

# **SPRING LAKE ESTATES HOME OWNERS ASSOCIATION**



P.O. Box 5701  
Rockford, IL 61125

## **2020 INTERIM INSPECTION MEMO Permit No. 17607 Dam ID No. IL 00545**

**SPRING LAKE DAM  
WINNEBAGO, COUNTY, ILLINOIS**

**ARC DESIGN**  
RESOURCES INC.

Observed by:  
Arc Design Resources, Inc.  
5291 Zenith Parkway  
Loves Park, IL 61111

October 21, 2020

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## **2020 Observed Deficiencies and Recommendations**

Spring Lake Home Owners Association President Josh Spencer requested an interim dam observation to identify any progress made to the maintenance of the dam since the last dam inspection in November of 2019. Observations were conducted on October 14<sup>th</sup>.



For purposes of parcel identification in this memo, the parcels are numbered 1-9 starting at the east end of the dam, continuing to the condominium building at the west end of the dam. The condominium building is on lot 9.

Progress was made on the downstream face of the dam embankment on the seventh parcel where evergreen shrubs were removed. Most other lots showed little to no improvements on the recommendations made last November. Embankment deficiencies such as holes and soil sloughs have not been repaired. Woody vegetation along the water's edge has grown in the past 11 months. Stumps from trees or woody bushes still exist along the waterline. Trees in the downstream face of the dam must be removed. A tree stump in the dam face must be removed.

Each location needing maintenance was marked in the field with a flagged lath. The specific item needing attention was marked on the lath. Woody vegetation along the water line that must be removed was flagged as an example of what must be removed.

The reason a mowable grass surface is required on the earthen dam is twofold. First, the surface of the dam can be inspected for deficiencies after a mowing. Deficiencies such as erosion, animal bore holes or sloughing are very important safety features to be able to see through visual observations. Excessive vegetation blocks the view of the dam surface. Secondly, water has been known to travel along plant roots. If water finds its way through the dam along a root or a series of roots, it can lead to piping. Piping occurs when water establishes a flow route through the dam which, over time, allows the water flow rate and velocity to increase through the earthen dam causing failure.

A clean dam surface covered in a healthy grass surface is the long term goal for dam safety.

Project Location:				Spring Lake Estates, Rockford, IL			
 				Date:	26-Oct-20		
<b>Spring Lake Dam Repair Inventory</b>							
<b>Repair items noted from dam inspection on October 31, 2019</b>							
This inventory accompanies the dam site plan showing WinGIS property lines, ground contours, an underlying aerial photo and notations of various items requiring maintenance or repair. This inventory is meant to assist property owners in determining what items are located on their property that are in need of maintenance.							
Item Description on Dam Site Plan	Lot No.	Detailed Description		Repair Recommendation			
Minor sloughing along bank	1	Soil embankment slope has become steeper due to lack of stabilizing rip-rap		When lake level is down 2 feet, recompact weakened soil plane, add compacted clay, line with geotextile fabric, pull up sloughed rip rap along repaired slope to two feet above normal water level.			
Hole 1	1	6" diameter hole in surface of dam face		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 2	1	6" diameter hole in surface of dam face at water level		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 3	2	3-4" diameter hole in surface of dam face		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
7 small trees in this area, four on the back slope of the dam must be removed	2-3	3 of the 7 trees in this area must be removed because they are on the back slope of the dam. The remaining trees are in the creek channel.		Remove tree, cut stump off level with ground surface, treat stump with herbicide.			
Hole 4	3	3-4" diameter hole in surface of dam face, back slope		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 5	3	3-4" diameter hole in surface of dam face		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 6	4	4' diameter hole in surface of dam face		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 7	4	4' x 3' slough in surface of dam face upslope from rip-rap		Remove dislodged soil and vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 7a - related to adjacent slough	4	2' x 2' slough in surface of dam face upslope from rip-rap		Remove dislodged soil and vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 8	4	minor slough in surface of dam face		Removed dislodged soil, remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Remove two trees from the backslope of the dam embankment, trees are flagged.	4	Remove trees		Grind stumps, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Woody vegetation along water's edge	5-6	Remove woody stemmed plants		Grind stumps, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Vegetation along the back slope of the embankment must be removed	7	Evergreen plants have been removed		Replace disturbed soil with compacted clay, cover with 4" of topsoil, apply specified seed mix.			
Hole 9, animal bore	7	2" diameter hole in surface of dam face		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Hole 10	8	3-4" diameter hole in back slope surface of dam face		Remove vegetation, fill with compacted clay, cap with 4" of topsoil, seed with specified seed mix.			
Large maple tree, honey suckel shrubs	8-9	Trim maple tree to let sun light on dam bank. Remove all honey suckel shrubs.		Trim tree, remove woody plant material and roots. Replace disturbed soil with compacted clay, cover with 4" of topsoil, apply specified seed mix.			
Vegetation along both sides of the dam embankment must be modified	9	Excessive plant growth on dam embankment and along water's edge is not acceptable.		Remove all woody plant material and roots. Replace disturbed soil with compacted clay, cover with 4" of topsoil, apply specified seed mix.			

