

## GENERAL NOTE:

\* \* The 6" of Compaction Type AA, shown for the center portion on the roadbed, is for the purpose of restoring the original Compaction Type AA which may have been lost since grading operations. The exact locations of this Compaction Type AA, which will be required, is to be determined by the Engineer at the time of construction.

Over all structures, unless otherwise directed by the Engineer, where the top of the subgrade is level with or above the finished shoulder grade, the earth cover over the structure slab shall be removed and backfilled with \_\_\_\_\_ material as directed by the Engineer. The removal of this material will be subsidiary. The \_\_\_\_\_ material used to backfill over the structure shall be paid for at the prices shown in the contract.

The earth shoulders shall be compacted full depth (Type B-MR 90) except, when ordered by the Engineer, the top 3" shall be left uncompacted for seeding.

All side roads and house entrances shall be surfaced with \_\_\_\_\_ to the R/W line as indicated on the detail. All side roads and house entrances with existing asphalt surface shall be surfaced with \_\_\_\_\_ at least to the R/W line or to the end of construction, as directed by the Engineer. Each mailbox turnout (ON PROJECTS WHERE STABILIZED SHOULDERS ARE NOT SPECIFIED) shall be surfaced with \_\_\_\_\_ to the limits shown on the detail.

Surfacing material (SA- \_\_\_\_\_) shall be used for surfacing house entrances and side roads (\_\_\_\_\_ C.Y./SQ.YD.) beyond the limits of the asphalt surface to the limits of construction as determined by the Engineer.

The thickness of side road and entrance surfacing may be increased to the same thickness as the stabilized shoulder within the approximate limits of the shoulder.

On projects which specify both bituminous base and surface course materials, side roads, house entrances and mailbox turnouts may be surfaced with both materials at the contractor's option, with the approval of the Engineer.

The thickness of stabilized base course AB-3 is based on a standard density of 146 PCF. When the standard density of the material is less than 146 PCF, the rate of application shown shall be used, resulting in an increased thickness corresponding to the decrease in standard density. When the standard density of material is greater than 146 PCF, the rate of application shown shall be increased in the amount to provide a stabilized base course equal to the designed thickness.

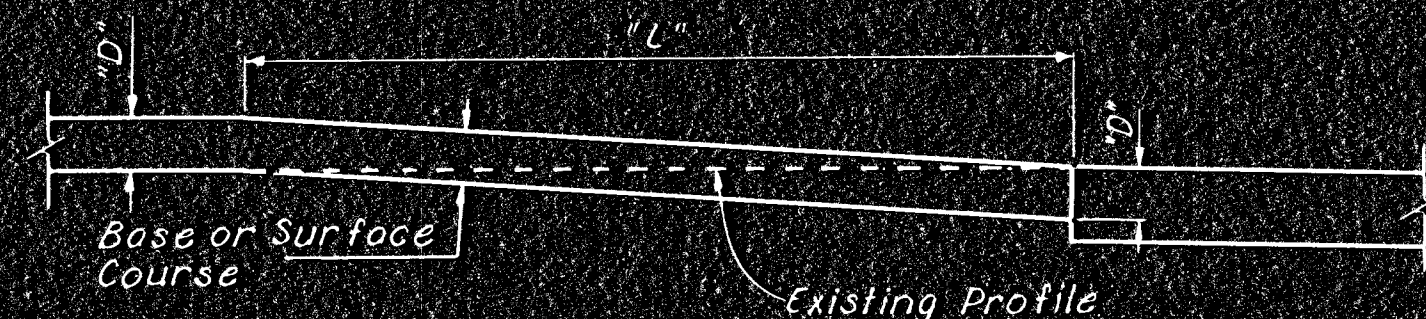
At locations where the crown grade should not be raised, such as curb and gutter sections, the base course shall be constructed to the plan thickness as shown and the "Rate of Application" shall be adjusted based on the standard density of the material being used.

Thicknesses indicated for all construction which is paid for on a weight or volume basis are approximate and may vary to correct for unevenness in the foundations or for other normal unevenness encountered in placement operations.

