Challenges Obtaining Quality Surface Gravel

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Meade County Highway Supt
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South Dakota Surface Gravel Specs

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<th>Requirement</th>
<th>Aggregate Base Course</th>
<th>Gravel Surfacing</th>
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<tr>
<td>Sieve</td>
<td>Percent Passing</td>
<td>Percent Passing</td>
</tr>
<tr>
<td>1&quot;</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>80-100</td>
<td>100</td>
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<tr>
<td>1/2&quot;</td>
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<tr>
<td>No. 4</td>
<td>46-70</td>
<td>50-78</td>
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<tr>
<td>No. 8</td>
<td>34-54</td>
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<tr>
<td>No. 200</td>
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<td>4-15</td>
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<td>Plasticity Index</td>
<td>0-6</td>
<td>4-12</td>
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Better when modified to 8 - 15

From South Dakota Standard Specifications. (16)
QUALITY CRUSHED GRAVEL

NOTE ALL THE FRACTURED STONE
AND ITS ABILITY TO STAY PUT
A NICE 3 TRACK ROAD WITH AMPLE CROWN AND A TIGHTLY BOUND SURFACE
POOR QUALITY GRAVEL

A GOOD SIGN OF POOR GRAVEL AND THE RESULTS
EXAMPLE OF CHECKING FLOAT

CHECKING FLOAT ON A SECTION OF UNMODIFIED GRAVEL
SURFACE GRAVEL EVALUATIONS
COMPARISON OF FLOAT

LTAP TESTED 2 ROAD SEGMENTS FOR FLOAT AND WERE AMAZED AT THE DIFFERENEC BETWEEN A SUB STANDARD AND AN UPPER LEVEL STANDARD SPEC GRAVEL:

• SUB STANDARD FLOAT SECTION HAD AN AVERAGE OF 668 TONS OF FLOAT PER MILE!!
• THE TOP GRADE STANDARD SECTION HAD ONLY AN AVERAGE OF 107 TONS PER MILE!!
COST OF GOOD GRAVEL

• AS IS THE COST OF EVERYTHING GOOD, GRAVEL IS NOT AN EXCEPTION!!!!!

• ANALIZING COST OF THE GRAVELS LIFE CYCLE IS VERY IMPORTANT

• IS SLIGHTLY MORE EXPENSIVE GRAVEL THAT REQUIRES 10 LESS BLADINGS A YEAR REALLY MORE EXPENSIVE?? NOT REALLY!!!

• GIVING THE PUBLIC A NICE ROAD FOR A REASONABLE COST IS VERY IMPORTANT
QUALITY SURFACE GRAVEL

• A VERY TIGHTLY BOUND SURFACE
• 1.87” RAIN FALL FOR NEARLY 5 MONTHS
• BLADED ONLY TWICE IN THE PAST SIX MONTHS
DEMANDS ON TODAY'S ROADS

DEMANDS ON GRAVEL ROADS HAVE INCREASED DRAMATICALLY OVER THE PAST 10 YEARS!!
NOTE THE LOOSE AGGREGATE AND THE DUSTING OUT OF THE FINES!!!
MODIFIED SURFACE GRAVEL
EXAMPLE OF GOOD GRAVEL
MODIFIED WITH FINES
A PERFECT EXAMPLE OF GRAVEL MEETING THE UPPER END OF STATE SPEC. FOR SURFACE GRAVEL AS A RESULT OF AN EXCELLENT CHOICE OF GRAVEL
CONCLUSION

• ROAD PREPARATION IS VITAL
• QUALITY GRAVEL STARTS WITH THE SOURCE
• TESTING IS OF GREAT VALUE
• STOCK PILE MANAGEMENT IS IMPORTANT
• PROPER PLACEMENT OF MATERIAL
• COMMITMENT TO CONTINUE ON A MAINTENANCE SCHEDULE!!!
• TIMELY MAINTENANCE
QUESTIONS AND COMMENTS

THANK YOU FOR YOUR ATTENDANCE