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#### PART I: BACKGROUND DATA

#### A. Introduction

Seneca Lake Dam is located along Musconetcong River basin tributary of Lubbers Run, in Sparta Township, Sussex County, N.J. The dam forms an impoundment known as Seneca Lake. The lake and associated dam, are maintained by the Seneca Lake Beach Club (SLBC), for whom this Operations and Maintenance ("O&M") Manual has been prepared.

Seneca Lake Dam is an earth fill embankment approximately 140 feet long and 13 feet high that was constructed in the 2005. The dam was completely reconstructed in 2005 by Ritacco Construction Incorporated with the design completed by Civil Dynamics Inc. A 6-foot-high PVC privacy fence is located over the berm between lots 24 and 26 and also between Lots 26 and 27 of Block 16.08. A chicken wire fence extends from the PVC fence into the lake. Rocks line the Lake edge from the spillway to the left end of dike.

The crest of the dam is curved with a uniform crest width of about 13 feet. The upstream slope (H:V) 3:1 with a bench (about 12 feet wide) below the slope on the left side and is grass covered throughout the slope. The downstream slope (H:V) 3:1on both sides near the spillway structure. Slope is steeper (approximately 2:1) adjacent to the restaurant on the left side with a partially buried rick rubble wall. There is grass cover throughout the slope on the right side of the dam.

The primary spillway a 70 foot long semicircular concrete overflow weir. The spillway discharge channel consists of a grouted riprap apron between the concrete spillway footing and training wall footings extending to the end of the training walls.

The plunge pool is downstream riprap apron transitions into a riprap lined plunge pool. The downstream channel is winding, clean and flowing full with some rock.

The low level outlet is 18-inch square sluice gate mounted on the downstream face of spillway which is controlled by a remote hydraulic operator that is located within an enclosure on the crest of the dam immediately right of the spillway training wall.

# **B.** Project Description

In accordance with the New Jersey Department of Environmental Protection ("NJDEP") Dam Safety Standards ("DSS"), NJAC 7:20, a "regular inspection" of the dam was performed by GZA GeoEnvironmental Inc in October 2024. Prior inspections were performed by Civil Dynamics in 2022, 2020, 2018, 2016, 2014, 2012 and 2009 respectively. A Phase I inspection of the dam has not been conducted.

A regular inspection means the visual inspection of a dam by a New Jersey licensed professional engineer to check for any signs of deterioration in material, or weakness/deficiencies in hydraulic or structural behavior. At the time of the last regular inspection, recommendations were made to implement remedial action at the dam. Some of the recommendations made in the 2022 inspection report have been implemented.

This O&M Manual will provide a mechanism by which additional remedial repairs and routine maintenance items can be performed to avert long-term degradation of the spillway and embankments. "Informal inspections" also identified herein as "maintenance inspections" must be performed by the designated Inspector appointed by the SLBC ("Informal inspection" means the visual inspection of the dam by the owner to detect any signs of deterioration in the structure.)

In accordance with NJDEP files, Seneca Lake Dam has been classified as a Significant Hazard potential Class II structure. Due to the Class II designation for the dam, NJDEP DSS mandates that a "regular inspection" be performed by a New Jersey licensed professional engineer ("P.E.") once every two years. A proposed inspection schedule is tabulated in Part II Section, G.

## C. Project Authorization

This O&M Manual has been prepared in accordance with the NJDEP DSS, Section 7:20-1.11 "Dam Operating Requirements and Inspections: New and Existing Dams. This manual was prepared by David Mazzella at the request of the Seneca lake Beach Club.

The Seneca Lake Club contracts directly with outside contractors for maintenance of common areas within the Seneca Lake Community, which includes both the dam and the reservoir.

Periodic maintenance of the dam is performed by Ritacco Construction, Inc.

Seneca Lake Club is the record owner and operator of the dam. The earthen dam, the reservoir (lake), the primary spillway, and the low-level outlet are privately held by the Seneca Lake Beach Club.

#### D. Project History

As discussed in the Introduction (Part I, Section A), the dam was reconstructed in 2005. Design and construction documents for the most recent reconstruction were reviewed by the NJDEP, DSS. As discussed in the Project Description (Part I, Section B), the dam was inspected in 2009, 2012, 2014, 2016, 2018, 2020, 2022 and 2024. At that time, recommendations were made for remedial actions.

