Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108-4746

Preventive Maintenance Card File for Small Public Water Systems Using Ground Water

Commonwealth of Massachusetts
Deval L. Patrick, Governor
Timothy P. Murray, Lt. Governor

Executive Office of Environmental Affairs
Ian A. Bowles, Secretary

Department of Environmental Protection
Laurie Burt, Commissioner

Tools for Preventive Maintenance

These log cards, along with the accompanying guidance notes booklet, provide a schedule of routine operation and maintenance tasks for small ground water systems. The cards and booklet will help you develop a preventive maintenance program for your system. The cards also provide some security measures water systems need to do to help prevent loss of service through terrorist acts, vandalism, or mischief.

The cards are divided into sections that list daily, weekly, and monthly tasks, with individual sections that outline specific tasks for each month of the year. They correspond to the guidance notes in the booklet. Each section of cards contains a list of suggested tasks to be carried out for that time period and log cards to record information. We have not included log cards for every task because some tasks can be completed without recording anything. Tasks that do not have log cards are in *italicized* print.

You should copy all of the blank log cards for future use. Each log card has space for additional comments. A follow-up log card, included at the end of this card set, can be used to record any problems you encounter and to help you keep a schedule for any needed repairs or replacements. Please review the guidance notes in the accompanying booklet, which provide additional information on some tasks. Note that we have not defined all tasks because some are self-explanatory. A contact list is provided in the accompanying cards if you need additional information.

REFERENCE	REFERENCE	REFERENCE	REFERENCE

Emergency Notification/Contact Information

Water System Name: _____ **PWS ID #:** _____

Pop. Served: _____

Owner Name: _____ **Owner Phone:** _____

Water System Operator: _____ **Phone (Day):** _____

Phone (Night): _____ **Phone (Cell):** _____

Organization	Contact Name	Phone (Day)	Phone (Cell)	Phone (Night)
Safety Officer				
Supervisors				
Ambulance				
Fire Department				

REFERENCE	REFERENCE	REFERENCE	REFERENCE

Emergency Notification/Contact Information

Organization	Contact Name	Phone (Day)	Phone (Cell)	Phone (Night)
Police Department				
Hospital				
Poison Control				
FBI Field Office				
Health Department				
Primacy Agency				
Well Driller				
Chemical Supplier				
Local Emergency Planning Committee				

Emergency Notification/Contact Information

Organization	Contact Name	Phone (Day)	Phone (Cell)	Phone (Night)
Designated Water System Spokesperson				
Local Government Official				
Local Hazmat Team				
Other Operators				
Neighboring Water System				
Neighboring Water System				
Television				
Radio				

REFERENCE	REFERENCE	REFERENCE	REFERENCE

Emergency Notification/Contact Information

Organization	Contact Name	Phone (Day)	Phone (Cell)	Phone (Night)
Other:				
Other:				
Other:				

Contacts

For more information, contact:

MassDEP
Drinking Water Program
(617) 292 -5770
http://www.mass.gov/dep/water/index.htm

Phone Numbers and Websites

Massachusetts Department of Environmental Protection Drinking Water Program	(617) 292-5770 http://www.mass.gov/dep/water/drinking.htm
Massachusetts Department of Environmental Protection Drinking Water Program 24 Hour Emergency	1-888-304-1133

REFERENCE	REFERENCE	REFERENCE	REFERENCE

Contacts

Additional Contacts	
Massachusetts Water Works Association	(978) 263 – 1388 http://www.masswaterworks.org/
New England Water Works Association	(508) 893 - 7979 http://www.newwa.org/
Barnstable County Water Utilities Association	(508) 432-0304 http://www.bcwua.org/
Massachusetts Rural Water Association	Toll Free: (866) 451-8099 (413) 498-5779 http://www.massrwa.org/
Rural Utilities Service	(202) 690 – 2670 http://www.rurdev.usda.gov/rus/index.html
Board of Certification	(617) 292-5500 http://mass.gov/dep/water/compliance/certop.htm
Plumbers Board	(617) 727-9952 www.mass.gov/dpl/boards/plumbers

Safe Drinking Water Hotline	1-800-426-4791 hotline-sdwa@epa.gov
EPA National (24-Hour)	1-800-424-8802
Massachusetts Department of Public Health	(617) 624-6000 http://www.mass.gov/dph/

REFERENCE	REFERENCE	REFERENCE	REFERENCE

Commonly Used Conversion Factors

1 foot = 12 inches
1 pint = 16 ounces
1 pound = 16 ounces
1 quart = 2 pints = 32 ounces
1 gallon = 3.785 liters
1 liter = .264 gallons
1 square foot (sq. ft.) = 144 square inches (sq. in.)
1 cubic foot (cu. ft.) = 7.48 gallons (gal.)
1 acre foot (ac. ft.) = 43,560 cu. ft. = 325,829 gal.

