

November 8, 2011

SUBJECT: FAP Route 326 (IL 47) Project ACNHF-0326 (083) Section (5CS, 13C, 108, 109)R Kendall County Contract No. 66671 Item No. 95, November 18, 2011 Letting Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

- 1. Replaced the Schedule of Prices.
- 2. Revised the Table of Contents to the Special Provisions.
- 3. Revised pages 4, 5 & 21 of the Special Provisions.
- 4. Added pages 242 257 to the Special Provisions.
- 5. Revised sheets 6 & 23 of the Plans.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Scott E. Stitt, P.E. Acting Engineer of Design and Environment

Verter abschlegen AE.

By: Ted B. Walschleger, P. E. Engineer of Project Management

cc: Eric Therkildsen, Region 2, District 3; Mike Renner; D.Carl Puzey; Estimates

TBW:MS:jc

* REVISED: NOVEMBER 07, 2011

C-93-064-05 State Job # -PPS NBR -3-02970-0100 County Name -KENDALL--Code -93 - -3 - -District -

Project Number ACNHF-0326/083/ Route

FAP 326

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| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-------------------------|--------------------|-----------|---|------------|---|-------------|
| MXK03460 | LANDSCAPE RESTORATION | SQ M | 489.000 | | | | |
| MX030063 | STORM SEW WM REQ 300 | METER | 13.000 | | | | |
| MX030199 | TEMP PAVEMENT | SQ M | 6,138.000 | | | | |
| MX030203 | TEMP PAVT REMOVAL | SQ M | 6,138.000 | | | | |
| MX032179 | SILICONE JT SEAL 25 | METER | 2.000 | | | | |
| MX032529 | SEGMENT CONC BLK WALL | SQ M | 28.700 | | | | |
| MX032821 | WATER SERV CONN 30 | EACH | 1.000 | | | | |
| MX032822 | WATER SERV CONN 50 | EACH | 2.000 | | | | |
| MX032842 | BOX CULVERT REMOV | METER | 106.000 | | | | |
| MX033775 | WATER SERV CONN 25MM | EACH | 21.000 | | | | |
| MX033830 | TRENCH DRAIN 100 | METER | 40.000 | | | | |
| MX033832 | CONCRETE COLOR ADDITIVE | СИМ | 239.000 | | | | |
| MX033834 | REM REINST BRICK PAVR | SQ M | 6.500 | | | | |
| MX356820 | TEMP HMA BC WIDE 200 | SQ M | 5,904.000 | | | | |
| MX402045 | AGG SURF CSE B 200 | SQ M | 218.000 | | | | |

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| | | | | | 0 | | |
| MX420290 | HES PCC DRWY PAVT 200 | SQ M | 185.000 | | | | |
| MX424005 | PCC SIDEWALK SPL | SQ M | 289.500 | | | | |
| MX424010 | PCC SDWLK SPL RETWALL | SQ M | 16.500 | | | | |
| MX440050 | ISLAND PAVEMENT REM | SQ M | 585.000 | | | | |
| MX440910 | TEMP WIDENING REMOVAL | SQ M | 5,904.000 | | | | |
| MX440950 | HMA SURF REM VAR DP | SQ M | 3,989.000 | | | | |
| MX481010 | TEMP AGG WEDGE | M TON | 10,795.000 | | | | |
| MX503020 | ACCESS RAMP | си м | 21.200 | | | | |
| MX509035 | DECORATIVE FENCE | METER | 130.600 | | | | |
| MX509040 | DECORATIVE HANDRAIL | METER | 40.800 | | | | |
| MX509045 | HANDRAIL | METER | 61.600 | | | | |
| MX550506 | CONNECT EX SEW <= 150 | EACH | 16.000 | | | | |
| MX550508 | CONNECT EX SEWER 200 | EACH | 9.000 | | | | |
| MX550510 | CONNECT EX SEWER 250 | EACH | 2.000 | | | | |
| MX550511 | CONNECT EX SEWER 300 | EACH | 3.000 | | | | |

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| MX550512 | | METER | 50.000 | | | | |
| MX550515 | SS ABAN 375 | METER | 81.000 | | | | |
| MX550518 | SS ABAN 450 | METER | 16.000 | | | | |
| MX550521 | SS ABAN 525 | METER | 40.000 | | | | |
| MX550536 | SS ABAN 900 | METER | 320.000 | | | | |
| MX561068 | WM CASING EXTEN 600 | METER | 18.000 | | | | |
| MX561315 | TAP VALVE SLV 300X150 | EACH | 1.000 | | | | |
| MX561320 | TAP VALVE SLV 300X200 | EACH | 1.000 | | | | |
| MX561704 | LINE STOP 100 | EACH | 3.000 | | | | |
| MX561706 | LINE STOP 150 | EACH | 5.000 | | | | |
| MX561708 | LINE STOP 200 | EACH | 5.000 | | | | |
| MX561712 | LINE STOP 300 | EACH | 4.000 | | | | |
| MX562020 | WATER SERVICE COVER | EACH | 5.000 | | | | |
| MX562140 | WATER SERV CONNECT 40 | EACH | 4.000 | | | | |
| MX563306 | SAN SEW PVC DR 18 150 | METER | 76.500 | | | | |

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| MX563308 | ากการการการการการการการการการการการการกา | METER | 142.000 | | | | |
| MX563310 | SAN SEW PVC DR 18 250 | METER | 10.500 | | | | |
| MX563408 | SAN SEW PVC DR 21 200 | METER | 98.000 | | | | |
| MX563410 | SAN SEW PVC DR 21 250 | METER | 62.000 | | | | |
| MX563412 | SAN SEW PVC DR 21 300 | METER | 45.500 | | | | |
| MX563506 | SAN SEW PVC SDR26 150 | METER | 43.500 | | | | |
| MX563508 | SAN SEW PVC SDR26 200 | METER | 298.500 | | | | |
| MX563920 | SAN SEW REPAIR 200 | METER | 9.500 | | | | |
| MX563950 | TELEVISING SAN SEWER | METER | 814.000 | | | | |
| MX602100 | MAN A 2.4 DIA SPL | EACH | 4.000 | | | | |
| MX602345 | DROP MAN A SPL | EACH | 1.000 | | | | |
| MX602490 | SANITARY MANHOLE A | EACH | 25.000 | | | | |
| MX604020 | FRAMES & LIDS SPL | EACH | 6.000 | | | | |
| MX606110 | CONC CURB TB SPL | METER | 125.100 | | | | |
| MX606320 | CONC ISLAND SPL | SQ M | 625.000 | | | | |

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|----------------|-----------------------|--------------------|------------|---|------------|---|-------------|
| MX606360 | | METER | 9.200 | | | | |
| MX637005 | CONCRETE BARRIER WALL | METER | 132.000 | | | | |
| MX700005 | STEEL SIGN SUPPRT SPL | METER | 13.000 | | | | |
| MX780605 | URETH PVT MK LTR-SYM | SQ M | 398.000 | | | | |
| MX780610 | URETH PVT MK LINE 100 | METER | 17,375.000 | | | | |
| MX780614 | URETH PVT MK LINE 150 | METER | 6,732.000 | | | | |
| MX780616 | URETH PVT MK LINE 200 | METER | 5,160.000 | | | | |
| MX780618 | URETH PVT MK LINE 300 | METER | 2,102.000 | | | | |
| MX780622 | URETH PVT MK LINE 600 | METER | 614.000 | | | | |
| MX783074 | GRV RCSD PVT MRKG 178 | METER | 2,431.000 | | | | |
| MX836021 | LT P FDN 750 DIA SPL | METER | 126.000 | | | | |
| MX836022 | LP FDN 750 D SPL MOD | METER | 6.000 | | | | |
| MX871057 | FOCC62.5/125 MM24SM24 | METER | 5,079.000 | | | | |
| MX873025 | ELCBL C RAILRD 14 3C | METER | 123.000 | | | | |
| MX873030 | ELCBL C 20 3C TW SH | METER | 5,356.000 | | | | |

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| MX877020 | STL COMB MAA&P 16.76 | EACH | 1.000 | | | | |
| MX878020 | CONC FDN TY C SPL | METER | 9.900 | | | | |
| MX878030 | CONC FDN TY E 900D | METER | 102.000 | | | | |
| MZ001050 | AGG SUBGRADE 300 | SQ M | 95,048.000 | | | | |
| MZ001080 | AGG SUBGRADE 600 | SQ M | 54,432.000 | | | | |
| MZ007430 | TEMP SIDEWALK | SQ M | 400.000 | | | | |
| MZ016001 | DECK SLAB REP (FD-T1) | SQ M | 22.000 | | | | |
| MZ016002 | DECK SLAB REP (FD-T2) | SQ M | 37.000 | | | | |
| MZ023500 | FILL EXIST CULVERTS | СИМ | 31.400 | | | | |
| MZ067000 | STEEL CASINGS 150 | METER | 66.000 | | | | |
| MZ067700 | STEEL CASINGS 500 | METER | 402.000 | | | | |
| MZ067800 | STEEL CASINGS 550 | METER | 39.000 | | | | |
| MZ067900 | STEEL CASINGS 600 | METER | 81.000 | | | | |
| MZ068200 | STEEL CASINGS 750 | METER | 29.000 | | | | |
| MZ068450 | STEEL CASINGS 1650 | METER | 56.000 | | | | |

