INSPECTION REPORT

HIDDEN LAKE DAM
CT DEEP #06107

HIDDEN LAKE ROAD
TRIBUTARY TO POND MEADOW BROOK
HADDAM, CONNECTICUT

PREPARED FOR:

HIDDEN LAKE ASSOCIATION

MAY 2022

Prepared by:

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588 Stonehouse Road
Coventry, CT 06238

Connecticut Department of
Energy & Environmental Protection
Bureau of Water Protection & Land Reuse
Inland Water Resources Division

DAM SAFETY PROGRAM
DAM INSPECTION REPORT FORM – FOR REGULATORY INSPECTION

Please complete this form in accordance with the instructions (DEEP-DAM-INST-002).

Part I: Summary of Dam Inspection

Dam Name:	**Hidden Lake Dam**	Inspection Date(s):	**November 23, 2021**
Alternate Dam Name(s):		CT Dam ID #:	**06107**
Location (Municipality):	**Haddam**	Temperature / Weather:	**Sunny, Windy, 42ºF, (11-23-2021)**
Registered?: Yes or No If yes, provide the 9 digit registration number found on the notification letter.	**201206867**	Pool Level: See Instructions	**0.07' Above Spillway Crest (11-23-2021)**
Emergency Action Plan?: Yes or No If Yes, see instructions	**Yes (See Other Information)**	Impoundment Use: use options listed in instructions	**Conservation, Recreation, Aesthetics**
Hydraulic and Hydrologic Analysis?: Yes or No If Yes, see instructions	**Yes (See Other Information)**	Stability Analysis?: Yes or No If Yes, see instructions	**No (See Other Information)**
Overall Condition:	**Satisfactory**		

Persons present at the inspection *(select the tab button in the last cell to the right to create another row)*		
Name	**Title/Position**	**Representing**
Karl F. Acimovic, P.E.	**Consulting Engineer**	**Inspector**
Alex Acimovic	**Assistant**	**Inspector**
Jay Cassella	**President**	**HLA (Owner)**

Owners and Operators: If there is more than one owner or operator, copy the empty table below for each owner or operator and paste right below the previous table, then complete the information for each

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject report. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes by email via deep.damsafety@ct.gov.

Indicate if Owner or Operator:

Owner & Operator

Name:	**Hidden Lake Association (Jay Cassella, President)**		
Mailing Address:	**342 Hidden Lake Road**		
City/Town:	**Higganum**	State: **CT**	Zip Code: **06441**
Phone:	**(860) 388-7521**	ext.:	
Emergency Phone:	**(860) 301-7530**		
*E-mail:	**hlapresident1@gmail.com**		

Part II: General Dam Information

General Description: Earth Embankment Dam, with concrete spillway and an emergency overflow area (the surface of Hidden Lake Road) situated approximately 1,300 ft. to the east of the dam.			
Hazard Classification:	**B**	**Dam Height (ft):**	**13 ft.**
Dam Length (ft):	**100 ft.**	**Spillway Length (ft):**	**16 ft.**
Spillway Type:	**Broad Crested Concrete Weir**	**Normal Freeboard (ft):**	**3.0 ft.**
Drainage Area (square miles):	**1.18 sq. mi.**	**Impoundment Area (at principal spillway crest, in acres):**	**38 Ac.**
Watercourse(s):	**Tributary to Pond Meadow Brook**		

History – Although no precise information on the original construction of Hidden Lake was found on record, the dam appears to have been constructed at some point between 1892, when it was not shown on USGS topographic mapping, and 1934, when the impoundment appears on the 1934 Connecticut Aerial Survey.

This dam and spillway were last reconstructed during 1993 and 1994 (design by Karl Acimovic, P.E.), at which time the spillway was relocated further to the right of the downstream house, the embankments and related walls were modified and repaired, and the low level discharge pipe was extended in a downstream direction due to the reconstruction of the downstream slope.

Phase I Report – No Phase I Report was found on file with the DEEP Dam Safety Section. It is unknown whether or not one was produced.

Other Reports & Information – Information on file with the DEEP Dam Safety Section includes copies of reconstruction plans dated variously for the late 1960's and the early 1990's. Because some of the recommended improvements shown thereon did not appear to match existing conditions during the 1993 – 1994 reconstruction, the extent of work performed under these previous refurbishments could not be fully verified. The design plans from the 1993-1994 reconstruction project are also on file. Other items include an inspection report letter from Buck & Buck Engineers, dated May 21, 1979, which noted a partial collapse of the downstream masonry face of the spillway and erosion along the eastern (left) embankment. Also on file are inspection reports completed by the DEP Dam Safety in 2002 and 2008, both of which assessed the dam to be in overall good condition, as well as the previous inspection report completed by this office in 2014.

Hydrologic and Hydraulic Analysis – A formal and updated hydrologic and hydraulic analysis was performed for the preparation of the Emergency Action Plan, noted below. This yielded the following results:

Storm Event:	100-Year	
100-Year Lake Level:	515.51'	
Spillway Crest Elevation:	514.0'	
Top of Dam Elevation:	517.0'	(No Overtopping)
Top of Auxiliary Spillway:	515.12'	(0.4' of Overtopping)
Spillway / Auxiliary Spillway Outflow / 100-Year Event:	460 cfs	

Stability Analysis – No formal stability analysis was found in the records and one does not appear necessary at this time.

