Checklist for Parking Lots

To achieve the longest life, lowest maintenance costs, and best performance from an asphalt parking lot, the entire construction process should be monitored for quality in both materials and workmanship. The following checklist is designed to help the onsite inspector/ or owners representative identify key aspects of the process and understand the "Best Practices" known to produce a quality pavement project. The process should start with a detailed review of the project's contract and plans and specifications. Any questions arising from this review should be directed to the design firm's engineers.

Subsoil and Base Layers

A parking lot is only as good as the preparation of the sub-base and base materials. Extra effort spent making sure the pavement base is correct will ensure a longer life for the parking lot. Problems that develop in the base will show up in the final pavement product. Soft areas in the base that are not adequately corrected will be the first areas to fail. Minor depressed areas will result in water puddles, which can be a safety concern especially at entrance areas and walk ways. Improper grading of the base layer can redirect water to the wrong areas and interfere will full usage of the parking lot. Remember before you dig any area you must call "811 Dial before you Dig" to have a service located your utilities.

Ask Yourself –

- ✓ Does the parking lot appear to be graded properly?
- ✓ Is the base layer smooth to 1/2-inch change over a 10' length?
- ✓ Does it appear that the design will allow water to flow to catch basins and curbs?
- ✓ Are all utility structures set at the proper grade to accept the total number of inches of asphalt?
- ✓ Are all structures (catch basins, inlets, etc.) cleaned and protected?
- ✓ Is the site cleaned of debris and vegetation?
- ✓ Are all ramps and walks designed to meet the American's with Disabilities Standards if required?
- ✓ Has the base been checked for adequate compaction with no visible water or movement?
- ✓ Is the base layer/subsoil firm and unyielding under the pressure of repeated construction trucks?
- ✓ If the soil is saturated or displaced under loaded trucks the job should be postponed until the site can be proof rolled and stability obtained.

Asphalt Delivery

Before the asphalt mixture is delivered to the project the inspector must review several items to ensure the site is ready for construction and asphalt paving to begin. The most important element is safety.

Heavy construction is dangerous and steps should be taken to keep workers and the public safe at all times.

Ask Yourself –

- ✓ Has a pre-paving meeting been held with the Paving Foreman to inspect the subbase?
- ✓ Have you checked the site for possible safety issues?
- ✓ Are the entrance/crossing points protected against damage?
- ✓ Has vehicle movement in and around the site been planned?
- ✓ Are overhead wires or obstructions clearly identified or marked?
- ✓ Have all utilities been located and marked?
- ✓ Are any and all obstructions on the site been marked and accounted for?
- ✓ Have all underground objects been identified and marked?
- ✓ Can pedestrians navigate the site safely?
- ✓ Can all construction vehicles enter and exit the site safely?
- ✓ Are construction warning signs in place and easily seen on the site?
- ✓ Are cones and barriers being used to clearly mark the work zone?

Ask Yourself –

- ✓ Is the sub-base clean and ready to be paved?
- ✓ If a milled surface – is the milling pattern uniform?
- ✓ Is the depth of the milling correct for the depth of asphalt to be installed?
- ✓ Are all structures/utilities adjusted to the proper grade?
- ✓ Are there any areas that need to be patched or repaired prior to paving?
- ✓ Has the milled surface been swept or vacuumed?

Asphalt Mixture

Prior to starting this project, the design engineers determined the depth of each pavement layer and the type of asphalt mixes to be used. Your responsibility is to verify that the correct specified mixtures are coming to the site. You can check and collect the truck delivery tickets to verify and document asphalt type and tonnage arriving on the project.

Ask Yourself –

- ✓ Is this the correct mix type for the project?
- ✓ Is the mix type specified being installed at the minimum lift thickness?
- ✓ Does the truck delivery ticket match the approved mix design?
- ✓ How many tons are estimated to pave the project?
- ✓ Does the paving foreman know how many tons he expects to use?
- ✓ How many dump trucks are scheduled to deliver the mix from the plant and how many tons are in each round?
    - Are there enough trucks on the run to haul the mix needed to complete the job?
    - If you have 5 trucks on the round each carrying 25 tons = 125 tons to the round.
    - If the round takes 1 hour to make – then the production rate is 125 tons per hour.