4" diameter trees and larger must have the stumps removed and backfilled with compacted clay and topped with 4" of locally sourced topsoil. Trees smaller than 4" diameter should be cut level with the existing grade and treated with herbicide. Trees and branches must also be removed from the slopes. Once cleared of trees and woody

shrubs, the remaining vegetation must be mowed with a brush hog or large rotary mower. Overgrowth should be removed from the slopes to reduce the presence of existing seeds. Optimal times of the year to complete this work are before or after the growing seasons. Once the overgrowth is removed, the dam embankments are to be seeded with the seed mix as specified below.

IDOT Class 2 Roadside Mix

Application Rate: 200 lbs./acre

Pure Seed	Description	Germination	Source Origin
49.33%	Inferno Tall Fescue	98%	OR
24.29%	Perennial Ryegrass*	96%	OR
19.59%	Creeping Red Fescue*	88%	CAN
4.87%	Red Top	85%	IL

0.00% Other Crop	Date Tested	1/19
0.05% Weed Seed	IL. Permit	2411
1.87% Inert Matter	Net Weight	50 lb. / 22.68 kg.
Noxious Weeds: NONE	Sell By	1/20
*Variety Not Stated	Source:	Martenson Turf Products, Inc. 250 W. Adams P.O. Box 218 Waterman, IL 60556-0218 Phone: 800-833-2290 Fax: 815-264-3324 Website: <a href="http://www.mtp78.com">www.mtp78.com</a>

This process may take one or more growing seasons to provide a homogeneous turf coverage on the earth embankment. The resultant turf coverage can be mowed twice per year. The grass will be visually acceptable long or mowed.

Other required maintenance items are defined in the inventory.

## Annual and Semi-Annual Maintenance

A regular maintenance program is recommended and should include the following:

1. The dewatering valve will be exercised three times per year (Spring, Summer, and Fall), to ensure that it is operable. Moving parts will be lubricated in the Spring and Fall.
2. The slope of the upstream and downstream dam face will be kept clear of brush and tree growth. The slope will be maintained in a grass condition with a mowed height of 6 inches or less.
3. Semi-annual inspections will be made for animal habitations in the dam face. Animal habitations that are found will be destroyed, filled with compacted earth, and seeded.



## Photos from Interim Dam Observations



Woody plant material along bank must be removed.



Tree trimming required for sunlight to reach embankment for grass growth, woody bush removal required.



Sloughing and holes must be filled as specified with surface restoration.



Wood plant material must be removed for turf growth.