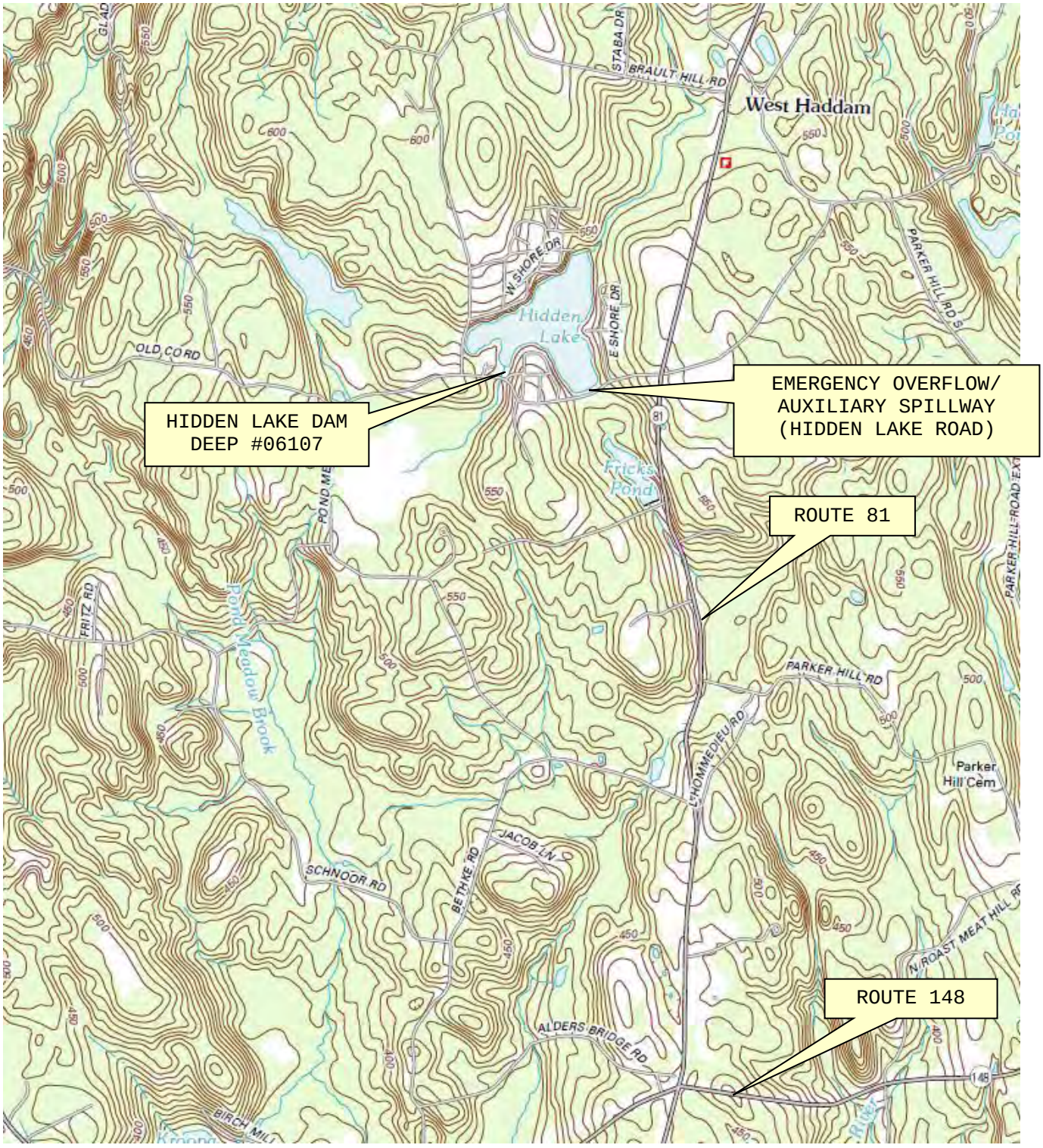
Emergency Plan – An Emergency Operations Plan for this dam was prepared by this office in 2011. In order to meet updated regulatory requirements. This plan was superseded by an Emergency Action Plan, also prepared by this office, in April 2016. The EAP is currently active and a copy is on file with the DEEP Dam Safety Section.

Diving Inspection – There is no record of a diving inspection having been completed for the upstream intake area since the 1993 – 1994 reconstruction. Because the pond is drawn down on an annual basis, there does not appear to be any operational issue and no need for a diving inspection at this time.

Part III: Aerial Photo/Location Map

X

X



HIDDEN LAKE DAM / USGS LOCATION MAP

Part IV: Dam/Embankment/Dike Information

Number of Dam / Embankments / Dikes: 1

Dam / Embankment / Name: Hidden Lake Dam

General Description: Earth Embankment Dam, with concrete spillway and an emergency overflow area (the surface of Hidden Lake Road) situated approximately 1,300 ft. to the east of the dam.

General Condition: Satisfactory, based on the fact that there are no significant structural issues.

Concrete Condition: Good; situated along the upstream slope and shoreline.

Stone Masonry: Not applicable.

Settlement / Alignment / Movement: None observed.

Seepage / Foundation Drainage: None observed.

Riprap: Large riprap is present along the downstream slope left of the spillway and west (right) of the house. Its void areas are filled with concrete and the area is in good condition.

Erosion/Burrows: None observed.

Vegetative Cover: There is a well maintained grass cover on the crest of the left embankment. The right embankment does have trees and brush just right of the spillway discharge apron.

Other:

Photos / Graphics / Sketches: See Photo Report in Section XIII.

Part V: Principal Spillway, Training Walls, Apron

Number of Principal Spillways: 1

Spillway Type: Broad crested concrete weir.

General Description: The spillway is fully constructed of concrete apron areas and concrete training walls on each side. It is crossed by a small pedestrian bridge.

General Condition: Good.

Concrete Condition: Good, only minor surficial cracking.

Stone Masonry: Not applicable.

Settlement / Alignment / Movement: None observed.

Cracks: One small crack or joint area is to be monitored at the left upstream corner of the spillway (see photos).

Scouring / Undermining: None observed.

Seepage / Foundation Drainage: Spillway drains are present, but could not be checked during this visit. No

obstructions or significant collections of debris were noted at the outlet discharge points.

Other:

Photos / Graphics / Sketches: See Photo Report in Section XIII.

Part VI: Auxiliary Spillway, Training Walls, Apron

Number of Auxiliary Spillways: 1

Auxiliary Spillway Type: Not applicable.

General Description: This area, approximately 1,300 feet east, or left, of the dam and primary spillway is not a formal structure, but a roadway that is maintained by the Town. The overflow area is approximately 450 to 500 feet in length and is composed of an asphalt road surface with vegetated shoulder areas on both sides.

General Condition: Good.

Concrete Condition: Not applicable.

Stone Masonry: Not applicable.

Settlement / Alignment / Movement: None observed.

Cracks: None observed.

Scouring / Undermining: None observed.

Seepage / Foundation Drainage: None observed.

Riprap: Not applicable.

Other:

Photos / Graphics / Sketches: See Photo Report in Section XIII.

Part VII: Downstream Channel

Number of Downstream Channels: 1

Channel / Watercourse Name: Tributary to Pond Meadow Brook.

General Description: Natural channel, with small to medium sized cobbles, and vegetated side slopes with some medium sized to large boulders.

General Condition: Stable, no signs of erosion.

Scouring: None observed.

Debris: None observed.

Riprap: Concrete filled riprap is present at the base of the spillway for scour protection. It is in good and stable condition.

Other: The bridge at the downstream channel crossing of Hidden Lake Road was in good condition.

Photos / Graphics / Sketches: See Photo Report in Section XIII.

Part VIII: Intake Structure(s)

Number of Intake Structures: 1

Intake Structure Type: Single intake / outlet, adjacent to the left side of the spillway.

General Description: Open 14-inch ductile iron pipe with intake screen.

General Condition: The intake structure was submerged on the date of inspection and thus could not be observed. The gauge above water level appeared to be in good condition. There were no reported issues from the association.

Concrete Condition: Not applicable.

Stone Masonry: Not applicable.

Settlement / Alignment / Movement: Not visible on the date of inspection.

Cracks: Not visible on the date of inspection.

Other:

Photos / Graphics / Sketches:

Part IX: Outlet Structure(s)

Number of Outlet Structures: 1

Outlet Structure Type: Single structure, left of the spillway.

General Description: A valve chamber consisting of a concrete manhole with a gate valve and 14-inch connecting pipes to the upstream intake and downstream outlet at the base of the dam adjacent to the left side of the spillway.

General Condition: Good on the exterior; the interior was not available for viewing on the date of inspection. The valve is reportedly used by the association on a regular basis.

Concrete Condition: Not viewed, but no reported issues from the association, other than that the chamber is typically filled with water.

Stone Masonry: Not applicable.

Settlement / Alignment / Movement: None observed.

Scouring / Undermining: None observed.

Other:

Photos / Graphics / Sketches: See Photo Report in Section XIII.

Part X: Miscellaneous Features

Access – There is parking at and unhindered access from Hidden Lake Road to the left side of the dam and around the house on the left downstream slope.

Boat Launch – None at the dam.

Bridges – A small pedestrian bridge crosses the spillway. It appeared weathered, but was in otherwise satisfactory and stable condition.

