2015 NUCLEAR DENSITY PROGRAM
Nuclear Program Specialist and the currently the Assistant RSO. Will be the departments RSO in May 2015 after all training is complete.

14 years of Service for the Department in NCR Wisconsin Rapids Project Development Section as a Highway Construction Project Leader.

Currently Headquartered out of the NCR Wisconsin Rapids sign shop.
Discussion Items

- CMM Chapter 8-15 was revised
- Central Office Calibration Blocks have been moved to the Wisconsin Rapids Sign Shop.
- New model of CPN Gauges will be in service for 2015.
- QMP Gauge Correlation Process
Revised this past fall and will be released for the 2015 construction season.

Department acceptance testing for mainline pavement will be based on 1500 LF sub lots which replaced the 750 ton sub lots.

Added lot layout references drawings for intersections and appurtenances.

Added moisture dry back procedures for soils and base courses.

Provided additional guidance for the QMP correlation process and for the C.O. calibration block process.
Intersection Area Calculation
Area calculation for trapezoid = \( A = \frac{(a+b)}{2} \times h \)
Area = \( \frac{(38'+30')}{2} \times 250' = 8500 \text{ ft}^2 \)

Intersection Lot Tonnage Determination
\( 8500 \text{ ft}^2 \times 2.5'' \text{ nominal inches (depth)} \times \frac{1}{110} \)
\( 9 \text{ Square Feet (Yard)} \times 2000 \text{ Pounds (Ton)} \)
Intersection Tonnage = 130 tons

Computations
Lot Tonnage 130 tons
A minimum of 3 tests are required per CMM 8-15.10.2.3 table 2

Random Test Locations
Distance from Base Line
Test #1 0.912 x 250' = 228'
Test #2 0.333 x 250' = 83'
Test #3 0.664 x 250' = 166'

Offset from Reference Line
Test #1 0.444 x 30' = 13'
Test #2 0.513 x 30' = 15'
Test #3 0.867 x 30' = 26'

<table>
<thead>
<tr>
<th>Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts Lot/ Layer Tonnage</th>
<th>Minimum Number of Tests Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 25 Tons</td>
<td>0</td>
</tr>
<tr>
<td>25 to 100 Tons</td>
<td>1</td>
</tr>
<tr>
<td>101 to 250 tons</td>
<td>3</td>
</tr>
<tr>
<td>251 to 500 tons</td>
<td>5</td>
</tr>
<tr>
<td>501 to 750 tons</td>
<td>7</td>
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</tbody>
</table>
Turn lane Area 1 Calculation
Area calculation for trapezoid = \( A = \frac{(a+b)}{2} \times h \)
Area = \( (150' + 225') \div 2 \times 12' = 2250 \text{ ft}^2 \)

Tonnage Determination
2250 ft² Area x 2.5” nominal inches (depth) x 110
9 Square Feet (Yard) x 2000 Pounds (Ton)
Intersection Tonnage = 34 tons

Computations
Lot Tonnage 34 tons
A minimum of 1 test is required per CMM 8-15.10.2.3 table 2

Random Test Locations
Location Offset
Test #1 0.777 x 225’ = 175’ 0.376 x 12’ = 5’ LT

Turn lane Area 2 Calculation
Area calculation for trapezoid = \( A = \frac{(a+b)}{2} \times h \)
Area = \( (500' + 625') \div 2 \times 12' = 6750 \text{ ft}^2 \)

Tonnage Determination
6750 ft² Area x 2.5” nominal inches (depth) x 110
9 Square Feet (Yard) x 2000 Pounds (Ton)
Intersection Tonnage = 103 tons

Computations
Lot Tonnage 103 tons
A minimum of 3 tests are required per CMM 8-15.10.2.3 table 2

Random Test Locations
Location Offset
Test #1 0.399 x 625’ = 212’ 0.221 x 12’ = 3’
Test #2 0.660 x 625’ = 413’ 0.746 x 12’ = 9’
Test #3 0.134 x 625’ = 84’ 0.555 x 12’ = 7’
**Tonnage Determination**

18ft width x 136ft x 2.5” nominal inches (depth) x 110

9 Square Feet (Yard) x 2000 Pounds (Ton)

Intersection Tonnage = 37 tons

**Computations**

Lot Tonnage 34 tons

A minimum of 1 test is required per CMM 8-15.10.2.3 table 2

**Random Test Locations**

<table>
<thead>
<tr>
<th>Location</th>
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<tbody>
<tr>
<td>Test #1</td>
<td>0.545 x 136’ = 74’</td>
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Table 2

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“Note pick your reference line and determine offset and use up station for distance of test”
Central Office Calibration Blocks

- Located in Wisconsin Rapids Sign Shop
- The blocks are by appointment only and will need to call ahead to schedule.
- Blocks can and should be used in the trouble shooting process.
The NEW MC1 Elite!
Aluminum Plate to the Back (away from source)
Use New Standard Even if it Fails?
YES
Charging The MC1 Elite

Cannot Over Charge Gauges
C = Charging
N = Needs Charging
NA = Running on Backup Batteries
Charging with the Car port should only be done in emergencies and only done for 30 minutes or less. That should be enough to get you through the day.
QMP Field Correlations

- Needs to be done prior to paving or on the first day of paving.
- QC and QV need to perform testing at the same time.
- Need to have a representative section of pavement.
- IA personal should assist in process and have Nuclear Program specialist involved if needed.
- Regional and Central Office Blocks should be used for troubleshooting.