#### The recommendations included:

- 1) Fill and compact any existing animal burrows (2012, 2014,2016)
- 2) Mow grass along crest, upstream slop and downstream slope of dam to the left of the spillway (2009, 2012)
- Replace riprap in area eroded downstream apron. Use large (18 inch diameter) and grout voids. (2009, 2012,2014,2016,2018,2020)
- 4) Place mortar in missing section of footing for hydraulic operator box to protect hydraulic lines (2009,2012)
- 5) Remove algae buildup from spillway crest, the downstream face of the spillway and the sluice gate. (2012)
- Remove and replace the joint filler material at the joints where the spillway meets the training walls. (2012,2014,2016,2020,2024)
- 7) Service the hydraulic operator for the low level outlet. (2014,2016,2018,2020)
- 8) Clear weedy vegetation from the riprap along the bottom of the downstream slope near the right spillway training wall (2014,2016)
- 9) Replace lock on low level outlet operator enclosure (2018)
- 10) Remove thick vegetation along the upstream slope on right side (2020)
- 11) Repair the upstream chain link fence post on left side training wall (2020)
- 12) Continue to monitor cracks in the concrete spillway training walls. (2020 & 2022, 2024) Visually Monitor weeps in spillway and training walls.(2024)
- Fill the minor voids between the spillway concrete footings and the grouted riprap apron (2020 & 2022)
- 14) Cut the cattails in the plunge pool (2022)
- 15) Repair the area of eroded downstream apron. Add large stone (18-inch in

diameter) and grout voids to full depth (2022)

- 16) Cut weedy/woody vegetation on rights side upstream slope along lake edge (2024)
- 17) Repair Settled area of upstream slope along the left spillway training wall.(2024)
- 18) Add topsoil to eroded area at top of the downstream slope left of the spillway. Reseed the area to establish grass cover.(2024)
- 19) Repair the crack in the grouted riprap discharge channel between training walls (2024)
- 20) Fill in minor void between the spillway concrete footings and the grouted riprap apron on the left side (2024)

# **E.** Project Contracts

Miscellaneous Correspondence (Part I, Section F) contains correspondence and contract information regarding general maintenance and material purchases for the Dam. Any new correspondence or contract data must be copied and included in Miscellaneous Correspondence (Part I, Section F).

#### F. Miscellaneous Correspondence

A record of routine or corrective maintenance performed by the Seneca Lake Club will be kept and included as a part of this manual. This section shall contain an ongoing record of relevant correspondence regarding Dam Compliance History. It shall include correspondence from the Dam Safety Section regarding compliance issues, dam classification/reclassification, and professional services. This section shall be reviewed and updated annually along with the entire O & M manual to incorporate pertinent correspondence.

#### G. Glossary of Terms

The following terms are provided so that the members of the ALCA will be familiar with terms relating to the dam.

<u>Abutment</u> – That part of the natural ground against which a dam is constructed. Right and left abutments are those respective sides of an observer looking downstream.

<u>Appurtenant Structures</u> – Ancillary features of a dam, such as the outlet pipe, spillway and sluice gate.

<u>Crest</u> – The term "crest of dam" is often used when "top of dam" is meant.

Dam – A barrier built across a watercourse for impounding water.

Drainage Area – The area that drains naturally to a body of water.

<u>Embankment</u> – A slope of fill material, usually earth or rock, that is longer than it is high or the sloping side of a dam.

<u>Homogeneous Earthfill Dam</u> – An embankment dam constructed of similar earth material throughout.

<u>Freeboard</u> – The vertical distance between a known water surface elevation and the top of a dam.

Normal Water Level - The lowest level of the spillway over which water normally flows.

<u>Outlet Pipes</u> – The opening at the dam through which water can be freely discharged from the reservoir.

<u>Piping</u> - The progressive development of internal erosion by seepage, appearing downstream as a hole or seam discharging water that contains soil particles.

<u>Probable Maximum Precipitation (PMP)</u> – The maximum amount of rainfall that can be expected to occur on a drainage area.

Reservoir Area - The surface area of the lake when filled to the normal water level.

<u>Rip rap</u> – A layer of large stones, broken rock, or precast blocks placed in random fashion on the slope of an embankment dam, on a reservoir shore, or in the channel as a protection against wave action or erosion. Very large rip rap is sometimes referred to as armoring.

<u>Seepage</u> – The internal movement of water that may take place through small spaces in a dam, its foundation, or its abutments.