Safety / Security – The site is open to access, but is located behind and directly adjacent to residential structures.

Photos / Graphics / Sketches: See Section XIII.

Part XI: Downstream Hazard Classification Reassessment

Downstream Hazard Classification:

The dam is currently rated as a "**B**" hazard dam and, based on a visual inspection of available data with respect to downstream residential housing and infrastructure, it is recommended that the rating remain as is, pending any newly available data (particularly topographic) since the original assessment was completed.

Part XII: Recommendations

1. **Vegetative Cover** - Grass areas along the left side top crest of the dam are in good condition and are well maintained. The downstream riprap area along the left side of the spillway is likewise clear of vegetation, as the voids are filled with concrete. Although the tops of some stones are covered with moss, no areas were found to be in disrepair or in an unstable condition.

As pointed out in previous inspections, however, the right side of the dam embankment (on the right side of the spillway) does have brush and trees which should be removed, per DEEP guidelines and regulations. The tree clearance area has been shown on the attached sketches. Brush may be cleared at any time without supervision; trees need to be removed under the
supervision of an engineer, particularly with respect to the extent of root base removal that may be required in each case.

In areas of the downstream channel beyond the 25-limit, we recommend that the density of trees and brush be maintained at a low level, as this will maintain efficient hydraulic flow and minimize potential impact on downstream areas in the event of a severe storm situation.

2. **Concrete Structures** – Only minor cracking was noted along concrete surfaces and, in general, concrete was in good condition. We recommend continued and routine monitoring, however, as further recommended below. It is also recommended that joint fillers and older cracks that have been previously repaired be checked from time to time and repaired again as required, and that any significant issues be brought to the attention of an engineer.

3. **Toe Drain & Low Level Outlet** – The toe drain discharge opening at the right side downstream base of the training wall, inaccessible at the time of inspection, should be cleared out and monitored during low flow periods. The opening should be kept clear of debris to provide for an unobstructed discharge, and the flow, if measurable, should be documented for future reference at the time of the next inspection.

The low level outlet valve control chamber should, as noted at the time of previous inspections, be pumped out on a regular basis (once annually) and its interior checked for any deterioration or other issues that would impede routine operation of the valve. Its discharge point, adjacent to the left downstream training wall, should also be inspected during a low flow period and cleared of any obstructions that may block its outflow.

4. **Auxiliary Spillway / Hidden Lake Road** – The overflow area along the road section approximately 1,300 ft. east of the dam site was in overall good condition, including its road surface and the controlled vegetative growth along the shoreline. We recommend continued and frequent maintenance to keep the cover as low as possible to maintain clear and efficient hydraulic conditions for overflow in the event of a severe situation. A low and even cover will minimize the depth of flooding and overflow along the road surface.

5. **Inspection and Monitoring** – This dam is rated as a “B” hazard, a significant hazard potential classification. In addition to required and scheduled inspections by an Engineer at intervals prescribed by the Dam Safety Section of the Connecticut DEEP (scheduled for once every five years for this hazard rating), it is recommended that the Owner check the dam at least once a year and following extreme weather events. For this purpose, the Dam Safety Section has a publication entitled “Guidelines for Inspection and Maintenance of Dams”, available for download on their website at:

https://portal.ct.gov/DEEP/Water/Dams/Dam-Inspections

It is also recommended that a written record (the reference guidelines noted above have a checklist template for this purpose) be kept of any such inspection, particularly with respect to high water levels or unusual flow or seepage conditions encountered during storm events. Any unusual observation or questionable impact as a result of such events should be brought to the attention of either an Engineer or the Dam Safety Section of the DEEP.

Part XIII: Photographs/Graphics

Note: Some photos within this report may be duplicates. This is made necessary by the general requirement of the DEEP / Dam Safety inspection format which requires specific numbered views for certain portions of the dam. Hence, photos which depict more than one required feature may be shown more than once to satisfy these requirements. The numbering sequence of the photos follows that of the DEEP form.

Photo 1a – An upstream overview of the dam, taken from the left side shoreline.

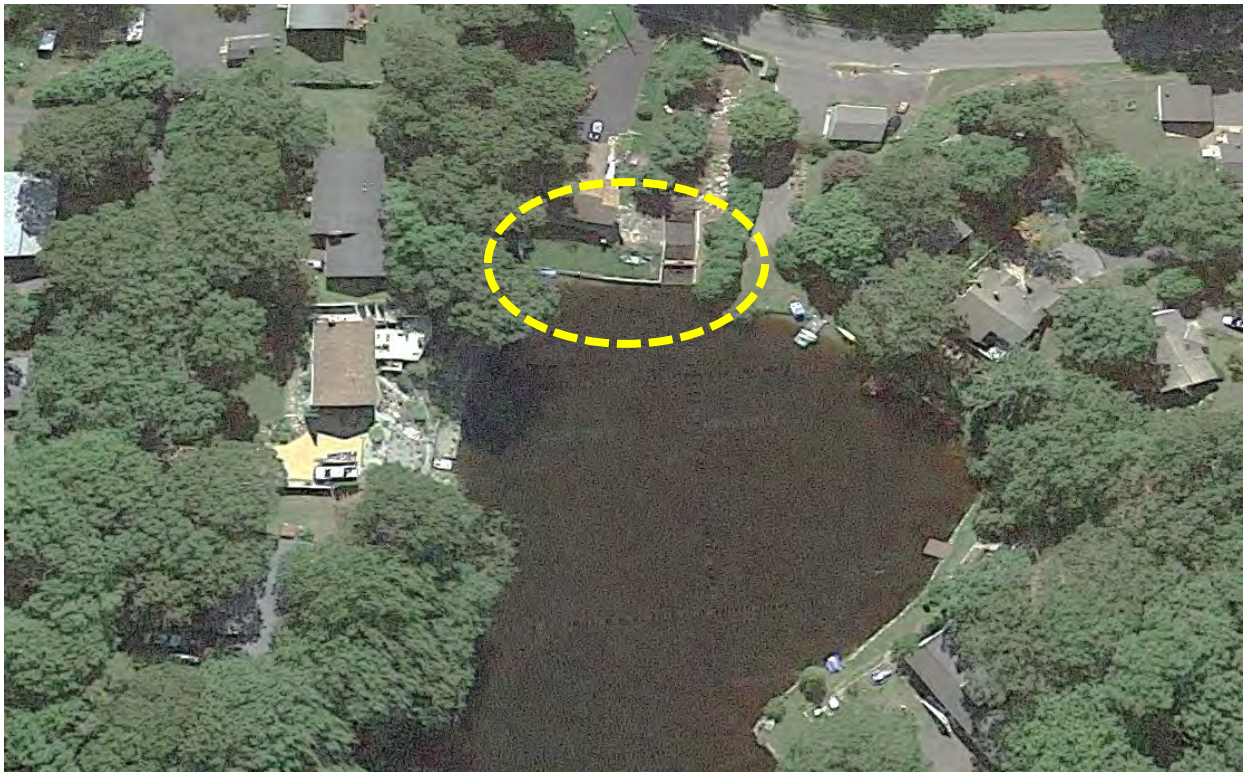


Photo 1b – Another overview from an upstream perspective, with the dam and spillway outlined in the center of the photo. *[Source: Google Maps]*

Photo 2a – An overview of the dam from downstream at the bridge crossing at Hidden Lake Road.

