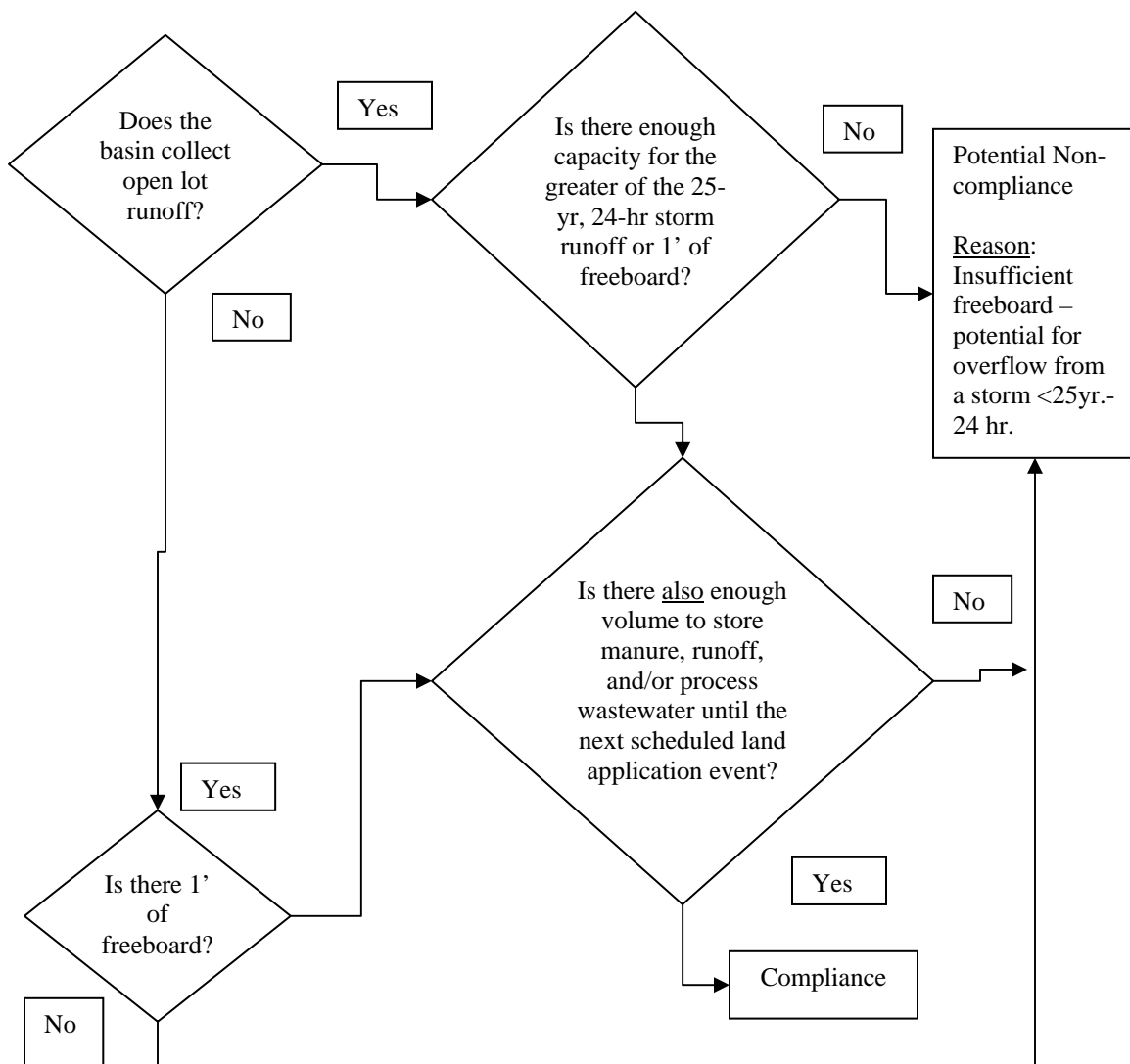
## Depth Marker



**Available Freeboard and Storage Capacity**

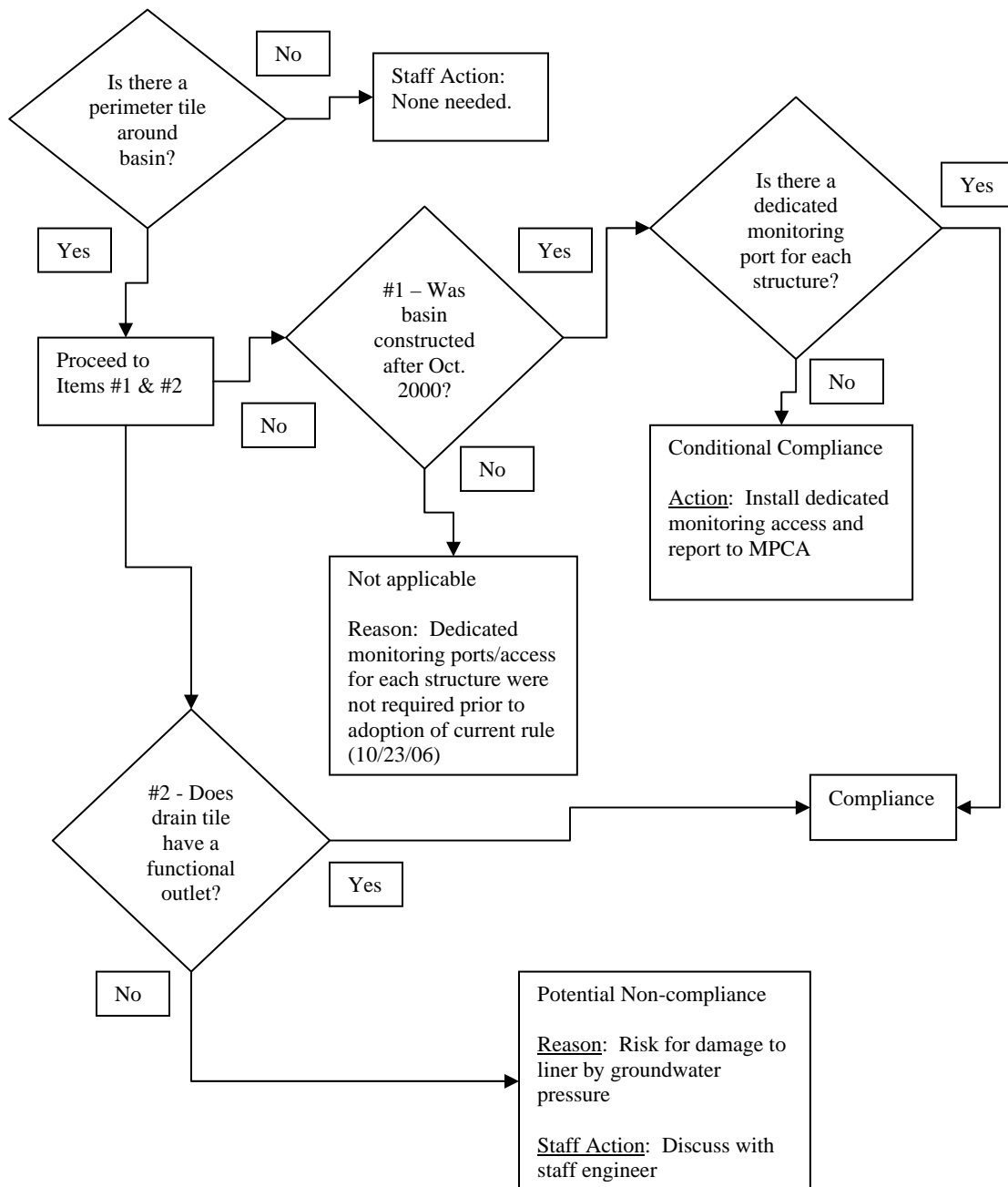
Any basin constructed after Oct. 23, 2000 (rule adoption) is required to have a **freeboard** that is the greater of either:

- a. the combined volume resulting from a 25 yr.-24 hr. storm of the precipitation that falls on the basin surface and any runoff that is collected by the basin as a result of the storm event; **or**
- b. 1' of depth