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|----------------|----------------------|--------------------|------------|---|------------|---|-------------|
| MZ075498 | CONC RETAIN WALL REM | METER | 161.000 | | | | |
| M2010110 | TREE REMOV 6-15 | UNIT | 1,346.000 | | | | |
| M2010210 | TREE REMOV OVER 15 | UNIT | 1,548.000 | | | | |
| M2011000 | TEMPORARY FENCE | METER | 24.000 | | | | |
| M2011400 | NITROGEN FERT NUTR | KG | 1.000 | | | | |
| M2011500 | PHOSPHORUS FERT NUTR | KG | 1.000 | | | | |
| M2011600 | POTASSIUM FERT NUTR | KG | 1.000 | | | | |
| M2020010 | EARTH EXCAVATION | СИМ | 86,200.000 | | | | |
| M2020020 | ROCK EXCAVATION | СИМ | 404.000 | | | | |
| M2020050 | EARTH EXC WID | СИМ | 1,181.000 | | | | |
| M2080150 | TRENCH BACKFILL | СИМ | 24,153.000 | | | | |
| M2090110 | POROUS GRAN BACKFILL | СИМ | 8.000 | | | | |
| M2113100 | TOPSOIL F & P 100 | SQ M | 65,969.000 | | | | |
| M2113600 | TOPSOIL F & P 600 | SQ M | 1,163.000 | | | | |
| M2130201 | EXPLOR TRENCH 2.1 | METER | 67.000 | | | | |

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|----------------|-----------------------|--------------------|------------|---|------------|---|-------------|
| M2500100 | | НА | 6.000 | | | | |
| M2500210 | SEEDING CL 2A | НА | 0.500 | | | | |
| M2500400 | NITROGEN FERT NUTR | KG | 648.000 | | | | |
| M2500500 | PHOSPHORUS FERT NUTR | KG | 648.000 | | | | |
| M2500600 | POTASSIUM FERT NUTR | KG | 648.000 | | | | |
| M2510630 | EROSION CONTR BLANKET | SQ M | 64,806.000 | | | | |
| M2800250 | TEMP EROS CONTR SEED | KG | 713.000 | | | | |
| M2800305 | TEMP DITCH CHECKS | METER | 273.000 | | | | |
| M2800400 | PERIMETER EROS BAR | METER | 5,725.000 | | | | |
| M2800800 | MULCH METHOD 2 | НА | 6.500 | | | | |
| M2810109 | STONE RIPRAP CL A5 | SQ M | 219.000 | | | | |
| M2820200 | FILTER FABRIC | SQ M | 219.000 | | | | |
| M3112010 | SUB GRAN MAT C | M TON | 459.000 | | | | |
| M3510100 | AGG BASE CSE A 100 | SQ M | 9,158.000 | | | | |
| M3510200 | AGG BASE CSE A 200 | SQ M | 2,266.000 | | | | |

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| M3511150 | AGG BASE CSE B 150 | SQ M | 11,521.000 | | | | |
| M3540200 | PCC BASE CSE W 200 | SQ M | 94.000 | | | | |
| M3550415 | HMA BASE CSE 115 | SQ M | 2,038.000 | | | | |
| M3560570 | HMA BC WID 270 | SQ M | 783.000 | | | | |
| M4021200 | AGGREGATE-TEMP ACCESS | M TON | 4,161.000 | | | | |
| M4060100 | BIT MATLS PR CT | LITER | 10,812.000 | | | | |
| M4060300 | AGG PR CT | M TON | 19.000 | | | | |
| M4060982 | | SQ M | 146.000 | | | | |
| M4060990 | TEMPORARY RAMP | SQ M | 976.000 | | | | |
| M4062325 | | M TON | 298.000 | | | | |
| M4063305 | HMA SC "C" N30 | M TON | 1,610.000 | | | | |
| M4063345 | | M TON | 449.000 | | | | |
| M4063370 | | M TON | 250.000 | | | | |
| M4080100 | | LITER | 3,956.000 | | | | |
| | AGG PR CT | M TON | 4.200 | | | | |

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|----------------|-----------------------|--------------------|-------------|---|------------|---|-------------|
| M4080500 | INCIDENTAL HMA SURF | M TON | 610.000 | | | | |
| M4202255 | PCC PVT 250 JOINTED | SQ M | 129,099.000 | | | | |
| M4205100 | PAVEMENT FABRIC | SQ M | 1,181.000 | | | | |
| M4230150 | PCC DRIVEWAY PAVT 150 | SQ M | 2,125.000 | | | | |
| M4230200 | PCC DRIVEWAY PAVT 200 | SQ M | 5,474.000 | | | | |
| M4240100 | PC CONC SIDEWALK 100 | SQ M | 9,361.000 | | | | |
| M4248000 | DETECTABLE WARNINGS | SQ M | 299.700 | | | | |
| M4400738 | | SQ M | 614.000 | | | | |
| M4402000 | | SQ M | 102,652.000 | | | | |
| M4402010 | | SQ M | 14,505.000 | | | | |
| M4402020 | | METER | 655.000 | | | | |
| M4402020 | | METER | 18.000 | | | | |
| | | METER | | | | | |
| M4402040 | | | 5,920.000 | | | | |
| M4402050 | | SQ M | 4,529.000 | | | | |
| M4402420 | MEDIAN REMOVAL | SQ M | 1,290.000 | | | | |

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| M4405000 | PAVED DITCH REMOVAL | METER | 207.000 | | | | |
| M4422200 | PAVT PATCH T2 200 | SQ M | 29.000 | | | | |
| M4423200 | PAVT PATCH T3 200 | SQ M | 21.000 | | | | |
| M4424200 | PAVT PATCH T4 200 | SQ M | 203.000 | | | | |
| M4427415 | CL C PATCH T4 200 | SQ M | 66.000 | | | | |
| M4428404 | CL D PATCH T4 100 | SQ M | 89.000 | | | | |
| M4428410 | CL D PATCH T4 150 | SQ M | 394.000 | | | | |
| M4428440 | CL D PATCH T4 300 | SQ M | 94.000 | | | | |
| M4430020 | STRIP REF CR CON TR | METER | 413.000 | | | | |
| M4812150 | AGGREGATE SHLDS B 150 | SQ M | 126.000 | | | | |
| M4820600 | HMA SHOULDERS 200 | SQ M | 138.000 | | | | |
| M4820650 | HMA SHOULDERS 250 | SQ M | 439.000 | | | | |
| M5010240 | | си м | 11.000 | | | | |
| M5010522 | PIPE CULVERT REMOV | METER | 883.000 | | | | |
| M5020400 | ROCK EXC STRUCT | си м | 4.000 | | | | |

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| M5030290 | FORM LINER TEX SURF | SQ M | 3.400 | | | | |
| M5030360 | CONC SUP-STR | СИ М | 11.100 | | | | |
| M5080205 | REINF BARS, EPOXY CTD | KG | 970.000 | | | | |
| M5090540 | PIPE HANDRAIL | METER | 54.200 | | | | |
| M5200225 | PREF JT STRIP SEAL | METER | 45.000 | | | | |
| M542A100 | GRAT-C FL END S 375 | EACH | 2.000 | | | | |
| M542A110 | GRAT-C FL END S 450 | EACH | 2.000 | | | | |
| M542C656 | RCP TEE 1350P 900R | EACH | 1.000 | | | | |
| M542E112 | PRC FL-END SEC 300 | EACH | 9.000 | | | | |
| M542E116 | PRC FL-END SEC 375 | EACH | 2.000 | | | | |
| M542E120 | PRC FL-END SEC 450 | EACH | 6.000 | | | | |
| M542F252 | CIP RC END SEC 1200 | EACH | 2.000 | | | | |
| M542H025 | P CUL CL A 1 375 | METER | 20.500 | | | | |
| M542H030 | P CUL CL A 1 450 | METER | 9.500 | | | | |
| M5500215 | STORM SEW CL B 1 150 | METER | 6.000 | | | | |

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| M5500300 | | METER | 80.000 | | | | |
| M5505530 | SS RG CL A 1 300 | METER | 2,734.000 | | | | |
| M5505550 | SS RG CL A 1 450 | METER | 442.000 | | | | |
| M5505570 | SS RG CL A 1 600 | METER | 142.500 | | | | |
| M5505590 | SS RG CL A 1 750 | METER | 190.500 | | | | |
| M5505610 | SS RG CL A 1 900 | METER | 59.000 | | | | |
| M5505620 | SS RG CL A 1 1050 | METER | 137.000 | | | | |
| M5505630 | SS RG CL A 1 1200 | METER | 68.000 | | | | |
| M5505640 | SS RG CL A 1 1350 | METER | 243.000 | | | | |
| M5505930 | SS RG CL A 2 300 | METER | 1,255.000 | | | | |
| M5505950 | SS RG CL A 2 450 | METER | 830.000 | | | | |
| M5505970 | SS RG CL A 2 600 | METER | 634.000 | | | | |
| M5505990 | SS RG CL A 2 750 | METER | 514.500 | | | | |
| M5506010 | SS RG CL A 2 900 | METER | 858.500 | | | | |
| M5506020 | SS RG CL A 2 1050 | METER | 965.500 | | | | |

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| M5506030 | | METER | 810.000 | | | | |
| M5506040 | | METER | 185.000 | | | | |
| | | | | | | | |
| M5506050 | SS RG CL A 2 1500 | METER | 426.500 | | | | |
| M5506060 | SS RG CL A 2 1650 | METER | 193.000 | | | | |
| M5506330 | SS RG CL A 3 300 | METER | 15.000 | | | | |
| M5506420 | SS RG CL A 3 1050 | METER | 54.500 | | | | |
| M5506430 | SS RG CL A 3 1200 | METER | 424.500 | | | | |
| M5510005 | STORM SEWER REM 100 | METER | 7.000 | | | | |
| M5510010 | STORM SEWER REM 150 | METER | 20.000 | | | | |
| M5510015 | STORM SEWER REM 200 | METER | 54.000 | | | | |
| M5510020 | STORM SEWER REM 250 | METER | 79.000 | | | | |
| M5510025 | STORM SEWER REM 300 | METER | 1,143.000 | | | | |
| M5510035 | STORM SEWER REM 375 | METER | 659.000 | | | | |
| M5510045 | STORM SEWER REM 450 | METER | 406.000 | | | | |
| M5510060 | STORM SEWER REM 600 | METER | 154.000 | | | | |

