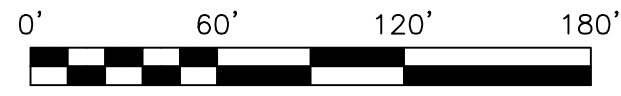


OPERATIONS & MAINTENANCE NOTES (TO BE PERFORMED BY BCWA):

1. THE MINE SEAL HAS AN OVERFLOW BYPASS PIPE THAT SHOULD HANDLE ANY EXCESS FLOWS FROM THE MINE THAT EXCEEDS THE CAPACITY OF THE INFLOW PIPES AND ELEVATION SET BY INLINE STRUCTURE #1, WHICH DISCHARGES DIRECTLY TO THE ORIGINAL DRAINAGE COURSE FOR THE MINE DISCHARGE. IN ADDITION, IF THE OVERFLOW BYPASS PIPE BECOMES CLOGGED OR THE CAPACITY IS EXCEEDED, THE MINE DISCHARGE WOULD OVERFLOW THE CONCRETE MINE SEAL AND FLOW DOWN THE ORIGINAL DRAINAGE COURSE AND BYPASS THE TREATMENT SYSTEM.
2. EVERY THREE MONTHS, AT A MINIMUM, THE LIMESTONE POND (#1 POND) SHALL BE FLUSHED TO REDUCE THE ACCUMULATION OF METAL PRECIPITATES IN THE LIMESTONE VOID SPACES. FLUSHING OF THE LIMESTONE POND IS ACCOMPLISHED BY FIRST REMOVING ALL OF THE STOP LOGS IN THE INLET STRUCTURE OF THE SETTLING POND (#2 POND) AND DEWATERING THE POND. ONCE THE POND IS DEWATERED, REPLACE THE STOP LOGS IN THE INLET STRUCTURE. NEXT, REMOVE ALL OF THE STOP LOGS FROM THE INLINE STRUCTURE (#3) DESIGNATED FOR FLUSHING ONLY. ALLOW THE FLUSHING PROCESS TO OCCUR FOR AT LEAST 15 MINUTES AND REPLACE THE STOP LOGS IN INLINE STRUCTURE #3.
3. WATER LEVELS IN THE PONDS SHALL BE MAINTAINED AS FOLLOWS: #1 POND (LIMESTONE POND) SHALL HAVE THE WATER LEVEL SET JUST BELOW THE TOP OF THE LIMESTONE USING THE APPROPRIATE NUMBER OF STOP LOGS IN THE INLINE STRUCTURE (#2); INLINE STRUCTURE #3 SHOULD ALWAYS HAVE ALL OF THE STOP LOGS IN PLACE WHENEVER IT IS NOT BEING USED FOR FLUSHING); THE INLET STRUCTURE IN #2 POND SHALL HAVE THE WATER LEVEL SET AT A DEPTH OF APPROXIMATELY FOUR FEET FROM BOTTOM OF POND.
4. SLUDGE REMOVAL FROM THE SETTLING POND (#2 POND) WILL BE REQUIRED AS NECESSARY. SLUDGE LEVELS SHOULD NOT EXCEED MORE THAN TWO FEET IN DEPTH AT ANYTIME IN THE POND. IF EXCESSIVE SOLIDS ARE NOTED IN THE FINAL OUTFALL DUE TO REDUCED SETTLING TIME IN THE POND OR STIRRING UP OF THE ACCUMULATED SLUDGE, STEPS SHOULD BE TAKEN TO REMOVE THE SLUDGE AND PROPERLY DISPOSAL OF THE MATERIAL.
5. INSPECT VARIOUS COMPONENTS OF THE TREATMENT SYSTEM PERIODICALLY, PARTICULARLY AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE PROPER OPERATION. THESE COMPONENTS SHALL INCLUDE ALL INLINE AND INLET STRUCTURES, ROCK APRONS, EMERGENCY SPILLWAYS, BAFFLES, CONCRETE MINE SEAL, SCREENS AROUND THE MINE OPENINGS AND OVERFLOW BYPASS PIPE.
6. PERIODIC STIRRING OF THE LIMESTONE WITHIN #1 POND SHALL BE PERFORMED BASED ON VISUAL INSPECTION AND WATER CHEMISTRY DATA OF THE SYSTEM OUTFALL. IF THE WATER LEVEL IS PROPERLY MAINTAINED JUST BELOW THE SURFACE OF THE LIMESTONE BED, THEN VISUAL INSPECTION WILL BE DIFFICULT. THE BEST INDICATOR OF MAINTENANCE NEEDS FOR THE LIMESTONE IS THE WATER CHEMISTRY COMING OUT OF THE TREATMENT SYSTEM FINAL OUTFALL (#2 POND) DURING NORMAL OPERATION. IF SUFFICIENT ALKALINITY IS NOT BEING GENERATED TO NEUTRALIZE NEARLY ALL OF THE ACIDITY AND/OR THE TOTAL ALUMINUM LEVELS ARE ELEVATED COMING OUT OF THE #2 POND OUTFALL, THEN THE LIMESTONE IN THE #1 POND NEEDS STIRRING. STIRRING OF THE LIMESTONE CAN BE ACCOMPLISHED USING A TRACK HOE FOR SEVERAL HOURS AND CHURNING OF THE TOP FEW FEET OF THE LIMESTONE BED, WHILE KEEPING THE PIPING SYSTEM AT THE BOTTOM OF THE LIMESTONE INTACT DURING THE PROCESS.
7. ANY AREAS SHOWING SIGNS OF EROSION SHALL BE REGRADED AND STABILIZED IMMEDIATELY WITH THE APPROPRIATE PERMANENT SEED MIXTURE AND MULCH.



NOTE:
 CONTOUR ELEVATIONS WERE BASED ON THE ORIGINAL WATER ELEVATION OF 1024.60'
 ON TOP OF THE COAL SEAM AS NOTED ON DRAWING.

SKELLY and LOY Inc. ENGINEERS-CONSULTANTS	09/30/07	DWG NO. C-1
AS-BUILT PLAN (REV. 1) BIG RUN #7 DISCHARGE MINE DRAINAGE TREATMENT PROJECT CONEMAUGH TOWNSHIP INDIANA COUNTY, PA PREPARED FOR: BLACKLEGGS CREEK WATERSHED ASSOCIATION		
1504076	SCALE: 1" = 60'	