1947

RESPONSIBILITIES FOR MAINTAINING THE DATA SYSTEM FOR PAVEMENT DESCRIPTIVE INFORMATION

by

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and

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Virginia Highway Research Council
(A Cooperative Organization Sponsored Jointly by the Virginia Department of Highways and the University of Virginia)

Charlottesville, Virginia

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INTRODUCTION

Since March of 1971 the Research Council has had under way a project entitled "Systematizing Pavement Information for the Highways of Virginia". One of the purposes of this project was to develop a computer based data system for the collection, storage, and retrieval of pavement information which would allow efficient usage of the data, including the ability to coordinate the data with other data bases such as the ones for skid data, volume data, and accident data.

The system to handle pavement information has now been developed to the point that it is possible to turn the responsibility for maintaining it over to operating personnel.

PURPOSE

The purpose of this report is to outline the responsibilities of each division and the districts and the residencies in maintaining the Pavement Data System.

RESPONSIBILITIES

Everyone involved with the Pavement Data System has the responsibility to make a continual assessment of the system to determine if it operates as efficiently as possible and if it provides data for as many uses as possible. For instance, the Materials Division has the responsibility to consult with field personnel on matters such as design and inclusion of new mixes, special mixes, and grooving, and to help determine how these things should be included in the system. Assessment of the system would include the suggestion of revisions where they may improve it. The Maintenance Division will have the responsibility of coordinating the inclusion of beneficial revisions with the Data Processing Division.

Specific responsibilities for maintaining the system are outlined below. Figure 1 (pages 5 and 6) illustrates the flow of data in the system and thus the sequence in which the various responsibilities will occur.

Residency

1. Submit coded data with finals for maintenance and new construction, and ensure that the correct numbers of forms are submitted.

2. Review the computer printout of the latest year's data and submit corrections and/or omissions to the Maintenance Division.

District Computer

1. Furnish field personnel data forms DP20, DP20A, and DP20B, with valid four digit sequence numbers stamped in upper right-hand corner of form DP20. A supply of forms will be obtained from the printing section in the Central Office by the district computer, and his office will stamp the sequence numbers. Care should be exercised to see that the sequence numbers do not repeat during the year, since they tie the information together in the computer. The first digit of the sequence number identifies the district and the last three digits may be 001 to 999.

2. Maintain a sufficient stock of "Pavement Descriptive Information Data System Code Manuals" to keep the district personnel supplied.

3. Check to ascertain that the correct number of forms has been filed for each final estimate for construction or maintenance.

4. Answer field personnel's questions about filling out form.

District Materials Engineer

1. Check completed data code forms for accuracy of job mixes and return to district computer for mailing to the Central Office with final estimate. The primary check at this point will be for the accuracy of the job mix.

2. Check the computer printout of the latest year's data against in-place pavement for location and correctness of data and submit corrections and/or omissions to the Maintenance Division.

3. In conjunction with the Materials and Maintenance Divisions, conduct refresher schools in coding when necessary. These should be held after major revisions in the system and whenever for other reasons they are deemed necessary.

Maintenance Division

1. As mentioned previously, maintain a close assessment of the system to determine if it is functioning properly and make decisions, after

correspondence with other engineers, about revising system to make it more useable. A formal assessment of the system should be made every two years. It is anticipated that usage of the system will indicate that certain important data may have been omitted while some data not as important have been included.

2. Check the final estimates of all maintenance surfacing for inclusion of the completed data code forms and their correctness, and transfer the forms to the Data Processing Division.

3. Assign new codes as needed to complete forms and notify Data Processing Division of the new codes.

4. Revise on a yearly basis the "Pavement Descriptive Information Data System Code Manual." The manual will be revised by page and in any one year it is not anticipated that over 3 or 4 pages will need revision. One of the major revisions will be the inclusion of new quarry locations.

5. Review the latest year's data computer printout for omissions and/or corrections. Summarize all omissions and/or corrections and submit these to the Data Processing Division.

6. Assist the Data Processing Division in editing data as required.

7. Schedule schools as necessary, in conjunction with Materials Division and district materials engineer.

Construction Division

1. Check the final estimates of all construction projects for inclusion of completed data code forms and detach and transmit forms to Data Processing Division.

2. Obtain new codes as needed and complete forms prior to sending them to the Data Processing Division.

3. Review the latest year's data computer printout and submit any corrections and/or omissions to the Maintenance Division.

Data Processing Division

1. Assemble and keypunch data.

2. Edit latest year's data.

3. Provide printouts of latest year's data.

4. Update master file of pavement data.

5. Annually provide updated printouts of complete pavement information file.

6. Alter programs as required by the inclusion of new codes in the system.

7. Make revisions in the system as deemed necessary by the users to make the system more beneficial.

Also shown in Figure 1, under completion date, are the dates various tasks in the system should be completed each year. It is planned to have the system updated annually and include data for all paving work completed prior to December 1 of each year. All data should be submitted to the Data Processing Division by January 1. The data Processing Division will provide printouts of the latest year's data by February 1, and corrections and/or omissions as determined from the printouts should be submitted back to the Data Processing Division by March 1. The updated printout of the complete pavement data file will be available by April 1 of each year.

FIGURE 1. FLOW CHART SHOWING RESPONSIBILITY.