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C-93-064-05 State Job # -PPS NBR -3-02970-0100 County Name -KENDALL--Code -93 - -District -3 - -

Project Number ACNHF-0326/083/ Route

FAP 326

Section Number - (5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|----------------------|--------------------|-----------|---|------------|---|-------------|
| M5510070 | STORM SEWER REM 750 | METER | 334.000 | | | | |
| M5510080 | STORM SEWER REM 900 | METER | 463.000 | | | | |
| M5510100 | STORM SEWER REM 1350 | METER | 6.000 | | | | |
| M5610415 | D I WATER MAIN 150 | METER | 3.000 | | | | |
| M5610420 | DIWATER MAIN 200 | METER | 1,654.500 | | | | |
| M5610430 | DIWATER MAIN 300 | METER | 527.000 | | | | |
| M5610635 | WATER VALVES 150 | EACH | 2.000 | | | | |
| M5610640 | WATER VALVES 200 | EACH | 21.000 | | | | |
| M5610650 | WATER VALVES 300 | EACH | 5.000 | | | | |
| M5611205 | TAP VALVE & SLVE 100 | EACH | 5.000 | | | | |
| M5611210 | TAP VALVE & SLVE 150 | EACH | 4.000 | | | | |
| M5611215 | TAP VALVE & SLVE 200 | EACH | 5.000 | | | | |
| M5611225 | TAP VALVE & SLVE 300 | EACH | 3.000 | | | | |
| M5620115 | WATER SERV LINE 25 | METER | 259.000 | | | | |
| M5620120 | WATER SERV LINE 30 | METER | 9.500 | | | | |

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Project Number ACNHF-0326/083/ Route

FAP 326

Section Number -(5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | х | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| | r ay item Description | Measure | Quantity | ^ | Unit Price | - | Totarrrice |
| M5620130 | WATER SERV LINE 40 | METER | 70.000 | | | | |
| M5620135 | WATER SERV LINE 50 | METER | 34.000 | | | | |
| M6010105 | PIPE DRAINS 100 | METER | 17.500 | | | | |
| M6010110 | PIPE DRAINS 150 | METER | 6.500 | | | | |
| M6010115 | PIPE DRAINS 200 | METER | 87.500 | | | | |
| M6010605 | PIPE UNDERDRAINS 100 | METER | 753.500 | | | | |
| M6010705 | PIPE UNDERDRN 100 SP | METER | 134.500 | | | | |
| M6020417 | CB A 1.5M D T3V F&G | EACH | 1.000 | | | | |
| M6020651 | CB A 1.8M D T5F CL | EACH | 2.000 | | | | |
| M6020701 | CB A 2.1M D T1F CL | EACH | 1.000 | | | | |
| M6021410 | MAN A 1.2D T1F CL | EACH | 47.000 | | | | |
| M6021417 | MAN A 1.2D T3VF&G | EACH | 32.000 | | | | |
| M6021430 | MAN A 1.2D T5F CL | EACH | 12.000 | | | | |
| M6021440 | MAN A 1.2D T8G | EACH | 16.000 | | | | |
| M6021457 | MAN A 1.2D T11V F&G | EACH | 5.000 | | | | |

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Project Number ACNHF-0326/083/ Route

FAP 326

Section Number - (5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| M6021470 | MAN A 1.2D T20F&G | EACH | 2.000 | | | | |
| M6021610 | MAN A 1.5D T1F CL | EACH | 29.000 | | | | |
| M6021617 | MAN A 1.5D T3VF&G | EACH | 10.000 | | | | |
| M6021630 | MAN A 1.5D T5F CL | EACH | 5.000 | | | | |
| M6021640 | MAN A 1.5D T8G | EACH | 11.000 | | | | |
| M6021657 | MAN A 1.5M D T11V F&G | EACH | 2.000 | | | | |
| M6021810 | MAN A 1.8D T1F CL | EACH | 31.000 | | | | |
| M6021830 | MAN A 1.8D T5F CL | EACH | 5.000 | | | | |
| M6021840 | MAN A 1.8D T8G | EACH | 5.000 | | | | |
| M6022010 | MAN A 2.1D T1F CL | EACH | 25.000 | | | | |
| M6022075 | MAN A 2.1 DIA T3V F&G | EACH | 1.000 | | | | |
| M6022090 | MAN A 2.4D T1F CL | EACH | 5.000 | | | | |
| M6022111 | MAN A 2.4 D T11V F&G | EACH | 1.000 | | | | |
| M6022152 | MAN A 2.4 DIA T5F CL | EACH | 9.000 | | | | |
| M6022188 | MAN A 2.4 DIA T8 GR | EACH | 4.000 | | | | |

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County Name KENDALL-

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Project Number ACNHF-0326/083/ Route

FAP 326

Section Number - (5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|------------|---|------------|---|-------------|
| M6022352 | | EACH | 1.000 | | | | |
| M6022388 | MAN A 2.7 DIA T8 GR | EACH | 3.000 | | | | |
| M6024310 | VV TA 1.2MD T1F CL | EACH | 21.000 | | | | |
| M6024410 | VV TA 1.5MD T1F CL | EACH | 18.000 | | | | |
| M6060070 | CONC CURB TB | METER | 24.500 | | | | |
| M6060500 | COMB CC&G TB15.30 | METER | 19.200 | | | | |
| M6060505 | COMB CC&G TB15.30 AEP | METER | 31.500 | | | | |
| M6060510 | COMB CC&G TB15.30 DOW | METER | 2,566.600 | | | | |
| M6060610 | COMB CC&G TB15.45 DOW | METER | 53.000 | | | | |
| M6060700 | COMB CC&G TB15.60 | METER | 87.900 | | | | |
| M6060705 | COMB CC&G TB15.60 AEP | METER | 20.600 | | | | |
| M6060710 | COMB CC&G TB15.60 DOW | METER | 11,311.100 | | | | |
| M6061940 | COMB CC&G TM10.30 DOW | METER | 21.900 | | | | |
| M6063700 | CONC MED TM-5 | SQ M | 632.000 | | | | |
| M6064110 | CONC MED TSB15.30 DOW | SQ M | 354.000 | | | | |

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Section Number - (5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|-------------|---|------------|---|-------------|
| M6064210 | CONC MED TSB15.60 DOW | SQ M | 995.000 | | | | |
| M6066010 | CORRUGATED MED DOW | SQ M | 168.000 | | | | |
| M6690200 | NON SPL WASTE DISPOSL | СИМ | 1,573.000 | | | | |
| M7030510 | PAVT MARK TAPE T3 L&S | SQ M | 422.000 | | | | |
| M7030520 | PAVT MARK TAPE T3 100 | METER | 103,564.000 | | | | |
| M7030540 | PAVT MARK TAPE T3 150 | METER | 1,988.000 | | | | |
| M7030550 | PAVT MARK TAPE T3 200 | METER | 5,878.000 | | | | |
| M7030560 | PAVT MARK TAPE T3 300 | METER | 1,234.000 | | | | |
| M7030580 | PAVT MARK TAPE T3 600 | METER | 1,133.000 | | | | |
| M7031000 | WORK ZONE PAVT MK REM | SQ M | 13,811.000 | | | | |
| M7040100 | TEMP CONC BARRIER | METER | 666.000 | | | | |
| M7040200 | REL TEMP CONC BARRIER | METER | 446.000 | | | | |
| M7200100 | SIGN PANEL T1 | SQ M | 140.820 | | | | |
| M7200200 | SIGN PANEL T2 | SQ M | 70.720 | | | | |
| M7280100 | TELES STL SIN SUPPORT | METER | 64.300 | | | | |

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Section Number - (5CS,13C,108,109)R

| ltem Number | Day Itam Departmention | Unit of Measure | Quantity | v | Unit Price | | Total Price |
|----------------|------------------------|--------------------|------------|---|------------|---|-------------|
| Number | Pay Item Description | weasure | Quantity | X | Unit Price | = | |
| M7300100 | WOOD SIN SUPPORT | METER | 845.200 | | | | |
| M8100230 | CON T 25 PVC | METER | 1,464.000 | | | | |
| M8100240 | CON T 30 PVC | METER | 109.000 | | | | |
| M8100260 | CON T 50 PVC | METER | 4,834.000 | | | | |
| M8100270 | CON T 65 PVC | METER | 15.000 | | | | |
| M8100280 | CON T 75 PVC | METER | 75.000 | | | | |
| M8100300 | CON T 100 PVC | METER | 454.000 | | | | |
| M8100540 | CON T 50 CNC | METER | 2,541.000 | | | | |
| M8101020 | CON P 25 GALVS | METER | 25.000 | | | | |
| M8101050 | CON P 50 GALVS | METER | 925.000 | | | | |
| M8101070 | CON P 75 GALVS | METER | 57.000 | | | | |
| M8101090 | CON P 100 GALVS | METER | 774.000 | | | | |
| M8101850 | CON B&P CNC 50 | METER | 111.000 | | | | |
| M8170020 | EC C XLP USE 1C 10 | METER | 5,578.000 | | | | |
| M8170040 | EC C XLP USE 1C 6 | METER | 13,811.000 | | | | |

