

Evaluation of the H&B 6000 Batch plant

Motion Engineering was pleased to evaluate the City Of Minneapolis Asphalt Plant. The Scope of the evaluation was to first to evaluate plant to determine the repairs needed for start-up operation for one paving season. Secondly to evaluate plant to determine repairs and or upgrades required for the plant to be used in the ensuring the five year plus range.

(DISCLAIMER)

Our evaluation of the plant was limited to the parts of the plant we could visually observe. The ability to actually run parts of the plant would have allowed for a much more thorough evaluation of the equipment. In addition some parts could not be observed without considerable clean up effort, which did not occur. This evaluation was done as thorough as possible but by no means is to be considered a guarantee as to identifying all possible problems.

Batch Tower:

The tower evaluation needed several arms to be repaired, and or replaced with the paddle tips need to be turned, pug-mill liners should last another 75,000.00 Ton. The AC weigh bucket should be repaired along with the hot bins which need to be patched and repaired. The hot bins would need a total of sixty man hours and \$2,000.00 in material. Routine screen maintenance should be done ie. [cloth and needed bolts and crown rubber]. The mixer gate needs vertical adjustment at the guides; it would take a total of 20 man hours or more. The Scavenge air fan is questionable as the impeller appears damaged.

Dryer Drum:

The evaluation of the dryer is in excellent condition, flight are also in good shape as well as the thickness of the dryers shell [over 0.5" where checked]. The Hauck burner the air body should be disassembled clean. The gas port valve should be disassembled , cleaned , lube and check for operation.

Baghouse:

The baghouse appears functional, all components will need to be tested. The damper and control will need to be repaired. Twenty hours on damper for bearings and motor linkage. The Baghouse

should be cleaned, hanger bearings must be replaced, new drives for augers are recommended. Check pulse valves diaphragms and repair as needed. Needs new Baghouse in future.

AC Storage:

The Liquid AC storage and heating system appears to be in good working order.

Hot Elevator:

The bucket elevator needs links removed from chain because of the stretching and buckets need to be cleaned because of hardened material. The chain & traction wheel will only make one year, strongly recommended of replacement for second season.

Drag Slat & Silos:

The Slat conveyor appears to be serviceable for one year the chain has wear but should make another 100,000 ton. The 75 H.P. drive motor must be replaced as it is burned out. The top of silos cross conveyor could not be evaluated due to frozen materials on access port. Piled from when Main Drag Motor went out.

Blending Controls:

All controls are likely to be functional with the exception of the syntron feeders. We believe syntron wiring is in poor to non functional condition between the control house and the feeders to provide marginal improvement for one season. We believe that approx. \$ 20,000.00 in electrical repair would be required at minimum.

Feeders:

The syntrons are the weakest link in the system with the greatest potential for problems and high cost in maintenance and should be the first item considered for replacement along with the baghouse.

Fred Petrie
Motion Engineering

should be cleaned, hanger bearings must be replaced, new drives for augers are recommended. Check pulse valves diaphragms and repair as needed. Needs new Baghouse in future.

AC Storage:

The Liquid AC storage and heating system appears to be in good working order.

Hot Elevator:

The bucket elevator needs links removed from chain because of the stretching and buckets need to be cleaned because of hardened material. The chain & traction wheel will only make one year, strongly recommended of replacement for second season.

Drag Slat & Silos:

The Slat conveyor appears to be serviceable for one year the chain has wear but should make another 100,000 ton. The 75 H.P. drive motor must be replaced as it is burned out. The top of silos cross conveyor could not be evaluated due to frozen materials on access port. Piled from when Main Drag Motor went out.

Blending Controls:

All controls are likely to be functional with the exception of the syntron feeders. We believe syntron wiring is in poor to non functional condition between the control house and the feeders to provide marginal improvement for one season. We believe that approx. \$ 20,000.00 in electrical repair would be required at minimum.

Feeders:

The syntrons are the weakest link in the system with the greatest potential for problems and high cost in maintenance and should be the first item considered for replacement along with the baghouse.

Fred Petrie
Motion Engineering

EQUIPMENT

ITEM

COST 2005

COST 2006

COST 2007

COST 2008

These prices are based on todays market prices only.

<u>EQUIPMENT</u>	<u>ITEM</u>	<u>COST 2005</u>	<u>COST 2006</u>	<u>COST 2007</u>	<u>COST 2008</u>
BATCH TOWER	MIXING ARMS	\$ 4,500.00			
	PADDLE TIPS	\$ 1,500.00	\$ 8,500.00		
	PUGMILL LINERS				
	AC WEIGH BUCKET REPAIRED	\$ 5,000.00			
	HOT BINS	\$ 7,100.00			
	SCREEN MAINTENANCE	\$ 3,100.00			
	MIXER GATE	\$ 2,550.00			
	SCAVENGE AIR FAN	\$ 2,800.00			
DRYER DRUM	BURNER MAINTENANCE	\$ 3,250.00			
BAGHOUSE	DAMPER SYSTEM	\$ 1,500.00		\$ 325,000.00	
	HANGER BEARINGS	\$ 750.00			
	AUGER DRIVES				
	CHECK PULSE VALVES	\$ 3,100.00			
AC STORAGE	NOTHING	\$			
HOT ELEVATOR	CHAIN MAINTENANCE	\$ 1,200.00	\$ 22,000.00		
	CHAIN & TRACTION WHEEL				
DRAG SLAT/SILO	CHAIN	\$ 2,400.00	\$ 31,000.00		
	DRIVE MOTOR				
	CONE LINER	\$ 11,000.00			
	TRANSFER	?	?		
PLANT CONTROLS	BATCHING CONTROL		\$ 32,000.00		\$ 185,000.00
	BURNER CONTROL	\$			
	FEEDER CONTROL	\$ 25,000.00			
	SILO CONTROL		\$ 14,000.00		
	MISC.				
FEEDERS	NEW FEEDER SYSTEM		\$ 175,000.00		
	REPAIR OLD SYSTEM		\$ 85,000.00		
TOTAL		\$ 63,750.00	\$ 378,500.00	\$ 325,000.00	\$ 185,000.00