<u>Sluice Gate</u> – A gate controlling the outflow of water from the reservoir.

<u>Spillway</u> – A structure over which normal or flood flows are discharged.

<u>Toe of Dam</u> – The junction of the downstream face of a dam with the ground surface, also referred to as downstream toe. Also known as the junction of the upstream face with ground surface, called the upstream toe, which is usually under water.

#### II: Operation and Maintenance

#### A. General

A well-organized O&M program will protect the dam against deterioration and prolong its life. All components of the dam including the embankment, the spillway, and the reservoir are susceptible to damaging deterioration over time. The cost of a proper O&M program is minuscule compared to the cost of major repairs for reconstruction of the dam after a failure. This manual establishes a basic O&M program based primarily on

systematic inspections by appointees of the Seneca lake Club. During each inspection a checklist of items as defined in Inspections and Inspection Checklist (Part II, Section E) must be used. The completed checklist must be dated and signed by the "Inspector" and incorporated into this manual.

This manual is intended as a guide for the Seneca Lake Club and outlines the proper procedures for conducting routine O&M for the dam. The Seneca Lake Club shall appoint a key site person, from within their organization (Inspector), who will perform inspections for the year. This manual will then be transferred yearly to the appointed "Inspector." A continuous record of the O&M for the dam must be maintained. The Designated Inspectors List (Part II, Section B) lists the Officials and various contractors. This section must be updated periodically pending a change in the Officials, the Inspector, the Engineer, or the Contractor.

At least two (2) copies of this manual shall be kept by the Seneca lake Club at all times. All correspondence and dam maintenance checklists shall be reproduced in triplicate and distributed for inclusion into the manuals. One (1) copy of this manual along with all updates and inclusions shall be forwarded to:

New Jersey Department of Environmental Protection
Division of Resilience Engineering and
Construction
Bureau of Dam Safety
44 S. Clinton Avenue 3<sup>rd</sup> FL
PO BOX 420, Mail Code 44-03A
Trenton NJ 08625-0420

This section of the manual has been prepared to provide the Inspector with a simple and systematic method for inspecting, operating, and maintaining the dam. For the most part, the O&M for the dam involves observation rather than evaluation. The following sections provide a step-by-step procedure to assist the Inspector in performing all duties in a rational and orderly manner. The Inspector must become familiar with the background information in Part I of this manual. The Inspector must also review the plans which are included in Part II, Section C.

Finally, prior to conducting an inspection or performing routine O&M, the Inspector must review the Tools and Equipment List (Part II, Section D), the Inspections and Inspection Checklist (Part II, Section E) and the "Guide for Preparation of Report on Conditions of Dam (Part II, Section I) of this manual. Each time an inspection reveals the need for maintenance, the Inspector shall notify the Seneca Lake Club who may hire a contractor to perform the work under the direction of a NJ Licensed Engineer. Each time maintenance is performed on the dam, the Inspector must record the incident and place a copy of the maintenance checklist in this manual Part II, Section F. Inspections must be performed once every year between March and May and after each major storm event. Routine maintenance, as defined in Part II, Section F, shall be performed immediately after each inspection and after each major storm event.

### **B.** Designated Inspectors List

This Section must be updated periodically to reflect the name(s) and telephone number of the Inspection and Contractors who are appointed by the Seneca Lake Club.

#### Inspectors

GZA GeoEnvironmental, Inc (973) 774-3300

#### Designated Contractor (2024)

Sparwick Contracting Inc (973) 300-4809 (O) 973-390-6872 (Cell)

#### Professional Engineer (1998)

GZA GeoEnvironmental, Inc (973) 774-3300

#### 2024 Officers

David Mazzella (973) 390-1033 Fred Welles (267) 614-7600 Joanne Scally (973) 670-3810

#### C. Plan Review

This section contains existing plan documents. This section shall be periodically updated to incorporate additional plans and sketches that are developed for the operations, maintenance, inspection or rehabilitation of the dam and its ancillary features. The Inspector shall review available plans prior to conducting an inspection of the dam.

## D. Tools and Equipment

The following is a list of required inspection equipment for routine O&M procedures and Inspections.