Photo 2b - Another overview from a downstream perspective, with the dam and spillway outlined in the center of the photo. *[Source: Google Maps]*

Photo 3 – The upstream side of the dam as seen from the right side.

Photo 4a – The upstream side of the dam as viewed from near its left side abutment area.

Photo 4b – The upstream shoreline of the dam, seen from the left side abutment.

Photo 4c – Another view of the upstream side, seen from the left and concentrating on the right side of the dam near the spillway approach.

Photo 5a – The crest of both the spillway and dam as viewed from the right side abutment.

Photo 5b – Another view of the dam crest as seen from the left side of the spillway.

Photo 6a – The dam crest seen from the left side abutment.

Photo 6b – A continued view of the crest area adjacent to the spillway, as seen from the perspective of the previous photo.

Photo 7a – The downstream face, seen from the right side abutment. Note that the house is set into the left side downstream embankment.

Photo 7b – The left downstream side directly adjacent to the spillway on the left and house on the right. Note that this
is also a view of the older spillway location previous to the installation of the spillway on the left side of the photo, constructed in the 1993 – 1994 period.

Photo 7c – A broader perspective of the left downstream side of the dam, as seen from Hidden Lake Road.

Photo 8a – The downstream face of the dam as seen from the left abutment. Note that this includes the house built into the embankment, as seen in the previous photos.

Photo 8b – A continued view of the downstream embankment showing the right side abutment from a left side perspective.

Photo 9 – The upstream approach view of the spillway.

Photo 10a – The full spillway as seen from the downstream discharge channel's left side.

Photo 10b – Another view of the spillway from the right side of the downstream discharge channel.

Photo 10c – The Hidden Lake Road section nominally considered the auxiliary spillway, as seen from its left side.
[Photo Source: Bing Maps]

Photo 10d – Another overview of the auxiliary spillway area, looking toward its right side. See also Photo 20b for current conditions.
[Photo Source: Bing Maps]

Photo 11a – The upper portion of the right side spillway training wall.

Photo 11b – The midway portion of the right side spillway training wall.

Photo 11c – The lower downstream end section of the right side spillway training wall.

Photo 12a – The lower end section of the left side spillway training wall.

Photo 12b – The midway portion of the left side spillway training wall.

Photo 12c – The upper portion of the left side spillway training wall.

Photo 13 – An overview of the spillway weir, seen from its left side.

Photo 14a – The spillway stilling basin as seen from the left downstream toe.

Photo 14b – Another view of the stilling basin at the downstream toe of the spillway.

Photo 15a – The downstream channel, seen from the pedestrian bridge crossing of the spillway, looking toward the bridge crossing of Hidden Lake Road.

Photo 15b – Another view of the downstream channel, seen from the perspective of the bridge crossing noted in the previous photo.

Photo 16 – An exterior view of the manhole housing the gate valve and control stem for the low level outlet.

Photos 17 & 18 – Overviews of the valve chamber interior and valve control mechanism were not available at the time of inspection. The following sketch, taken from original installation drawings prepared by Luchs & Beckerman, depicts the interior gate valve and AWWA nut on top to accommodate a T-wrench for valve operation. The interior chamber is, reportedly, normally filled with water; the valve is, however, operable, and used on an annual basis.

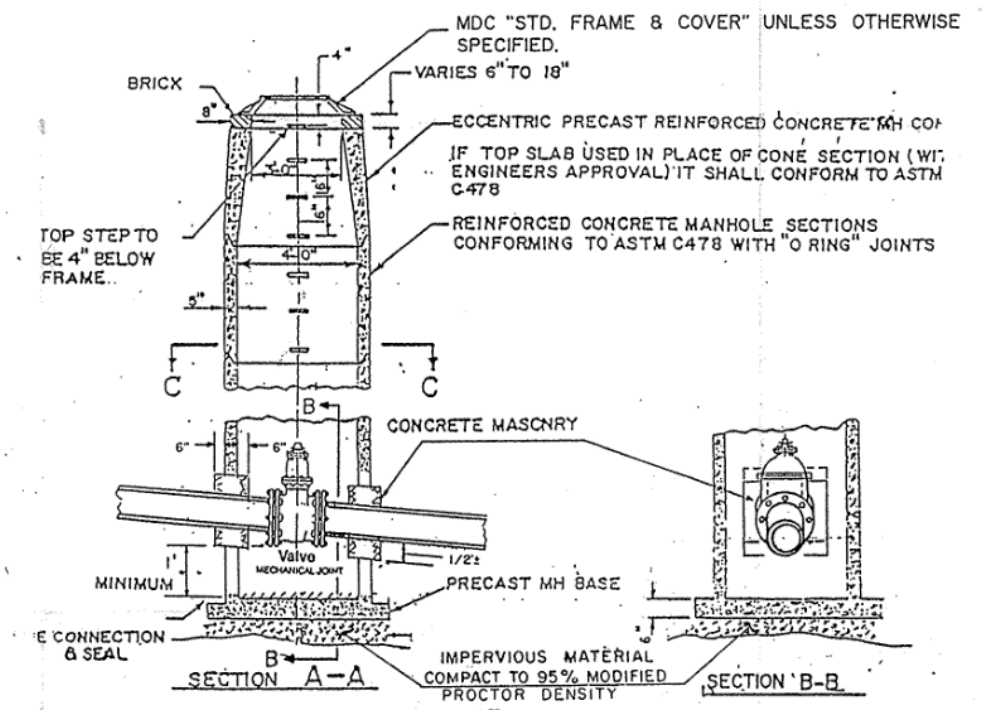


Photo 19 – Although submerged at the time of inspection, this photo depicts the location of the spillway toe drain discharge at the base of the right side training wall (upper center of photo) and the low level outlet pipe discharge at the lower right of the photo.

Photo 20a – An overview of the lake, taken from the spillway pedestrian bridge crossing.

Photo 20b – An upstream view of the lake as seen from the auxiliary spillway, a road crossing approximately 1,300 feet east southeast of the dam.

Photo 21a – Tree and brush cover along the right side abutment of the dam. See discussion under Recommendations for removal directives.

Photo 21b – An upstream area of the wall face along the left embankment where minor surficial cracking and joints were noted. Regular or routine monitoring is recommended in these areas.

Photo 21c – A closeup of the area shown in the previous photo with an example of the minor cracking patterns developing in a previously patched area.

