CITY OF MILPITAS
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INSPECTION CHECKLIST

ASPHALT PAVEMENT INSPECTION PROCEDURES

The following is a detailed inspection procedure to follow during placement of asphaltic concrete pavement:

	Code Requirements	Code section	Req'd
	A. SPECIFICATIONS		
	Prior to performing any inspections on the project, the inspector should thoroughly familiarize himself/herself with the plans, project specifications, submittals, traffic control plans, authorized work hours, traffic lane closure restrictions, and materials quality assurance and testing requirements of the project. On the first day of paving the Inspector and the Engineer should meet with the paving foreman before paving to review the plan and specification requirements, and to discuss details of the paving operation. ie. current weather conditions, time schedules, limits of work, conforms, quality expectations, traffic control, detours, and lane closure restrictions.		
	B. TRAFFIC CONTROL		
	Safety is considered to be of the utmost importance on a construction project. Prior to any work beginning, the traffic control plan must be fully implemented. The Inspector must review the **approved** traffic control plan, and ensure that lane closure restrictions are begin followed as defined in the specifications. Once he/she is familiar with the traffic control plan and lane closure restrictions, follow the below check list:		
	1. Drive the route that has been set up by the contractor to ensure all requirements have been met including but not limited to signage and traffic cone placement and lane closure restrictions.		
	2. Be sure the motorists easily understand the lane closures and/or detours by monitoring the traffic flow for a period of time.		
	3. Verify by review there is not an un-reasonable backup of traffic caused by the lane closures.		
	C. PREPARATION FOR PAVING		
1.	Asphalt overlay project:		
	a. Repair of existing surfaces by completely removing the cracked surface to a depth and limits shown on the project plans. Typically, this is to a depth of at least 6-inches and the limits extend at least 6-inches beyond the limits of visible pavement cracking.		
.	b. Cold milling of the existing pavement surface adjacent to the lip of gutter and at conforms should be the next step. The limits of the conform grinding is shown on the plans and in general, is at least 15-feet long in the longitudinal direction of the street.		
	c. Pavement fabric may be placed prior to the placement of the asphalt surface as shown on the plans. The pavement fabric must be monitored for compliance wit the approved submittal; use of the proper oil at the specified temperature and spread rate, a smooth wrinkle free application, brushed to seat the fabric into the hot oil. *As of this date, the City is not recyclable.*		
	d. Areas that do not receive fabric may be tack coated with the oil if specific, prior to paving. All vertical edges will be tack coated. If the street is tacked, keep traffic off until oil breaks. Try to keep "tracking" oil, by the contractor, to a minimum.		
	e. The pavement overlay of the surface may commence.		
	f. Testing and inspection of the asphalt at the plant and/or grade sampling must be set up with the City's Testing and Inspection Company.		

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2.	Full depth deeplift street reconstruction:		
	a. Check during removal of the existing asphalt surface to ensure the thickness agrees with the thickness shown on the drawings.		
	b. If a grinder is used for removal of the existing surface, check to be sure the ends of the dig outs are cut square, in the top 2", after the grinding operation is completed. This is to ensure that the repair does not slip out due to large vehicle loading.		
	c. A licensed surveyor must place grade stakes and check alignment. All grade stakes must be checked by the inspector to determine that none have been disturbed and that the offset is sufficient to preserve the stakes during the contractor's operation. If the sub-grade is unstable or pumping, there are usually two options: • Excavate an additional 6" and "plug" with AC or • After the grinding operation is completed If base has a water problem geotextile and the 6" AC plug should "bridge" the unstable material. In any event the Engineer should be consulted to provide direction.		
.	d. While the sub-grade is being compacted, compaction tests are to be performed to ensure that the sub-grade meets the specification requirements.		
	e. Check the delivery tags to be sure the proper oil is being used for the prime coat.		
	f. The surface is now ready to accept the asphalt deep lift paving.		
	g. The Inspector is to retain all asphalt delivery tags. This assists in contractor payment on CIP work.		
3.	Slurry Seal:		
	a. Repair existing failed surfaces by completely removing the cracked surface to a depth and limits shown on the project plans. Typically, this is to a depth of at least 6 inches and the limits extend at least 6-inches beyond the limits of visible pavement cracking.		
	b. One week prior to crack sealing, spray cracks with wee spray.		
	c. All cracks greater than ¼", as specified in the project specifications are to be routed, cleaned. The routing of cracks is by a mechanical method. All cracks (routed cracks and smaller cracks) are blown out, with high pressure air and sealed.		
	d. Upon completion of the pavement repairs, the entire street surface is to be cleaned in preparation for crack sealing operations.		
	e. Cover all manholes, valves & other street utility covers with plastic prior to slurry being applied.		
	D. PAVING OPERATION		
1.	Delivery of the Asphaltic Concrete:		
	a. Check and retain a copy of the delivery tag to ensure the mix delivered meets the approved submittal requirements.		
	b. Determine if the asphalt has been mixed properly, by visually looking at the mix in the truck, if the largest aggregate is fully covered it is a good mix. Look for an reject the load if the following problems are observed: • Blue smoke from overheating (check temp. with thermometer) • Stiff appearance (check temp. with thermometer) • Segregation 9not enough oil or agg not mixed correctly) • Contamination (organic material, etc.) • Bleeding (too oily)		
	c. Check the mix temperature upon arrival to the job site, temperatures should not vary more than 25 degrees from the specific temperature required in the specifications. Minimum Temperatures required are 250 degrees F.		