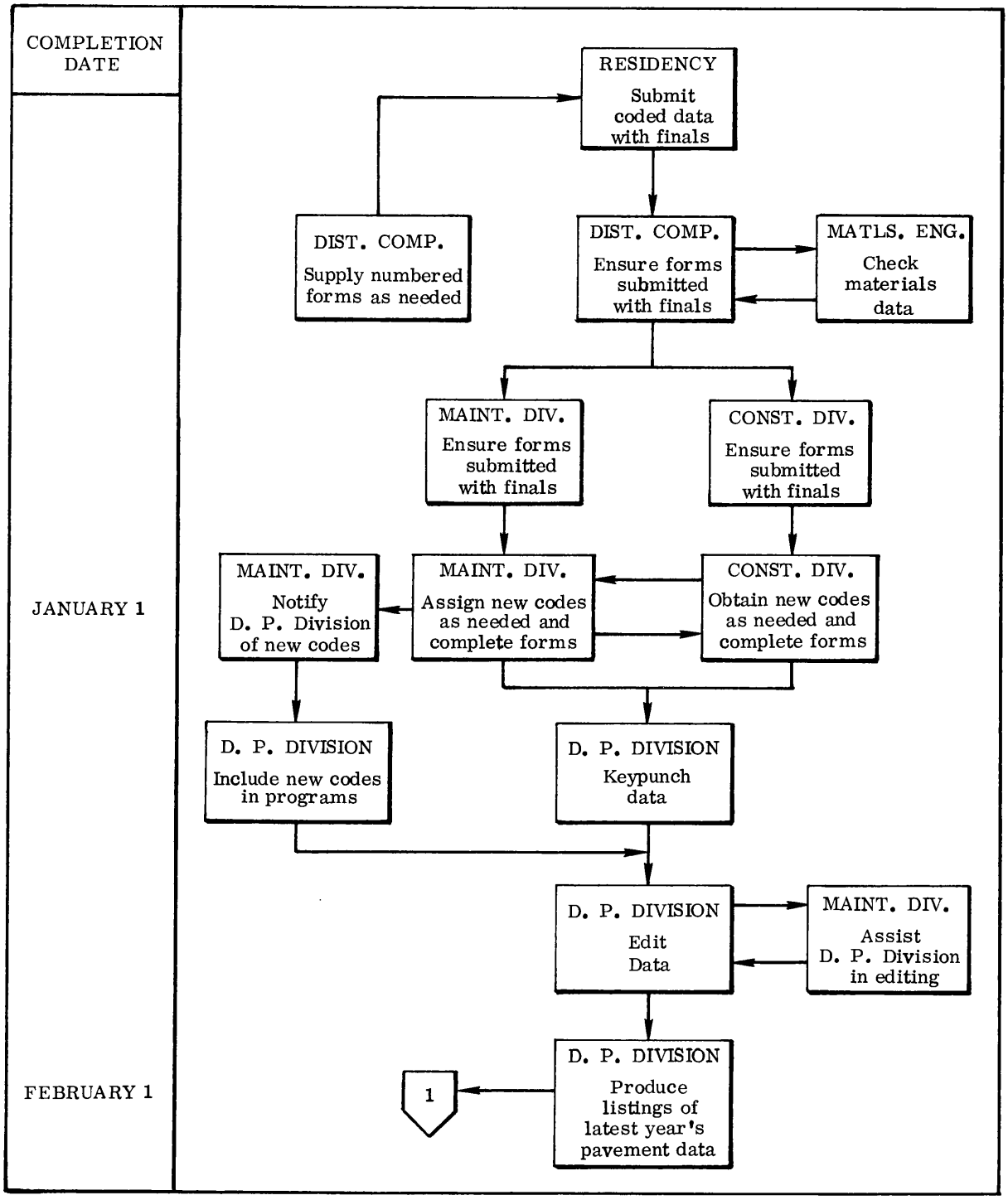
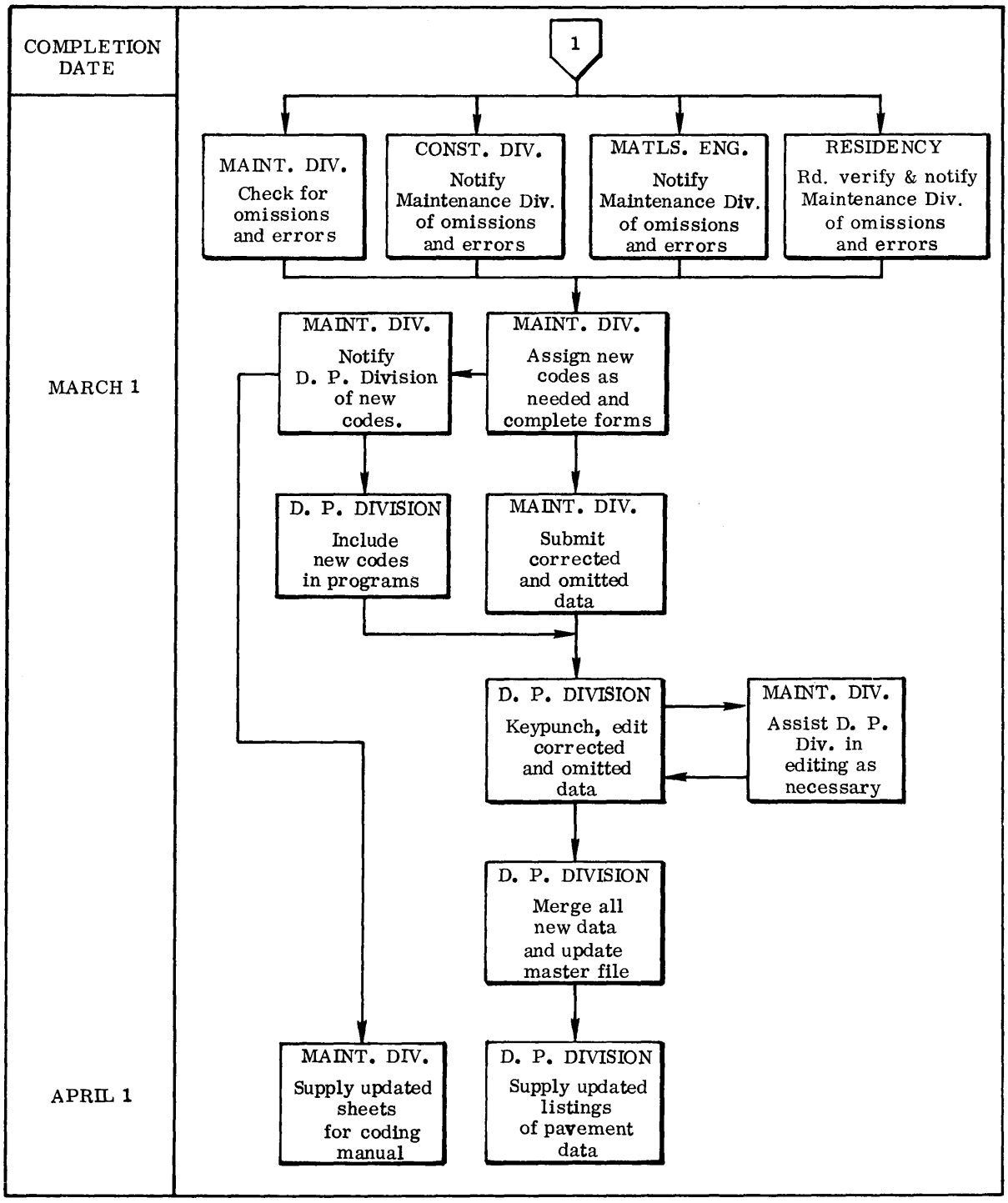


FIGURE 1. CONTINUED.