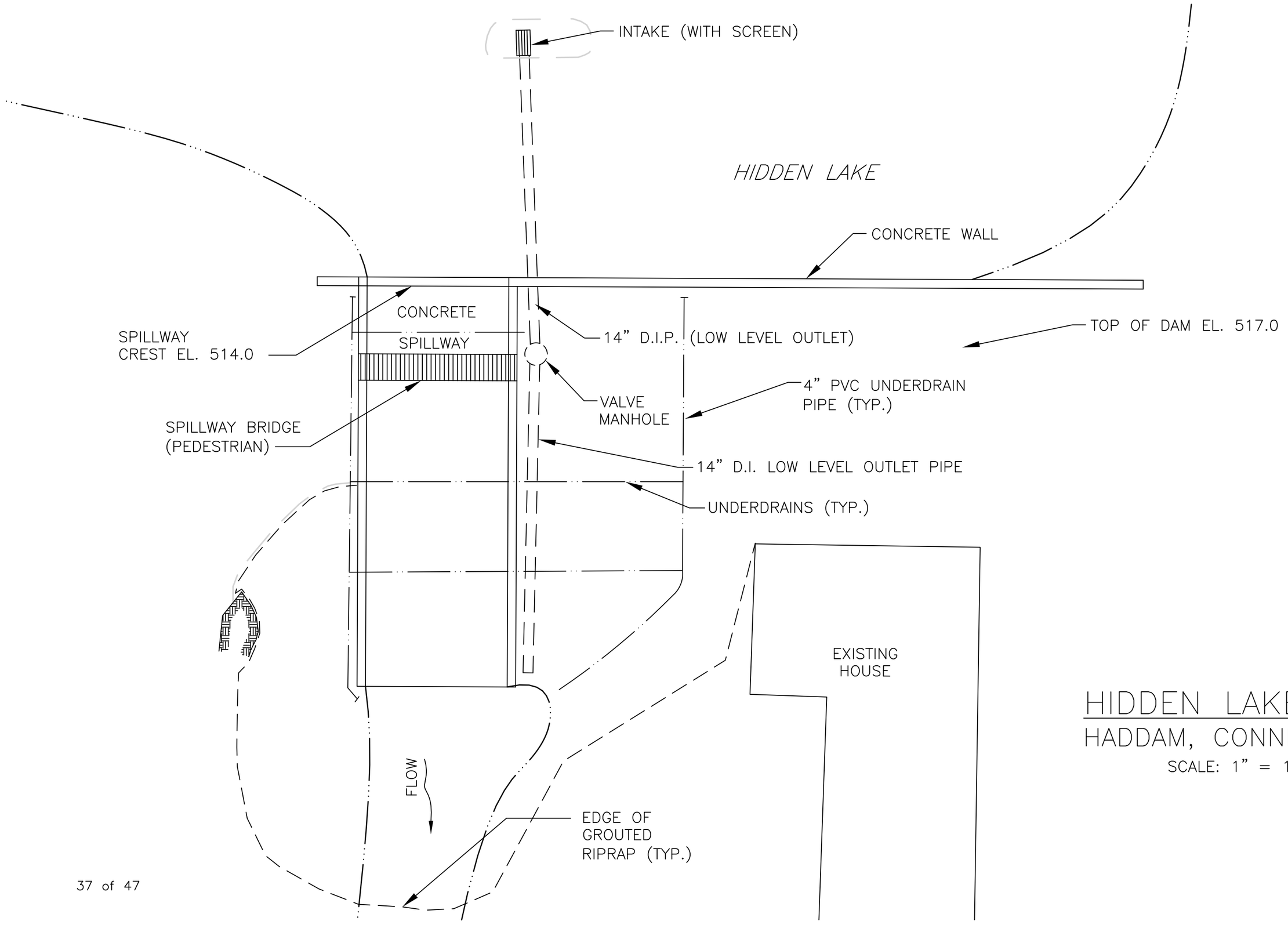
Photo 21d – A horizontal crack / joint area that needs to be monitored, adjacent to a previously sealed crack.

Photo 21e – Two discharge points that need to be kept clear and monitored on a regular basis. See also discussion under Recommendations.

Photo 21f – An example of the current conditions of low vegetation along the shoreline of the auxiliary spillway, which should be maintained on a routine basis.

Part XIV: Sketches

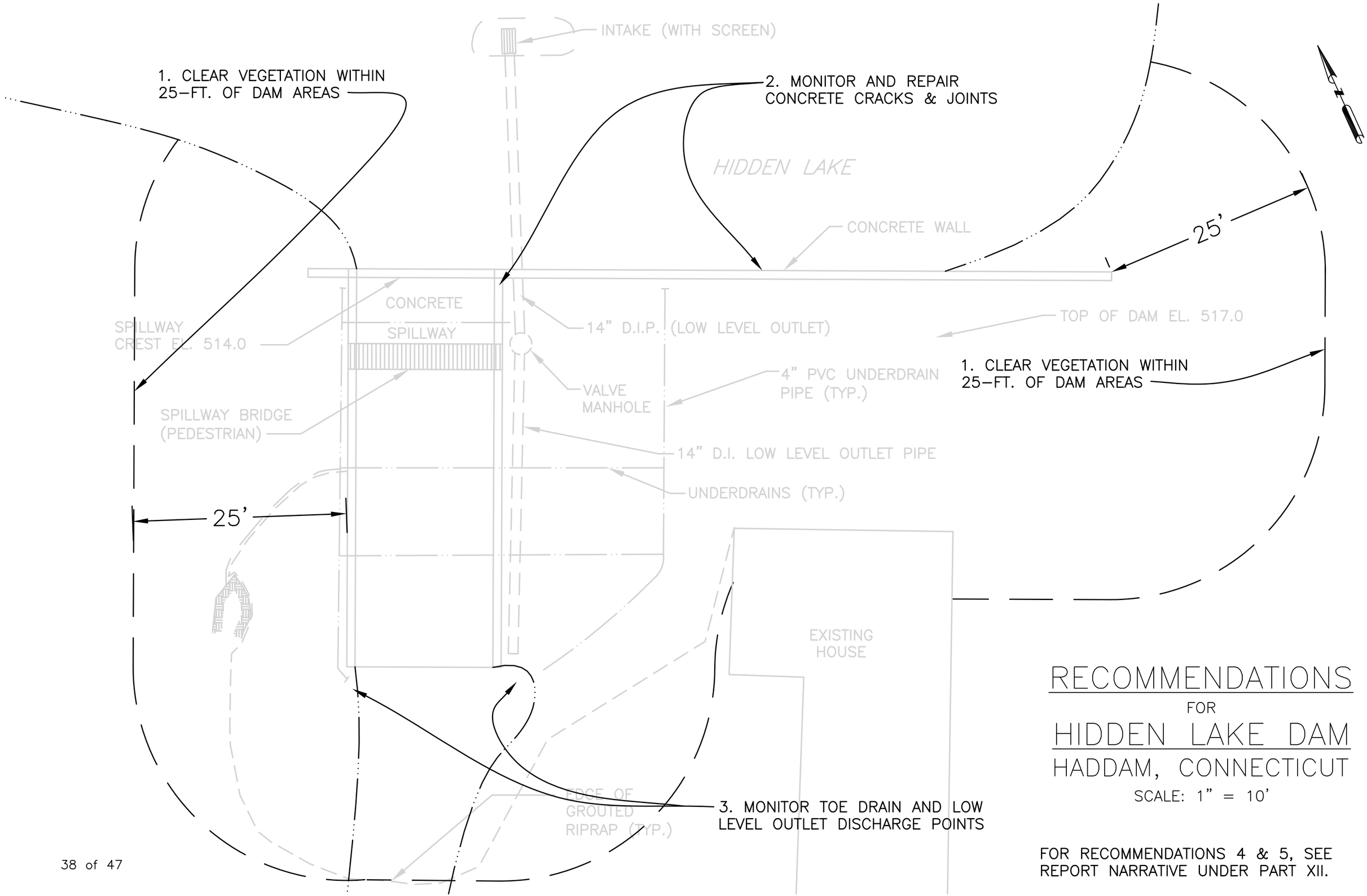
See attached site plans / sketches.