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	d. Loads shall be tarped on trucks to maintain the specific temperature (especially in cold weather).		
	e. The asphalt must be placed and initially compacted before it cools to 200 degrees.		
	f. The breakdown roller should be right behind the paving machine. Finish rolling should be complete before the pavement temp. reaches 150 degrees.		
	g. Air temp. should be at least 40°F for base lift and 50°F for surface lift. Open graded AC should only be placed when the air temp is 70°F.		
2.	Tack Coat		
	a. Check the delivery tag to be sure the proper oil is being used.		
	b. Be sure a uniform application of about 0.05 to 0.15 gal/sy or as specified in the project specifications is being applied.		
	c. Inspect the spray bar for proper height and nozzle angle.		
	d. Time must be required for this to happen will depend on the weather. Usually a few minutes.		
	e. Once the tackcoat or prime coat is completed the asphalt surface can be placed.		
3.	Placement of the Asphaltic Concrete:		
	a. Check the condition and flatness of the screed prior to paving.		
	b. Once the paving begins, check the matt thickness for conformance with the plans, continue to spot check during the course of the day. Remember, on CIP projects, the City pays for asphalt by volume. On Private projects the material is paid for by the developer. It is more important to assure the matt thickness on CIP projects.		
	c. Check the temperature of the asphalt once it is on the surface. Windy conditions will greatly affect the cooling of the mat, especially if the mat is thin.		
	d. Watch the paver speed, typically a uniform walking speed, without continuous stopping. If there are shiny strips in middle or side of the paver pass the screed needs to be adjusted.		
	e. Rolling must start immediately after placement of the mat. The first pass should ride on the edge of the previous mat, pinching the edge of the fresh mat. There should be a minimum of two rollers, unless otherwise specified, one vibratory roller for breakdown and one static roller for finishing.		
	f. Check the roller speed, usually not to exceed 3 mph.		
	g. Compaction testing of the asphalt surface, by the City's Testing and Inspection company, should be done per Cal Trans or as otherwise required by the project specifications.		
	h. Viewing of the compaction operations in the field by the inspector should include: • Start and stop temperatures • Use of the vibrator on the roller • Compacted mat thickness • Weather and temperature issues		
	i. Broadcasting of mix with shovels over the mat is not allowed as this causes segregation & a rough/rocky surface.		
4.	Pavement cold Joints During Placement of Asphaltic Concrete (Joints that will not be completed for over a day)		
	a. When joints are necessary, they should be offset by a minimum of 5 feet.		
	b. Paper should be placed on the existing surface to allow for a taper, prior to placement of the asphalt. Taper should be 4' to 5' for a 2" drop.		
	c. Prior to commencement of the paving, the asphalt taper and paper must be removed and the asphalt cut square.		

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	d. Paving blocks must be used to ensure a uniform surface is achieved at the joint.		
5.	Buried Iron:		
	a. Contractor should "RP" (Reference Point) all manholes, monuments, water valves and any other utility lid, vault etc., prior to paving operations.		
	b. After paving, all "Iron" should be raised by the contractor.		
	c. The Inspector should have all the Iron counted/verified, per plan, so: • Quantities for pay letter can be verified and • Nothing is buried and lost.		
6.	Both the overlay projects and reconstruction projects will involve loosing signal loops as part of the project.		
	a. Notify Traffic Engineering (Thai) prior to an intersection being cut (the signal should be placed on recall).		
	b. Notify Traffic Engineering when the contractor is replacing the loops (when the contractor is done, the signals will be re-activated).		
	E. FINISH OPERATION		
1.	All Iron raised and accounted for.		
2.	All Intersections up and operating correctly.		
3.	Contractor's sub contractor cat tracks the newly paved roadway, per the plans. a. Call Traffic Engineering (Jaime) to check & approve the "cat tracking" prior to final striping.		