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| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|----------------------|--------------------|------------|---|------------|---|-------------|
| M8190200 | | METER | 9,235.000 | | | | |
| M8730925 | ELCBL C TRACER 14 1C | METER | 5,079.000 | | | | |
| M8731210 | ELCBL C SIGNAL 14 2C | METER | 4,136.000 | | | | |
| M8731220 | ELCBL C SIGNAL 14 3C | METER | 3,691.000 | | | | |
| M8731240 | ELCBL C SIGNAL 14 5C | METER | 7,146.000 | | | | |
| M8731250 | ELCBL C SIGNAL 14 7C | METER | 4,148.000 | | | | |
| M8731300 | ELCBL C LEAD 14 1PR | METER | 17,710.000 | | | | |
| M8731800 | ELCBL C SERV 6 2C | METER | 141.000 | | | | |
| M8750510 | TS POST GALVS 4.85 | EACH | 26.000 | | | | |
| M8770725 | STL COMB MAA&P 7.31 | EACH | 2.000 | | | | |
| M8770755 | STL COMB MAA&P 10.97 | EACH | 1.000 | | | | |
| M8770760 | STL COMB MAA&P 11.58 | EACH | 3.000 | | | | |
| M8770765 | STL COMB MAA&P 12.19 | EACH | 1.000 | | | | |
| M8770770 | STL COMB MAA&P 12.80 | EACH | 1.000 | | | | |
| M8770775 | STL COMB MAA&P 13.41 | EACH | 2.000 | | | | |

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| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|----------------------|--------------------|-----------|---|------------|---|-------------|
| M8770777 | STL COMB MAA&P 14.02 | EACH | 3.000 | | | | |
| M8770779 | STL COMB MAA&P 14.63 | EACH | 5.000 | | | | |
| M8770780 | STL COMB MAA&P 15.24 | EACH | 6.000 | | | | |
| M8770782 | STL COMB MAA&P 15.85 | EACH | 2.000 | | | | |
| M8770784 | STL COMB MAA&P 16.46 | EACH | 1.000 | | | | |
| M8770790 | STL COMB MAA&P 18.29 | EACH | 2.000 | | | | |
| M8770800 | STL COMB MAA&P 21.34 | EACH | 1.000 | | | | |
| M8770803 | STL COMB MAA&P 22.56 | EACH | 1.000 | | | | |
| M8770804 | STL COMB MAA&P 22.86 | EACH | 3.000 | | | | |
| M8780100 | CONC FDN TY A | METER | 32.900 | | | | |
| M8780150 | CONC FDN TY C | METER | 1.200 | | | | |
| M8780200 | CONC FDN TY D | METER | 1.800 | | | | |
| M8780400 | CONC FDN TY E 750D | METER | 6.000 | | | | |
| M8780420 | CONC FDN TY E 1060D | METER | 57.800 | | | | |
| M8860100 | DET LOOP T1 | METER | 5,839.000 | | | | |

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| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| M8950230 | REM ELCBL FR CON | METER | 250.000 | | | | |
| M8950235 | REM & RE ELCBL FR CON | METER | 250.000 | | | | |
| XX002856 | RE-OPTIMIZE TR SIG SY | L SUM | 1.000 | | | | |
| XX004360 | SAN SEW BYPASS PUMP | L SUM | 1.000 | | | | |
| XX104100 | CONN EX MANHOLE | EACH | 1.000 | | | | |
| XZ053750 | APPR PARAPE RETRO SPL | EACH | 2.000 | | | | |
| X0322215 | CLEAN BRG SCUP/DWNSPT | EACH | 22.000 | | | | |
| X0322719 | TEMP DRAINAGE CONNECT | EACH | 2.000 | | | | |
| X5030015 | OUTLET STRUCTURE | L SUM | 1.000 | | | | |
| X5630905 | TEMP INVERTED SIPHON | EACH | 1.000 | | | | |
| X6020074 | INLETS TA T3V F&G | EACH | 160.000 | | | | |
| X6020075 | INLETS TB T3V F&G | EACH | 142.000 | | | | |
| X6021193 | TEMP CATCH BASINS | EACH | 12.000 | | | | |
| X6024207 | MED INLET (604106) SP | EACH | 1.000 | | | | |
| X6026050 | SANITARY MANHOLE ADJ | EACH | 21.000 | | | | |

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|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| X6026622 | VV REMOVED | EACH | 21.000 | | | | |
| X6026623 | VALVE BOX | EACH | 8.000 | | | | |
| X6026632 | VALVE BOX REMOVED | EACH | 15.000 | | | | |
| X6029001 | JUNCTION BOX N1 | L SUM | 1.000 | | | | |
| X6029002 | JUNCTION BOX N2 | L SUM | 1.000 | | | | |
| X6029003 | JUNCTION BOX N3 | L SUM | 1.000 | | | | |
| X6029004 | JUNCTION BOX N4 | L SUM | 1.000 | | | | |
| X6029005 | JUNCTION BOX N5 | L SUM | 1.000 | | | | |
| X6310218 | TRAF BAR TERM T6 SPL | EACH | 2.000 | | | | |
| X7010216 | TRAF CONT & PROT SPL | L SUM | 1.000 | | | | |
| X7011010 | TR C-PROT STAGE CONST | L SUM | 1.000 | | | | |
| X8000005 | WIRELESS LI PED X SYS | L SUM | 1.000 | | | | |
| X8130125 | REM EX JUNCTION BOX | EACH | 7.000 | | | | |
| X8250505 | LIGHT CONTROLLER SPL | EACH | 9.000 | | | | |
| X8360120 | LIGHT POLE FDN SPL | EACH | 1.000 | | | | |

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| ltem Number | Pay Item Description | Unit of Measure | Quantity | v | Unit Price | _ | Total Price |
|----------------|--------------------------------|--------------------|----------|---|------------|---|-------------|
| | Fay item Description | Measure | Quantity | X | Unit Frice | = | Total Flice |
| X8510200 | PAINT TRAF SIG EQUIP | L SUM | 1.000 | | | | |
| X8570225 | FAC T4 CAB SPL | EACH | 8.000 | | | | |
| X8570230 | FAC T5 CAB SPL | EACH | 2.000 | | | | |
| X8900016 | TEMP TRAF SIG INTERCONNECT SYS | EACH | 1.000 | | | | |
| X8900017 | TEMP TRAF SIG INTERCONNECT SYS | EACH | 1.000 | | | | |
| X8900018 | TEMP TRAFSIG INTER S3 | EACH | 1.000 | | | | |
| X8950114 | MOD EX CONTR & CAB | EACH | 9.000 | | | | |
| Z0007601 | BLDG REMOV NO 1 | L SUM | 1.000 | | | | |
| Z0007602 | BLDG REMOV NO 2 | L SUM | 1.000 | | | | |
| Z0013798 | CONSTRUCTION LAYOUT | L SUM | 1.000 | | | | |
| Z0016702 | DETOUR SIGNING | L SUM | 1.000 | | | | |
| Z0026346 | NIGHT WORK ZONE LIGHT | L SUM | 1.000 | | | | |
| Z0030260 | IMP ATTN TEMP FRN TL3 | EACH | 6.000 | | | | |
| Z0030332 | IMP ATTN REL FRN TL3 | EACH | 8.000 | | | | |
| Z0033047 | TEMP REOPT EX TS SYS | L SUM | 1.000 | | | | |

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|----------------|-----------------------|--------------------|-----------|---|------------|---|-------------|
| Z0048665 | RR PROT LIABILITY INS | L SUM | 1.000 | | | | |
| Z0049802 | R&D FRIABL ASB BLD 2 | L SUM | 1.000 | | | | |
| *ADD Z0049902 | R&D NON-FR ASB BLD 2 | L SUM | 1.000 | | | | |
| Z0053610 | RECONSTRUCT BENCH | EACH | 2.000 | | | | |
| Z0073510 | TEMP TR SIGNAL TIMING | EACH | 12.000 | | | | |
| *ADD Z0076600 | TRAINEES | HOUR | 2,500.000 | | 0.800 | | 2,000.000 |
| 20101200 | TREE ROOT PRUNING | EACH | 1.000 | | | | |
| 28000500 | INLET & PIPE PROTECT | EACH | 531.000 | | | | |
| 50104400 | CONC HDWL REM | EACH | 3.000 | | | | |
| 56400100 | FIRE HYDNTS TO BE MVD | EACH | 2.000 | | | | |
| 56400300 | FIRE HYDNTS TO BE ADJ | EACH | 6.000 | | | | |
| 56400500 | FIRE HYDNTS TO BE REM | EACH | 21.000 | | | | |
| 56400600 | FIRE HYDRANTS | EACH | 29.000 | | | | |
| 56500600 | DOM WAT SER BOX ADJ | EACH | 2.000 | | | | |
| 56500700 | DOM WAT SER BOX REM | EACH | 39.000 | | | | |

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|----------------|----------------------|--------------------|----------|---|------------|---|-------------|
| 60236200 | INLETS TA T8G | EACH | 41.000 | | | | |
| 60236825 | INLETS TA T11V F&G | EACH | 30.000 | | | | |
| 60237420 | INLETS TA T20F&G | EACH | 1.000 | | | | |
| 60240210 | INLETS TB T1F OL | EACH | 1.000 | | | | |
| 60240215 | INLETS TB T1F CL | EACH | 7.000 | | | | |
| 60240235 | INLETS TB T5F CL | EACH | 1.000 | | | | |
| 60240301 | INLETS TB T8G | EACH | 13.000 | | | | |
| 60240312 | INLETS TB T11V F&G | EACH | 38.000 | | | | |
| 60240324 | INLETS TB T20F&G | EACH | 1.000 | | | | |
| 60265700 | VV ADJUST | EACH | 16.000 | | | | |
| 60266100 | VV RECONST | EACH | 1.000 | | | | |
| 60266600 | VALVE BOX ADJ | EACH | 8.000 | | | | |
| 60500040 | REMOV MANHOLES | EACH | 72.000 | | | | |
| 60500050 | REMOV CATCH BAS | EACH | 16.000 | | | | |
| 60500060 | REMOV INLETS | EACH | 87.000 | | | | |