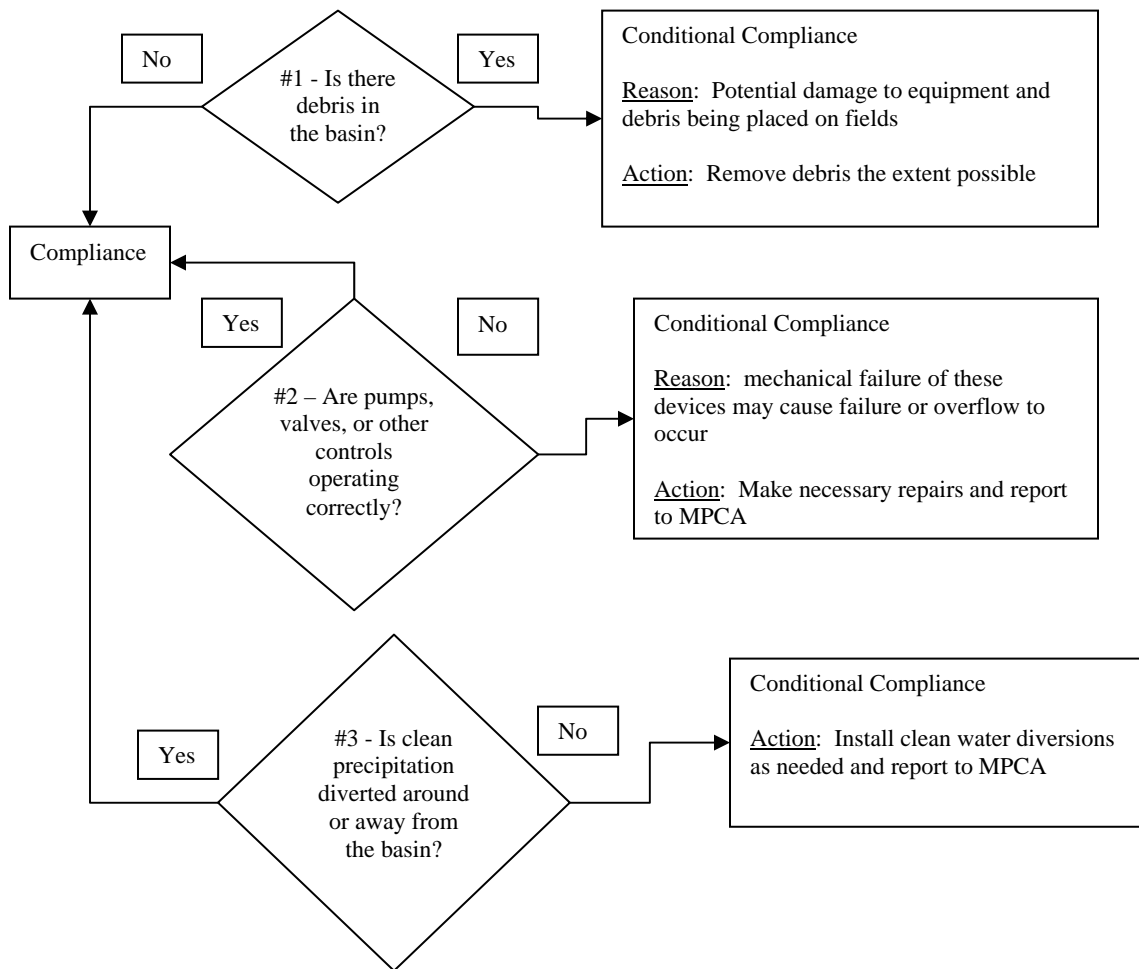


## Drain Tile





## Other Items





**What to look for when inspecting basins with partial concrete, synthetic, or geosynthetic liners: *(To be developed)***

**2. Poured Concrete Pits**

This part applies to LMSAs that are totally constructed of poured concrete. These structures are commonly located largely below grade and either below a barn or outside of the barn area. This section does not apply to structures constructed wholly or partly of pre-cast concrete, however there are some common issues between these structures.

When looking at a concrete pit under a barn only that portion of the pit that is above grade will be able to be inspected. When reporting on the condition of the concrete pit the inspector needs to be sure that any problems noted are actually in the pit wall rather than the barn stem wall.

**Concrete Construction-related Problems:**

All concrete pits will have cracks or other signs of durability problems. It is the severity of these problems and the environmental risk associated cracking that needs to be determined by the inspector with assistance from the staff engineer.

Any problems should be documented during the on-site walk through with photos and notes with a description of the problem. When taking photos it is helpful to use a ruler, coin or other object next to the adjacent problem area for comparison of size. This documentation can be used by the inspector in any discussion with the staff engineer as well as used as a comparison with documentation taken during the next inspection to determine if there has been any change.

When determining the environmental risk of the problem area consideration needs to be given to the geologic conditions at the site. Those sites located in the karst area or in areas with sandy soils have a higher potential for environmental risk than those sites located in areas with high clay content soils.

**Post-Construction Damage:**

Over time a concrete pit may be damaged in a number of different ways, including, but not limited to:

- Collision of heavy equipment
- Stress from impacts of storm or fire damage to barn
- Excess exterior pressures from soil moisture

This type of damage may cause an instantaneous failure of the pit or cause damage that over time will cause a failure.





**NOTE:** At **no time** should anyone who is not using the appropriate respiratory equipment enter a concrete pit located under a barn or with a cover of any kind over it after manure has been placed into the pit. This applies regardless of how long it has been since manure has last been placed into the pit. There is a danger of asphyxiation from trapped hydrogen sulfide gas. See this website for additional information:

<http://safety.coafes.umn.edu/confinedspaces.html#>

**What to look for when inspecting poured concrete pits:**

- a. Cracks, honeycombing and other signs of concrete durability problems
  - Location of problem on the pit (i.e. corner, near fan or pump outs)
  - Sloughing or flaking of concrete
  - Exposed reinforcement bars
  - In areas where concrete is sloughing, depth of hole that is created in the wall
- b. Damage caused by external forces such as equipment, damage to the barn, external water pressure, etc.
  - Damage to the concrete pit in areas where heavy equipment would normally be used, such as pump outs, animal loading areas, feed storage bins, etc.
  - Bowing or warping of walls
  - Cracks located in areas of the barn wall that are not normally prone to stress/strain
- c. Seepage
  - Unexplained wet or soft spots in the soil surrounding the pit walls
  - Discoloration or odor in drain tile discharge
- d. Pump outs
  - No seal or cracking between pit wall and pump out
  - Exposed reinforcement bar in the hole used for agitation equipment
  - No pumpouts, just holes in the side of the pit for agitation equipment
  - Spilled manure around pump out
  - Cover on pump out to keep precipitation out
- e. Drainage of precipitation away from structure
  - Pooling of precipitation adjacent to barn walls
  - Grading of surface water towards pits, rather than away from pit
- f. Tile lines
  - Lack of an inspection port for tile line on each pit on site (for pits constructed since Oct. 2000)