Commonly Used Formulas

Area = Length x Width
Chemical dosage: pounds per day (lbs./day) = MGD x ppm x 8.34 lbs./gal.
Circular area = Br^2 (B.3.14) **OR** circular area = 0.785 x diameter $(D)^2$
Circular volume = Width x Length x Height
Circumference = 2Br (where B.3.14; r = radius)
CT = Chlorine concentration (mg/L) x time (minutes)
Detention time = $\frac{\text{Tank Volume (gallons)}}{\text{Flow (gpm or gpd)}}$
Perimeter (of rectangle) = 2(length) + 2(width)
Perimeter for other shapes= add lengths of all sides

REFERENCE	REFERENCE	REFERENCE	REFERENCE

Commonly Used Formulas

Flow rate (Q, $ft.^3$/sec.) = Velocity (ft./sec.) X Area ($ft.^2$)
Force = Pressure (psi) x Area ($in.^2$)
Pounds per gallon (not water) = Specific Gravity x 8.34
Specific capacity = $\frac{\text{flow (gpm)}}{\text{Drawdown (ft.)}}$
Water horsepower = $\frac{\text{Q (flow in gpm) x H (feet head)}}{3{,}960}$

DAILY	DAILY	DAILY	DAILY

*Water Line Repairs Log**

Date	Location	Size	Replaced/Repaired	Comments

*Remember to photocopy the log card for future use before filling it out.
See Guide Book Page 3

DAILY	DAILY	DAILY	DAILY

*Water Line Repairs Log**

Date	Location	Size	Replaced/Repaired	Comments

*Remember to photocopy the log card for future use before filling it out.
See Guide Book Page 3

DAILY	DAILY	DAILY	DAILY

Recommended Daily Operational Duties

- **Check water meter readings and record water production.**
- **Check chemical solution tanks and record amounts used.**
- **Check and record water levels in storage tanks.**
- **Inspect chemical feed pumps.**
- **Check and record chlorine residual at the point of application.**
- **Check and record chlorine residual in the distribution system.**
- **Inspect booster pump stations.**
- **Check and record fluoride concentration in the distribution system.**
- **Record well pump running times and pump cycle starts.**

See Guide Book Pages 3-5

DAILY	DAILY	DAILY	DAILY

Recommended Daily Operational Duties (cont.)

- **Check instrumentation for proper signal input/output.**
  - **Chlorine residual**
  - **Fluoride**
- **Investigate customer complaints. Use special "Telephone Threat" card to record threats or suspicious activity.**
- **Complete a daily security check.**
  - **Check all windows, doors, hatches, seals and vents for evidence of vandalism or tampering.**
  - **Check all well caps, seals, and vents to ensure that they are intact and sealed.**
  - **Check all security lighting to ensure proper operation.**
- **Inspect heater operation during winter months.**
- **Inspect well pumps, motors, and controls.**

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

Daily Water Production Log Card*

Month/Year: _____

Date	*Meter Reading*	*Amount of Water Used*	*Notes or Comments*
1st			
2nd			
3rd			
4th			
5th			
6th			
7th			
8th			
9th			
10th			
11th			
12th			
13th			
14th			
15th			

See Guide Book Page 3

DAILY	DAILY	DAILY	DAILY

Date	*Meter Reading*	*Amount of Water Used*	*Notes or Comments*
16th			
17th			
18th			
19th			
20th			
21st			
22nd			
23rd			
24th			
25th			
26th			
27th			
28th			
29th			
30th			

See Guide Book Page 3

DAILY	DAILY	DAILY	DAILY

*Daily Chemical Solution Usage Log Card**

Chemical Pump Settings: ***Speed*** _____ ***Stroke*** _____ ***Month/Year*** _____

Date	***Water Prod. (From Prod. Card)***	***Chlorine Solution Used***	***Chlorine Used per _____ water produced***	***Any Cl_2 Dosage Failures & Duration***	***Fluoride Solution Used***	***Fluoride Used per _____ gal water produced***
1st				***yes/no***		
2nd				***yes/no***		
3rd				***yes/no***		
4th				***yes/no***		
5th				***yes/no***		
6th				***yes/no***		
7th				***yes/no***		
8th				***yes/no***		
9th				***yes/no***		
10th				***yes/no***		
11th				***yes/no***		
12th				***yes/no***		
13th				***yes/no***		
14th				***yes/no***		
15th				***yes/no***		