1954

PAVEMENT DESCRIPTIVE INFORMATION DATA SYSTEM

CODE MANUAL

May 1972

(Revised May 1973)

Virginia Highway Research Council
(A Cooperative Organization Sponsored Jointly by the Virginia
Department of Highways and the University of Virginia)

Charlottesville, Virginia

TABLE OF CONTENTS

	Page
Introduction	1
District (card 1, column 1)	2
Residency (card 1, column 2-3)	2
County (card 1, columns 4-5)	4
Route Number (card 1, columns 6-9)	6
City/Town/County (card 1, columns 10-12)	6
Beginning Milepost (card 1, columns 13-16)	10
Ending Milepost (card 1, columns 17-20)	10
Direction (card 1, column 21)	10
Lane (card 1, column 22)	11
Descriptive Beginning of Section (card 1, columns 23-41)	13
Descriptive Ending of Section (card 1, columns 42-60)	14
Highway System (card 1, column 61)	14
Highway Type Information (card 1, columns 62-63)	15
New Construction or Maintenance (card 1, column 64)	16
Date of Completion (card 1, columns 65-68)	16
Specification Year (card 1, columns 69-70)	16
Surface Mix Type (card 1, columns 71-72)	17
Special Features (card 1, columns 73-74)	18
Sequence Number (card 1, columns 75-78)	18
Project Number (card 2, columns 1-15, 16-30, 31-45, 46-60)	19
Schedule Number (card 2, columns 61-65)	20
Sequence Number (card 2, columns 75-78)	21
Surface Information	22
Bituminous Concrete Mixes	
Asphalt Type (card 3, columns 1-2)	22
Pounds/Square Yard of Mix Placed (card 3, columns 3-4)	22
Design Asphalt Content (card 3, columns 6-9)	23
Change in Design Asphalt Content (card 3, column 10)	23
Portland Cement Concrete	
Curing Method (card 3, column 11)	24
Texturing Method (card 3, columns 12-13)	24
Bags/Cubic Yard (card 3, columns 14-16)	24
Source of Cement (2 columns)	25
Method of Construction (card 3, column 19)	25
Thickness (card 3, columns 20-22)	26
Joint Spacing (card 3, columns 23-24)	26
Joint Sealing Material (card 3, columns 25-26)	26
Bituminous Surface Treatment Mixes	
Asphalt Type (card 3, columns 27-28)	26
Asphalt Gallons Per Square Yard (card 3, columns 29-30)	27
Stone Pounds Per Square Yard (card 3, columns 31-32)	27
Aggregate Information for Surface Mixes	27
Aggregate Size (card 3, columns 33-34, 43, 44, 53-54, 63-64)	28
Aggregate Type (card 3, columns 35-36, 45-46, 55-56, 65-66)	28
Aggregate Source (card 3, columns 37-39, 47-49, 57-59, 67-69)	29

TABLE OF CONTENTS (continued)

	Page
Aggregate Percent (card 3, columns 40-42, 50-52, 60-62, 70-72)	34
Sequence Number (card 3, columns 75-78)	34
Subsurface Information	35
Mix Type (card 4, columns 23-24, 32-33, 41-42, 50-51, 59-60)	35
Depth (card 4, columns 25-27, 34-36, 43-45, 52-54, 61-63)	36
Percent Cement/Lime/Asphalt (card 4, columns 28-31, 37-40, 46-49, 55-58, 64-67)	36
Sequence Number (card 4, columns 75-78)	36

INTRODUCTION

The purpose of the data system for which this manual was prepared is to provide descriptive information about the highway system, including data describing materials used in the surface and subsurface. Information on subsurface mixes will be developed only for new construction, and not for maintenance resurfacing.

Basically the system is designed for new construction and scheduled maintenance. In the event that unscheduled maintenance which is at least one lane wide and .25 mile long should occur, a data sheet should be submitted.

The basic unit in the system will be designated as a surface mix section and will normally begin and end where a particular surface mix begins and ends. The section will be located by beginning and ending mileposts, as well as descriptive beginning and ending points. All descriptive information about a surface mix section should, of course, remain the same for the entire section. Therefore, at times, it will be necessary to break surface mix sections into smaller sections because of changes in some of the descriptive data such as highway type, special features, etc. The method of subdividing surface mix sections will be dealt with in more detail later in this manual.

In instances there may be pieces of descriptive data to be included in the system for which there is no code in the manual. For instance, a new source of aggregate may occur for which no code has been developed. When no code exists, the person recording the data should attach a note indicating what the data are, and that no code exists. The Maintenance Division will then be responsible for assigning a code for the data in question and updating the manual.

Code the district, residency, and county as indicated below.

District (card 1, column 1)

District	Code
Bristol	1
Salem	2
Lynchburg	3
Richmond	4
Suffolk	5
Fredericksburg	6
Culpeper	7
Staunton	8

Residency (card 1, columns 2-3)

District	Residency	Code
Bristol	Wise	01
	Abingdon	03
	Lebanon	04
	Tazewell	06
	Wytheville	08
	Jonesville	58
Salem	Hillsville	09
	Christiansburg	11
	Martinsville	12
	Rocky Mount	13
	Salem	14
	Bedford	16
Lynchburg	Chatham	17
	Halifax	18
	Dillwyn	19
	Appomattox	20
	Amherst	22

District	Residency	Code
Richmond	South Hill	23
	Amelia	24
	Petersburg	25
	Chesterfield	26
	Sandston	27
	Ashland	28
Suffolk	Franklin	31
	Waverly	32
	Suffolk	33
	Norfolk	34
	Williamsburg	35
	Accomac	36
Fredricksburg	Saluda	37
	Warsaw	39
	Fredericksburg	40
	Bowling Green	41
Culpeper	Louisa	42
	Charlottesville	43
	Culpeper	45
	Warrenton	46
	Fairfax	47
	Manassas	48
	Leesburg	49
Staunton	Lexington	50
	Staunton-Verona	53
	Harrisonburg	54
	Edinburg	55
	Luray	56

1960

County (card 1, columns 4-5)

County	Code	County	Code
Arlington	00	Greene	39
Accomack	01	Greensville	40
Albemarle	02	Halifax	41
Alleghany	03	Hanover	42
Amelia	04	Henrico	43
Amherst	05	Henry	44
Appomattox	06	Highland	45
Augusta	07	Isle of Wight	46
Bath	08	James City	47
Bedford	09	King George	48
Bland	10	King & Queen	49
Botetourt	11	King William	50
Brunswick	12	Lancaster	51
Buchanan	13	Lee	52
Buckingham	14	Loudoun	53
Campbell	15	Louisa	54
Caroline	16	Lunenburg	55
Carroll	17	Madison	56
Charles City	18	Mathews	57
Charlotte	19	Mecklenburg	58
Chesterfield	20	Middlesex	59
Clarke	21	Montgomery	60
Craig	22	Nansemond	61
Culpeper	23	Nelson	62
Cumberland	24	New Kent	63
Dickenson	25	Northampton	65
Dinwiddie	26	Northumberland	66
Essex	28	Nottoway	67
Fairfax	29	Orange	68
Fauquier	30	Page	69
Floyd	31	Patrick	70
Fluvanna	32	Pittsylvania	71
Franklin	33	Powhatan	72
Frederick	34	Prince Edward	73
Giles	35	Prince George	74
Gloucester	36	Prince William	76
Goochland	37	Pulaski	77
Grayson	38	Rappahannock	78

County (continued)

County	Code	County	Code
Richmond	79	Stafford	89
Roanoke	80	Surry	90
Rockbridge	81	Sussex	91
Rockingham	82	Tazewell	92
Russell	83	Warren	93
Scott	84	Washington	95
Shenandoah	85	Westmoreland	96
Smyth	86	Wise	97
Southampton	87	Wythe	98
Spotsylvania	88	York	99

Note: For the cities shown below use the county codes indicated.