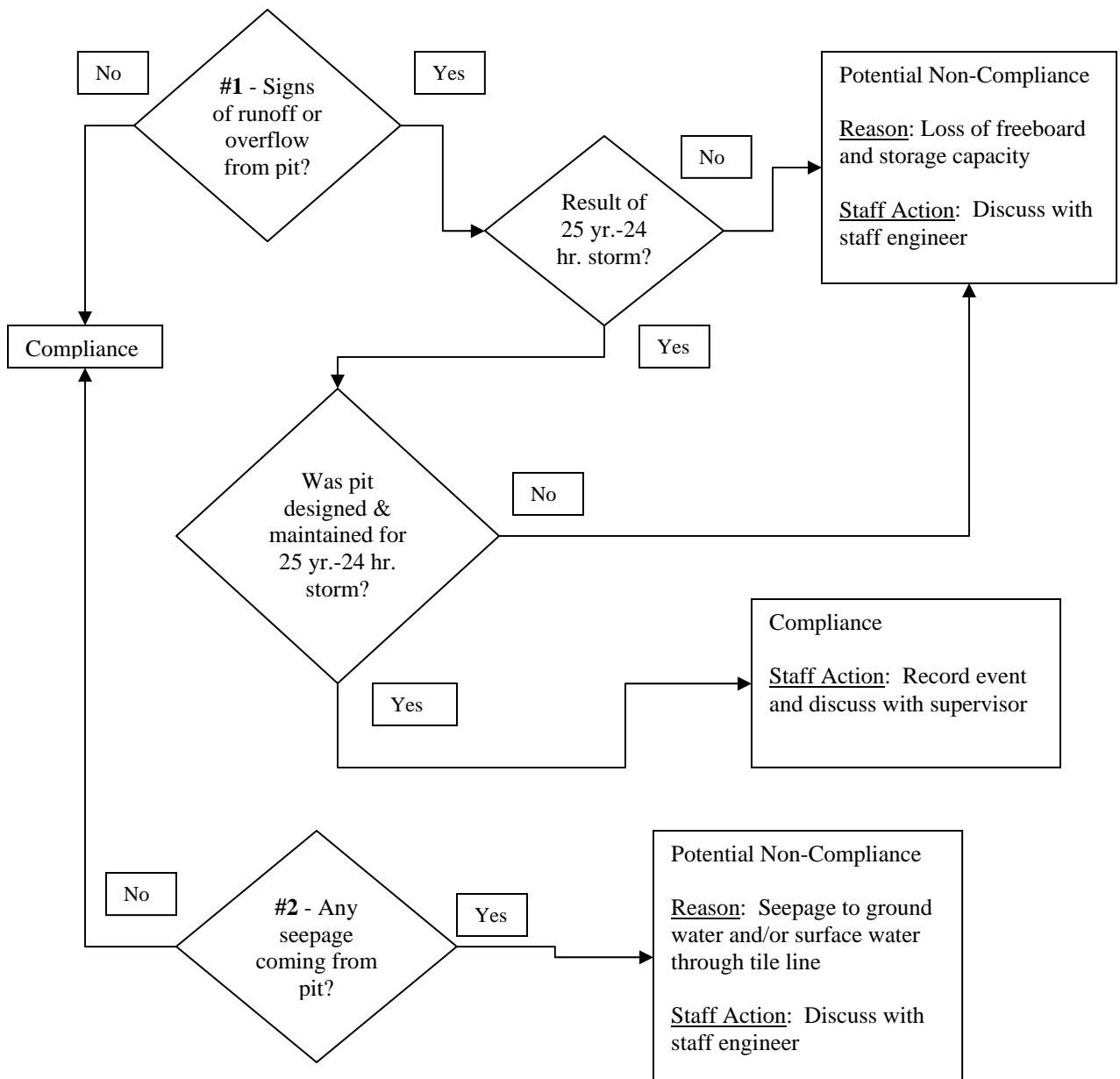


- No functional outlet for drain tile
- Sump pump functioning, if needed

g. Other

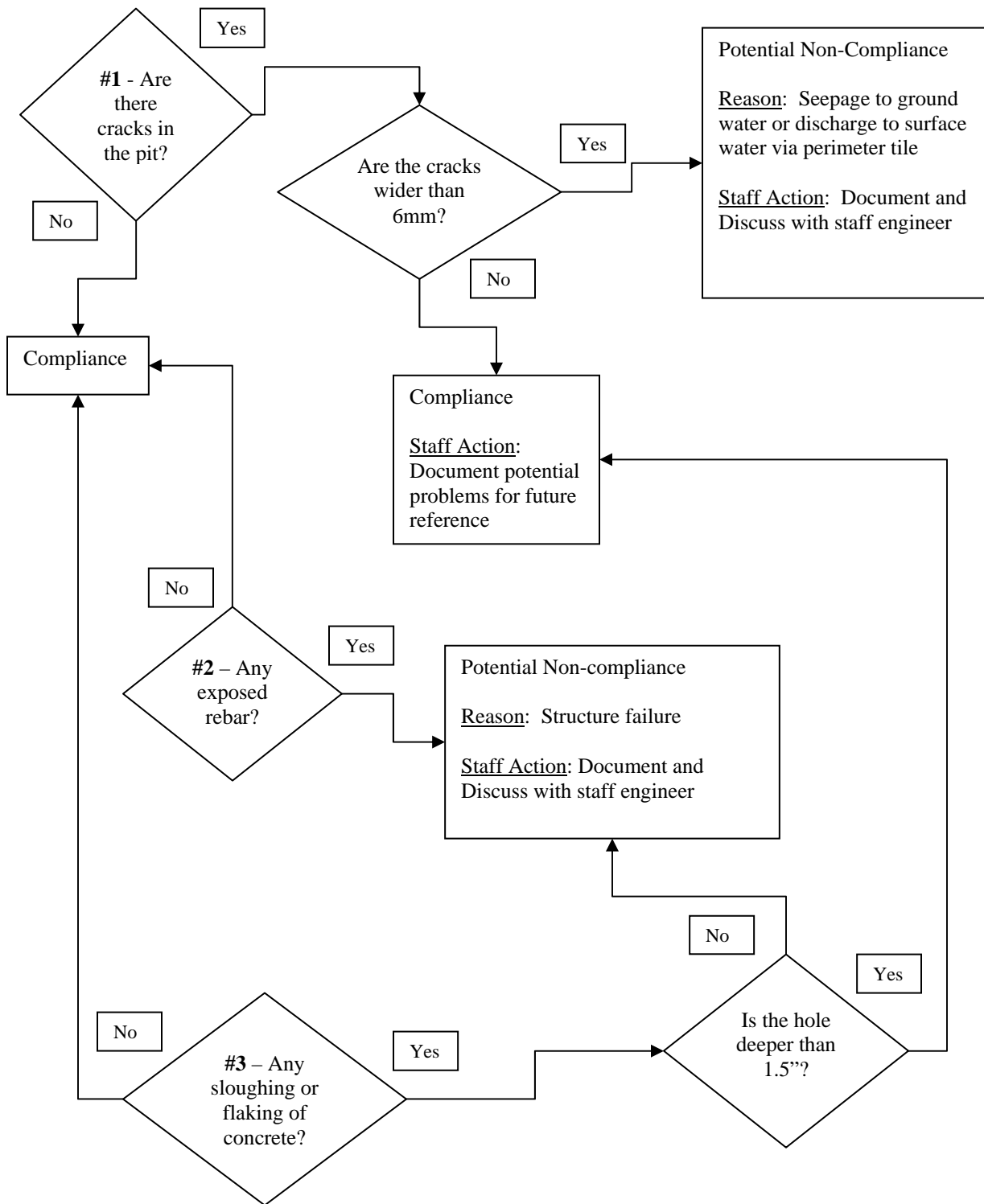
- Available storage in pit for growing season or frozen field conditions
- Placement of depth marker (required only for pits receiving precipitation)