See Guide Book Page 3

DAILY	DAILY	DAILY	DAILY

Date	***Water Prod. (From Prod. Card)***	***Chlorine Solution Used***	***Chlorine Used per _____ water produced***	***Any Cl_2 Dosage Failures & Duration***	***Fluoride Solution Used***	***Fluoride Used per _____ gal water produced***
16th				***yes/no***		
17th				***yes/no***		
18th				***yes/no***		
19th				***yes/no***		
20th				***yes/no***		
21st				***yes/no***		
22nd				***yes/no***		
23rd				***yes/no***		
24th				***yes/no***		
25th				***yes/no***		
26th				***yes/no***		
27th				***yes/no***		
28th				***yes/no***		
29th				***yes/no***		
30th				***yes/no***		
31st				***yes/no***		

See Guide Book Page 3

DAILY	DAILY	DAILY	DAILY

*Daily Chemical Solution Usage Log Card Other**

Chemical Pump Settings: ***Speed*** _____ ***Stroke*** _____ ***Month/Year*** _____

Date	***Water Prod. (From Prod. Card)***	***Solution Used***	***Solution Used Per_____ gal. Water Produced***	***Test Results Raw & Treated***	***Backwash meter reading and/or cycles***
16th				***yes/no***	
17th				***yes/no***	
18th				***yes/no***	
19th				***yes/no***	
20th				***yes/no***	
21st				***yes/no***	
22nd				***yes/no***	
23rd				***yes/no***	
24th				***yes/no***	
25th				***yes/no***	
26th				***yes/no***	
27th				***yes/no***	
28th				***yes/no***	
29th				***yes/no***	
30th				***yes/no***	
31st				***yes/no***	

See Guide Book Page 3 & 4

DAILY	DAILY	DAILY	DAILY

Date	***Water Prod. (From Prod. Card)***	***Solution Used***	***Solution Used per_____ gal. Water Produced***	***Test Results Raw & Treated***	***Backwash meter reading and/or cycles***
16th				***yes/no***	
17th				***yes/no***	
18th				***yes/no***	
19th				***yes/no***	
20th				***yes/no***	
21st				***yes/no***	
22nd				***yes/no***	
23rd				***yes/no***	
24th				***yes/no***	
25th				***yes/no***	
26th				***yes/no***	
27th				***yes/no***	
28th				***yes/no***	
29th				***yes/no***	
30th				***yes/no***	
31st				***yes/no***	

See Guide Book Page 3 & 4

DAILY	DAILY	DAILY	DAILY

*Daily Storage Tank Water Level Log Card**

Tank No.:

Month/Year _____ ***Normal Operational Range of Tank Levels (High & Low)*** _____

Date	Water Level (in ft.)	Action Taken	System Pressure (at tank)	Time of Reading
1st				
2nd				
3rd				
4th				
5th				
6th				
7th				
8th				
9th				
10th				
11th				
12th				
13th				
14th				
15th				

See Guide Book Page 3 & 4

DAILY	DAILY	DAILY	DAILY

Date	Water Level (in ft.)	Action Taken	System Pressure (at tank)	Time of Reading
16th				
17th				
18th				
19th				
20th				
21st				
22nd				
23rd				
24th				
25th				
26th				
27th				
28th				
29th				
30th				
31st				

See Guide Book Page 3 & 4

DAILY	DAILY	DAILY	DAILY

*Daily Storage Tank Water Level Log Card**

Tank No.: _____

Month/Year_____ Normal Operational Range of Tank Levels (High & Low)

Date	*Water Level (in ft.)*	*System Pressure (at tank)*	*Time of Reading*	*Action Taken*
1st				
2nd				
3rd				
4th				
5th				
6th				
7th				
8th				
9th				
10th				
11th				
12th				
13th				
14th				
15th				

See Guide Book Page 3 & 4

DAILY	DAILY	DAILY	DAILY

Date	*Water Level (in ft.)*	*System Pressure (at tank)*	*Time of Reading*	*Action Taken*
16th				
17th				
18th				
19th				
20th				
21st				
22nd				
23rd				
24th				
25th				
26th				
27th				
28th				
29th				
30th				
31st				

See Guide Book Page 3 & 4

DAILY	DAILY	DAILY	DAILY

*Daily Chemical Feed Pump Log Card**

Month/Year: _____

Dosage Calculation = (a x b)/c = d (Make sure to include units of measurement.)