City	County Code
Virginia Beach	75
Hampton	27
Newport News	94

Note: If a section is divided by a county line, then the section should be considered as two sections, one within each of the counties.

Route Number (card 1, columns 6-9)

Record the standard route number as shown in the graphic log. When two routes are in the same physical location, i.e., overlapping routes, record the predominate route as shown in the graphic log. The predominate route is the one for which the information is recorded in the graphic log, with blank spaces appearing in the log for the other routes.

Prefixes for special routes, such as alternate routes, should be coded in column six as shown below.

Route Type	Code
Alternate	A
Bypass	B
Commercial (business)	C
Alternate Y	Y
Z	Z

Record service roads and ramps by the main route number.

City/Town/County (card 1, columns 10-12)

If the work occurs in a city or town, record the city or town three digit code. If the work does not occur in a city or town, record the appropriate two digit county code (shown above) in the last two columns, and record zero in the first column.

City/Town	Code
Abingdon	140
Accomac	160
Alberta	161
Alexandria	100
Altavista	162
Amherst	163
Appalachia	164
Appomattox	165
Ashland	166
Bedford	141
Belle Haven	167
Berryville	168
Big Stone Gap	101
Blacksburg	150
Blackstone	142
Bloxom	169
Bluefield	143
Boones Mill	170
Bowling Green	171
Boyce	172
Boydton	173
Boykins	174
Branchville	175
Bridgewater	176
Bristol	102
Broadway	177
Brodnax	178
Brookneal	179
Buchanan	180
Buena Vista	103
Burkeville	181
Cape Charles	182
Capron	183
Cedar Bluff	184
Charlotte C. H.	185
Charlottesville	104
Chase City	186
Chatham	187
Cheriton	188
Chesapeake	131
Chilhowie	189
Chincoteague	190
Christiansburg	154
Claremont	191
Clarksville	192
Cleveland	193
Clifton	194
Clifton Forge	105
Clinchport	195
Clintwood	196
Clover	197
Coeburn	198
Colonial Beach	199
Colonial Heights	106
Columbia	200
Courtland	201
Covington	107
Craigsville	202
Crew	203
Culpeper	204
Damascus	205
Danville	108
Dayton	206
Dendron	207
Dillwyn	208
Drakes Branch	209
Dublin	210
Duffield	211
Dumfries	212
Dungannon	213
Eastville	214
Edinburg	215
Elkton	216
Emporia	109
Exmore	217
Fairfax	151
Falls Church	110
Farmville	144
Fincastle	218
Floyd	219
Franklin	145
Fredericksburg	111

1964

City/Town	Code
Fries	220
Front Royal	112
Galax	113
Gate City	221
Glade Spring	222
Glasgow	223
Glen Lyn	224
Gordonsville	225
Goshen	226
Gretna	227
Grottoes	228
Grundy	229
Halifax	230
Hallwood	231
Hamilton	232
Hampton	114
Harrisonburg	115
Haymarket	233
Haysi	234
Herndon	235
Hillsboro	236
Hillsville	237
Holland	238
Honaker	239
Hopewell	116
Hurt	331
Independence	240
Iron Gate	241
Irvington	242
Ivor	243
Jarratt	244
Jonesville	245
Keller	246
Kenbridge	247
Keysville	248
Kilmarnock	249
LaCrosse	250
Lawrenceville	251
Lebanon	252
Leesburg	253
Lexington	117
Louisa	254
Lovettsville	255
Luray	159
Lynchburg	118
Madison	256
Manassas	155
Manassas Park	152
Marion	119
Martinsville	120
McKenney	257
Melfa	258
Middleburg	259
Middletown	260
Mineral	261
Monterey	262
Montross	263
Mt. Crawford	264
Mt. Jackson	265
Narrows	266
Nassawadox	267
New Castle	268
New Market	269
Newport News	121
Newsoms	270
Nickelsville	271
Norfolk	122
Norton	146
Occoquan	272
Ononcock	273
Onley	274
Orange	275
Painter	276
Pamplin City	277
Parksley	278
Pearisburg	279
Pembroke	280
Pennington Gap	281
Petersburg	123
Phenix	282
Pocahontas	283
Poquoson	147
Port Royal	284

City/Town	Code	City/Town	Code
Portsmouth	124	Suffolk	133
Pound	285	Surry	308
Pulaski	125	Tangier	309
Purcellville	286	Tappahannock	310
Quantico	287	Tazewell	158
Radford	126	The Plains	311
Remington	288	Timberville	312
Rich Creek	289	Toms Brook	313
Richlands	148	Troutdale	314
Richmond	127	Troutville	315
Ridgeway	290	Urbana	316
Roanoke	128	Victoria	317
Rocky Mount	157	Vienna	153
Round Hill	291	Vinton	149
Rural Retreat	292	Virgilina	318
Saint Charles	293	Virginia Beach	134
Saint Paul	294	Wachapreague	319
Salem	129	Wakefield	320
Saltville	295	Warrenton	156
Saxis	296	Warsaw	321
Scottsburg	297	Washington	322
Scottsville	298	Waverly	323
Shenandoah	299	Waynesboro	136
Smithfield	300	Weber City	324
South Boston	130	West Point	325
South Hill	301	Whaleyville	326
Stanardsville	302	White Stone	327
Stanley	303	Williamsburg	137
Staunton	132	Winchester	138
Stephens City	304	Windsor	328
Stony Creek	305	Wise	329
Strasburg	306	Woodstock	330
Stuart	307	Wytheville	139

Note: If a section should occur both within and outside of a town, then the recording of data should be on the basis of two sections, one within the town and the other outside the town, or three sections (two outside the town) if the work begins outside one side of the town limits and ends outside the other side of the town limits. The same procedure should be used if the section is entirely within a town, but divided by a county line. The one section would then be handled as two, one within each county.

Beginning Milepost (card 1, columns 13-16)

Record the beginning milepost correct to the nearest one-hundredth as taken directly from the graphic log. Recording of the decimal point is not required.

Examples:	Milepost	Coded Milepost
	17.31	1731
	5.20	0520

Ending Milepost (card 1, columns 17-20)

Record the ending milepost as explained above for the beginning milepost.

Direction (card 1, column 21)

Direction refers to the direction of the lane or lanes for which data are being recorded.