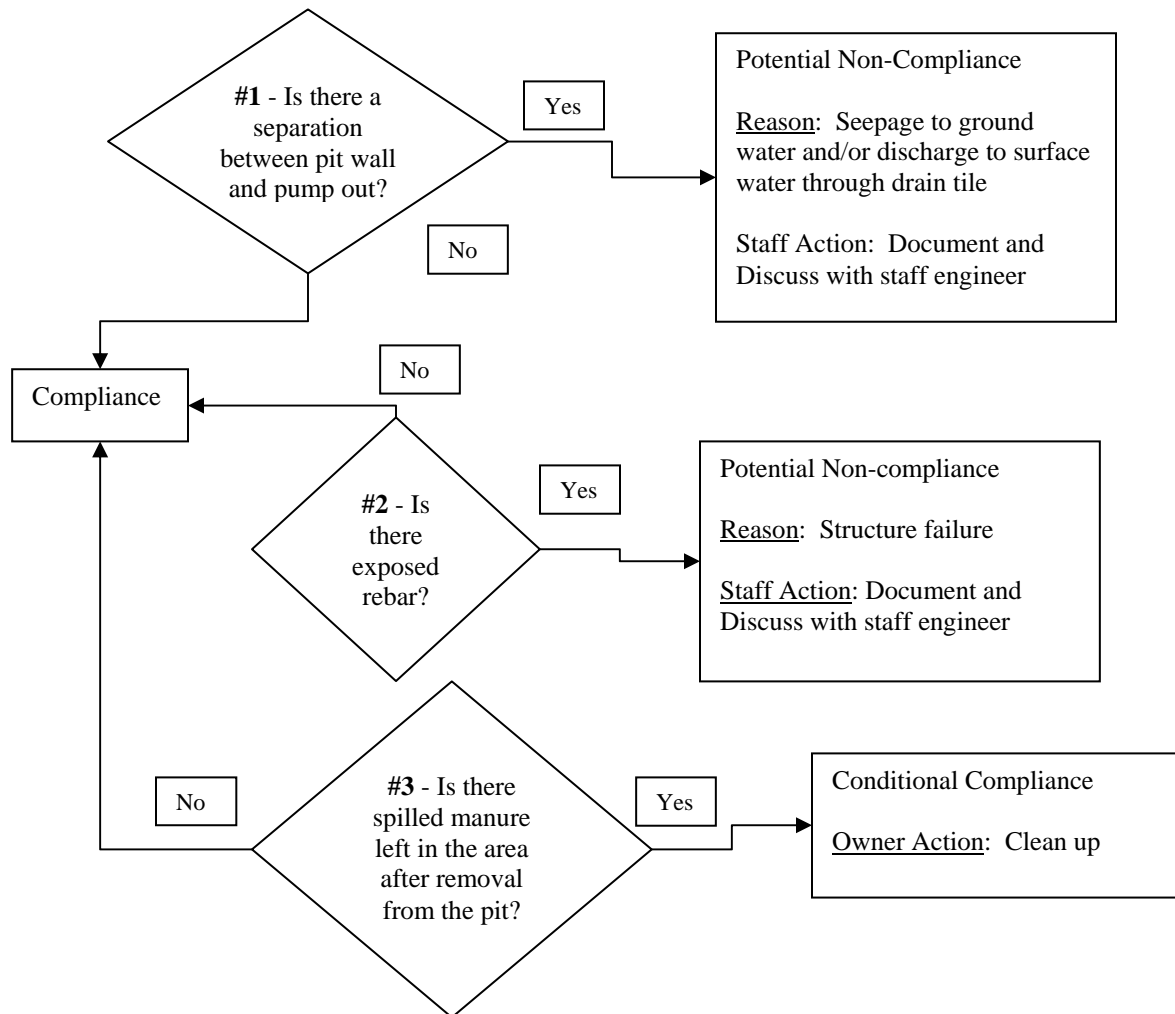
### Concrete Pits – General





## Damage to Poured Concrete Pits



**Concrete Pit – Pump Outs**

See the Flow Diagrams on **pages 12 – 15** for determining the compliance rating for the following items:

- Depth Marker
- Available Freeboard and Storage Capacity
- Drain Tile
- Sump Pumps (and other associated mechanical devices)
- Diversion of Clean Precipitation
- Debris in the Pit



**(Items 3-6, below, to be developed)**

3. Pre-cast Concrete Pits
4. Concrete Block Pits
5. Slurry Stores or Other Above Ground Tanks
6. Stacking Slabs

**C. Solid Manure Storage Area**

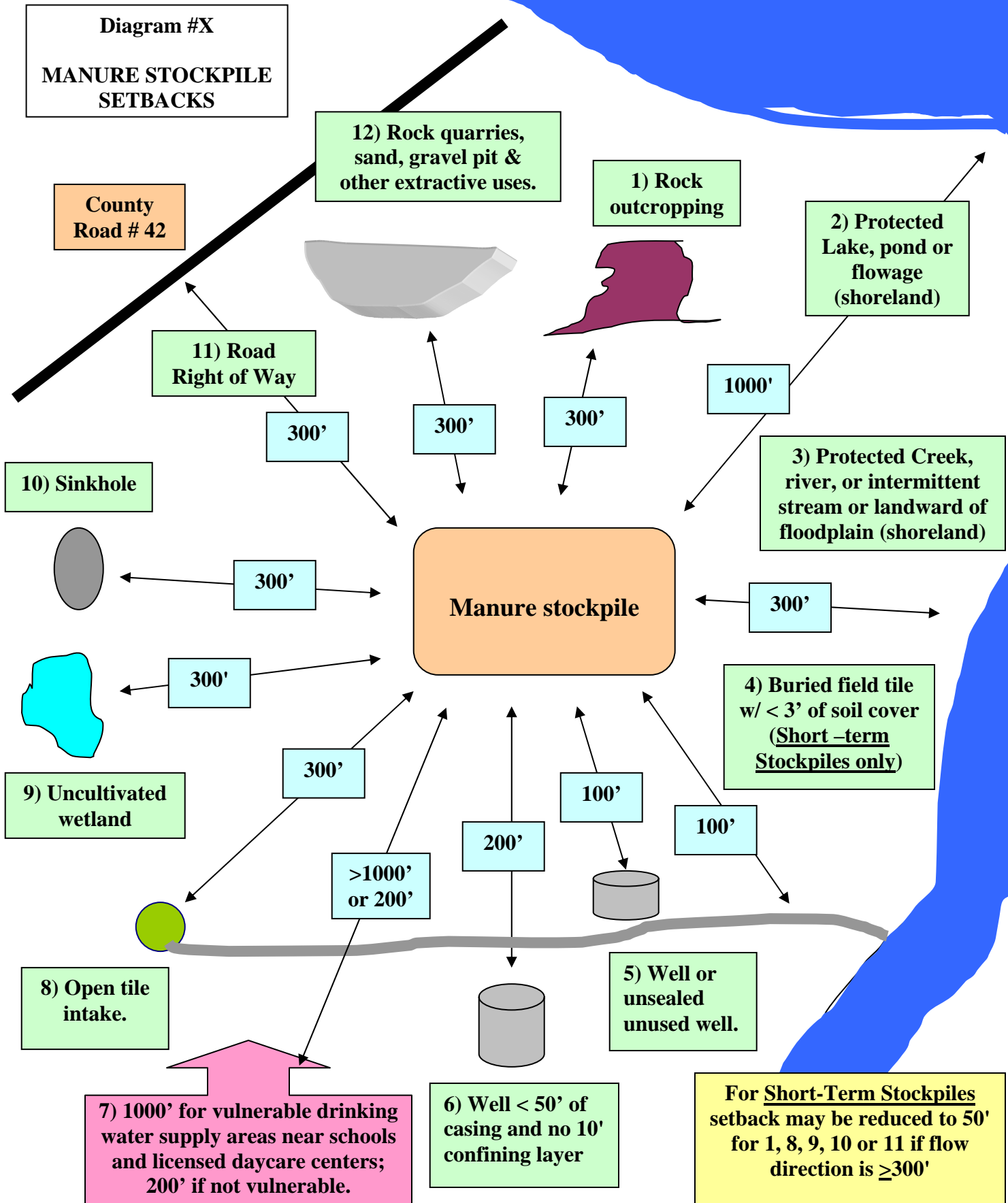
1. Stockpiling – on-site and field site

Refer to the factsheet “Technical Guidelines for Stockpiling of Manure” found on the web at: <http://www.pca.state.mn.us/hot/feedlot-publications/wq-f8-06.pdf>



**Diagram #X**

**MANURE STOCKPILE  
SETBACKS**





### All Stockpiles

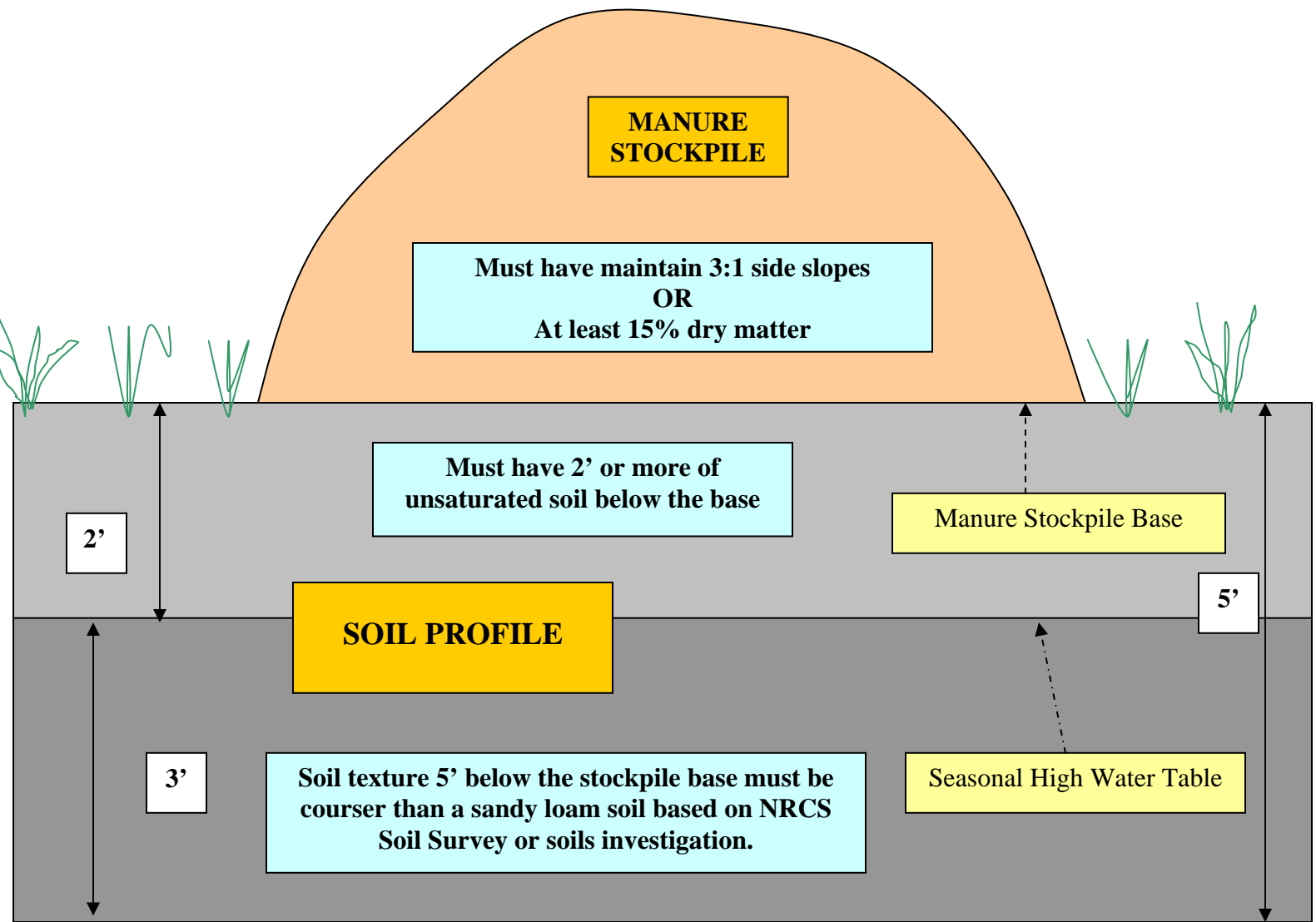
1. Must not exceed agronomic rates for > 320 acres.
2. Prohibited in sand and gravel pits, quarries or on bedrock.

