

## **LEE'S SUMMIT**

## MISSOURI

## **UDO PARKING LOT PAVEMENT DESIGN PARAMETERS**

DATE: March 3, 3016

TO:

File

FROM:

George M. Binger III, P.E. | Deputy Director of Public Works/City Engineer

| Pavement<br>Type | Reliability | $Z_R$  | S <sub>0</sub> | P <sub>0</sub> | p <sub>t</sub> | M <sub>r</sub><br>(subgrade) | k <sub>mod</sub> |
|------------------|-------------|--------|----------------|----------------|----------------|------------------------------|------------------|
| AC Parking       | 85%         | -1.037 | 0.45           | 4.2            | 2.0            | 3,000                        | n/a              |
| AC Fire Lane     | 85%         | -1.037 | 0.45           | 4.2            | 2.0            | 3,000                        | n/a              |
| PCC              | 85%         | -1.037 | 0.35           | 4.2            | 2.0            | 3,000                        | 125              |

| Material   | Minimum<br>Thickness | а    | m   | <b>S</b> <sub>c</sub><br>Modulus | <b>J</b><br>Load | <b>C</b> <sub>d</sub><br>Drainage | M <sub>r</sub> (subgrade) | E <sub>c</sub>   |
|------------|----------------------|------|-----|----------------------------------|------------------|-----------------------------------|---------------------------|------------------|
|            | 109775               | 1 12 |     | of                               | transfer         |                                   |                           |                  |
|            |                      |      |     | Rupture                          |                  |                                   |                           |                  |
| Asphalt    | 1.5"                 | 0.42 | n/a | -                                | -                | -                                 | -                         | -                |
| Surface*   | and the Sept of the  |      |     |                                  |                  |                                   |                           |                  |
| Asphalt    | 4"                   | 0.36 | n/a | -                                | -                | -                                 | -                         |                  |
| Base*      |                      |      |     | 7                                |                  |                                   |                           |                  |
| Aggregate  | 6" with AC           | 0.13 | 1.0 | - 1                              | -                | - 4                               |                           |                  |
| Base       | 4" with PCC          |      |     |                                  |                  |                                   |                           |                  |
| Stabilized | 6"                   | 0.08 | 0.7 | -                                | -                | -                                 |                           | -                |
| Subgrade   |                      |      |     |                                  |                  |                                   |                           |                  |
| PCC        | 6"                   |      |     | FFO mai                          | 2.7              | 1 1 5                             | 2.000                     | 4 200 000        |
| PCC        | б                    | -    | -   | 550 psi                          | 2.7              | 1.15                              | 3,000                     | 4,200,000<br>psi |

<sup>\*</sup>Note: Minimum asphalt thicknesses assume an asphalt base course is used. If alternate pavement design opts to increase aggregate base thicknesses to eliminate asphalt base course, minimum total thickness for all asphalt shall be 3.0 inches of surface asphalt.