HIDDEN LAKE DAM

HADDAM, CONNECTICUT

SCALE: 1" = 10'



RECOMMENDATIONS

FOR

HIDDEN LAKE DAM

HADDAM, CONNECTICUT

SCALE: 1" = 10'

FOR RECOMMENDATIONS 4 & 5, SEE REPORT NARRATIVE UNDER PART XII.

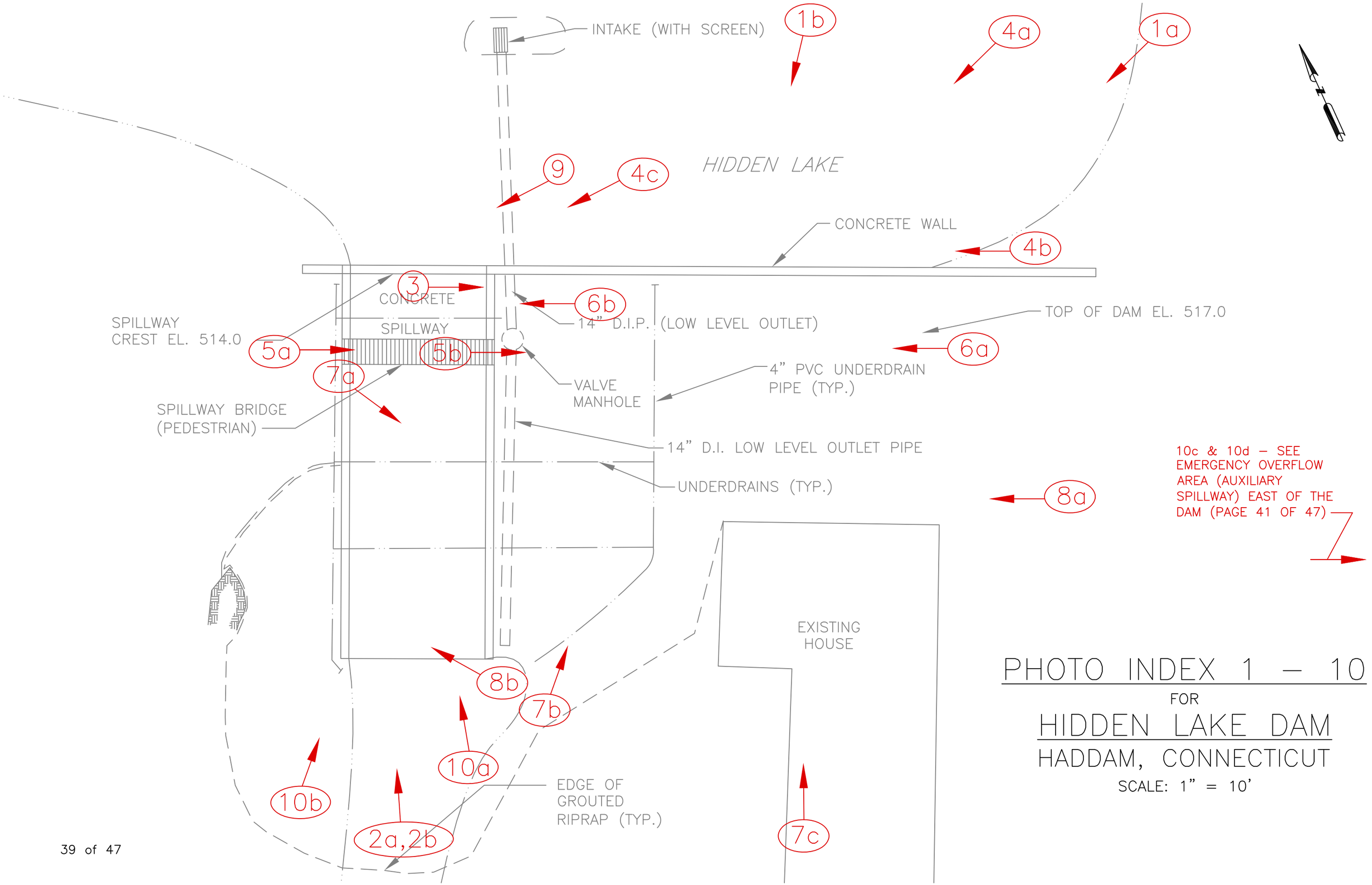


PHOTO INDEX 1 – 10

FOR

HIDDEN LAKE DAM

HADDAM, CONNECTICUT

SCALE: 1" = 10'