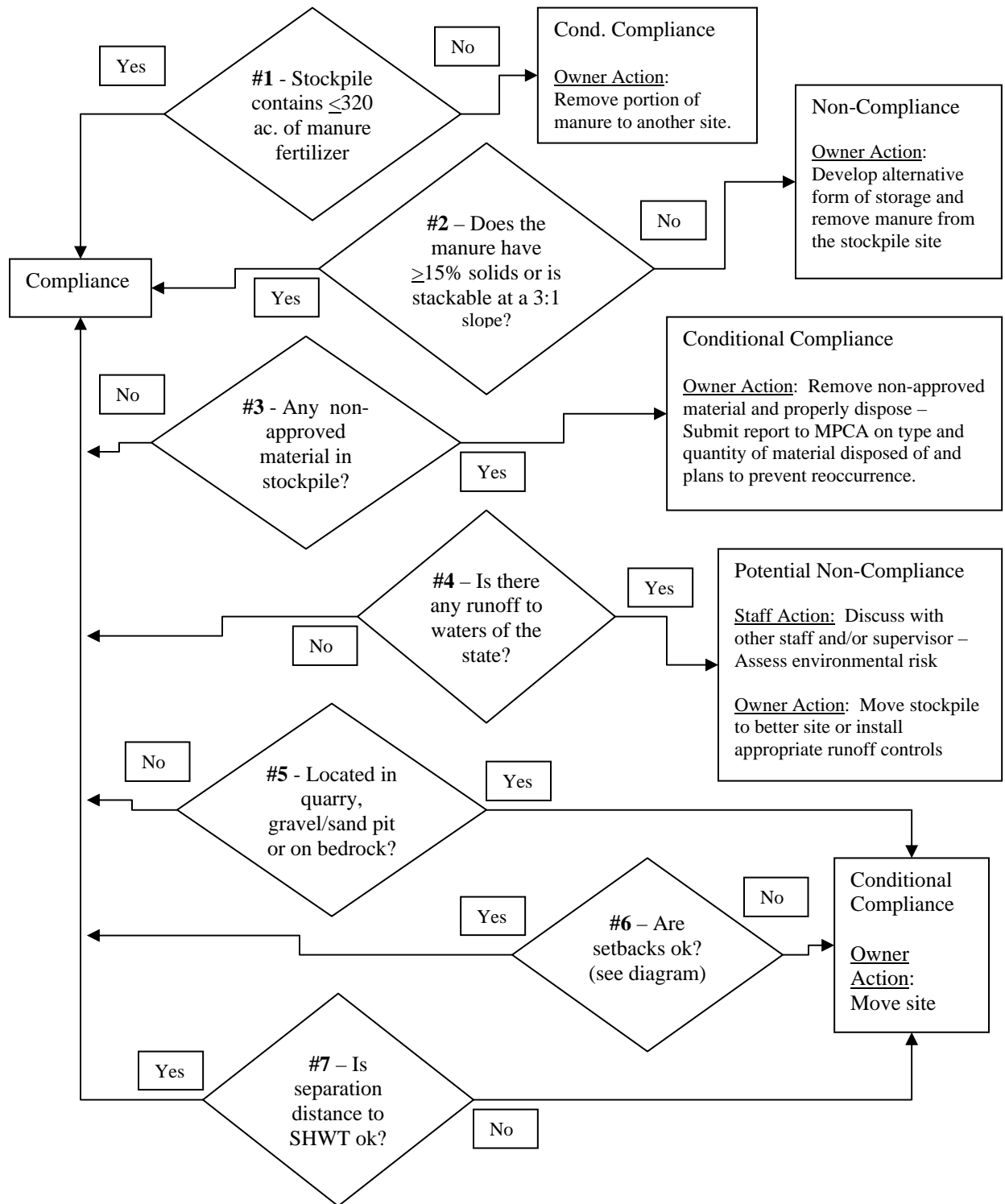
### Short-term Manure Stockpiles only

1. Stockpile must be removed one (1) year from the date it was established.
2. Prohibited on greater than 6% slopes.
3. Must have pre and post-vegetated cover or cropping history prior to stockpiling.
4. **Exemption:** *If stockpiled for less than 10 consecutive days and no more than 6 times per year or in open lots with less than 100 animal units.*
5. If on land with 2-6% slope will need to have clean water diversions and erosion control practices.