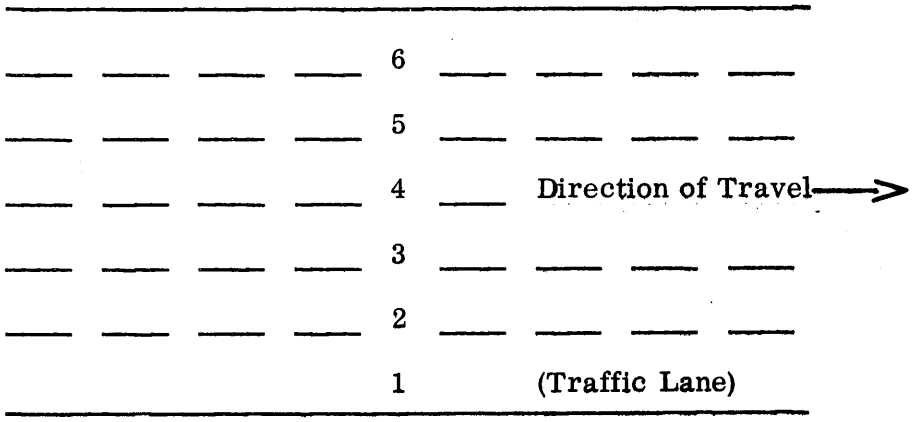
Direction	Code
North-South or East-West	0
North	1
South	2
East	3
West	4

Codes 1-4 will be used only when all lanes in both directions are not involved. See the examples shown below under Lane for the proper coding techniques for various situations.

The direction coded should refer to the normal direction for the route throughout the state which would either be a north-south route, or east-west route. The direction is indicated in the graphic log.

Lane (card 1, column 22)

When there is more than one lane of travel in any given direction, and data pertain to one of those lanes only, then code that lane as shown in the diagram below.



Code 0 if all lanes in one or both directions are described by the same information.

For express lanes code a 5 in the Direction column and the appropriate lane number in the Lane column facing away from the zero milepost (see examples 9 and 10 below).

Note: When data are different for the lanes going in opposite directions, a data sheet is required for each direction. When data are different for one lane in a given direction, a data sheet is required for each lane in that given direction for which data are recorded, even if several of the lanes are described by identical information.

	Examples	Direction	Lane(s)
1.	Dual lane, north-south highway — data pertain to both lanes. Code	0	0
2.	Four lane divided, north-south highway — data pertain to all lanes in both directions. Code	0	0
3.	Dual lane, north-south highway - data pertain to northbound lane only. Code northbound lane	1	0
4.	Four lane divided, north-south highway — data pertain to northbound lanes only. Code northbound lanes	1	0
5.	Four lane divided, north-south highway — data pertain to northbound traffic lane only. Code northbound traffic lane	1	1
6.	Four lane divided, north-south highway — data pertain to northbound traffic lane and both southbound lanes.		
	Code northbound traffic lane	1	1
	Code southbound lanes	2	0
7.	Three lane, north-south highway — data pertain to all three lanes. Code	0	0
8.	Three lane, north-south highway — data pertain to northbound and center lanes only.		
	Code northbound traffic lane	1	1
	Code center lane	0	2
9.	Eight lane highway with two express lanes separate in center such as Rt. 95 in Fairfax — data pertain to northbound and express lanes.		
	Code northbound lanes	1	0
	Code express lanes	5	0
10.	Eight lane highway with two express lanes separate in center such as Rt. 95 in Fairfax. The zero milepost occurs at the southern county line — data pertain to southbound lanes and express lane nearest the southbound lanes. Different data pertain to the express lane nearest the northbound lanes.		
	Code express lane nearest the three southbound lanes	5	5
	Code southbound lanes	2	0
	Code express lane nearest the three northbound lanes	5	4

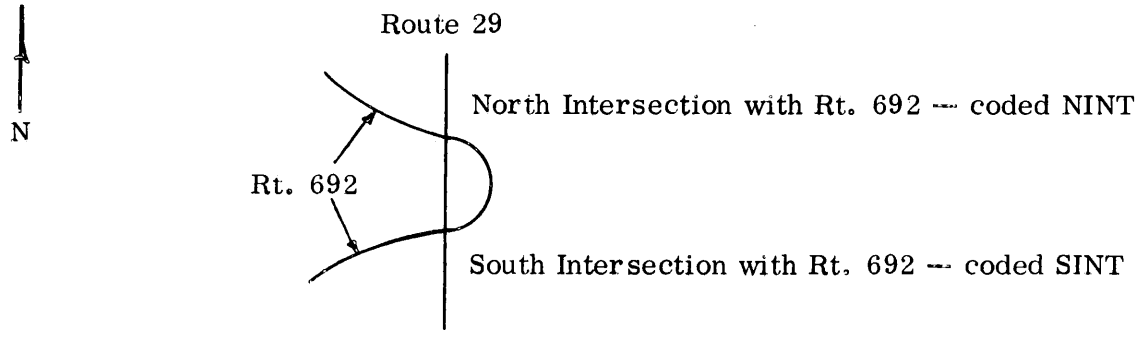
Descriptive Beginning of Section (card 1, columns 23-41)

Nineteen columns of space are allowed for an explanation of where a section begins. No particular format is required for this input, except that it should be referenced to the nearest intersection, corporate limits, or county line.

The list of abbreviations shown below should be used as needed. It is not necessary to include Route or its abbreviation prior to the route number.

Item	Abbreviation
North	N
South	S
East	E
West	W
North Corporate Limits	NCL
South Corporate Limits	SCL
East Corporate Limits	ECL
West Corporate Limits	WCL
County Line	CL
Miles	MI
North Intersection	NINT
South Intersection	SINT
East Intersection	EINT
West Intersection	WINT

The abbreviations NINT, SINT, EINT, and WINT will be used only if the route referenced to intersects the route the section is on more than once as shown in the diagram below.



It is not necessary to use the abbreviation for intersections when the routes in question intersect only once.

Examples: (1) Code

1	.	5		M	I		N		N	I	N	T		6	9	2		

for 1.5 miles north of the north intersection with Route 692.

(2) Code

3	.	8	2		M	I		N		N	C	L		C	H	A	R	L

for 3.82 miles north of the north corporate limits of Charlottesville.

The mileages shown in the descriptive locations should be consistent with those shown in the graphic log.

Descriptive Ending of Section (card 1, columns 42-60)

Record the descriptive ending of the section as described above for the descriptive beginning of the section.

Highway System (card 1, column 61)

Code the correct highway system as indicated below.

System	Code
Interstate	1
Arterial	2
Primary	3
Secondary	4

Highway Type Information (card 1, columns 62-63)

Kind of Highway	Code
One Way	10
Two Lane	20
Three Lane	30
Four Lane Undivided	40
Four Lane Divided — No Control of Access	41
Four Lane Divided — Partial Control of Access	42
Four Lane Divided — Full Control of Access	43
Four Lane Divided — Full Control of Access — Two Express Lanes	45
Six Lane Undivided	60
Six Lane Divided — No Control of Access	61
Six Lane Divided — Partial Control of Access	62
Six Lane Divided — Full Control of Access	63
Six Lane Divided — Full Control of Access — Two Express Lanes	65
Transition from a two lane (20) highway to a higher kind of highway, 30-40 etc., or transition from a higher kind of highway to a two lane (20) highway	72
Transition from a three lane (30) highway to a higher kind of highway, 40-60 etc., or transition from a higher kind of highway to a three lane (30) highway	73
Transition from a four lane (40-41-42-43) highway to a higher kind of highway, 60-61-62-63, or transition from a higher kind of highway to a four lane highway	74
(Reserved for 8 lanes)	80
Service Road Right	98
Service Road Left	99

Note: The appropriate code for any section of highway is shown in the graphic log.