A tack coat of \_\_\_\_\_ shall be provided between each lift of all base courses and surface courses, and under the first lift of base or surface courses when they are placed on an existing bituminous, brick or concrete surface, when so ordered by the Engineer and at the rate designated by him. Quantities are included for these tacks calculated at the rate of 0.10 gal./sq.yd.

Bituminous Material quantities calculated on the basis of 8.328 Lbs. per gal..

See Sp. No. 250 for Subgrade Modification Quantities & Light Type Surface.



TYPICAL PROFILE AT GRADE CONTROL POINTS

The Contractor shall cut the subgrade in accordance with this profile at all grade control points, i.e.; existing pavements, grade bridges and R.R. crossings, also at changes in thickness of base or surface courses. Corresponding dimensions of "D" and "L" shall be as given in the table below.

The work of cutting the subgrade and disposing of excess excavated material shall be subsidiary to other items in the contract.

TABLE OF DIMENSIONS

| D  | L   | D  | L    | D  | L    | D  | L    | D   | L    | D   | L    |
|----|-----|----|------|----|------|----|------|-----|------|-----|------|
| 1' | 25' | 3" | 75'  | 5" | 125' | 7" | 175' | 9"  | 225' | 11" | 275' |
| 2" | 50' | 4" | 100' | 6" | 150' | 8" | 200' | 10" | 250' | 12" | 300' |

## RECAPITULATION OF QUANTITIES

| ITEM                                            | 96-87-044-1(13)  |                   |                   |                    |                    |              |               | 96-87-044-1(11)  |                   |                   |                    |              |               |                | Unit     |
|-------------------------------------------------|------------------|-------------------|-------------------|--------------------|--------------------|--------------|---------------|------------------|-------------------|-------------------|--------------------|--------------|---------------|----------------|----------|
|                                                 | (P. I) (PHASE I) | (P. II) (PHASE I) | (P. I) (PHASE II) | (P. II) (PHASE II) | (P. I) (PHASE III) | Total (P. I) | Total (P. II) | (P. I) (PHASE I) | (P. II) (PHASE I) | (P. I) (PHASE II) | (P. II) (PHASE II) | Total (P. I) | Total (P. II) | Total (P. III) |          |
| Aggregate for Bituminous Surface Course (BM-4)  | 895              |                   | 11,961            | 2,299              | 2,833              | 15,659       | 2,299         | 17,938           | 3,683             | 1,046             | 3,683              | 1,046        | 4,729         |                | Tons     |
| Asphalt Cement (AC-5)                           | 50               |                   | 673               | 127                | 159                | 833          | 127           | 1,010            | 207               | 59                | 207                | 59           | 266           |                | Tons     |
| Emulsified Asphalt (RS-1H) or (CRS-1H)          | 1                |                   | 3                 |                    |                    | 9            |               | 9                |                   |                   |                    |              |               |                | Tons     |
| Emulsified Asphalt (CS-1H)                      | 2                |                   | 20                | 5                  | 6                  | 28           | 5             | 33               | 8                 | 2                 | 8                  | 2            | 10            |                | Tons     |
| Cover Material (CM-R, D, E, K or L)             | 8                |                   | 57                |                    |                    | 64           |               | 64               |                   |                   |                    |              |               |                | Yds      |
| Water (Emulsion Dilution)                       | 1                |                   | 1                 | 1                  | 1                  | 1            | 1             | 1                | 1                 | 1                 | 1                  | 1            | 1             |                | M.Gal.   |
| Manipulation (Bituminous Seal)                  | 3.15             |                   | 23.76             |                    |                    | 31.91        |               | 31.91            |                   |                   |                    |              |               |                | Sq.      |
| Asphaltic Pavement Sampling                     | 2                |                   | 17                | 2                  | 4                  | 23           | 2             | 25               | 6                 | 2                 | 6                  | 2            | 8             |                | Each     |
| Asphaltic Concrete Curb                         |                  |                   | 182               |                    |                    | 182          |               | 182              |                   |                   |                    |              |               |                | Lin. Ft. |
| * Median Filler Material                        |                  |                   | 5,003             |                    |                    | 5,003        |               | 5,003            |                   |                   |                    |              |               |                | Cu. Yds  |
| Plant Mix Bituminous Mixture (Commercial Grade) | 2353             |                   | 123               |                    |                    | 2,976        |               | 2,976            |                   |                   |                    |              |               |                | Tons     |
| * * Compaction Type AA (MR-0)                   |                  |                   | 11,363            | 3,224              | 4,600              | 15,963       | 3,224         | 19,187           | 6,322             | 1,939             | 6,322              | 1,939        | 8,261         |                | Cu. Yds  |

