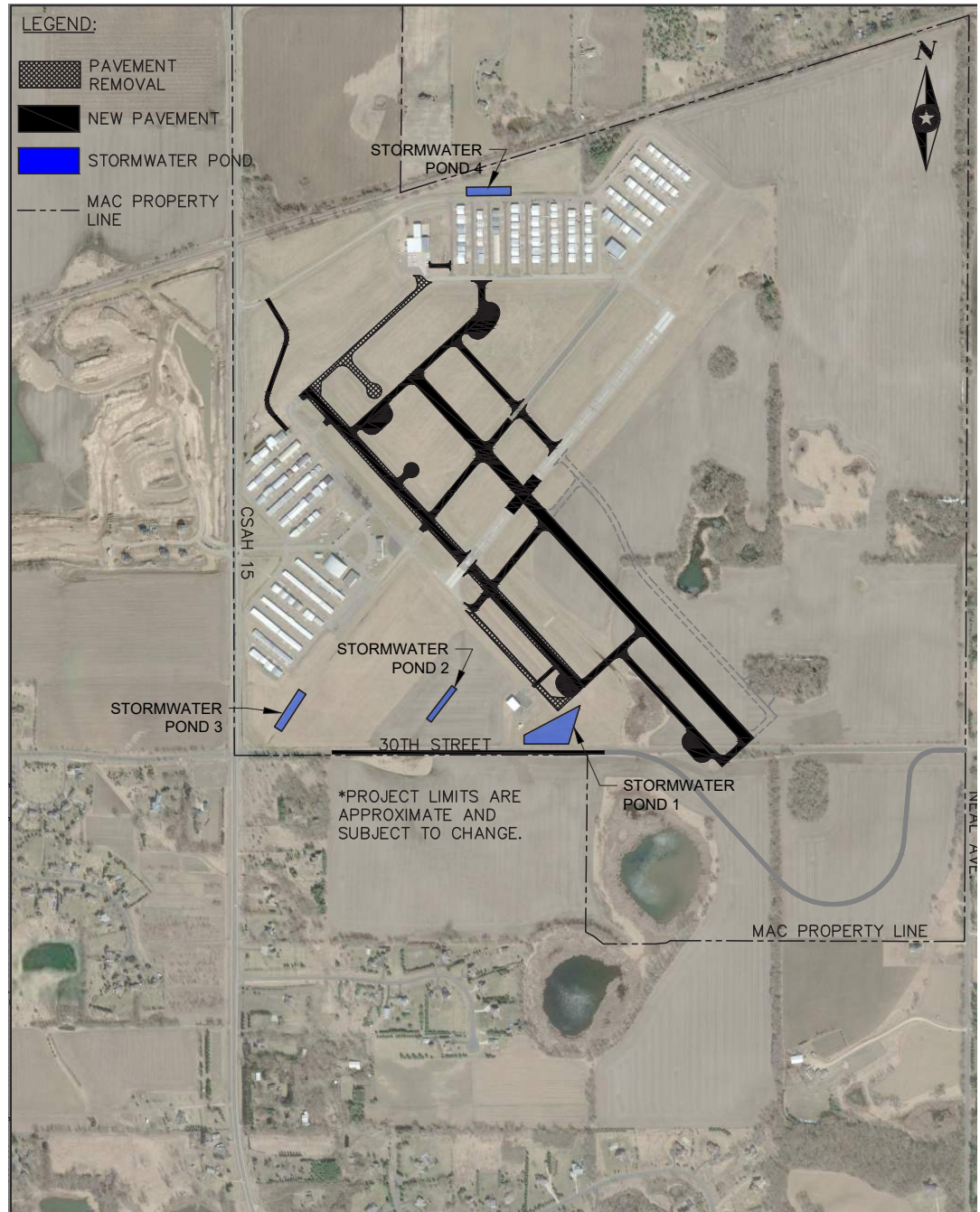# Lake Elmo Airport
Fact Sheet: Storm Water Management

Surface water evaporators are part of a storm water management plan that was approved through the permit process with the Valley Branch Watershed District. The permit is a required element of the multi-year Runway 14/32 replacement and airfield modifications project to be completed by 2023. The evaporator devices will be added to four storm water ponds to reduce runoff to the Downs Lake community. The ponds will be lined to eliminate any contact with other off-airport ground water sources. The area's weather, including summer humidity, has been factored into the calculations for the future use of these evaporators. It's estimated they will only need to operate at variable times in the summer or early fall months based on rainfall frequency and amounts. At most, the evaporators produce a fine mist, within close range of the device on the pond, to simply enhance the natural evaporation process.

LEGEND:

- PAVEMENT REMOVAL
- NEW PAVEMENT
- STORMWATER POND
- MAC PROPERTY LINE

N

STORMWATER POND 4

STORMWATER POND 2

STORMWATER POND 3

STORMWATER POND 1

30TH STREET

*PROJECT LIMITS ARE APPROXIMATE AND SUBJECT TO CHANGE.

MAC PROPERTY LINE

CSAH 15

NEAL AVE.

Lake Elmo Airport
Fact Sheet: Storm Water Management

OPERATIONAL DETAILS

Evaporation Season
- May 1 to Sep 1 (123 days) – this is the anticipated period of operation
- Pond 1 drainage area (and total impervious surface) is much larger than the others, requiring more evaporation and additional days of operation compared to the other ponds.