Note: Whether a service road is right or left is determined by facing away from the zero milepost point for the route in question (in graphic log a right service road would be below the center of the log and a left service road would be above the center).

Note: If the highway type changes within the section defined by surface mix type, then the section as defined by surface mix type should be divided into smaller sections equal to the number of highway types within the original section.

New Construction or Maintenance (card 1, column 64)

Type	Code
New Construction	1
Maintenance	2

Maintenance construction projects should be coded as new construction.

Date of Completion (card 1, columns 65-68)

The first two columns should contain the month of completion coded as shown below. The last two columns should contain the last two digits of the year of completion.

Month	Code
January	01
February	02
March	03
April	04
May	05
June	06
July	07
August	08
September	09
October	10
November	11
December	12

Examples: Date of Completion	Coded
May 1972	0572
November 1972	1172

Specification Year (card 1, columns 69-70)

The last two digits of the specification year under which a project on schedule was let should be coded direct.

Surface Mix Type (card 1, columns 71-72)

As explained in the introduction, a section will always consist of the same surface mix type. The codes for the various mix types are shown below.

Mix Type	Code
S-1	01
S-2	02
S-3	03
S-4	04
S-5	05
S-6	06
MS-4	10
MS-5	11
MS-7	12
MS-8	13
MS-9	14
MS-10	15
I-1	20
I-2	21
I-3	22
Popcorn Mix	23
MI-2	30
MI-3	31
Portland Cement Concrete	40
Surface Treatment	41
Slurry Seal — Type A	42
Slurry Seal — Type B	43
Slurry Seal — Type C	44
Mix-in-Place	45

Special Features (card 1, columns 73-74)

When a special feature occurs which does not correspond to the beginning or ending of a section, the section should be subdivided into two or more sections.

Examples: Two sections as defined by mix type occur between mileposts 0.00 and 5.00 and 5.00 and 10.00. A special feature exists between mileposts 4.00 and 9.00. The two sections should be subdivided into four sections between mileposts 0.00 and 4.00, 4.00 and 5.00, 5.00 and 9.00, and 9.00 and 10.00.

A section as defined by mix type occurs between mileposts 10.31 and 12.52. A special feature exists between mileposts 11.00 and 11.50. The one section should be subdivided into three sections between mileposts, 10.31 and 11.00, 11.00 and 11.50, and 11.50 and 12.52.

Special Feature	Code
None	00
Grooved Pavement	01
Limestone Blend — Bituminous Concrete	02
Sprinkle Mix — Bituminous Concrete	03
Lightweight Aggregate Mix	04
Grooved Pavement — Type 2	05
Popcorn Mix	06
Petromat	07

Note: Any mix which contains a limestone aggregate will be considered a limestone blend. A Sprinkle mix obviously would contain limestone aggregates, but should be coded as a sprinkle mix (03).

Sequence Number (card 1, columns 75-78)

The sequence number, which is printed on the top right-hand corner of form DP-20, should be coded direct in columns 75 through 78 on card one.

Project Number (card 2, columns 1-15, 16-30, 31-45, 46-60)

Space is provided for the inclusion of many project sections and jobs. However, it is important to remember that all the information collected on forms DP-20 and DP-20-A must be identical for all the project sections and jobs listed. A change in any of the information recorded on DP-20 or DP-20-A, such as route number, beginning milepost, ending milepost, direction, or lane would require submission of a separate data form.

Example: For project number 0033-082-101, C501, code

PROJECT NUMBER															
Section			Job				Job				Job				
1	0	1	C	5	0	1									
1-3			4-7				8-11				12-15				

Example: For project number 0033-082-101, C501, 502, 503, code

PROJECT NUMBER															
Section			Job				Job				Job				
1	0	1	C	5	0	1	C	5	0	2	C	5	0	3	
1-3			4-7				8-11				12-15				

Example: For project numbers 0033-082-101, C501
0033-082-102, C501, 502
0033-082-104, G501, 502
0033-082-104, P501, 502, code

PROJECT NUMBER															
Section			Job				Job				Job				
1	0	1	C	5	0	1									
1-3			4-7				8-11				12-15				

PROJECT NUMBER			
Section	Job	Job	Job
1 0 2	C 5 0 1	C 5 0 2	
16-18	19-22	23-26	27-30

PROJECT NUMBER			
Section	Job	Job	Job
1 0 4	G 5 0 1	G 5 0 2	
31-33	34-37	38-41	42-45

PROJECT NUMBER			
Section	Job	Job	Job
1 0 4	P 5 0 1	P 5 0 2	
46-48	49-52	53-56	57-60

Schedule Number (card 2, columns 61-65)

For bituminous plant mix schedules, code the five digit schedule number direct. For instance, for schedule 801-72, code 801-72.

For surface treatment and slurry seal schedules use the following rules:

1. Code the district in column 61.
2. Code the schedule type in column 62 where

   surface treatment schedule A - 1
   surface treatment schedule B - 2
   surface treatment schedule C - 3,

   and slurry seal schedule - 4,
3. Code the schedule number for the year in column 63. For instance, the first slurry seal schedule would be coded as 1, and the second as 2.
4. Code the last two digits of the schedule year in columns 64 and 65.

Examples:	Schedule	Code
	801-72	801
	SS-1-72	141
	C-81-72	831
	C-82-72	832

For unscheduled maintenance code 000.

Sequence Number (card 2, columns 75-78)

The sequence number, which is printed on the top right-hand corner of form DP-20, should be coded direct in columns 75 through 78 on card two.

Surface Information

The next group of items refer to surface mixes only. The data input for the surface mix will change depending on whether the surface is portland cement concrete, bituminous concrete, or bituminous surface treatment.

Bituminous Concrete Mixes

Asphalt Type (card 3, columns 1-2)

Type	Code
AP-00	01
AP-1	02
AP-3	04
AP-5	06
CAE-2	10
AE-2	11
CAE-3	12
AE-3	13
AE-4	14
RC-2	20
RC-250	21
RC-0	22
AC-5	30
AC-10	40
AC-20	50
AC-40	60

Pounds/Square Yard of Mix Placed (card 3, columns 3-5)

The pounds per square yard of bituminous concrete placed should be recorded correct to the nearest pound as shown in the examples below:

Examples:	Pound/Sq. Yd. Placed	Code
	80 pounds/sq. yd.	080
	150 pounds/sq. yd.	150

Design Asphalt Content (card 3, columns 6-9)

The Job Mix design asphalt content (percent asphalt) should be recorded correct to the nearest one-hundredth as shown in the examples below. The decimal point should not be included.