Day	***Concentration of Chemical Solution (a)***	***Volume of Solution Pumped (b)***	***Volume of Water Treated (c)***	***Calculated Dosage (mg/L) (d)***	***Expected Dosage***
1st					
2nd					
3rd					
4th					
5th					
6th					
7th					
8th					
9th					
10th					
11th					
12th					
13th					
14th					
15th					

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

Day	***Concentration of Chemical Solution (a)***	***Volume of Solution Pumped (b)***	***Volume of Water Treated (c)***	***Calculated Dosage (mg/L) (d)***	***Expected Dosage***
16h					
17h					
18th					
19h					
20					
21st					
22nd					
23rd					
24th					
25th					
26th					
27th					
28th					
29th					
30th					
31st					

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

*Daily Chlorine Residual Log Card**

Month/Year:

Location: _____

Day	***Chlorine Residual (in mg/L) at Point of Application*** *Target Level ___mg/L to ___mg/L*	***Chlorine Residual (in mg/L) in Distribution System (include sample location)***	***Notes or Comments***
1st			
2nd			
3rd			
4th			
5th			
6th			
7th			
8th			
9th			
10th			
11th			
12th			
13th			
14th			

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

Day	***Chlorine Residual (in mg/L) at Point of Application*** *Target Level ____ mg/L to ____ mg/L*	***Chlorine Residual (in mg/L) in Distribution System (include sample location)***	***Notes or Comments***
15th			
16th			
17th			
18th			
19th			
20th			
21st			
22nd			
23rd			
24th			
25th			
26th			
27th			
28th			
29th			
30th			
31st			

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

*Daily Booster Pump Log Card**

Month/Year: _____

Day	Are Pump Operating Times Equalized?	Meter Readings		Pressure Gauge Readings		
		Run Time	Starts	Suction Side	Discharge Side	Pump on/off
1st	Yes/No					
2nd	Yes/No					
3rd	Yes/No					
4th	Yes/No					
5th	Yes/No					
6th	Yes/No					
7th	Yes/No					
8th	Yes/No					
9th	Yes/No					
10th	Yes/No					
11th	Yes/No					
12th	Yes/No					
13th	Yes/No					
14th	Yes/No					
15th	Yes/No					

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

Day	Are Pump Operating Times Equalized?	Meter Readings		Pressure Gauge Readings		
		Run Time	Starts	Suction Side	Discharge Side	Pump on/off
16th	Yes/No					
17th	Yes/No					
18th	Yes/No					
19th	Yes/No					
20th	Yes/No					
21st	Yes/No					
22nd	Yes/No					
23rd	Yes/No					
24th	Yes/No					
25th	Yes/No					
26th	Yes/No					
27th	Yes/No					
28th	Yes/No					
29th	Yes/No					
30th	Yes/No					
31st	Yes/No					

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

*Daily Fluoride Concentration Log Card**

Predetermined Concentration: _____ ***Month/Year:*** _____

Sample Point Location: _____

Day	***Fluoride Concentration in Distribution System***	***Adjustment Needed +/-***	***Notes or Comments***
1st			
2nd			
3rd			
4th			
5th			
6th			
7th			
8th			
9th			
10th			
11th			
12th			
13th			
14th			
15th			

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

Day	***Fluoride Concentration in Distribution System***	***Adjustment Needed +/-***	***Notes or Comments***
16th			
17th			
18th			
19th			
20th			
21st			
22nd			
23rd			
24th			
25th			
26th			
27th			
28th			
29th			
30th			
31st			

See Guide Book Page 4

DAILY	DAILY	DAILY	DAILY

*Daily Well Pump Log Card**

Month/Year: _____

Date	*Running Time (in Hrs.)*	*Number of Cycle Starts*	*Notes or Comments*
1st			
2nd			
3rd			
4th			
5th			
6th			
7th			
8th			
9th			
10th			
11th			
12th			
13th			
14th			
15th			

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

Date	*Running Time (in Hrs.)*	*Number of Cycle Starts*	*Notes or Comments*
16th			
17th			
18th			
19th			
20th			
21st			
22nd			
23rd			
24th			
25th			
26th			
27th			
28th			
29th			
30th			
31st			

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

*Daily Instrumentation Equipment Check Log Card**

Type of Equipment: _____ ***Date:*** _____

- **Check to make sure the instrument is working–input/output signal.**
- **Check to make sure proper flow is going to the instrument.**

Per Manufacturer Specifications:

(Review operation manual and set the following per recommendations. Use this list for daily checks.)