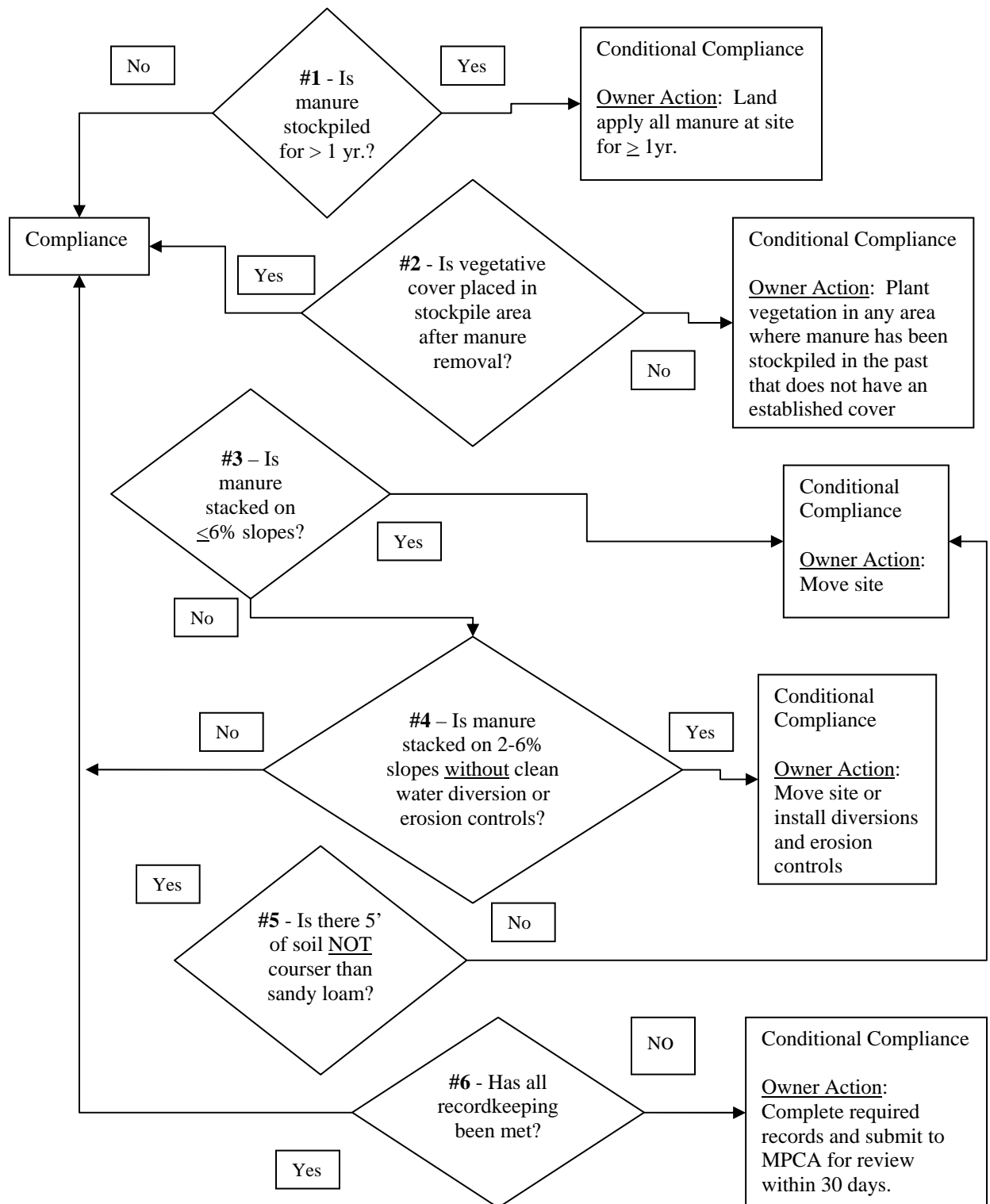
### Permanent Manure Stockpiles only

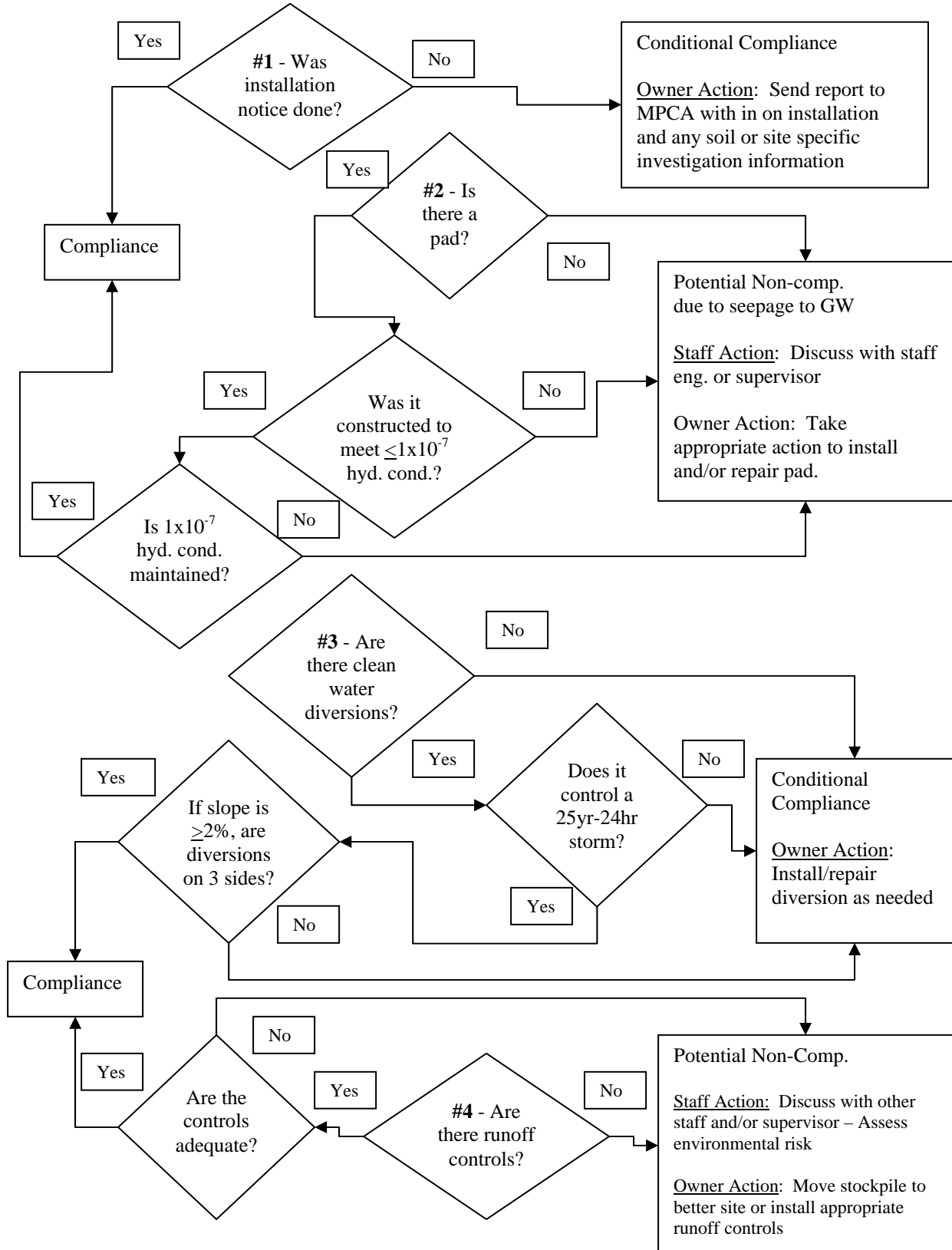
1. Require a permit application.
2. Must have a pad that has a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or less
2. See feedlot rules or factsheet for additional details.



**All Stockpiling Requirements – Both Short-term and Permanent**



**Short-Term Stockpiling Requirements**

**Permanent Stockpile Sites**



2. Composting – manure or other solid waste (not carcasses) ***(To be developed)***

**D. Feed Storage Area**

Leaching from silage storage  
Spilled feed  
Spoiled feed

**E. Stormwater Controls – Clean water diversions**

**F. Runoff Controls – Contaminated water diversions**

Include runoff collection ponds

**G. Dead Animal Disposal**

**H. Air Emissions**

**Section II. Record Review**

**A. Land Application Records**

Note: This is not a completely comprehensive checklist of state requirements.

“\*” – likely in violation of state rules and/or permit

For transferred ownership, go to Item 3, below.

1. Minimizing Nitrate Leaching

- a. Manure nutrient content is being tested at manure stockpiles or storage areas (required for each storage area with differences in feed, animals, management, etc.)

\_\_\_ Annually (CAFOs and first 3 years if >300 AU)\*

\_\_\_ \* not at all or no records

- b. Nitrogen rates - manure plus fertilizer rates compared to crop needs/removal (see table, below)

\_\_\_ Less than or equal to Extension recommendations (or within i.e. 5%)

\_\_\_ Exceed University of Minnesota recommendations, but are shown in MMP to be based on IA, WI, SD or ND rec's

\_\_\_ Exceed University of Minnesota recommendations by 5-20%

\_\_\_ justified by site or past history

\_\_\_ \* not justified by site or past history



- ☐ \* Exceed University of Minnesota recommended rates by more than 20%
  - ☐ \* Insufficient records to determine
  - c. Applied manure amount compared to expected manure generation
    - ☐ Records indicate that the total amount of manure applied (rate\*acres) is roughly equal to the expected manure to be generated (see attachment 2)
    - ☐ Records show that the amount of manure applied is somewhat less than expected
    - ☐ \* Records show substantially less application amounts than expected or than documented in previous years
  - d. Fall applications at CAFOs prior to mid-October are:
    - ☐ NOT applied to sandy soils (CAFOs)
    - ☐ There are no sandy soils
    - ☐ \* CAFO applies to sandy soils prior to mid-October (and no documentation that soil temps were less than 50 degrees)
  - e. Summer manure applications (cover crop needed for sites where MMPs are required)
    - ☐ No application in June, July or August
    - ☐ Cover crop planted after summer applications
    - ☐ \* No cover crop used after summer applications
  - f. Equipment calibration - Implicitly required at all manured sites to meet N rate requirements (records of calibration are not specifically required)
    - ☐ Calibrated and can achieve low enough rate
    - ☐ \* Not calibrated
    - ☐ \* Calibrated, but not able to achieve low enough rate
    - ☐ Unable to determine through the inspection process, but this issue was discussed with producer
2. Preventing excessive soil P build-up
- a. Soil phosphorus testing

Samples were analyzed:

- ☐ Within the past four years
- ☐ \* More than four years ago
- ☐ \* No record of soil sampling

Were samples taken on all fields receiving manure and using sampling procedures consistent with U of MN, NRCS or NPDES permit?

☐ yes ☐ \* no ☐ not sure



- b. Phosphorus applied does not exceed plant phosphorus uptake in all applicable areas below. To compare manure phosphorus additions with plant phosphorus uptake, see attachment XX.