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| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|-----------|---|------------|---|-------------|
| 60500105 | FILL MANHOLES | EACH | 13.000 | | | | |
| 63100167 | TR BAR TRM T1 SPL TAN | EACH | 2.000 | | | | |
| 66900450 | SPL WASTE PLNS/REPORT | L SUM | 1.000 | | | | |
| 66900530 | SOIL DISPOSAL ANALY | EACH | 4.000 | | | | |
| 67000400 | ENGR FIELD OFFICE A | CAL MO | 32.000 | | | | |
| 67100100 | MOBILIZATION | L SUM | 1.000 | | | | |
| *ADD 67201100 | SEAL ABAN MONIT WELLS | EACH | 2.000 | | | | |
| 70103815 | TR CONT SURVEILLANCE | CAL DA | 600.000 | | | | |
| 70106800 | CHANGEABLE MESSAGE SN | CAL MO | 120.000 | | | | |
| 78100100 | RAISED REFL PAVT MKR | EACH | 1,993.000 | | | | |
| 78200300 | PRISMATIC CURB REFL | EACH | 372.000 | | | | |
| 78200410 | GUARDRAIL MKR TYPE A | EACH | 2.000 | | | | |
| 78201000 | TERMINAL MARKER - DA | EACH | 2.000 | | | | |
| 80400100 | ELECT SERV INSTALL | EACH | 1.000 | | | | |
| 80500010 | SERV INSTALL GRND MT | EACH | 20.000 | | | | |

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Section Number -(5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| 81400700 | HANDHOLE PCC | EACH | 90.000 | | | | |
| 81400720 | DBL HANDHOLE PCC | EACH | 9.000 | | | | |
| 81400730 | HANDHOLE C CONC | EACH | 17.000 | | | | |
| 82102250 | LUM SV HOR MT 250W | EACH | 12.000 | | | | |
| 82102400 | LUM SV HOR MT 400W | EACH | 23.000 | | | | |
| 82500330 | LT CONT PEDM 240V 60 | EACH | 1.000 | | | | |
| 84200500 | REM LT UNIT SALV | EACH | 17.000 | | | | |
| 84200804 | REM POLE FDN | EACH | 14.000 | | | | |
| 84500110 | REMOV LIGHTING CONTR | EACH | 1.000 | | | | |
| 84500120 | REMOV ELECT SERV INST | EACH | 1.000 | | | | |
| 85000200 | MAIN EX TR SIG INSTAL | EACH | 19.000 | | | | |
| 86000100 | MASTER CONTROLLER | EACH | 2.000 | | | | |
| 86200300 | UNINTER POWER SUP EXT | EACH | 10.000 | | | | |
| 86400100 | TRANSCEIVER - FIB OPT | EACH | 14.000 | | | | |
| 87601100 | PED P-B POST GALVS T1 | EACH | 6.000 | | | | |

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* REVISED: NOVEMBER 07, 2011

State Job # C-93-064-05

PPS NBR 3-02970-0100

County Name KENDALL-

Code 93 -

District 3 -

Project Number ACNHF-0326/083/ Route

FAP 326

Section Number - (5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|-----------------------|--------------------|----------|---|------------|---|-------------|
| 87900200 | DRILL EX HANDHOLE | EACH | 3.000 | | | | |
| 88040070 | SH P LED 1F 3S BM | EACH | 33.000 | | | | |
| 88040090 | SH P LED 1F 3S MAM | EACH | 72.000 | | | | |
| 88040150 | SH P LED 1F 5S BM | EACH | 39.000 | | | | |
| 88040160 | SH P LED 1F 5S MAM | EACH | 24.000 | | | | |
| 88102810 | PED SH P LED 1F BM | EACH | 8.000 | | | | |
| 88102825 | PED SH P LED 1F BM CT | EACH | 60.000 | | | | |
| 88200410 | TS BACKPLATE L F PLAS | EACH | 168.000 | | | | |
| 88500100 | INDUCTIVE LOOP DETECT | EACH | 127.000 | | | | |
| 88700200 | LIGHT DETECTOR | EACH | 35.000 | | | | |
| 88700300 | LIGHT DETECTOR AMP | EACH | 9.000 | | | | |
| 88800100 | PED PUSH-BUTTON | EACH | 76.000 | | | | |
| 89000100 | TEMP TR SIG INSTALL | EACH | 9.000 | | | | |
| 89502210 | MOD EX CONTR CAB | EACH | 2.000 | | | | |
| 89502375 | REMOV EX TS EQUIP | EACH | 10.000 | | | | |

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C-93-064-05 State Job # -PPS NBR -3-02970-0100 **Project Number** Route FAP 326 County Name -ACNHF-0326/083/ KENDALL--Code -93 - -3 - -District -* REVISED: NOVEMBER 07, 2011 Section Number -(5CS,13C,108,109)R

| ltem Number | Pay Item Description | Unit of Measure | Quantity | x | Unit Price | = | Total Price |
|----------------|----------------------|--------------------|----------|---|------------|---|-------------|
| 89502380 | REMOV EX HANDHOLE | EACH | 69.000 | | | | |
| 89502385 | REMOV EX CONC FDN | EACH | 68.000 | | | | |

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MULCH METHOD 2

Effective August 1, 1994;

Revised January 1, 2007

Article 251.03 Method 2 Procedure 1 of the Standard Specifications shall be required for this improvement.

AGGREGATE SUBGRADE

Effective March 10, 1997,

Revised October 28, 2011

Description. This work shall consist of furnishing, transporting, placing, and compacting granular material to the lines and grades shown on the plans or as directed by the Engineer.

Materials. This work shall be done according to the applicable portions of Section 207 of the Standard Specifications. Any aggregate (recycled and virgin) containing contaminants deemed unacceptable by the Department will not be approved. The material shall conform to Article 1004.05 of the Standard Specifications except the gradations and materials shall be as follows:

Gradation #1:

Material: Crushed Stone, Crushed Slag, Crushed Gravel, and Crushed Concrete

| | Option 1 | Option 2 |
|--|------------------|------------------|
| Sieve Size | Percent Passing* | Percent Passing* |
| 5 inches (125 mm) | 100 | 100 |
| 4 inches (100 mm) | 85±15 | 85±15 |
| 2 inches (50 mm) | 60±20 | 45±25 |
| 1 inch (25 mm) | 45±20 | 10±10 |
| #4 (4.75 mm) 20±10 | | |
| #200 (75 μm) | 5±5 | 2±2 |
| | Note 1 | Note 2 |
| * A dry gradation will be sufficient to fulfill the -#200 (75 μm) specification. | | |

Note 1: Geotextile fabric having a minimum weight of 6 ounces and meeting the requirements of Article 1080.02 of the Standard Specifications may be necessary dependent upon subgrade soil conditions. The Engineer shall make the determination if Geotextile utilization is necessary.

Note 2: Geotextile fabric having a minimum weight of 6 ounces and meeting the requirements of Article 1080.02 of the Standard Specifications shall be used.

Gradation #2:

Material: Subbase Granular Material, Type C, or RAP

The Subbase Granular Material, Type C shall meet a gradation of CA 6 or CA 10 and a minimum 'D' quality as specified in Section 1004 of the Standard Specifications. RAP shall meet the requirements of Article 1031.08 of the Special Provision, Reclaimed Asphalt Pavement (RAP), except that the stockpiles shall not contain steel slag or other expansive material as determined by the Department.

General. Gradation #2 shall be used in the upper 3 inches (70 mm) as a capping material. Gradation #1 shall be used for the remaining thickness.

The material shall be placed in two or more lifts or as directed by the Engineer. Each lift shall be rolled with a vibratory roller meeting the requirements of Article 1101.01 of the Standard Specifications to obtain the desired compaction.

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Construction equipment not necessary for the completion of the work shall not be allowed on the subgrade until completion of the recommended thickness of the Aggregate Subgrade. Any damage to the compacted Aggregate Subgrade due to the Contractor's activities or operations shall be corrected.

When geotextile fabric is required, it shall be installed according to Articles 210.03 and 210.04 of the Standard Specifications.

Method of Measurement. Aggregate Subgrade will be measured in place and the area computed in square yards (square meters). The width shall be as shown on the plans.

Gradation #1, Option 2. Geotextile fabric will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE of the thickness specified.

Gradation #1, Option 1. Geotextile fabric, when required, will be paid for according to Article 109.04 of the Standard Specifications.

Gradation #1, Option 2. The cost of the geotextile fabric shall be included in the contract unit price for the aggregate subgrade.

AGGREGATE SURFACE COURSE, TYPE B

Effective January 1, 2007

Add the following to Article 402.07 of the Standard Specifications:

The top layer shall be given a final rolling with a roller meeting the requirements of Article 1101.01.

HOT-MIX ASPHALT SURFACE COURSE, CUT OFF DATE

Effective January 1, 2007

Placement of Hot-Mix Asphalt Surface Course will not be permitted after October 15 unless approved, in writing, by the Engineer.

PRIMING

Effective July 1, 1990;

Revised September 3, 2009

Bituminous Materials (Prime Coat) used on brick, concrete, or HMA bases shall be RC-70. Polymerized Bituminous Materials (Prime Coat) used on brick, concrete, or HMA bases shall be SS1-hP.

When more than one HMA lift is proposed, additional prime shall be applied for the subsequent lifts at the lesser rate (fog coat) shown on the plans.