Equipment Check	*Operation Manual Settings Notes*
Verify all signals.	
Calibrate input/output.	
Clean as recommended.	
Replace all standby batteries/power (as needed).	

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

Other Instrumentation Equipment Notes or Comments

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

*Customer Complaint Log Card**

Date	*Questions, Concerns, or Potential Problems*	*Customer Name and Information*	*Person Assigned/ Action Taken*	*Compliant Resolved/ Researched*
	1. *Time Complaint Made* _____			*Time Resolve* _____
	2. *Time Complaint Made* _____			*Time Resolved* _____

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

Date	*Questions, Concerns, or Potential Problems*	*Customer Name and Information*	*Person Assigned/ Action Taken*	*Compliant Resolved/ Researched*
	1. *Time Complaint Made* _____			*Time Resolved* _____
	2. *Time Complaint Made* _____			*Time Resolved* _____

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

*Water System Telephone Threat Identification Checklist**

1. Types of Tampering/Threat •Contamination •Biological •Chemical • Threat to tamper • Bombs, explosives, etc. • Other (explain)	**2. Call Received By (Name, Address, and Telephone Number)** Date & Time of Call Received**:**
3. Location of Tampering • Distribution Line • Water Storage Facilities • Treatment Plant • Raw Water Source • Treatment Chemicals • Other	**4. Contaminant Source and Quantity:** Date and Time of Tampering/Threat: Caller's Name/Alias, Address, and Telephone Number:
5. Is the Connection Clear? (could it have been a wireless or cell phone)	**6. Is the Caller (check all that apply)** • Male • Female • Impolite • Illiterate • Well Spoken • Irrational • Incoherent

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

7. Is the Caller's Voice (check all that apply):

• Soft	• Calm	• Angry	• Slow	• Rapid
• Slurred	• Loud	• Laughing	• Crying	• Normal
• Deep	• Nasal	• Clear	• Lisping	• Stuttering
• Old	• High	• Cracking	• Excited	• Young

8. Are There Background Noises?

- Street noises (what kind?) _____
- Machinery (what type?) _____
- Voices (describe) _____
- Children (describe) _____
- Animals (what kind?) _____
- Computer Keyboard, Office _____
- Motors (describe) _____
- Music (what kind?) _____
- Other _____

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

*Daily Security Checklist**

Date: _____

- **Hatches – closed, locked**
- **Doors – closed, locked**
- **Windows - closed, intact, locked**
- **Gates - closed, locked**
- **Fences - intact**
- **Well caps, seals, & vents - intact, sealed**
- **Signs - visible, in good repair**
- **Lights - working, available**
- **Alarms - on, functioning**
- **Work needed:**

See Guide Book Page 5

DAILY	DAILY	DAILY	DAILY

Other Notes and Comments

WEEKLY	WEEKLY	WEEKLY	WEEKLY

Recommended Weekly Operational Duties

- **Inspect chlorine and fluoride testing equipment.**
- **Clean pump house and grounds. Make sure fire hydrants are accessible.**
- **Record pumping rate for each well or source water pump.**
- **Conduct weekly security check.**
  - ***Inspect all pump house plumbing for leaks.***
  - ***Check all sump pumps for proper operation.***
  - ***Check all station alarms.***
  - ***Check backup power source to ensure it will operate when needed.***
  - ***Inspect fencing and gates.***

See Guide Book Pages 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Chemical Equipment Testing Log Card**

Equipment: _____ ***Month/Year:*** _____

Week (Date)	*Is Equipment Calibrated Properly?*	*Are Reagents Clearly Marked and Safely Stored?*	*Are Reagents Expired?*	*Amount of Reagent on Hand*	*Notes or Comments*
1st	*Yes/No*	*Yes/No*	*Yes/No*		
2nd	*Yes/No*	*Yes/No*	*Yes/No*		
3rd	*Yes/No*	*Yes/No*	*Yes/No*		
4th	*Yes/No*	*Yes/No*	*Yes/No*		
5th	*Yes/No*	*Yes/No*	*Yes/No*		

See Guide Book Page 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Chemical Equipment Testing Log Card**