- 1. A clip board, a pencil and the inspection checklist the inspection checklist is included in the following section.
- 2. A standard 6-foot collapsible ruler.
- 3. A camera photographs or observed portions of the dam will provide a measure of performance when comparing past and present maintenance practices or conditions.
- 4. A probe any stiff light stick or rod with a blunt tip of sufficient strength to penetrate soil. The probe can provide information on conditions below the surface of the dam such as the depth and softness of a saturated area.
- 5. A weed whacker can be used to clear non-visible areas and to perform routine maintenance on the embankments.
- 6. A flashlight a flashlight can be used to observe the inside of the 18 inch Outlet Pipe and the 6 inch PVC subsurface drains.

Maintenance at the dam may include heavy equipment including the following:

- 1. Chain saw.
- 2. Stump grinder.
- 3. Wheelbarrow.
- Backhoe.
- 5. Dump truck.

Sources of the following materials should be identified for immediate use of warranted by the inspection.

- 1. Native, silty sand for filling erosion rills and gullies.
- 2. Topsoil mixture, fertilizer and seed.

- 3. Large stone rip rap for emergency repairs caused by erosion.
- 4. Synthetic geofabric netting and stakes to prevent seed and top soil from blowing away.

#### E. Inspections and Inspection Checklist

Prior to performing inspections, the Inspector must observe the water level in the lake and on the outlet side of the dam. No amount of water should flow over the spillway during an inspection. (The lake must be lowered by operating the gate at the low level outlet). This procedure allows the Inspector to freely observe the spillway. If the inspector identifies a need for immediate maintenance of the spillway, the lake should be lowered an additional amount by opening the low level outlet to facilitate the repair. Prior to lowering the lake, an application for Lake Lowering must be filed with the NJDEP, Division of Fish, Game and Wildlife. A sample application is included in Part II, Section H of this manual.

The most effective means of conducting the inspection is to treat each dam component as an individual element, inspect it thoroughly, and fill out the checklist prior to moving on to the next element. The checklist sequence for inspection of each dam element is as follows:

- 1. The crest: walk along the top of the dam from one end to the other (generally defined by the paved walkway) and look for erosion, puddles, or settlements, cracks in the walkway surface or animal burrows, etc.
- 2. The upstream embankment: walk along the upstream face of the dam and to the water's edge and observe erosion, puddles or wet areas, slumps, wood vegetation or animal burrows. (Look below the waterline for any additional irregularities or animal burrows.
- 3. The downstream embankment: walk along the downstream face of the dam in a zigzag, top to bottom fashion to observe any erosion, puddles or wet areas, slumps, woody vegetation or animal burrows.
- 4. Spillways: observe the spillways from the crest. Walk along the concrete sill noting any cracks, leaks, heaving or erosion. Check the abutment-spillway interface for any sign of erosion.
- 5. Outlets: Observe the condition of the outlet culvert at the upstream headwall. Check the condition of the RCP to note any blockage or cracks. (In order to view the outlet culvert, it will be necessary to lower the water level in the lake. Prior to lowering, notify downstream owners and the Township. Using chest waders and a ladder access the control valve on top of the upstream headwall to lower the level of the lake. Once the lake is lowered, the valve should be operated through

its full range, however, the valve must be closed for inspection of the spillway.) Observe the condition of the 18" RCP by viewing it from the upstream and downstream end.

- 6. The lake: stand on the upstream face on the crest (paved walkway) and look upstream to observe any irregular conditions within the lake that may ultimately impact the dam or the spillway.
- 7. The downstream area: Walk along the bed of the downstream channel and observe any unusual conditions which may affect the performance of the dam, such as debris, vegetation, or excessive sedimentation. Observe the gabion baskets that line the channel to ensure that they are intact and in good condition.
- 8. Subsurface drains: Locate each of the four (4) subsurface drains located along the toe of the downstream embankment. Using a flashlight, inspect each of the 6-inch slotted PVC pipes for flow conditions, obstructions, or cracking.

The inspection checklist included in this section should be copied and completed every time an informal (maintenance) inspection is performed. In general, informal inspections should be performed every two years between March and May. After each inspection, the Inspector will report to the ALCA, which will direct maintenance operations, as necessary.

# SLC INSPECTION CHECKLIST

Dam Name: Seneca Lake Dam NJDEP File No.: 22-183

Maintenance Crew:	Date:	
Weather:		

<u>Directions</u>: 1. Lower the lake prior to conducting inspection.