HOT MIX ASPHALT – DENSITY TESTING OF LONGITUDINAL JOINTS

Effective: January 1, 2007;

Revised: October 1, 2009

<u>Description</u>: This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). This work shall be according to Section 1030 of the Standard Specifications except as follows.

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All labor, equipment, and material necessary to complete this work as specified herein shall be paid for at the contract unit price per meter for CONCRETE RETAINING WALL REMOVAL.

REMOVAL OF EXISTING FEATURES

Removal of existing signs, fences, landscape features, etc. that conflict with the proposed work and are not specifically accounted for by a contract pay item shall be removed and disposed of by the Contractor. No additional compensation shall be allowed for this work.

ISLAND PAVEMENT REMOVAL

This work shall consist of the removal and satisfactory disposal of existing median and island paved surfaces in accordance with Section 440 of the Standard Specifications, as shown in the plans, or as directed by the Engineer and as modified herein.

This work will be measured for payment in square meters of the area to be removed.

All labor, equipment, and material necessary to complete this work as specified herein shall be paid for at the contract unit price per square meter for ISLAND PAVEMENT REMOVAL.

PIPE/BOX CULVERT REMOVAL

This work shall consist of the removal and satisfactory disposal of existing pipe culverts of the size and type specified in accordance with Section 501 of the Standard Specifications, as shown in the plans, or as directed by the Engineer and as modified herein.

This work shall also include the removal and disposal of all end treatments including headwalls, wingwalls, slopewalls, flared end sections, metal end sections, railroad ties, sheet metal, riprap, concrete, etc. Any resultant voids shall be filled with suitable backfill material or trench backfill as directed by the Engineer.

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BUILDING REMOVAL NO. 1

This item consists of the removal and proper disposal of an unattached garage located at Sta. 20+778 LT in Yorkville. The removal shall include the building, foundation, appurtenances (deck) that may exist from the original building as directed by the Engineer. Removal of any debris found in the building or on the property shall be included in the cost of the building removal as directed by the Engineer. The excavation shall be backfilled using suitable granular material and to the grades directed by the Engineer. The granular backfill shall meet the gradation requirements of Article 1003.04 or Article 1004.05 of the Standard Specifications.

This work described shall be paid for at the contract unit price LUMP SUM for BUILDING REMOVAL NO. 1.

BUILDING REMOVAL NO. 2

This item consists of the removal and proper disposal of a two-story, brick commercial building with basement located at 301 Bridge Street in Yorkville at the southwest corner of IL Route 47 and Van Emmon Street. The removal shall include the foundation or any other appurtenances that may exist from the original building as directed by the Engineer. Removal of any debris found in the building(s) or on the property shall be included in the cost of the building removal as directed by the Engineer. The basement floor may be broken sufficiently into smaller pieces and left in place as directed by the Engineer. The excavation shall be backfilled using suitable granular material and to the grades directed by the Engineer. The Standard Specifications. Asbestos removal shall be in accordance to the special provision BUILDING REMOVAL – CASE I (NON-FRIABLE AND FRIABLE ASBESTOS ABATEMENT).

This work described shall be paid for at the contract unit price LUMP SUM for BUILDING REMOVAL NO. 2.

BUILDING REMOVAL - CASE I (NON-FRIABLE AND FRIABLE ASBESTOS ABATEMENT) (BDE)

Éffective: September 1, 1990 Revised: April 1, 2010

Parcel

BUILDING REMOVAL: This work shall consist of the removal and disposal of building(s), together with all foundations, retaining walls, and piers, down to a plane 1 ft (300 mm) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

| Bldg. No. Description | - | No. | Location |
|--------------------------|---------|--------------------------------------|---|
| 2 | 3KC0054 | 301 South Bridge St Yorkville, IL | 2 Story Brick Building with Basement |

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Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services and the removal of the metering devices that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR HIGHWAY CONSTRUCTION TO BE DEMOLISHED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

All friable asbestos shall be removed from the building(s) prior to demolition. The Contractor has the option of removing the non-friable asbestos prior to demolition or demolishing the building(s) with the non-friable asbestos in place. Refer to the Special Provisions titled "Asbestos Abatement (General Conditions)", "Removal and Disposal of Friable Asbestos Building No. <u>2</u>", and "Removal and Disposal of Non-Friable Asbestos Building No. <u>2</u> "contained herein.

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein. The lump sum unit price(s) for this work shall represent the cost of demolition and disposal assuming all asbestos, friable and non-friable, is removed prior to demolition. Any salvage value shall be reflected in the contract unit price for this item.

EXPLANATION OF BIDDING TERMS: Three separate contract unit price items have been established for the removal of each building. They are:

- 1. BUILDING REMOVAL NO. 2
- 2. REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO. 2
- 3. REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 2

The Contractor shall have two options available for the removal and disposal of the non-friable asbestos.

The pay item for removal and disposal of non-friable asbestos will not be deleted regardless of the option chosen by the Contractor.

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<u>ASBESTOS ABATEMENT (GENERAL CONDITIONS)</u>: This work consists of the removal and disposal of friable and non-friable asbestos from the building(s) to be demolished. All work shall be done according to the requirements of the U.S. Environmental Protection Agency (USEPA), the Illinois Environmental Protection Agency (IEPA), the Occupational Safety and Health Administration (OSHA), the Special Provisions for "Removal and Disposal of Friable Asbestos, Building No. <u>2</u>" and "Removal and Disposal of Non-Friable Asbestos, Building No. <u>2</u>", and as outlined herein.

Refer to the Materials Description Table in <u>Appendix A</u> for a brief description and location of the various materials. Also included is a Materials Quantities Table in <u>Appendix B</u>. This table states whether the ACM is friable or non-friable and gives the approximate quantity. The quantities are given only for information and it shall be the Contractor's responsibility to determine the exact quantities prior to submitting his/her bid.

The work involved in the removal and disposal of friable asbestos, and non-friable asbestos if done prior to demolition, shall be performed by a Contractor or Sub-Contractor prequalified with the Illinois Capital Development Board.

The Contractor shall provide a shipping manifest, similar to the one shown in <u>Appendix C</u>, to the Engineer for the disposal of all ACM wastes.

Permits: The Contractor shall apply for permit(s) in compliance with applicable regulations of the Illinois Environmental Protection Agency. Any and all other permits required by other federal, state, or local agencies for carrying on the work shall be the responsibility of the Contractor. Copies of these permits shall be sent to the district office and the Engineer.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least ten days prior to commencement of any asbestos removal or demolition activity. Separate notices shall be sent for the asbestos removal work and the building demolition if they are done as separate operations.

Asbestos Demolition/Renovation Coordinator Illinois Environmental Protection Agency Division of Air Pollution Control P. O. Box 19276 Springfield, Illinois 62794-9276 (217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittal

s:

- A. All submittals and notices shall be made to the Engineer, except where otherwise specified herein.
- B. Submittals that shall be made prior to start of work:

- 1. Submittals required under Asbestos Abatement Experience.
- 2. Submit documentation indicating that all employees have had medical examinations and instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures as specified in <u>Worker Protection Procedures</u>.
- 3. Submit manufacturer's certification stating that vacuums, ventilation equipment, and other equipment required to contain airborne fibers conform to ANSI 29.2.
- 4. Submit to the Engineer the brand name, manufacturer, and specification of all sealants or surfactants to be used. Testing under existing conditions will be required at the direction of the Engineer.
- 5. Submit proof that all required permits, site locations, and arrangements for transport and disposal of asbestos-containing or asbestos-contaminated materials, supplies, and the like have been obtained (i.e., a letter of authorization to utilize designated landfill).
- 6. Submit a list of penalties, including liquidated damages, incurred through non- compliance with asbestos abatement project specifications.
- 7. Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination units, the sequencing of work, the respiratory protection plan to be used during this work, a site safety plan, a disposal plan including the location of an approved disposal site, and a detailed description of the methods to be used to control pollution. The plan shall be submitted to the Engineer prior to the start of work.
- 8. Submit proof of written notification and compliance with Paragraph "Notifications". C.

Submittals that shall be made upon completion of abatement work:

- 1. Submit copies of all waste chain-of-custodies, trip tickets, and disposal receipts for all asbestos waste materials removed from the work area;
- 2. Submit daily copies of work site entry logbooks with information on worker and visitor access;
- 3. Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls; and
- 4. Submit results of any bulk material analysis and air sampling data collected during the course of the abatement including results of any on-site testing by any federal, state, or local agency.

Certificate of Insurance:

- A. The Contractor shall document general liability insurance for personal injury, occupational disease and sickness or death, and property damage.
- B. The Contractor shall document current Workmen's Compensation Insurance coverage. C.

The Contractor shall supply insurance certificates as specified by the Department.

Asbestos Abatement Experience:

- A. Company Experience: Prior to starting work, the Contractor shall supply evidence that he/she has been prequalified with the Illinois Capital Development Board and that he/she has been included on the Illinois Department of Public Health's list of approved Contractors.
- B. Personnel Experience:
- 1. For Superintendent, the Contractor shall supply:
 - a. Evidence of knowledge of applicable regulations in safety and environmental protection is required as well as training in asbestos abatement as evidenced by the successful completion of a training course in supervision of asbestos abatement as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to the Engineer prior to the start of work.
 - b. Documentation of experience with abatement work in a supervisory position as evidenced through supervising at least two asbestos abatement projects; provide names, contact, phone number, and locations of two projects in which the individual(s) has worked in a supervisory capacity.
- 2. For workers involved in the removal of friable and non-friable asbestos, the Contractor shall provide training as evidenced by the participation and successful completion of an accredited training course for asbestos abatement workers as specified in 40 CFR 763, Subpart E, Appendix C, EPA Model Contractor Accreditation Plan. A copy of the certificate of successful completion shall be provided to all employees who will be working on this project.