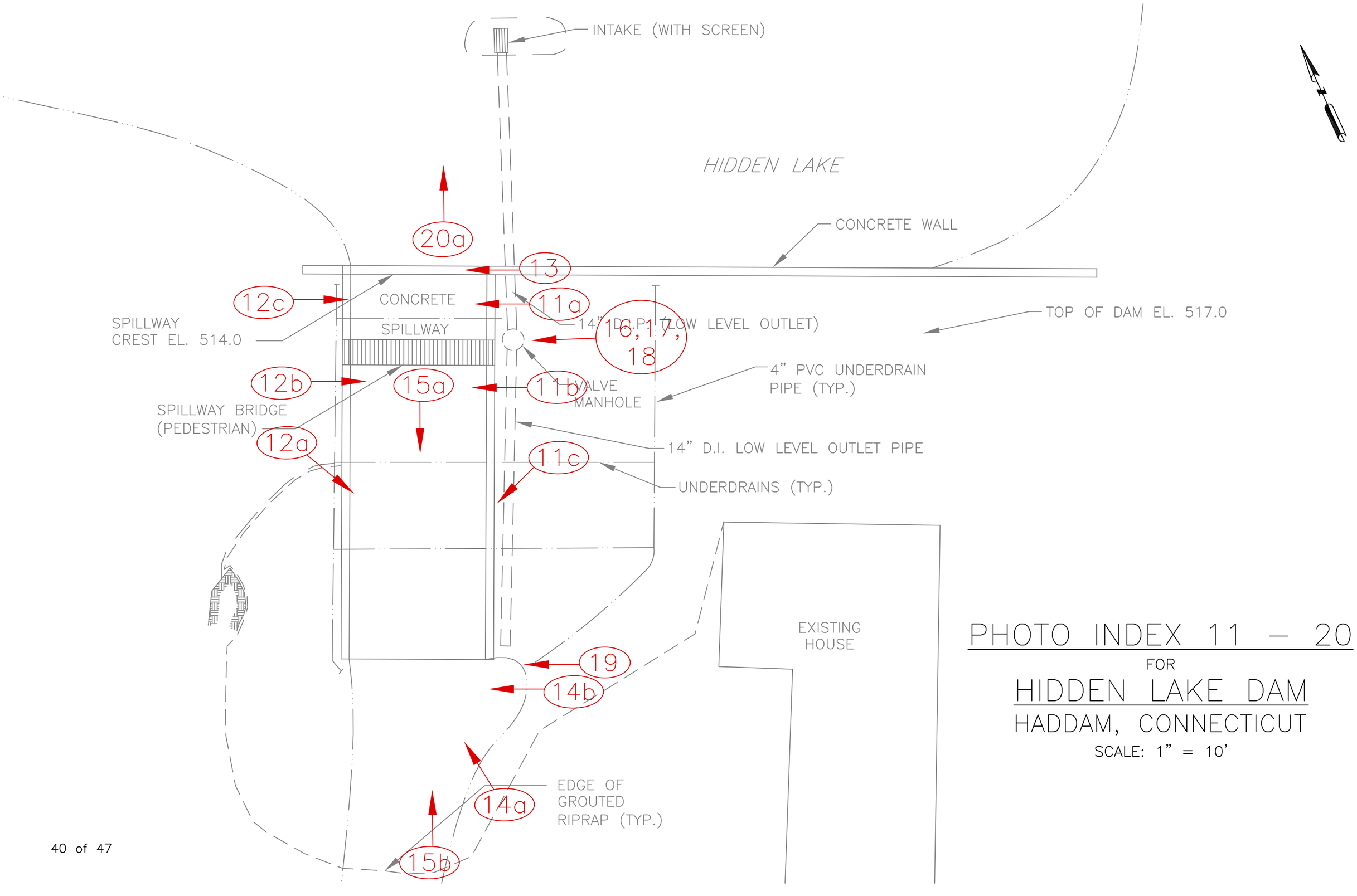


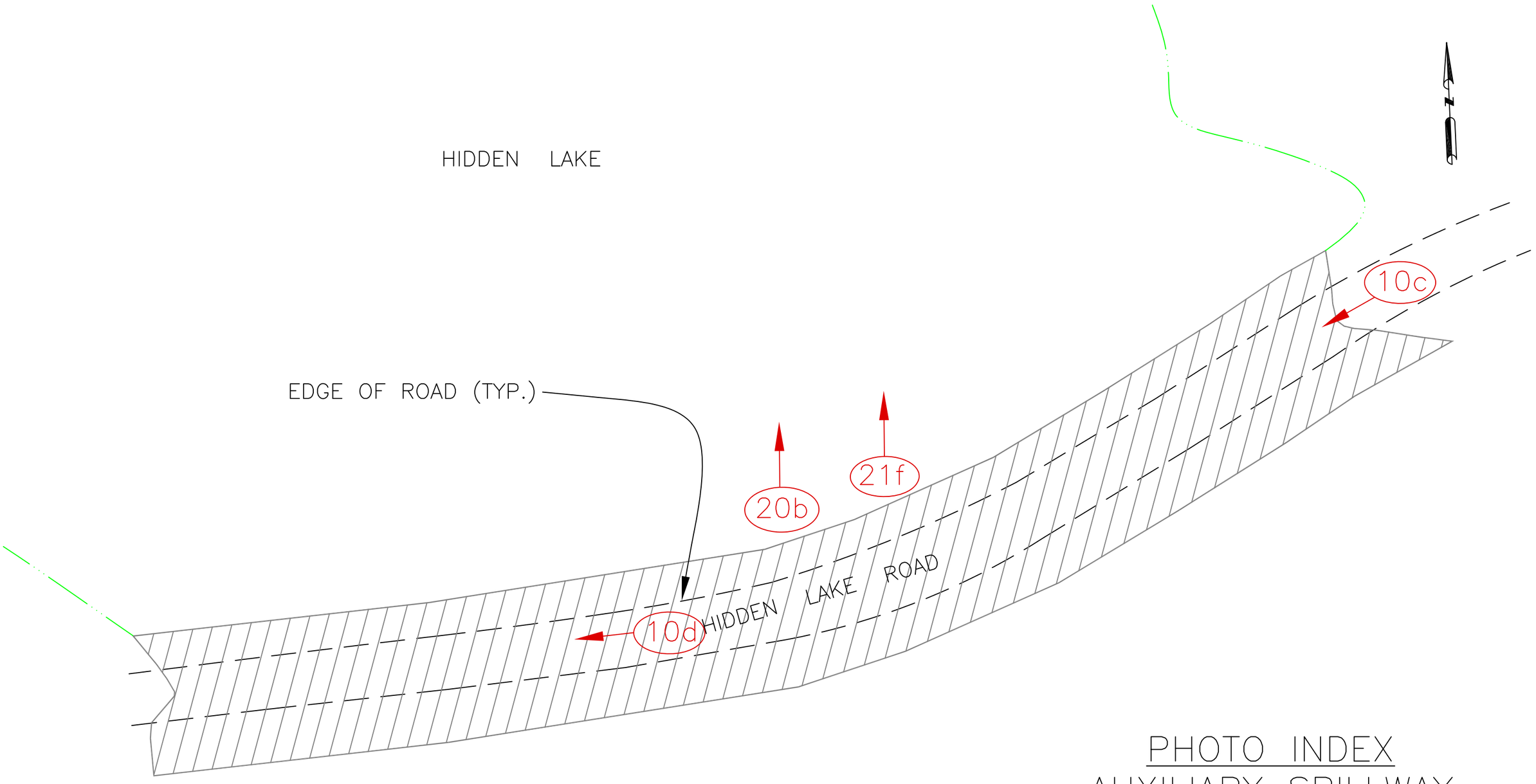
PHOTO INDEX 11 – 20

FOR

HIDDEN LAKE DAM

HADDAM, CONNECTICUT

SCALE: 1" = 10'



AUXILIARY SPILLWAY AREA / HIDDEN LAKE ROAD

SCALE: 1" = 40'

PHOTO INDEX
AUXILIARY SPILLWAY
FOR
HIDDEN LAKE DAM
HADDAM, CONNECTICUT

SCALE: 1" = 40'