Examples:	Design Asphalt Content	Code
	5.5 %	0550
	6.25%	0625
	10.0 %	1000

If the Job Mix design asphalt content changes during a project or schedule, then the average design asphalt content should be coded. For instance, if the Job Mix initially required 6.0 percent asphalt, and was changed to 6.2 percent, then 6.1 percent asphalt should be coded as 0610.

Change in Design Asphalt Content (card 3, column 10)

If the design asphalt content changes during a project or schedule, then code 1. If no change occurs code 0.

Portland Cement Concrete Mixes

Curing Method (card 3, column 11)

Method	Code
Liquid Membrane	1
Polyethylene	2
Curing Paper	3

Texturing Method (card 3, columns 12-13)

Method	Code
Burlap Drag - single layer, single application	01
Burlap Drag - multiple layers, multiple applications	02
Broom - natural bristle	03
Broom - wire bristle	04
Metal Tines	05

Bags Cubic Yard (card 3, columns 14-16)

Record the number of bags of cement used per cubic yard in the mix to the nearest one hundredth. Inclusion of the decimal point is not required.

Examples: Number of Bags Used	Code
3 bags cu. yd.	300
3½ bags/cu yd.	350
3¼ bags cu yd.	325

Source of Cement (2 columns)

Supplier	Plant Location	Code
Alpha	Lime Kiln, Md.	01
Atlantic	Baltimore, Md.	02
	Norfolk, Va.	03
Capitol	Martinsburg, W. Va.	04
Hercules	Stockertown, Pa.	05
Ideal	Castle Hayne, N. C.	06
	Knoxville, Tenn.	07
Lehigh	Buffalo, N. Y.	08
	Fordwick, Va.	09
	Union Bridge, Md.	10
Lone Star	Lone Star, Va.	11
	Nazareth, Pa.	12
	Norfolk, Va.	13
Marquette	Hagerstown, Md.	14
	Security, Md.	15
Medusa	York, Pa.	16
North America	Security, Md.	17
Penn-Dixie	Kingsport, Tenn.	18
	Nazareth, Pa.	19
	Richard City, Tenn.	20
Universal Atlas	Northampton, Pa.	21
	Hudson, N. Y.	22
	Norfolk, Va.	23
Volunteer	Knoxville, Tenn.	24

If multiple suppliers are used on the same job code 99.

Method of Construction (card 3, column 19)

Method	Code
Continuously reinforced	1
Jointed reinforced	2
Jointed plain	3

Thickness (card 3, columns 20-22)

Record the thickness of the pavement correct to the nearest one-tenth inch. The decimal point should not be recorded.

Joint Spacing (card 3, columns 23-24)

Record the joint spacing correct to the nearest foot. For continuously reinforced pavement code 00.

Joint Sealing Material (card 3, columns 25-26)

Type	Code
A	01
B	02
C	03

Bituminous Surface Treatment Mixes

Asphalt Type (card 3, columns 27-28)

Type	Code
AP-00	01
AP-1	02
AP-3	04
AP-5	06
CAE-2	10
AE-2	11
CAE-3	12
AE-3	13
AE-4	14
RC-2	20
RC-250	21
RC-0	22
AC-5	30
AC-10	40
AC-20	50
AC-40	60

Asphalt Gallons Per Square Yard (card 3, columns 29-30)

Record the gallons per square yard of asphalt intended correct to the nearest one-hundredth gallon. Do not record the decimal point.

Examples:	Gallons Per Square Yard	Code
	0.33 gallons per square yd.	33
	0.25 gallons per square yd.	25

Stone Pounds Per Square Yard (card 3, columns 31-32)

Record the pounds per square yard of stone intended correct to the nearest pound.

Example:	Pounds Per Square Yard	Code
	25 pounds per square yd.	25

Aggregate Information for Surface Mixes

Record the aggregate information as outlined below for the number of aggregates used in the mix. The aggregate information should always be recorded, regardless of the surface mix type.

Aggregate Size (card 3, columns 33-34, 43, 44, 53-54, 63-64)

Aggregate Size	Code
1	01
2	02
3	03
357	04
5	05
56	06
57	07
68	08
7	09
78	10
8	11
9	12
10	13
29	14
Filler	15
Sand	16
Top size 3/4	17
Top size 1/2 — Crusher Run	18
Top Size 3/8	19

Aggregate Type (card 3, columns 35-36, 45-46, 55-56, 65-66)

Type	Code
Limestone	01
Sandstone	02
Marble	03
Greenstone	04
Siltstone	05
Quartzite	06
Granite	07
Diabase (Traprock)	08
Gravel	09
Sand	10
Slag	11
Filler	12
Expaned Shale	13
Solite	14
Aplite	15

Aggregate Source (card 3, columns 37-39, 47-49, 57-59, 67-69)

Code local sands as 999. Otherwise code as shown below.

Source	Code
Acme Limestone Co. Bland, Va.	101
Acme Stone Co. Abingdon, Va.	102
Adams Construction Co. Burdine, Kentucky	103
Cardinal Stone Co. Independence, Va.	104
Clinch River Quarries St. Paul, Va.	105
Contracting Services, Inc. Whitesburg, Kentucky	106
Delp Quarry Comers Rock, Va.	107
Elkhorn Stone Co. Elkhorn City, Kentucky	108
Grayson Stone Co. Galax, Va.	109
H. D. Crowder and Sons Popular Camp, Va.	110
H. D. Crowder and Sons Rt. 52, Carroll County	111
Holston River Quarry Marion, Va.	112
Holston River Quarry Nicks Creek, Va.	113
James River Hydrate and Supply Co., Inc. Swords Creek, Va.	114
Kentucky-Virginia Stone Co. Gibson Station, Va.	115
Marty Corporation East Stone Gap, Va.	116
Meadowview Lime and Stone Co. Meadowview, Va.	117
Mercer Crushed Stone, Inc. Mercer County, W. Va.	118
Natural Tunnel Stone Co. Glenita, Va.	119
The New Jersey Zinc Co. Ivanhoe, Va.	120
Newman Brothers Quarry, Inc. Sylvatus, Va.	121
Pendleton Construction Corp. Cripple Creek, Va.	122
Pendleton Construction Corp. Rocky Gap, Va.	123
Pendleton Construction Corp. Wytheville, Va.	124
Pounding Mill Quarry Corp. Bluefield, Va.	125
R. G. Pope Construction Co. Dickensonville, Va.	126
Shaffer Pit Sand Wytheville, Va.	127
Silica Producers, Inc. Wytheville, Va.	128
Southeastern Stone Co. Gibson Station, Va.	129
Southwest Quarries, Inc. Big Stone Gap, Va.	130
Tri City Sand Company Johnson City, Tennessee	131
Tri State Lime Co. Blountville, Tennessee	132
Vulcan Materials Co. Bristol, Va.	133
Vulcan Materials Co. Erwin, Tennessee	134
Vulcan Materials Co. Kingsport, Tennessee	135

Aggregate Source (cont.)