<u>ABATEMENT AIR MONITORING</u>: The Contractor shall comply with the following:

- A. Personal Monitoring: All personal monitoring shall be conducted per specifications listed in OSHA regulation, Title 29, Code of Federal Regulation 1926.58. All area sampling shall be conducted according to 40 CFR Part 763.90. All air monitoring equipment shall be calibrated and maintained in proper operating condition. Excursion limits shall be monitored daily. Personal monitoring is the responsibility of the Contractor. Additional personal samples may be required by the Engineer at any time during the project.
- B. Contained Work Areas for Removal of Friable Asbestos: Area samples shall be collected for the department within the work area daily. A minimum of one sample shall be taken outside of the abatement area removal operations. The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.
- C. Interior Non-Friable Asbestos-Containing Materials: The Contractor shall perform personal air monitoring during removal of all nonfriable Transite and floor tile removal operations.

The Engineer will also have the option to require additional personal samples and/or clearance samples during this type of work.

D. Exterior Non-Friable Asbestos-Containing Materials: The Contractor shall perform personal air monitoring during removal of all nonfriable cementitious panels, piping, roofing felts, and built up roofing materials that contain asbestos.

The Contractor shall conduct downwind area sampling to monitor airborne fiber levels at a frequency of no less than three per day.

- E. Air Monitoring Professional
- All air sampling shall be conducted by a qualified Air Sampling Professional supplied by the Contractor. The Air Sampling Professional shall submit documentation of successful completion of the National Institute for Occupational Safety and Health (NIOSH) course #582 - "Sampling and Evaluating Airborne Asbestos Dust".
- 2. Air sampling shall be conducted according to NIOSH Method 7400. The results of these tests shall be provided to the Engineer within 24 hours of the collection of air samples.

<u>REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO. 2</u>: This work consists of the removal and disposal of all friable asbestos from the building(s) prior to demolition. The work shall be done according to the Special Provision titled "Asbestos Abatement (General Conditions)" and as outlined herein.

This work will be paid for at the contract unit price per lump sum for REMOVAL AND DISPOSAL OF FRIABLE ASBESTOS, BUILDING NO. 2, as shown, which price shall include furnishing all labor, materials, equipment and services required to remove and dispose of the friable asbestos.

<u>REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. 2</u>: The Contractor has the option of removing and disposing of the non-friable asbestos prior to demolition of the building(s) or demolishing the building(s) with the non-friable asbestos in place.

Option #1 - If the Contractor chooses to remove all non-friable asbestos prior to demolition, the work shall be done according to the Special Provision titled "Asbestos Abatement (General Conditions)".

Option #2 - If the Contractor chooses to demolish the building(s) with the non-friable asbestos in place, the following provisions shall apply:

- 1. Continuously wet all non-friable ACM and other building debris with water during demolition.
- 2. Dispose of all demolition debris as asbestos containing material by placing it in lined, covered transport haulers and placing it in an approved landfill.

This work will be paid for at the contract unit price per lump sum for REMOVAL AND DISPOSAL OF NON-FRIABLE ASBESTOS, BUILDING NO. <u>2</u>, as shown.

The cost for this work shall be determined as follows:

- Option #1 Actual cost of removal and disposal of non-friable asbestos.
- Option #2 The difference in cost between removing and disposing of the building if all non-friable asbestos is left in place and removing and disposing of the building assuming all non-friable asbestos is removed prior to demolition.

The cost of removing and disposing of the building(s), assuming all asbestos, friable and non-friable is removed first, shall be represented by the pay item "BUILDING REMOVAL NO. 2".

Regardless of the option chosen by the Contractor, this pay item will not be deleted, nor will the pay item BUILDING REMOVAL NO. <u>2</u> be deleted.

APPENDIX A

MATERIAL DESCRIPTION TABLE

| Material Description | % And Type Of Asbestos | Location, Description, Sample Number (If Applicable) |
|----------------------------|---------------------------|---|
| I. <u>301 S Bridge S</u> | <u>t (Sta. 20+816 LT)</u> | |
| Exterior Window Glazing | 4% Chrysotile | 2 nd Floor windows (Southside) Poor condition. Friable. Sample 11-35. |
| Gray, Fibrous Paper | 40% chrysotile | 2 nd floor. At center exterion in small opening on east wall on door. Poor condition. Sample 14-44. Non-friable |

<u>APPENDIX B</u>

MATERIAL QUANTITIES TABLE

The following are approximate quantities of ACM to be removed from the building indicated. These material quantities do not indicate the cleaning required to remove asbestos debris and resulting contamination from the work areas.

I. <u>301 S Bridge St (Sta. 20+816</u> LT)

| <u>Material</u> | <u>Floor</u> | Quantity Present | <u>Friable</u> |
|-----------------|-----------------------|------------------|----------------|
| Window Glazing | 2 nd Floor | 5 S.F. (0.46 SM) | Yes |
| Gray Paper | 2 nd Floor | 2 S.F. (0.19 SM) | No |

APPENDIX C

SHIPPING MANIFEST Generator

| 1. Work Site Name and Mailing Address | Owner's | s Name | Owner's |
|---|---------------------|--------------------|-------------------|
| | | | Telephone No. |
| 2. Operator's Name and Address | | | Operator's. |
| | | | Telephone No |
| 3. Waste Disposal Site (WDS) Name | | | WDS |
| Mailing Address, and Physical | | | Telephone No. |
| Site Location | | | |
| 4. Name and Address of Responsible Agency | | | |
| 5. Description of Materials | | | |
| 6. Containers | No. | Туре | |
| 7. Total Quantity | M ³ | (Yd ³) | |
| 8. Special Handling Instructions and Additional I | nformation | <u> </u> | <u> </u> |
| 9. OPERATOR'S CERTIFICATION: I hereby de | clare that th | ne contents of th | nis |
| consignment are fully and accurately describ | | | |
| are classified, packed, marked, and labeled, a | | | ing name and |
| in proper condition for transport by highwar | | | international and |
| government regulations. | , 0 | | |
| Printed/Typed Name & Title | Sigr | ature | Month Day Year |
| Transporter | | | |
| 10. Transporter 1 (Acknowledgement of Receipt | of Materials | S) | |
| Printed/Typed Name & Title | Sigr | ature | Month Day Year |
| Address and Telephone No. | | | |
| 11. Transporter 2 (Acknowledgement of Receipt | of Materials | 3) | I |
| Printed/Typed Name & Title | | ature | Month Day Year |
| | - 5 | | - |
| Address and Telephone No. | | | |
| | isposal Site | ; | |
| 12. Discrepancy Indication Space | | | |
| 13. Waste Disposal Site Owner or Operator: Ce | | | |
| | Covered Noted in | | est Except As |
| Printed/Typed Name & Title | I | ature | Month Day Year |
| | | | |
| | | | |

INSTRUCTIONS

Waste Generator Section (Items 1-9)

- 1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
- 2. If a demolition or renovation, enter the name and address of the Company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
- 3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
- 4. Provide the name and address of the local, State, or EPA Regional Office responsible for administering the asbestos NESHAP program.
- 5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
- 6. Enter the number of containers used to transport the asbestos materials listed in Item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM Metal drums, barrels
 - DP Plastic drums, barrels
 - BA 6 mil plastic bags or wrapping
- 7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
- 8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.
- 9. The authorized agent of the waste generator shall read and then sign and date this certification. The date is the date of receipt by transporter.

NOTE: The waste generator shall retain a copy of this form.

INSTRUCTIONS

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport.

NOTE: The transporter shall retain a copy of this form.

Disposal Site Section (Items 12 & 13)

- 12. The authorized representative of the WDS shall note in this space any discrepancy between waste described on this mainfest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
- 13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in Item 12. The date is the date of signature and receipt of shipment.
- NOTE: The WDS shall retain a completed copy of this form. The WDS shall also send a completed copy to the operator listed in Item 2.

BUILDING REMOVAL - CASE IV (NO ASBESTOS) (BDE)

Effective: September 1, 1990

Revised: April 1, 2010

BUILDING REMOVAL: This work shall consist of the removal and disposal of $\underline{1}$ building(s), together with all foundations, retaining walls, and piers, down to a plane 1 ft (300 mm) below the ultimate or existing grade in the area and also all incidental and collateral work necessary to complete the removal of the building(s) in a manner approved by the Engineer. Any holes, such as basements, shall be filled with a suitable granular material. The building(s) are identified as follows:

| <u>Bldg. No.</u> | Parcel <u>No.</u> | Location | Description |
|------------------|----------------------|----------------|-------------------|
| 1 | 3KC0054 | Sta. 20+778 LT | Unattached Garage |

Discontinuance of Utilities: The Contractor shall arrange for the discontinuance of all utility services and the removal of the metering devices that serve the building(s) according to the respective requirements and regulations of the City, County, or utility companies involved. The Contractor shall disconnect and seal, in an approved manner, all service outlets that serve any building(s) he/she is to remove.

Signs: Immediately upon execution of the contract and prior to the wrecking of any structures, the Contractor shall be required to paint or stencil, in contrasting colors of an oil base paint, on all four sides of each residence and two opposite sides of other structures, the following sign:

PROPERTY ACQUIRED FOR HIGHWAY CONSTRUCTION TO BE DEMOLISHED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION VANDALS WILL BE PROSECUTED

The signs shall be positioned in a prominent location on the structure so that they can be easily seen and read and at a sufficient height to prevent defacing. The Contractor shall not paint signs nor start demolition of any building(s) prior to the time that the State becomes the owner of the respective building(s).

Basis of Payment: This work will be paid for at the contract lump sum unit price for BUILDING REMOVAL, numbers as listed above, which price shall be payment in full for complete removal of the buildings and structures, including any necessary backfilling material as specified herein.