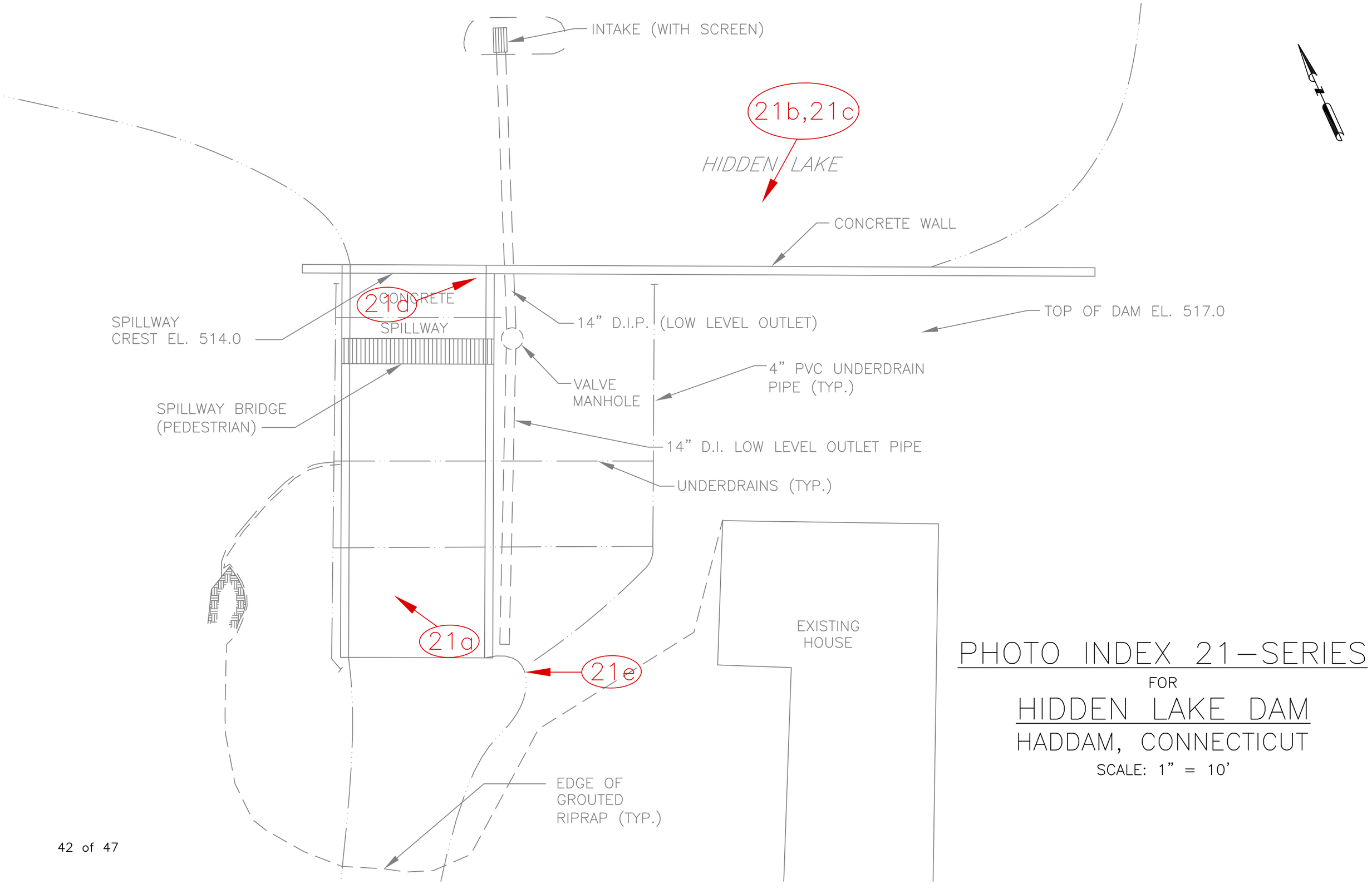


PHOTO INDEX 21-SERIES

FOR

HIDDEN LAKE DAM

HADDAM, CONNECTICUT

SCALE: 1" = 10'

Part XV: Professional Engineer Certification

The following certification must be signed by a Professional Engineer

"I hereby certify that the information provided in this report has been examined by me and found to be true and correct in my professional judgment."

Karl F. Acimovic — Signature of Professional Engineer

06/28/2022 — Date

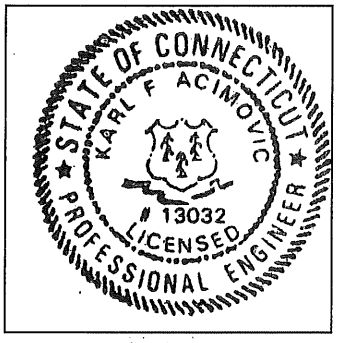
Karl F. Acimovic, P.E. — Printed Name of Professional Engineer

Title

13032 — CT P.E. Number

Karl F. Acimovic, P.E. & L.S., Consulting Engineer
Name of Firm

Affix P.E. Stamp Here



Part XVI: Owner Signature

The following statement must be signed by the Owner(s) of the subject Dam.

"The information provided in this report has been examined by me."

Signature of Owner	Date: 6/25/2022
Name of Owner (print or type): JAY CASSELLA	Title (if applicable): PRESIDENT
Signature of Owner	Date
Name of Owner (print or type)	Title (if applicable)
Signature of Owner	Date
Name of Owner (print or type)	Title (if applicable)
Signature of Owner	Date
Name of Owner (print or type)	Title (if applicable)

Note: Mail the completed inspection report to:

DAM SAFETY PROGRAM
INLAND WATER RESOURCES DIVISION
CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106

In addition, please send this completed report converted to Adobe portable document format (pdf) including a scan of the signature page via email to: DEEP.DamSafety@ct.gov

Appendix A: Overall Dam Condition Selection Standards

Condition	Definition
Good	Through file research and after a thorough visual inspection it has been determined that the dam is well maintained and no existing dam safety deficiencies are recognized. Only continued routine maintenance is required.
Satisfactory	Through file research and after a thorough visual inspection it has been determined that no significant deficiencies are recognized. Only minor maintenance is required and only minor flaws are noted.
Fair	Through file research and after a thorough visual inspection it has been determined that there are no critical deficiencies with the dam that would require engineering analysis with the following exception: the engineer may recommend that a hydrologic and hydraulic analysis be conducted due to the lack of adequate freeboard and/or the lack of spillway capacity documentation. A condition exists at the dam that may require some sort of additional monitoring.
Poor	Through file research and after a thorough visual inspection it has been determined that deficiencies are recognized that require engineering analysis and/or remedial action.
Unsatisfactory	Through file research and after a thorough visual inspection it has been determined that a deficiency is recognized that requires immediate or emergency action. Administrative/Enforcement action may be required as determined by the Dam Safety Program. Reservoir level restrictions may be necessary until the problem is resolved.

Appendix B - Hazard Classification of Dams

I. A Class AA dam is a negligible hazard potential dam which, if it were to fail, would result in the following:

(i) no measurable damage to roadways;
(ii) no measurable damage to land and structures;
(iii) negligible economic loss.

II. A Class A dam is a low hazard potential dam which, if it were to fail, would result in any of the following:

(i) damage to agricultural land;
(ii) damage to unimproved roadways (less than 100 ADT);
(iii) minimal economic loss.

III. A Class BB dam is a moderate hazard potential dam which, if it were to fail, would result in any of the following:

(i) damage to normally unoccupied storage structures;
(ii) damage to low volume roadways (less than 500 ADT);
(iii) moderate economic loss.

IV. A Class B dam is a significant hazard potential dam which, if it were to fail, would result in any of the following:

(i) possible loss of life;
(ii) minor damage to habitable structures, residences, hospitals, convalescent homes, schools, etc;
(iii) damage to or interruption of the use of service of utilities;
(iv) damage to primary roadways (less than 1500 ADT) and railroads;
(v) significant economic loss.

V. A Class C dam is a high hazard potential dam which, if it were to fail, would result in any of the following:

(i) probable loss of life;
(ii) major damage to habitable structures, residences, hospitals, convalescent homes, schools, etc;
(iii) damage to main highways (greater than 1500 ADT);
(iv) great economic loss.

Appendix C - PHOTOGRAPH INSTRUCTIONS

All photographs shall be color photographs. Photographs shall be clear and include scale references where applicable. Photographs shall include, but not be limited to the following:

1. Overview of dam(s)/dike(s) from upstream

2. Overview of dam(s)/dike(s) from downstream

3. Overview of upstream face from right abutment

4. Overview of upstream face from left abutment

5. Overview of dam crest from right abutment

6. Overview of dam crest from left abutment

7. Overview of downstream face from right abutment

8. Overview of downstream face from left abutment

9. Overview of spillway(s) from upstream

10. Overview of spillway(s) from downstream (tailrace or channel area)

11. Overview of right training wall(s)

12. Overview of left training wall(s)

13. Overview of weir

14. Overview of stilling basin

15. Overview of downstream channel

16. Overview of gatehouse exterior

17. Overview of gatehouse interior

18. Overview of operators

19. Outlet inlets and discharge points

20. Overview of reservoir area

21. Areas of specific deficiencies (e.g., cracks, erosion, displacement, seeps, deterioration, etc.)