- \_\_\_\_ Within 300 feet of lakes, streams, public waters wetlands, unbermed drainage ditches, and intermittent streams where soil P exceeds 21 ppm Bray or 16 ppm Olsen.
- \_\_\_\_ Fields with open tile intakes (<300 ft) where soil P exceeds 75 ppm Bray or 16 ppm Olsen
- \_\_\_\_ Any field where soil P exceeds 150 ppm Bray or 120 ppm Olsen
- \_\_\_\_ \* Soil P test information is not known, and the field was regularly used for manure application in past years.
- \_\_\_\_ \* One or more of the above areas received excess phosphorus additions over a six year period

### N Rates and P Removal Ranges

	A. typical N needs (lbs/ac/yr) if no manure in previous year	B. N needs (lbs/ac/yr) with manure during previous year	C. Average annual phosphorus removal by crop over rotation (lbs/ac/yr)	Notes about land/acreage where excessive rates occur
Corn/corn	180	135-150	50-70	
Corn after soybeans	140	140	40-60	
Corn after alfalfa	30-80	0-50	50-70	
Alfalfa (50 lbs N per ton)	150-250	100-200	50-70	
Soybeans (3.5 lbs N per bu)	140-210	105-190	40-60 (in rotation w/corn)	
Other (specify) _____				
Other (specify) _____				

### 3. Transferred Ownership Records

- \_\_\_\_ Records of the following are kept when ownership of manure is transferred:
- \_\_\_\_ Total amount of each Manure source from the Facility that was sold or given away (in gallons or tons);
- \_\_\_\_ Date(s) of Manure transfer to other parties;
- \_\_\_\_ Results of the Manure nutrient analyses for each source of Manure from the Facility;



- \_\_\_\_ Name and address of any commercial applicator or other person(s) who received the Manure, including a signature indicating that the recipient received a copy of the state Manure application requirements
- \_\_\_\_ Location where the manure was applied
- \_\_\_\_ Rates of application are documented
- \_\_\_\_ Rates of application do not seem excessive

## B. Required Owner/Operator Inspections

These are the inspections that the owner is required to complete in accordance with Part III.A.8. (page 16) of the NPDES/SDS General Permit MNG440000.

Verification of the accuracy of the Owner/Operator inspection records by the MPCA staff is done by completing a walk-over inspection of each of the structures and/or devices listed below. Refer to the appropriate inspection guidance and form for each type of structure.

### 1. Stormwater Diversion Devices

Stormwater diversion devices are used to prevent rain or snow melt waters from coming into contact with potential sources of pollutants, such as open lots, feed storage areas, or manure storage areas. Some examples of these devices include:

- Building roof gutters
- Earthen berms placed upgradient from the entire production area or portions of the production area
- Concrete curbs
- Clean water tile inlets

These devices are to be inspected **once per week** by the owner/operator. The inspection is a visual inspection to insure that the devices are functioning correctly and that no damage has occurred.

Examples of damage can include:

- Ice damage to roof gutters
- Accidentally hitting devices with farm equipment
- Rodents burrowing into earthen structures or getting into tile lines

### 2. Runoff Diversion Structures

Runoff diversion structures are used to contain manure-contaminated rain or snow melt water, or process wastewaters for storage and/or treatment. Examples of these types of structures can include:

- Earthen berms
- Concrete curbs



These structures are to be inspected **once per week** by the owner/operator. The inspection is a visual inspection to insure that the devices are functioning correctly and that no damage has occurred.

Examples of problems can include:

- Build up of solids such that appropriate settling and/or separation cannot occur
- Accidentally hitting devices with farm equipment
- Rodents burrowing into earthen structures

3. Devices used to channel manure-contaminated runoff to the storage and/or treatment area

These devices are used to transfer manure-contaminated runoff or process wastewater to the to the storage and/or treatment area(s). Examples of these types of structures can include:

- Inlets within an open lot
- Picket dams or other solid separation devices
- Reception tanks used to collect and transfer silage leachate

These structures are to be inspected **once per week** by the owner/operator. The inspection is a visual inspection to insure that the devices are functioning correctly and that no damage has occurred.

Examples of problems can include:

- Plugging of picket dams, inlets or pipelines with solids
- Rodents getting into inlets or pipelines
- Accidentally hitting devices with farm equipment
- Pump failures

4. Liquid Manure Storage Areas (LMSAs)

These are structures used to store the liquid manure, process wastewater or manure-contaminated runoff generated at a feedlot. Specific information for the inspection guidance and forms to be used for different types of LMSAs can be found in Section I.B, above.

These structures are to be inspected **once per week** by the owner/operator. The inspection is a visual inspection of the structure to insure that it is functioning correctly and that no damage has occurred.

5. Depth Markers for Open Air LMSA



A depth marker is required for any LMSA that receives direct precipitation and/or manure-contaminated runoff resulting from a precipitation event. The depth marker is to clearly indicate the minimum capacity needed to contain the precipitation and runoff from a 25-yr., 24 hr. rainfall event.

The owner/operator is to read the depth marker **weekly** and record the results.

Review of the depth marker records by MPCA staff needs to include an evaluation that answers the following questions:

- a. Are there records? Taken weekly?
- b. Are there any readings that indicated that there was less available storage volume in the basin than required by the 25 yr.-24 hr. rainfall event?
- c. Are there any significant increases or decreases in the depth marker readings that cannot be accounted for by pump down, rainfall events, etc.?

#### 6. LMSA Perimeter Tile

Each **week** the owner operator is to examine the monitoring port or outlet for each drain tile located around a LMSA and record the results. The examination is a check for water flow and signs of discoloration or odor that may be seeping from the LMSA.

#### 7. Water Lines

All water lines, such as those used for drinking or cooling waters, are to be checked **daily** by the owner/operator. The purpose of this check is to prevent as much clean water as possible from coming in contact with manure to reduce the overall volume of effluent that needs to be handled at the feedlot.