2. Mark an "X" in yes, no or N/A column and note any unusual condition.

OBSERVED ITEM	YES	NO	N/A	DIMENSIONS, LOCATIONS, COMMENTS, ETC.
Const. (W. II along to a C. I. o. C. a.				
<b>Crest:</b> (Walk along top of dam from				
one end to the other)				
a. Observed cracks? (how long?)				
b. Observed ruts or holes? (how big?)				
c. Trees? (how many?) d. Observed settlements?				
e. Observed erosion gullies?				
f. Observed bare areas?				
g. Animal burrows?				
77 ( )				
Upstream Slope: (start at top and				
walk up and down slope across entire				
dam)				
a. Observed ruts or holes?				
b. Trees? (how many?)				
c. Observed slumps or settlements?				
d. Observed erosion gullies?				
e. Observed bare spots?				
f. Animal burrows?				
g. Wet areas or seepage?				
<b>Downstream slope:</b> (start at top and				
walk up and down slope across entire				
dam)				
a. Observed ruts or holes?				
b. Trees? (how many?)				
c. Observed slumps or settlements?				
d. Observed erosion gullies?				
e. Observed bare spots?				
f. Animal burrows?				
g. Wet areas or seepage?				

OBSERVED ITEM	YES	NO	N/A	DIMENSIONS, LOCATIONS, COMMENTS, ETC.
Primary Spillway:				
a. Debris or obstruction in spillway?				
b. Is spillway straight?				
c. Are gabions intact?				
d. Observed cracks or leakage?				
<b>Downstream Channel:</b> (Walk down channel bed)				
a. Debris in channel?				
b. Excess sediment build up?				
c. Excessive vegetation?				
d. Are gabion baskets intact?				
e. Evidence of uneven settlement?				
f. Other conditions?				
Low level outlet:				
a. Observed blockage?				
b. Joints misaligned?				
c. Joints leaking?				
d. Is valve operable?				
e. Observed cracks in headwall?				
f. Observed spalling or scaling?				
g. Exposed reinforcing steel?				
Subsurface drains: (4 - 6" PVC				
pipes at toe of dam) a. Observed flow from drain?				
b. Is water cloudy?				
c. Observed cracks?				
d. Observed blockage?				
e. Joints misaligned?				
e. Johns misanghed:				
Lake Area: (stand near crest and look				
upstream around lake)				
a. Observed excessive silt?				
b. Is plant growth excessive?				
c. Is water cloudy?				
d. Are shores eroded?				
e. Other observations?				
<b>Recommendations for Mainten</b>	ance:			

# F. Operation and Maintenance and Routine Maintenance Checklist

The Seneca lake Club is responsible for maintenance at the Dam. There are three (3) categories of maintenance: <u>immediate maintenance</u>, <u>corrective maintenance</u>, and <u>continuing maintenance</u>. Accordingly, each of the maintenance conditions will be determined during the annual inspection. This portion of the report also contains a section on technical guidance describing corrective action.

- 1. <u>Immediate maintenance</u> demands immediate attention, requires notification of the Dam Safety Section, and must be performed under the supervision of a New Jersey licensed professional engineer. Immediate maintenance usually requires construction equipment and professional guidance. Immediate maintenance is characterized by the following:
  - a. A severe slope failure.
  - b. A breach or near breach caused by severe progressive erosion.
  - c. Overtopping of the crest by upstream or downstream waters.
  - d. Deterioration of the outlet culvert.
  - e. Increasing uncontrolled seepage through the embankment.
  - f. A blocked spillway or outlet channel.
- 2. <u>Corrective maintenance</u> should be performed as soon as possible after an inspection, and may require a Dam Safety Permit. A dam permit application is included in Part II, Section H of this manual. Corrective maintenance consist of the following:
  - a. Clearing of trees, shrubs and underbrush on the dam embankment, crest,or near the spillway.
  - b. Filling eroded areas or gullies and seeding to stabilize the area.
  - c. Repairing or greasing the stem of the outlet gate.
  - d. Removal of burrowing animals and filling the holes.

Corrective maintenance can be performed by the ALCA volunteers with some technical guidance.

- 3. <u>Continuing maintenance</u> will occur on a regular basis and can be performed during the informal inspections or in accordance with maintenance schedule outlined in Part II, Section G of this manual. Continuing maintenance includes:
  - a. Observation of any wet areas, springs or potential seepage in the embankment:
  - b. Removing small shrubs or underbrush on the dam embankment:
  - c. Filling small eroded gullies:
  - d. Filling of ruts caused by pedestrian traffic along the crest:
  - e. Removing accumulated trash and debris:
  - f. Monitoring upstream development within the watershed:
  - g. Operating and greasing the stem at the outlet gate:
  - h. Removal of burrowing animals and their dens from the dam.
  - i. Fertilizing and over seeding grassed area.
  - j. Mowing grass areas.