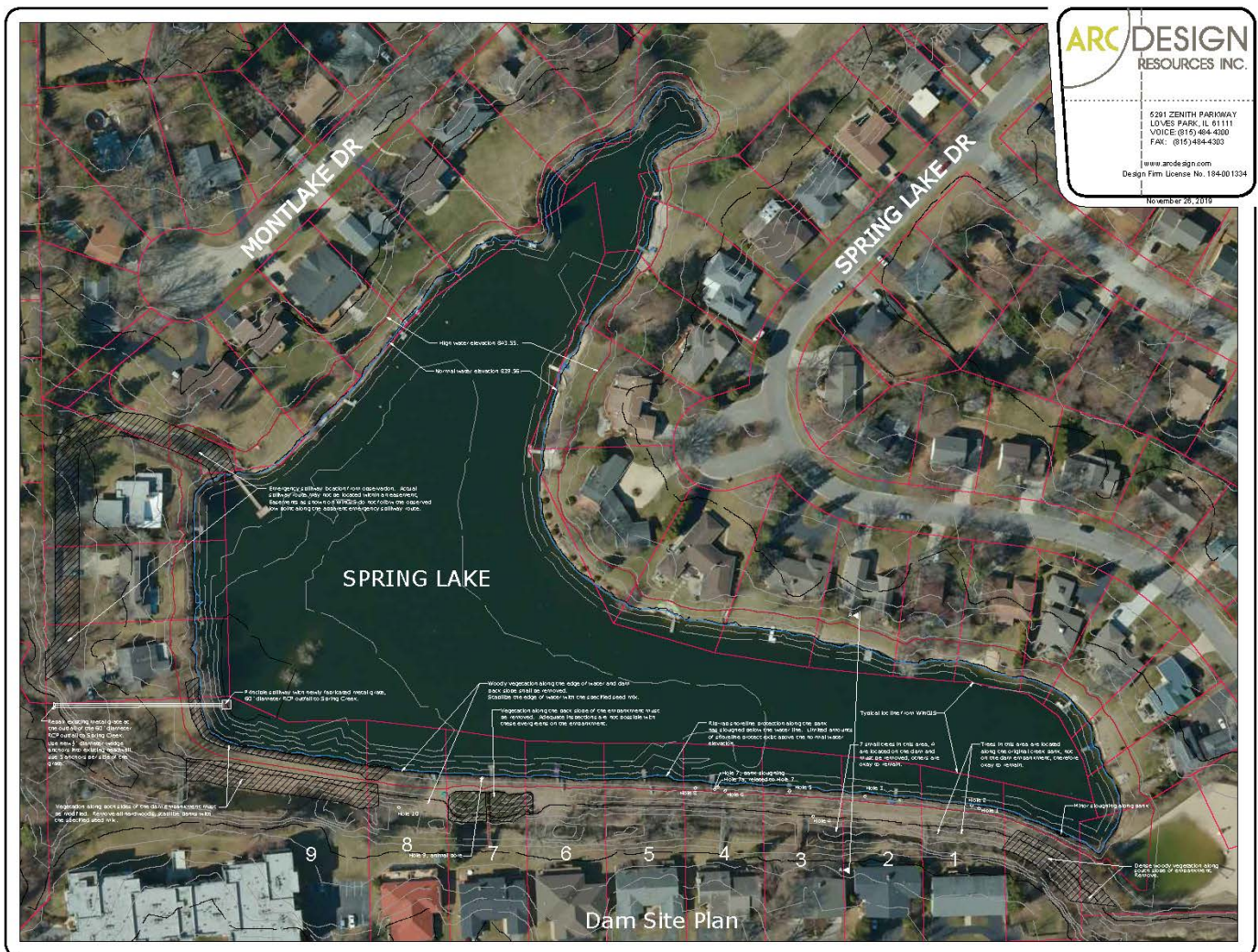
Tree removal on dam embankment.

These photos are representative of the observations made. Refer to the table for a complete list of recommended maintenance items.





These two photos represent the goal for a well-maintained turf surface on an earthen dam. The dam at Spring Lake Estates could look like this with proper tree and shrub removal, topsoil dressing, and quality seed mix, fertilizer, and watering.



Lake photo showing lot numbers as referenced in this memo.