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## **1, 2 & 3 FAMILY - RESIDENTIAL** **CONCRETE PAVING GENERAL REQUIREMENTS**

### **DRIVEWAYS:**

1. All vegetation shall be removed, and areas to be paved shall be uniformly graded to provide positive drainage.
2. The subbase shall be uniform and a minimum of 4" thick of well compacted stone.
3. Reinforcement is optional. An isolation (expansion) joint shall be placed where the driveway meets the garage floor slab, the public sidewalk, and other existing pavements.
4. Prior to placement of the concrete, the subbase shall be dampened to prevent water from wicking out of the fresh concrete. Grade pins shall be provided.
5. The concrete shall be a minimum of 4" thick and have a compressive strength when cured of not less than 3000 psi. If no reinforcement is used, control joints shall be provided at a minimum 10 foot intervals and at offsets, and shall be a minimum of 1" deep. The finished slab shall have a minimum slope of 1% to the street or area drains if provided. No water shall flow on to adjoining properties, and concrete shall not be placed during inclement weather.
6. Public sidewalks, curbs, and aprons shall be in accordance with the Department of Public Works specifications.
7. The finished pavement shall display a uniform surface free of sharp changes in grade, ridges and valleys, hollows, and voids. No depressions will be permitted which will trap water to form a puddle more than ¼" deep or more than 5 feet across. A liquid curing compound or other methods (e.g.: plastic sheets, continuous sprinkling) shall be applied to cure the concrete after finishing.
8. Appropriate barricades and signs shall be erected to prevent the movement of traffic over the pavement until the forms have been removed and it has cured sufficiently.

### **GARAGE SLABS (Per Approved Plans):**

1. All vegetation shall be removed and areas to be paved shall be uniformly graded to provide positive drainage.
2. Provide a shallow foundation ("ratwall") a minimum of 12" deep and 12" wide.
3. The subbase shall be uniform, a minimum of 4" thick of well compacted stone.
4. The slab shall be reinforced with steel, either mesh or bar placed per approved plans with a minimum 1" of cover provided by chairs or similar supports during concrete placement.
5. The curb shall be a minimum 7" above grade and a minimum 4" wide. Corrosion resistant ½" diameter anchor bolts embedded a minimum of 7" shall be provided at a maximum 6' O.C. not more than 12" from corners or less than 7 bolt diameters with a minimum of two per plate.
6. An isolation (expansion) joint shall be placed where the garage floor slab meets the driveway.
7. Prior to placement of the concrete, the subbase shall be dampened to prevent water from wicking out of the fresh concrete. Grade pins shall be provided.
8. The concrete shall be a minimum of 4" thick and have a compressive strength when cured of not less than 3000 psi. The finished slab shall be sloped to the vehicle entry door or drain if provided. Concrete shall not be placed during inclement weather.
9. The finished slab shall display a uniform, smooth surface free of sharp changes in grade, ridges and valleys, hollows, and voids. No depressions will be permitted which will trap water to form a puddle more than ¼" deep or more than 5 feet across. A liquid curing compound or other methods (e.g.: plastic sheets, continuous sprinkling) shall be applied to cure the concrete after finishing.

**(Note: An on-site location shall be provided for washout purposes. See reverse for area drain requirements)**

## **AREA/DRIVEWAY & GARAGE DRAIN INSTALLATION GUIDELINES**

1. All drains installed, repaired, or replaced on private property require a dye test and a permit.

Adequate time MUST be allotted for the Public Works/Sewer Dept. to dye test and verify the connection of any storm water drain to a City of Lakewood sewer. (2 weeks minimum)

No permit will be issued for any storm water or garage drain without a dye test or proof of an approved sewer connection. This applies to area/driveway drains that need to be replaced, repaired or relocated. In non-combination sewer service areas, the area/driveway drain must be connected to the property's storm sewer lateral.

NOTE: It is recommended that the driveway drain be connected separately to the storm lateral and not connected to a less than 6" downspout piping system as the roof system is designed to handle roof water only. Driveway drains connected to a less than 6" downspout drainage system may cause basement seepage issues. The City Engineer can be consulted for assistance. The final decision rests with the property owner(s).

2. All storm drain piping must be a minimum of 4" diameter of an approved material (Typically ASTM 3034).
3. Receptors must be sized for the volume of water, rated for the vehicle load (H10 rating for garages and driveways), installed according to the manufacturer's instructions and provide a minimum 12" sump with no bottom outlet.
4. A water seal must be provided to keep debris from entering the city sewer. Typically this is achieved by installing an inverted 45 degree direction change at the immediate receptor discharge (a cleanout is required for any underground direction change greater than 45 degrees).
5. Garage drains must be trapped and connected to the sanitary sewer.
6. The height of the finished drain strainer should be at an elevation to allow for no more than a 4% grade for the area being drained (approximately 1/2" per foot).
7. Drain pipe must be bedded in compacted, clean #57 limestone or river wash and backfilled to a minimum of 12" above the top of the drain piping. Backfill to rough grade with clean fill.