## SUMMARY OF QUANTITIES

| ITEM                                            | 96-87-044-1(13)  |                   |                   |                    |                    |              |               | 96-87-044-1(11)  |                   |                   |                    |              |               |                | Unit   |
|-------------------------------------------------|------------------|-------------------|-------------------|--------------------|--------------------|--------------|---------------|------------------|-------------------|-------------------|--------------------|--------------|---------------|----------------|--------|
|                                                 | (P. I) (PHASE I) | (P. II) (PHASE I) | (P. I) (PHASE II) | (P. II) (PHASE II) | (P. I) (PHASE III) | Total (P. I) | Total (P. II) | (P. I) (PHASE I) | (P. II) (PHASE I) | (P. I) (PHASE II) | (P. II) (PHASE II) | Total (P. I) | Total (P. II) | Total (P. III) |        |
| Bituminous Surface Course                       |                  |                   |                   |                    |                    |              |               |                  |                   |                   |                    |              |               |                |        |
| Aggregate for Bituminous Surface Course (BM-4)  | 211.12           |                   | 1576.73           |                    | 1410.53            | 3198.38      |               | 3198.38          |                   |                   |                    |              |               |                | Tons   |
| Asphalt Cement (AC-5)                           | 1188             |                   | 68.74             |                    | 79.38              | 180.00       |               | 180.00           |                   |                   |                    |              |               |                | Tons   |
| Emulsified Asphalt (RS-1H) or (CRS-1H)          | 105              |                   | 185               |                    |                    | 290          |               | 290              |                   |                   |                    |              |               |                | Tons   |
| Manipulation (Bituminous Seal)                  | 315              |                   | 23.76             |                    |                    | 31.91        |               | 31.91            |                   |                   |                    |              |               |                | Sq.    |
| Cover Material (CM-R, D, E, K or L)             | 760              |                   | 56.36             |                    |                    | 64.16        |               | 64.16            |                   |                   |                    |              |               |                | Yds    |
| Water (Emulsion Dilution)                       |                  |                   |                   |                    |                    |              |               |                  |                   |                   |                    |              |               |                | M.Gal. |
| Asphaltic Concrete Curb (6')                    |                  |                   | 181.88            |                    |                    | 181.88       |               | 181.88           |                   |                   |                    |              |               |                | Each   |
| * Median Filler Material                        |                  |                   |                   |                    |                    |              |               |                  |                   |                   |                    |              |               |                | Tons   |
| Asphaltic Pavement Sampling                     |                  |                   |                   |                    | 5                  | 5            |               | 5                |                   |                   |                    | 5            |               |                | Each   |
| Plant Mix Bituminous Mixture (Commercial Grade) | 235321           |                   |                   | 12312              |                    | 2,976.33     |               | 2,976.33         |                   |                   |                    |              |               |                | Tons   |
| Stabilized Shoulders                            |                  |                   |                   |                    |                    |              |               |                  |                   |                   |                    |              |               |                |        |
| Aggregate for Bituminous Surface Course (BM-4)  | 683.65           |                   |                   |                    | 8973.55            | 2,248.78     | 2,833.26      | 12,490.46        | 2,248.78          | 14,739.24         | 3,682.50           | 10,455.88    | 3,682.50      | 10,455.88      | Tons   |
| Asphalt Cement (AC-5)                           | 3848             |                   |                   |                    | 505.03             | 126.56       | 159.46        | 702.97           | 126.56            | 829.53            | 207.25             | 58.86        | 207.25        | 58.86          | Tons   |
| Emulsified Asphalt (RS-1H) or (CRS-1H)          | 155              |                   |                   |                    | 20.27              | 5.01         | 6.42          | 28.24            | 5.01              | 33.25             | 8.34               | 2.38         | 8.34          | 2.38           | Tons   |
| Water (Emulsion Dilution)                       | 1                |                   |                   |                    | 1                  | 1            | 1             | 1                | 1                 | 1                 | 1                  | 1            | 1             | 1              | M.Gal. |
| Asphaltic Pavement Sampling                     | 2                |                   |                   |                    | 12                 | 2            | 4             | 18               | 2                 | 20                | 6                  | 2            | 8             |                | Each   |