Equipment _____ ***Month/Year:*** _____

Week (Date)	***Is Equipment Calibrated Properly?***	***Are Reagents Clearly Marked and Safely Stored?***	***Are Reagents Expired?***	***Amount of Reagent on Hand***	***Notes or Comments***
1st	***Yes/No***	***Yes/No***	***Yes/No***		
2nd	***Yes/No***	***Yes/No***	***Yes/No***		
3rd	***Yes/No***	***Yes/No***	***Yes/No***		
4th	***Yes/No***	***Yes/No***	***Yes/No***		
5th	***Yes/No***	***Yes/No***	***Yes/No***		

See Guide Book Page 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Cleanliness Log Card**

Month/Year: _____

Week (Date)	***Are Pump House and Grounds Clean?***	***Are Fire Hydrants Accessible?***	***Notes or Comments***
1st	***Yes/No***	***Yes/No***	
2nd	***Yes/No***	***Yes/No***	
3rd	***Yes/No***	***Yes/No***	
4th	***Yes/No***	***Yes/No***	
5th	***Yes/No***	***Yes/No***	

See Guide Book Pages 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Cleanliness Log Card**

Month/Year: _____

Week (Date)	*Are Pump House and Grounds Clean?*	*Are Fire Hydrants Accessible?*	*Notes or Comments*
1st	*Yes/No*	*Yes/No*	
2nd	*Yes/No*	*Yes/No*	
3rd	*Yes/No*	*Yes/No*	
4th	*Yes/No*	*Yes/No*	
5th	*Yes/No*	*Yes/No*	

See Guide Book Pages 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Pumping Rate Log Card**

Well: _____ ***Month/Year: _____***

Week (Date)	*Pumping Rate/Flow*	*Notes or Comments*
1st		
2nd		
3rd		
4th		
5th		

See Guide Book Page 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Pumping Rate Log Card**

Well: _____ ***Month/Year:*** _____

Week (Date)	***Pumping Rate/Flow***	***Notes or Comments***
1st		
2nd		
3rd		
4th		
5th		

See Guide Book Page 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

*Weekly Security Check Log Card**

Month/Year: _____

Week (Date)	***Are Security Measures in Good Condition?***	***Repairs/Changes***	***Notes***
1st	***Yes/No***		
2nd	***Yes/No***		
3rd	***Yes/No***		
4th	***Yes/No***		
5th	***Yes/No***		

See Guide Book Page 6

*Weekly Security Check Log Card**

Month/Year: _____

Week (Date)	*Are Security Measures in Good Condition?*	*Repairs/Changes*	*Notes*
1st	*Yes/No*		
2nd	*Yes/No*		
3rd	*Yes/No*		
4th	*Yes/No*		
5th	*Yes/No*		

See Guide Book Page 6

WEEKLY	WEEKLY	WEEKLY	WEEKLY

Other Notes and Comments

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended Monthly Operational Duties

- **Read electric meter at pump house and record.**
- **Take appropriate monthly water quality samples.**
- **Check and record static and pumping levels of each well.**
- **Read all customer meters and compare against total water produced for the month.**
- **Inspect well heads.**
- **Lubricate locks.**
- **Check on-site readings against lab results.**
- **Confirm submittal of monthly reports.**

See Guide Book Page 7

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Monthly Electric Meter Log Card**

Year:

Month (Date)	***Electric Meter Reading***	***Monthly Water Production*** *(if pumping is major use of energy)*	***Notes or Comments***
Jan.			
Feb.			
March			

See Guide Book Page 7

*Monthly Electric Meter Log Card** *Year:* _____

Month (Date)	*Electric Meter Reading*	*Monthly Water Production (if pumping is major use of energy)*	*Notes or Comments*
April			
May			
June			

See Guide Book Page 7

MONTHLY | MONTHLY | MONTHLY | MONTHLY

*Monthly Electric Meter Log Card** *Year:* _____

Month (Date)	*Electric Meter Reading*	*Monthly Water Production (if pumping is major use of energy)*	*Notes or Comments*
July			
Aug.			
Sept.			

See Guide Book Page 7

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Monthly Electric Meter Log Card** *Year: _____*

Month (Date)	*Electric Meter Reading*	*Monthly Water Production (if pumping is major use of energy)*	*Notes or Comments*
Oct.			
Nov.			
Dec.			