Continuing maintenance can be performed by the Inspector or volunteers of the ALCA on an ongoing basis. Some technical guidance for routine operations follows.

#### 4. Technical Guidance (Outlet Valve and Animal Burrows)

The proper operation of the outlet gate and burrowing animal control are critical to the proper operation of a dam. The technical maintenance tips provided in this section should be followed to insure proper dam operation.

Animal burrow control is a key feature of the O&M of the dam. Rodents such as woodchucks, muskrats, ground squirrels, rabbits, moles, and beavers endanger the structural integrity of the embankment. Animal burrows are easily recognized in the spring because fresh soil is generally found at the mouth of the burrows. Early detection and control in April is essential in controlling burrowing activity. Muskrats are nocturnal and can be found in marshy areas. Their burrows are difficult to detect since they tend to burrow below the water line. Beaver activity will become apparent through visual observation of tree cuttings. Animals should be removed immediately upon detection. Woodchucks, squirrels, rabbits, moles and muskrats can be exterminated or flushed out with smoke. Beavers must be relocated. The animal burrow must be filled with soil or a

mixture of water to 9 parts soil and 1-part cement. The soil mixture should be placed as deep as possible and compacted with a pole.

The proper operation of the outlet gate is critical to the operation of the dam. The outlet gate at the dam provides the only means for the emergency lowering of the lake which is essential for the safe operation of the dam. The gate must be operated through its full range and inspected once per year during the maintenance inspections. Observed irregularities or leakage in the operation of the gate should be investigated and corrected immediately.

# SLC CONTINUTING MAINTENANCE CHECKLIST

Dam Name: Seneca Lake Dam NJDEP File No.: 22-183

Maintenance Crew:	Date:
Weather:	

<u>Directions</u>: Mark an "X" in yes or no column.

MAINTENANCE ITEM	YES	NO	LOCATION AND EQUIPMENT USED
			,
Crest:			
a. Remove trash			
b. Fill ruts and holes			
c. Fill potholes in pavement			
d. Remove trees and shrubs, etc.			
Upstream Slope:			
a. Remove trash			
b. Fill ruts, holes and gullies			
c. Fill and compact animal			
burrows (remove rodents)			
d. Remove trees and shrubs, etc.			
e. Replace stone rip rap			
Downstream slope:			
a. Remove trash			
b. Fill ruts, holes or gullies			
c. Fill and compact animal			
burrows (remove rodents)			
d. Remove trees and shrubs, etc.			
(10 feet from mow line)			
e. Fertilizer and over seed			
grass areas			
Subsurface drains:			
a. Clean out drains			
b. Repair any cracked pipes			
Outlet culvert:			
a. Clean out debris			
b. Patch joints			
Low level outlet valve:			
a. Operate valve			
b. Lubricate valve			
Lake Area:			
a. Remove trash			
b. Remove excess growth			
c. Repair erosion			

## **G.** Schedule of Inspection and Maintenance

The following schedule shall be minimum requirements for inspections (see checklist in Section E). The dam shall have an informal (Maintenance) inspection performed once every year beginning in 2010 (except when a Regular Inspection is scheduled) or after any significant storm event. A Regular Inspection for the dam shall be performed every two years beginning in 2012. All inspections will be performed between March and May or between September and November. The following table shows the inspection schedule for the first 10 years. Subsequent inspections shall follow the same format.

Type of Inspection	Year
Regular	2020
Informal	2021
Regular	2022
Informal	2023
Regular	2024
Informal	2025
Regular	2026
Informal	2027
Regular	2028
Informal	2029

All maintenance items identified in the inspections shall be completed during May for the spring inspection, or during November, for the fall inspection of the same year (see checklist in Part II, Section F). In addition, continuing maintenance shall be performed during each inspection and after every major storm event (see checklist in Part II, Section F).

# **H.** Permit Applications

This section contains current permit applications and guidelines which may be applicable in order to carry out proper maintenance of the dam structures.

# I. "Guide for Preparation of Report on Conditions of Dams".

This section contains a guide which has been prepared by the NJDEP for use in inspection a dam and preparing the necessary documentation for "Regular Inspections."