\* to be used in the raised median on Meridian Ave.

## RATES OF APPLICATION

| RATE                      | UNIT             | ITEM                                      |                      |          |
|---------------------------|------------------|-------------------------------------------|----------------------|----------|
| Bituminous Surface Course |                  |                                           |                      |          |
| 58.20                     | Tons             | Agg. for Bituminous Surface Course (BM-4) | per sta.             | 4" Thick |
| 3.23                      | Tons             | Asphalt Cement (AC-5)                     | per sta.             |          |
| 0.30                      | Gals.            | Emulsified Asphalt (RS-1H) or (CRS-1H)    | per Yd. <sup>2</sup> |          |
| 0.009                     | Yd. <sup>3</sup> | Cover Material (CM-R, D, E, K or L)       | per Yd. <sup>2</sup> | 24" Top  |
| Stabilized Shoulders      |                  |                                           |                      |          |
| 34.74                     | Tons             | Agg. for Bituminous Surface Course (BM-4) | 10' to 12'           | 10'      |
| 1.955                     | Tons             | Asphalt Cement (AC-5)                     | 10' to 12'           | 10'      |
| 23.70                     | Tons             | Agg. for Bituminous Surface Course (BM-4) | 8' to 10'            | 8'       |
| 1.415                     | Tons             | Asphalt Cement (AC-5)                     | 8' to 10'            | 8'       |
| 22.66                     | Tons             | Agg. for Bituminous Surface Course (BM-4) | 6' to 8'             | 6'       |
| 1.275                     | Tons             | Asphalt Cement (AC-5)                     | 6' to 8'             | 6'       |
| 16.16                     | Tons             | Agg. for Bituminous Surface Course (BM-4) | 4' to 6'             | 4'       |
| 0.935                     | Tons             | Asphalt Cement (AC-5)                     | 4' to 6'             | 4'       |
| 10.57                     | Tons             | Agg. for Bituminous Surface Course (BM-4) | 2' to 4'             | 2'       |
| 0.595                     | Tons             | Asphalt Cement (AC-5)                     | 2' to 4'             | 2'       |
| 0.06                      | Gal.             | Emulsified Asphalt (RS-1H)                | per Yd. <sup>2</sup> |          |
| 0.10                      | Gal.             | Emulsified Asphalt (CS-1H)                | per Yd. <sup>2</sup> |          |

φ Quantities have been increased for contingencies 15%

φφ Quantities have been increased for contingencies 8%

φ Includes 0.58 tons for Surface Prime

φφ Includes 7.60 tons for Surface Prime

# Includes 1.88 tons for Surface Prime

φ Includes 2.41 tons for Surface Prime

φ Includes 3.13 tons for Surface Prime

φ Includes 0.89 tons for Surface Prime

† Computed at the rate of 145 lbs./cu.ft. (Total Mix - Agg. & Asph.)

†† Computed at the rate of 6.0% of Dry Weight of Agg. at 136 lbs./cu.ft.

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## KANSAS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES  
Bituminous Surfacing

| SHEET NO.  | OF | SCALE      | APP. | DESIGNED | DETAILED | QUANTITIES | TRACED |
|------------|----|------------|------|----------|----------|------------|--------|
| DESIGN CR. |    | DETAIL CR. |      | QUAN CR. |          | TRACE CR.  |        |

Calculated By F. Courtel  
Checked By G. Grant  
Reviewed By R. Patter-