See Guide Book Page 7

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Monthly Water Quality Sampling Log Card** *Year: _____*

Month	*Take Coliform Sample (*)*	*Take Other Samples (*)*	*Notes or Comments*
Jan.			
Feb.			
Mar.			
Apr.			
May			
June			
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

See Guide Book Page 7

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Monthly Water Quality Sampling Log Card**

Year: _____

Month	*Take Coliform Sample (*)*	*Take Other Samples (*)*	*Notes or Comments*
Jan.			
Feb.			
Mar.			
Apr.			
May			
June			
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

See Guide Book Page 7

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Monthly Static (S) and Pumping (P) Level Log Card**

Well: _____ ***Year:*** _____

Month	*S & P Level (in ft)*	*Recharge Time*	*Notes or Comments*
Jan.	*S:*		
	P:		
Feb.	*S:*		
	P:		
March	*S:*		
	P:		
April	*S:*		
	P:		
May	*S:*		
	P:		
June	*S:*		
	P:		

See Guide Book Page 7

*Monthly Static (S) and Pumping (P) Level Log Card cont.**

Well: _____ ***Year:*** _____

Month (Date)	***S & P Level (in ft)***	***Recharge Time***	***Notes or Comments***
July	***S:***		
	P:		
Aug.	***S:***		
	P:		
Sept.	***S:***		
	P:		
Oct.	***S:***		
	P:		
Nov.	***S:***		
	P:		
Dec.	***S:***		
	P:		

See Guide Book Page 7

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes and Comments

Recommended January Operational Duties

- **Overhaul chemical feed pumps (O rings, check valves, and diaphragms).**
- **Inspect and clean chemical feed lines and solution tanks.**
- **Calibrate chemical feed pumps after overhaul.**
- **Begin Safety Equipment Repair Log. Maintain log continuously throughout the year.**
- **Operate all valves inside the treatment plant and pump house. Maintain log continuously throughout the year.**
- **Review emergency response plans.**

See Guide Book Pages 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*January Task Log Card** *Feed Pump:* _____ *Year:* _____

Task	*Date Completed*	*Notes or Comments*
Overhaul chemical feed pumps:		
Feeder head cleaned.		
O rings and valves checked for wear.		
Worn-out parts replaced (e.g., diaphragms).		
Inspect and clean:		
Chemical feed lines.		
Solution tanks.		
Calibrate chemical feed pumps after overhaul.		

See Guide Book Pages 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Other Feed Pump Notes or Comments**

Maintenance Needs:
Supplier Information:
Age of Equipment:
Changes or Repairs:

See Guide Book Page 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Safety Equipment Repair Log**

Year: _____

Date	***Equipment:*** ***(SCBA, air monitor, fire extinguisher, etc.)***	***Maintenance or Repair Completed:*** ***(calibrated, cleaned, etc.)***	***Notes or Comments:***

See Guide Book Page 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Date	Equipment: (SCBA, air monitor, fire extinguisher, etc.)	Maintenance or Repair Completed: (calibrated, cleaned, etc.)	Notes or Comments:

See Guide Book Page 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Valve Log Card**

Year: _____

When exercising the valves, be sure to record the time, type of valve, if the valve functions properly, and valve position.

Date	Time	Valve Number	Location	Type: (gate, plug, etc.)	Position: (open full, open partial, or closed; # turns)	Comments: (ok, repairs needed, will not seat, etc.)

See Guide Book Page 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Date	*Time*	*Valve Number*	*Location*	*Type: (gate, plug, etc.)*	*Position: (open full, open partial, or closed; # turns)*	*Comments: (ok, repairs needed, will not seat, etc.)*

See Guide Book Page 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended February Operational Duties

- **Inspect chemical safety equipment and repair or replace as needed.**
- **Operate all valves inside the treatment plant and pump house.**

See Guide Book Page 8

*February Task Log Card**

Year:_____

Task	*Date Completed*	*Number and Direction of Turns*	*Notes or Comments*
Check chemical safety equipment and repair or replace as needed.		***Not Applicable***	
Operate all valves inside the treatment plant and pump house.			

See Guide Book Page 8

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

Recommended March Operational Duties

- **Inspect, clean, and repair control panels in pump house and treatment plant.**
- **Exercise half of all mainline valves.**

See Guide Book Page 9

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*March Task Log Card**

Year: _____

Task	***Date Completed***	***Valves Exercised***	***Condition of Valves***	***Date Scheduled for Repair***	***Number and Direction of Turns to Close***
Inspect, clean, and repair control panels in pump house and treatment plant.		***Not Applicable***	***Not Applicable***		***Not Applicable***
Exercise half of all mainline valves.					