- If the job requires 1000 tons / 125 tons per hour = 8 hours to get the mix to the job.

- ✓ Are the trucks bodies cleaned of debris and are they tarped when they arrive on site?
- ✓ Is an approved release agent being used – **DIESEL FUEL is not allowed!**
- ✓ Is the temperature of the arriving mix at the site within the project guidelines?

Asphalt Paving

Prior to the start of paving, the foreman and crew should "paint out" the boundaries of the project and mark the paving lanes to identify the sequence the paving will take place on the subbase or milled surface. Once the paving has started the inspector must monitor many items including: mix temperature, thickness, smoothness, segregation of material and joint construction. These are done through observation and utilize of a straight edge and a thermometer.

Ask Yourself – Site Preparation

- ✓ If overlaying a base material was a "prime coat" required and was it installed per the projects specifications.
- ✓ If overlaying an existing or milled surface, has the surface been cleaned and given a full "tack coat"?
  - What is the specified coverage rate for the prime/tack coat?
  - Is the application uniform?
  - Has the material been given enough time to "Break" – (evaporate the excess water).

Ask Yourself – Paving Operation

- ✓ Is the equipment properly maintained and in proper working order?
- ✓ Does the foreman have a paving plan?
  - Are the paving lanes and passes painted out?
  - Has a roller pattern been established?
- ✓ What is the specified compacted thickness in inches? How thick is the crew laying the mixture prior to compaction?
- ✓ Is the mix temperature within the guidelines as recorded in the paver hopper?
- ✓ Is the finished mat smooth with no deviations greater than ¼ inch over 10 feet?
- ✓ Are there any signs of aggregate segregation in the mat particularly at the joints?
- ✓ Is the paving crew maintaining a continuous slope/grade between paver passes?
- ✓ Are both transverse and longitudinal joints being constructed properly?
- ✓ Are efforts being made not to broadcast mix on to the mat and remove excessive coarse aggregate, especially in handwork areas?

Compaction / Density

Compaction is the most critical part of the mix installation. Properly compacted asphalt mats provide many years of service without failure. Under compacted mats can break apart quickly and cause a parking lot to fail. The inspector needs to monitor the specified compaction density with a gauge to ensure that final target densities are achieved. Regular visual inspection of the mat during compaction is also required, look for segregation, indentations, sealed joints and under compacted areas.

Ask Yourself – During Compaction

- ✓ Is the compaction equipment being used achieving specified density?
- ✓ Has adequate time been allowed to ensure proper compaction given the current weather?
    - Check pavement temperature before compaction begins. Don't rely solely on an infrared temperature gauge. Have a probe thermometer on hand to check the internal temperature of the mat.
    - Do not let roller operator's park equipment on the fresh mat while compaction is ongoing.
- ✓ Ensure that extra compaction effort is being performed in hand work areas.
- ✓ Is a compaction testing gauge being used?
- ✓ Density targets are called out in the specification – are they being reached?

Ask Yourself – After Compaction.

- ✓ Upon visual inspection, does everything look correct?
- ✓ Are there any signs of depressions / water puddles on the mat?
- ✓ Is the final lift thickness correct after compaction?
- ✓ Are all joints properly compacted?
- ✓ Is the project neat and clean when the work is complete?
- ✓ Has the mat cooled sufficiently to support traffic?
- ✓ Keep all traffic off the finished mat for as long as possible.
- ✓ To avoid scuffing be sure the surface has cooled to a minimum of 160 degrees F.
- ✓ On hot summer days additional curing time may be needed if temperatures reach 90 degrees, as many as three days may be required.

After Completion

Ensure that the finished product is ready to accept traffic before it is opened. Retain all records from the project and take a final photograph of the site for your review.

- ✓ Do you have copies of all truck delivery tickets?
- ✓ Do you have a record of all the temperature and compaction readings you took during the project?

- ✓ Is an outside agency testing the final product for acceptance and payment?
- ✓ Do you have all the necessary temperature recordings?
- ✓ The pavement should cure for 2-3 weeks before final parking lot striping
- ✓ Schedule a walk through with the owner on the completed project to ensure satisfaction with the workmanship and finished product..