POND	HOURS/DAY	DAYS/YEAR
1	10	85
2	10	32
3	10	32
4	10	32

*Anticipated hours/days based on expected performance
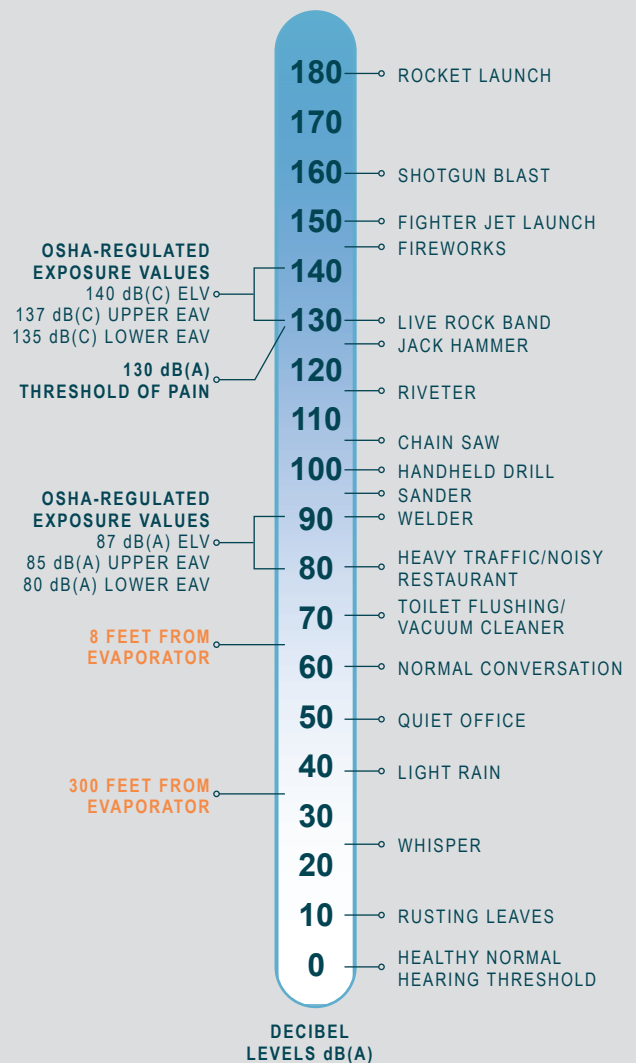**Nighttime operation not anticipated.

How far away is the nearest roadway?
The nearest roadway is 50 feet from Pond 1. Mist drift is minimized because the mist is sprayed out the sides of the units and close to the pond surface. Wind speed will be monitored and the units will be programmed to shut down during high wind conditions in order to minimize mist drift.
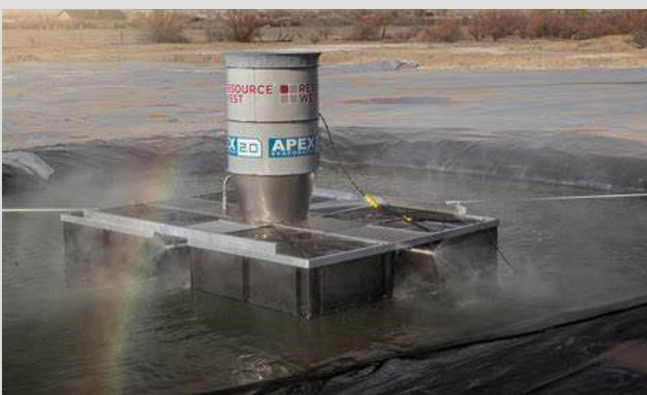
Evaporation Equipment
- Electric power will be used to minimize noise
- At a distance of 8 feet, the decibel level of the evaporator device is around 65 decibels. According the chart, this falls between "Normal Conversation" and "Toilet flushing/Vacuum Cleaner."

180 — ROCKET LAUNCH
170
160 — SHOTGUN BLAST
150 — FIGHTER JET LAUNCH
FIREWORKS

OSHA-REGULATED EXPOSURE VALUES
140 dB(C) ELV
137 dB(C) UPPER EAV
135 dB(C) LOWER EAV
140
130 — LIVE ROCK BAND
JACK HAMMER
130 dB(A) THRESHOLD OF PAIN
120 — RIVETER
110
100 — CHAIN SAW
HANDHELD DRILL
SANDER
WELDER

OSHA-REGULATED EXPOSURE VALUES
87 dB(A) ELV
85 dB(A) UPPER EAV
80 dB(A) LOWER EAV
90
80 — HEAVY TRAFFIC/NOISY RESTAURANT
70 — TOILET FLUSHING/VACUUM CLEANER

8 FEET FROM EVAPORATOR
60 — NORMAL CONVERSATION
50 — QUIET OFFICE
40 — LIGHT RAIN

300 FEET FROM EVAPORATOR
30
20 — WHISPER
10 — RUSTING LEAVES
0 — HEALTHY NORMAL HEARING THRESHOLD

DECIBEL LEVELS dB(A)

KEY
EAV= EXPOSURE ACTION VALUE
ELV= EXPOSURE LIMIT VALUE
dB(A)= "A" WEIGHTED DECIBELS (TO REPLACE HUMAN HEARING)
dB(C)= "C" PEAK WEIGHTED DECIBELS FOR PEAK SOUND PRESSURE

If you have questions about the project, please contact us via email at ContactLakeElmoAirportEA@mspmac.org