See Guide Book Page 9

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended April Operational Duties

- **Inspect and clean chemical feed lines and solution tanks.**
- **Calibrate chemical feed pumps.**

See Guide Book Page 9

*April Task Log Card**

Year: _____

Task	*Date Completed*	*Notes or Comments*
Exercise/check all fire hydrant valves.		
Inspect and clean:		
Chemical feed lines		
Solution tanks		
Calibrate chemical feed pumps.		

See Guide Book Page 9

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

Recommended May Operational Duties

- **Inspect storage tanks for defects and sanitary deficiencies.**
- **Clean storage tanks if necessary.**

See Guide Book Page 27 & 28

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*May Task Log**

Year: _____

Task	*Date Completed*	*Notes or Comments*
Inspect Storage _____ Tank #		
Check vents and screens.		
Check water level measuring devices. **		
Check hatch seals/locks. **		
Check for deterioration.		
Inspect Storage _____ Tank #		
Check vents and screens.		
Check water level measuring devices. **		
Check hatch seals/locks. **		
Check for deterioration.		
Clean Storage Tanks.		

See Guide Book Pages 9 & 10

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comment

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended June Operational Duties

- **Flush the distribution system and exercise/check all fire hydrant valves.**
- **Perform preventive maintenance on treatment plant and pump house buildings.**

See Guide Book Page 10

*June Task Log Card**

Year: _____

Task	*Date Completed*	*Notes or Comments*
Flush the distribution system		
Paint:		
Plant piping		
Buildings		
Tanks		
Safely store:		
Pipes		
Plumbing fittings		
Chemicals		
Tools		
Check fan operation		

See Guide Book Page 10

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

Recommended July Operational Duties

- **Inspect and clean chemical feed lines and solution tanks.**
- **Calibrate chemical feed pumps.**

See Guide Book Page 11

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*July Task Log Card**

Year: _____

Task	*Date Completed*	*Notes or Comments*
Inspect and clean:		
Chemical feed lines		
Solution tanks		
Calibrate chemical feed pumps		

See Guide Book Page 11

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended August Operational Duties

- **Operate all valves inside the treatment plant and pump house.**

See Guide Book Page 11

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*August Task Log Card**

Year: _____

Task	*Date Completed*	*Number and Direction of Turns*	*Notes or Comments*
Operate all valves inside the treatment plant and pump house.			

See Guide Book Page 11

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

Recommended September Operational Duties

- **Exercise mainline valves that were not exercised in March.**
- **Prepare system for winter operation.**
  This task may be postponed until October or November, based on local conditions.
- **Make sure unnecessary equipment is properly decommissioned.**

See Guide Book Page 11

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*September Task Log Card**

Year: _____

Task	*Date Completed*	*Valves Exercised*	*Number of Failures*	*Date Scheduled for Repair*	*Direction and Number of Turns to Close*
Exercise mainline valves that were not exercised in March.					

Prepare System for Winter Operation

Task	*Date Completed*	*Notes or Comments*
Check that all exposed facilities are properly insulated.		
Check that all heaters are operable.		
Check that all vents are closed.		

See Guide Book Page 11

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended October Operational Duties

- **Inspect and clean chemical feed lines and solution tanks.**
- **Calibrate chemical feed pumps.**

See Guide Book Page 12

*October Task Log Card**

Year: _____

Task	***Date Completed***	***Notes or Comments***
Inspect and clean:		
Chemical feed lines		
Solution tanks		
Calibrate chemical feed pumps		

See Guide Book Page 12

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

Recommended November Operational Tasks

- **Prepare system for winter operation if not completed in September or October.**

See Guide Book Page 12

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*November Task Log Card** *Year:* _____

Prepare System for Winter Operation		
Task	***Date Completed***	***Notes or Comments***
Check that all exposed facilities are properly insulated.		
Check that all heaters are operable.		
Check that all vents are closed.		

See Guide Book Page 12

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Recommended December Operational Duties

- **Contact an electrician to check running amps on well pumps.**

See Guide Book Page 12

*December Task Log Card**

Year: _____

Task	*Date Completed*	*Notes or Comments*
Contact an electrician to check running amps on well pumps.		

See Guide Book Page 12

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments

MONTHLY	MONTHLY	MONTHLY	MONTHLY

*Follow-Up Log Card**

Questions, Concerns, or Potential Problems	*Date*	*Lead Person/Action Plan*

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Questions, Concerns, or Potential Problems	*Date*	*Lead Person/Action Plan*

MONTHLY	MONTHLY	MONTHLY	MONTHLY

Other Notes or Comments