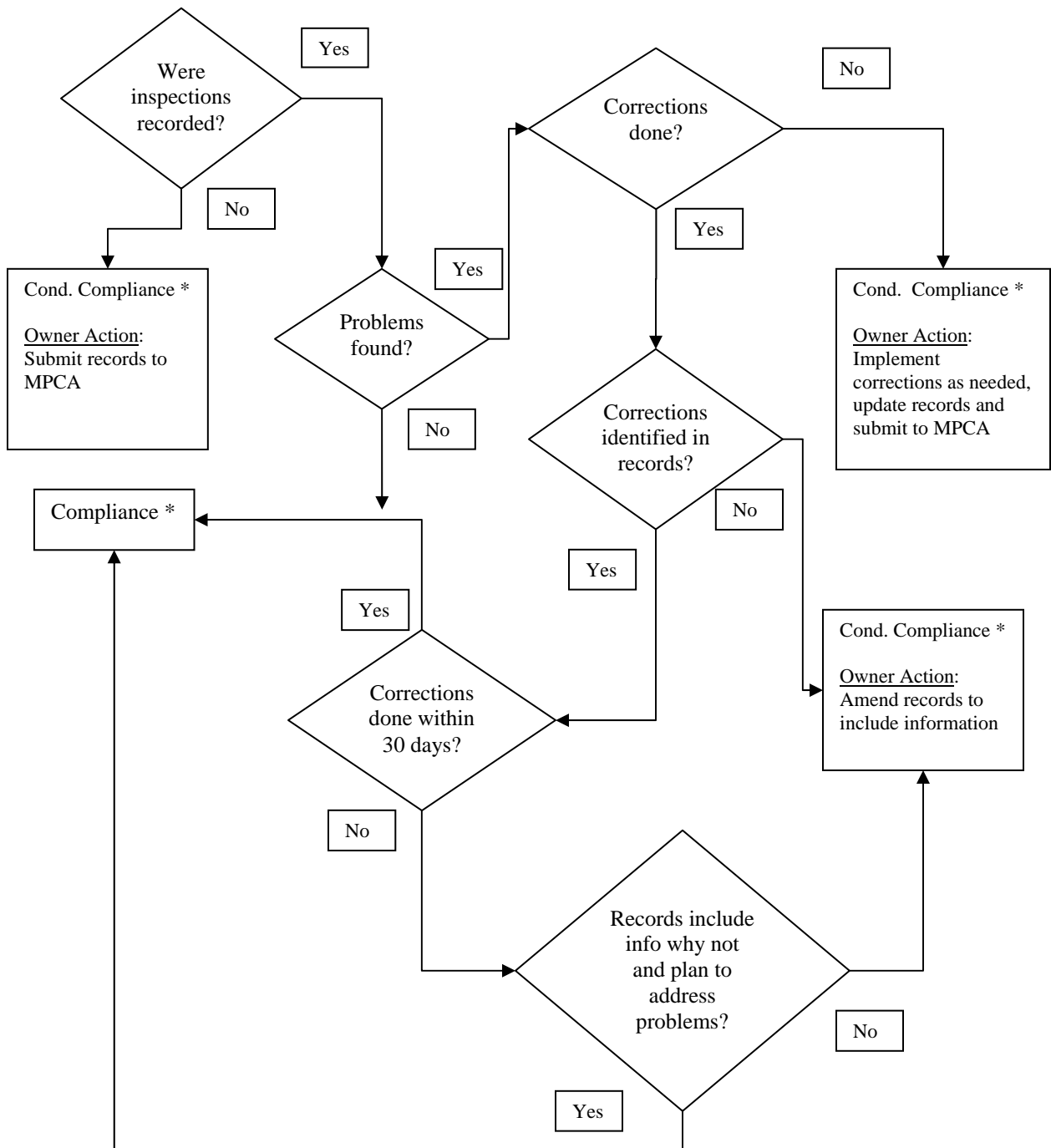
#### 8. Land Application Equipment

Equipment used for land application of manure is to be checked **periodically** for leaks. This includes pumps, pipe lines, tank wagons, manure spreaders, dragline hoses, temporary storage bags or tanks, or other equipment used to handle, load, transport, or spread manure.

Examples of problems can include:

- Holes or ruptures in dragline hoses
- Faulty shut off valves on a spreader tank
- Pipe couplings that do not connect correctly





\* Note: The use of the terms “Compliance” and “Conditional Compliance” within this flow diagram applies only to the record keeping requirements of the permit, not the entire Facility. The site walk over and owner/operator interview needs to cover any areas with problems identified in the records.



## C. Other Records

### 1. Current Design of All Manure Storage Areas (MSAs)

(Part III.B.5, page 17 of General Permit MNG 440000)

Design information pertaining to the volume for accumulated solids, treatment volume, total volume, and number of days of available storage is to be retained by the owner/operator for all MSAs.

This requirement applies to:

- LMSAs
- Stacking Slabs
- Stockpiles
- Compost Areas
- Holding tanks/pits
- Digesters

### 2. Short-term Stockpiling (Part III.D.1.b.4, Page 19 of General Permit MNG440000)

Records are to be maintained by the owner/operator pertaining to the:

- a. Location;
- b. Date the stockpile was established;
- c. Volume of manure stockpiled;
- d. Nutrient analysis of the stockpiled manure; and
- e. Date(s) when the stockpile was removed and land applied.

### 3. Composting Activities (Part III.D.2.e., Page 20 of General Permit MNG440000)

Records are to be maintained by the owner/operator pertaining to the:

- a. Quantities of manure, bulking agents and/or solid waste material delivered to the site;
- b. Temperature and retention time for all compost produced; and
- c. Analysis

### 4. Soil-lined Poultry Barn Floors (Part III.D.3.b., Page 21 of MNG440000)

The owner/operator is to maintain **permanent** records for all soil testing done for construction of a soil-lined floor in a poultry barn.

### 5. Stormwater Pollution Prevention Plan (SWPPP) (Part III.E.3, Page 22 of MNG440000)

The owner/operator is to maintain records pertaining to the implementation and maintenance, and any modifications of the SWPPP.



6. Animal Mortality Disposal (Part III.F.3, Page 22 of MNG440000)

The owner/operator is to maintain records regarding the mortality management practices used at the feedlot.

7. Rainfall Events (Part V., A.3.j., Page 24 of MNG440000)

The owner/operator is to either:

- a. Maintain records of the amount and dates of rainfall events; **or**
- b. Identify provide the government agency or educational institution rainfall data source that is used for the feedlot.

8. Facility Maintenance (Part V., A.3.k., Page 24 of MNG440000)

The owner/operator is to maintain records of any facility maintenance, including:

- a. Modifications, damage and/or repair to manure collection and storage facilities;
- b. Management or operating changes related to improvements in runoff control and confinement barns.
- c. Activities that alter the feedlot or that would increase the potential for runoff or ground-water pollution and
- d. Any other conditions that affect compliance with the permit.

### **Section III. Land Application Field Site Inspections**

**Goal:** Minimize nitrate leaching to ground water and phosphorus losses to surface waters where large amounts of manure are being applied by NPDES permitted facilities. Goal is also to increase MPCA presence with commercial applicators so that they are more likely to pay attention to land application requirements.

**Focus:** Inspect records and ongoing application at NPDES permitted sites which have indications of potential problems identified through manure management plan review, complaints, previous problems, etc. If such sites are not available, then choose several farms in a similar geographic area, and focus on the NPDES farms and surrounding livestock farms in that area.

**Strategy:** Notify several producers each summer/fall that you need them to notify you when they will be spreading their manure. Also ask for them to mail you their land application records from the previous two years. Remind them again in early fall of the request to notify you of the time when manure will be applied. Once on site, spend time talking with commercial applicators and examine setbacks and degree of incorporation/injection.



“\*” – likely in violation of state rules and/or permit

Note that this is not a completely comprehensive checklist of state requirements.

How was the inspection conducted? (Check all that apply)

- ☐ field inspection during application  
☐ field inspection following application  
☐ records/MMP inspection  
☐ discussion with producer/applicator  
☐ other \_\_\_\_\_

## 1. Surface applications

### a. Consistent with MMP

☐ Manure is incorporated or injected when/where the MMP indicates incorporation or injection (where MMPs have been required).

☐ \*Manure application method at a CAFO facility is surface application when the MMP indicated injection or immediate incorporation.

### b. Within 300 feet of waters

☐ Manure is injected or incorporated below the soil surface within 24 hours on all land within 300 feet of a lake, stream, intermittent stream, unbermed drainage ditch, open tile intake, or public waters wetland (all sites). [Exceptions allowed if 50-100' grassed buffers]

☐ \*Manure is left on the surface for more than 24 hours

### c. Uniform application of manure across the field (implicitly required at all manured sites to meet N rate requirements)

☐ Unable to determine, no field inspection. Injected manure appears:

☐ evenly applied ☐ \*unevenly applied

Surface-applied manure appears:

☐ evenly applied ☐ \*unevenly applied

Liquid manure is running off of the field and is

☐ \*entering waters ☐ not entering waters

### d. Field runoff

☐ Runoff of liquid manure leaves the field during the application process

☐ \*manure enters water of the state

☐ \*Runoff during precipitation events subsequent to surface applications may be causing measurable pollution problems

## 2. Winter application restrictions

### a. Consistent with MMP

☐ Manure is applied only onto those fields where winter application was identified in the MMP (as approved by the agency for CAFOs).

☐ \*Manure is applied onto unapproved fields at CAFOs or at unapproved rates.

### b. Field slopes (restrictions for CAFOs)



\_\_\_ Slopes for frozen or snow-covered manure applications are less than 2 percent for liquid manure and less than 6 percent for solid manure (CAFOs applying after November 20)

\_\_\_ \*Winter field slopes exceed the above limits

c. Tillage direction (restrictions for CAFOs)

\_\_\_ Tillage direction is along the contour (parallel to the slope)

\_\_\_ \*Tillage is up and down slope on frozen or snow-covered fields

d. Field runoff

\_\_\_ \*Runoff of liquid manure leaves the field during the application process

\_\_\_ \*Manure is applied during periods when there is active snowmelt that creates field runoff

e. Setbacks

\_\_\_ 300 foot setbacks are consistent with requirements in item 1.b.

\_\_\_ \*Setbacks are less than 300 feet

3. Preventing bacteria in ground water

a. Sinkholes setbacks

\_\_\_ Sinkhole setbacks are at least 50 feet

\_\_\_ Sinkhole setbacks are at least 300 feet on upslope side when incorporated after 24 hrs

\_\_\_ Well setbacks are at least 50 feet and no evidence of runoff into the well

\_\_\_ \*One or more of the above setbacks are not met.

4. Stockpile location restrictions

\_\_\_ Setbacks are 300 feet flow distance to waters of the state, tile intakes, sinkholes and road ditches flowing to waters of the state (50+ ft horizontal)

\_\_\_ Slopes are less than 6%, and clean water diversions & erosion control where slopes exceed 2%

\_\_\_ No pollution of waters, sandy soils to 5', or other non-compliance with stockpiles

\_\_\_ \*One or more of the above are not met