The lump sum unit price(s) for this work shall represent the cost of demolition. Any salvage value shall be reflected in the contract unit price for this item.

Notifications: The "Demolition/Renovation Notice" form, which can be obtained from the IEPA office, shall be completed and submitted to the address listed below at least ten days prior to commencement of any demolition activity.

Asbestos Demolition/Renovation Coordinator Illinois Environmental Protection Agency Division of Air Pollution Control P. O. Box 19276 Springfield, Illinois 62794-9276 (217)785-1743

Notices shall be updated if there is a change in the starting date or the amount of asbestos changes by more than 20 percent.

Submittals:

- A. All submittals and notices shall be made to the Engineer except where otherwise specified herein.
- B. Prior to starting work, the Contractor shall submit proof of written notification and compliance with the "Notifications" paragraph.

TIE BAR INSERTER

LONGITUDINAL CONSTRUCTION JOINT

Revise Article 420.05 (b) as follows:

- (b) Longitudinal Construction Joint. The tie bars shall be installed in preformed or drilled holes along the vertical edge of the first lane placed, inserted into the vertical edge of the freshly placed concrete, or formed in place.
 - (1) Preformed or Drilled Holes. The tie bars shall be installed with an approved nonshrink grout or chemical adhesive providing a minimum pull-out strength as follows.

| Bar Size | Minimum Pull-Out Strength |
|----------------|---------------------------|
| No. 6 (No. 19) | 11,000 lb (49 kN) |
| No. 8 (No. 25) | 19,750 lb (88 kN) |

Holes shall be blown clean and dry prior to placing the grout or adhesive. If compressed air is used, the pneumatic tool lubricator shall be bypassed and a filter installed on the discharge valve to keep water and oil out of the lines. The installation shall be with methods and tools conforming to the grout or adhesive manufacturer's recommendations. The Contractor shall load test five percent of the first 500 tie bars installed. No further installation will be allowed until the initial five percent testing has been completed and approval to continue installation has been given by the Engineer. Testing will be required for 0.5 percent of the bars installed after the initial 500. For each bar that fails to pass the minimum requirements, two more bars selected by the Engineer shall be tested. Each bar that fails to meet the minimum load requirement shall be requirements of ASTM E 488. All tests shall be performed within 72 hours of installation. The tie bars shall be installed and approved before concrete is placed in the adjacent lane.

(2) Inserted. The tie bars shall be installed with the use of a mechanical tie bar inserter. The tie bars shall be sized and placed according to the drawing for Longitudinal Construction Joint (Tie Bar Formed in Place) shown on the plans. The tie bar inserter shall be self contained and supported on the formless paver with the ability to move separately from the paver. The inserter shall insert the tie bars with vibration after the concrete has been struck off and consolidated without deformation of the slab. The inserter shall remain stationary relative to the pavement when inserting tie bars while the formless paver continues to move in the direction of paving.

The Contractor shall load test 15 tie bars selected by the Engineer installed on each day of paving after the concrete reaches a flexural strength of 550 psi. The equipment and method used for testing shall meet the requirements of ASTM E 488. The tie bars shall be tested to the load which causes slippage of the tie bar to occur not to exceed a load of 12,000 lbs. The average of these results divided by the tie bar spacing shall be a minimum of 2,200 lbs./ft. of joint spacing. If testing shows the tie bars are not obtaining the required results, use of the tie bar inserter shall discontinue. Additional tie bars shall be drilled and grouted in place according to Article 420.05(b)(1) for the affected sections of pavement at a frequency approved by the Engineer.

(3) Formed in Place. The tie bar shall be formed in place as shown on the plans.

The sealant reservoir shall be formed either by sawing after the concrete has set according to Article 420.05(a) or by hand tools when the concrete is in a plastic state.

DOWEL BAR INSERTER

Revise Article 402.05(c) to read:

(c) Transverse Contraction Joints. Transverse contraction joints shall consist of planes of weakness created by sawing grooves in the surface of the pavement and shall include load transfer devices consisting of dowel bars. Transverse contraction joints shall be according to the following.

Revise Article 420.05(c)(2) to read:

- (2) Dowel Bars. Dowel bars shall be installed parallel to the centerline of the pavement, parallel to the proposed pavement surface as well as to each other. The dowel bars shall be installed according to one of the following methods:
 - a. Dowel Bar Assemblies. The assembly shall act as a rigid unit with each component securely held in position relative to the other members of the assembly. The entire assembly shall be held securely in place by means of nails which shall penetrate the stabilized subbase. At least ten nails shall be used for each 10, 11, or 12 ft (3, 3.3, or 3.6 m) section of assembly. Bearing plates shall be punched to receive the nails. When bearing plates are omitted on stabilized subbase, other methods for securing the assembly with nails shall be provided.

Metal stakes shall be used instead of nails, with soil or granular subbase. The stakes shall loop over or attach to the top parallel spacer bar of the assembly and penetrate the subgrade or subbase at least 12 in. (300 mm).

All shipping tie wires shall be cut after the assembly is secured in place. At the location of each dowel bar assembly, the subgrade or subbase shall be reshaped and re-tamped when necessary.

Prior to placing concrete, any deviation from the correct horizontal or vertical alignment (horizontal skew or vertical tilt) greater than 1/2 in. in 18 in. (12 mm in 450 mm) shall be corrected and a light coating of oil shall be uniformly applied to the dowel bars. Care shall be exercised in depositing the concrete at the dowel bar assemblies so that the horizontal and vertical alignment will be retained.

b. Inserted Dowel Bars. The dowel bars shall be placed in the pavement slab with a mechanical dowel bar inserter (DBI) attached to a formless paver.

The dowel bar inserter (DBI) shall be self contained and supported on the formless paver with the ability to move separately from the paver. The DBI shall be equipped with insertion forks along with a tamping bar, finishing pan and any other devices necessary for finishing the concrete the full width of the pavement. The insertion forks shall have the ability to vibrate at a minimum frequency of 3000 vpm.

The DBI shall insert the bars with vibration into the plastic concrete after the concrete has been struck off and consolidated without deformation of the slab. After the bars have been inserted, the concrete shall be refinished and no voids shall exist around the dowel bars. The forward movement of the finishing screed shall not be interrupted by the inserting of the dowel bars.

The exact location of each row of dowels shall be marked on the subbase as indicated by the plans. The location of each row of dowels inserted by the DBI shall be prominently marked on both sides of the pavement to facilitate sawing of the transverse joint.

- 1. Placement Tolerances. The mechanical dowel bar inserter shall place the dowel bars in the concrete pavement within the following tolerances:
 - a) Longitudinal translation (side shift) is defined as the position of the center of the dowel bar along the longitudinal axis, in relation to the sawed joint. The maximum allowable longitudinal translation (side shift) is 2 in. (50 mm).
 - b) Horizontal translation is defined as difference in the actual dowel bar location parallel to the transverse axis of the joint from its theoretical position as detailed in the standard details. The maximum allowable horizontal translation is 2 in. (50 mm).
 - c) Vertical translation (depth) is the difference in the actual dowel bar location from the theoretical midpoint of the slab. The maximum allowable vertical translation is 1/2 in. (12.5 mm) above the theoretical midpoint and 1 in. (25 mm) lower than the theoretical midpoint.
 - d) Dowel bar misalignment, either vertical tilt or horizontal skew is defined as the difference in position of the dowel bar ends with respect to each other. Vertical tilt is measured in the vertical axis whereas horizontal skew is measured in the horizontal axis. The maximum allowable misalignment shall be 1/2 in. in 18 in. (12 mm in 450 mm).

- 2. Evaluation of Dowel Bar Placement by Magnetic Tomography. The location and alignment of the dowel bars shall be tested with a calibrated magnetic imaging device, the MIT Scan-2 testing device manufactured by MIT GmbH. The testing device shall include the following items.
 - a) the sensor unit
 - b) an onboard computer that runs the test, collects and stores the data and performs preliminary evaluation
 - c) a rail system to guide the sensor unit parallel to the joint and the pavement surface at a constant elevation for the full width of the pavement that is placed
 - d) associated PC software recommended by the manufacturer of the device for installation on a Department laptop computer. The program shall be compatible with Windows NT.

A trained operator shall perform the scans with the device and provide the printed results. All testing shall be performed in the presence of the Engineer. The test results for each joint shall be printed directly from the onboard computer immediately after the scan is performed and given to the Engineer. The results shall also be stored on a flash memory card used in the onboard computer that shall be given to the Engineer at the end of each day.

The device shall be calibrated to the type and size dowel bar used in the work according to the manufacturer's instructions. The Contractor may utilize this device as a process control and make necessary adjustments to ensure the dowels are placed in the correct location.

Test sections consisting of the first 300 feet (20 joints)of concrete pavement on the first day of paving shall be tested for dowel location and alignment as soon as the concrete has hardened sufficiently to prevent damage to the surface of the pavement. Additional trial sections will be established when the slip form paving equipment is modified to accommodate a change in paving width or when the slip form paving equipment has been disassembled and/or replaced by another slip form paver.

For all remaining joints, a minimum of 1 of every 10 shall be tested as soon as the concrete has hardened sufficiently to prevent damage to the surface of the pavement. If the position and alignment of any dowel bar(s) is found to be rejectable, then scanning of adjacent joints on both sides of the joint containing the rejectable dowel bar(s) shall be performed until joints on each side are found with no rejectable dowel bars.

If consistency of the proper dowel bar alignment cannot be established within the first 300 ft (91 m), the Engineer will suspend the paving operation. The Contractor will propose a corrective action to address bars found out of tolerance to be approved by the Engineer. Use of the DBI shall cease if satisfactory results, as determined by the Engineer, are not being achieved.