Bristol District (continued)

Source	Code
Washington County Stone Co. Glade Spring, Va.	136
White Excavating Co. Castlewood, Va.	137
Woodway Stone Co. Woodway, Va.	138
Pounding Mill Quarry Pounding Mill, Va.	139

Salem District

Adams Construction Co. Blacksburg, Va.	201
Adams Construction Co. Elliston Pit, Elliston, Va.	202
Ararat Rock Products Co. Mount Airy, North Carolina	203
Blue Ridge Stone Corp. Blue Ridge, Va.	204
Castle Sand Corp. New Castle, Va.	205
James River Limestone Co., Inc. Buchanan, Va.	206
Kendall Sand Works Martinsville, Virginia	225
Liberty Limestone Corp. Buchanan, Va.	207
Liberty Limestone Corp. Rocky Point, Va.	208
Martinsville Stone Corp. Martinsville, Va.	209
Montgomery Limestone Corp. Ellett, Va.	210
Montgomery Limestone Corp. Shawsville, Va.	211
Newman Brothers Quarry, Inc. Floyd, Va.	212
Radford Stone Corp. Newborn, Va.	213
Radford Stone Corp. Radford, Va.	214
Rockydale Quarries Corp. Roanoke, Va.	215
Salem Stone Corp. Elliston Pit, Elliston, Va.	216
Salem Stcne Corp. Pearisburg, Va.	217
Shawsville Stone Co. Shawsville, Va.	219
Virginian Limestone Corp. Ripplemead, Va.	220
Weblite Corp. Roanoke, Va.	221
Wilson Quarries Horsepasture, Va.	222
Wilson Quarries Patrick Springs, Va.	223

Lynchburg District

Appomattox Lime Co. Appomattox, Va.	301
Arvonia-Buckingham Slate Co. Arvonia, Va.	302
Blue Ridge Stone Corp. Lynchburg, Va.	303
Dominion Stone Co. Piney River, Va.	304
LeSueur Richmond Slate Co. Arvonia, Va.	305
Rockydale Stone Service Lynchburg, Va.	306

Aggregate Source (cont.)

Lynchburg District (continued)

Source	Code
Solite Corp. Bremo Cluff, Va.	307
Vulcan Materials Co. Chatham, Va.	308
Vulcan Materials Co. Danville, Va.	309
Lynchburg Materials Lynchburg, Va.	310
Kyanite Manufacturing Co. Dillwyn, Va.	312

Richmond District

Source	Code
Boscobel Granite Corp. Richmond, Va.	401
Burkeville Stone Corp. Burkeville, Va.	402
Carter Sand and Gravel Co. Inc. Richmond, Va.	403
Commonwealth Sand and Gravel Corp. Williamsburg, Va.	404
Chickahominy Sand and Gravel Corp. Williamsburg, Va.	405
Dolphin Stone Co. Dolphin, Va.	406
Friend and Co., Inc. Petersburg, Va.	407
General Crushed Stone Doswell, Va.	408
J. R. Parker and Co., Inc. Providence Forge, Va.	409
Richmond Crushed Stone Co. Oilville, Va.	410
Rockville Stone Corp. Richmond, Va.	411
Sadler Materials Co. Richmond, Va.	412
Salem Stone Corp. Gum Springs, Va.	413
Southern Materials Co., Inc. Alberta, Va.	414
Southern Materials Co., Inc. Chester, Va.	415
Southern Materials Co., Inc. Jack, Va.	416
Southern Materials Co., Inc. Kingsland Reach, Va.	417
Southern Materials Co., Inc. Petersburg, Va.	418
Southern Materials Co., Inc. Rawlings, Va.	419
Southern Materials Co., Inc. Richmond, Va.	420
Tidewater Crushed Stone and Asphalt Co. Richmond, Va.	421
Vulcan Materials Co. Lawrenceville, Va.	422
Vulcan Materials Co. Richmond, Va.	423
West Sand and Gravel Co., Inc. Richmond, Va.	424
Solite Corporation Richmond, Virginia	425
Warren Brothers Incorporated Henrico Pit	426
Royal Stone Hylas, Virginia	427
Southern Materials Bracey, Virginia	428

Suffolk District

Source	Code
Adams Construction Co. Stony Creek, Va.	501
Melvin Mann Sand Boykins, Virginia	502
R. H. Baillo Sand Co. Virginia Beach, Virginia	503

Aggregate Source (cont.)

Suffolk District (continued)

Source	Code
Trego Stone Co. Skippers, Virginia	504
W. R. Bishop Sand Handsom, Virginia	505
Sparrows Point Maryland	506

Fredericksburg District

Source	Code
A & T Sand and Gravel Co. Milford, Va.	601
Fox Sand and Gravel Co. Aylett, Va.	602
Fredericksburg Sand and Gravel Corp. Fredericksburg, Va.	603
Fredericksburg Stone Co. Fredericksburg, Va.	604
Massaponax Sand and Gravel Corp. Fredericksburg, Va.	605
Mattaponi Sand and Gravel Company, Inc. Aylett, Va.	606
Port Royal Sand and Gravel Woodford, Va.	607
Solite Corp. Fredericksburg, Va.	608

Culpeper District

Source	Code
A. H. Smith Louisa, Va.	701
Belvoir Sand and Gravel Co. Accotink, Va.	702
Bull Run Stone Co. Catharpin, Va.	703
Chantilly Crushed Stone, Inc. Chantilly, Va.	704
Charlottesville Stone Corp. Shadwell, Va.	705
Culpeper Stone Co. Culpeper, Va.	706
Fairfax Quarries, Inc. Centreville, Va.	707
Flint Hill Quarry Flint Hill, Va.	708
Hilltop Sand and Gravel Co. Alexandria, Va.	709
Leesburg Stone Co. Sterling, Va.	710
Loudoun Quarries, Inc. Arcola, Va.	711
Modern Sand and Gravel Co. Alexandria, Va.	712
Northern Virginia Construction Co. Annandale, Va.	713
Potomac Sand and Gravel Co. Washington, D. C.	714
Sanders Quarry, Inc. Warrenton, Va.	715
Superior Stone Co. Gordonsville, Va.	716
Superior Stone Co. North Garden, Va.	717
Superior Stone Co. Rivanna River, Va.	718
Virginia Sand and Gravel Co. Alexandria, Va.	719
Virginia Trap Rock, Inc. Leesburg, Va.	720
Vulcan Materials Co. Ferncliff, Va.	721
Vulcan Materials Co. Manassas, Va.	722
Vulcan Materials Co. Occoquan, Va.	723

Aggregate Source (cont.)

Staunton District

Source	Code
Augusta Stone Corp. Staunton, Va.	801
Beaver Dam Quarry Callaghan, Va.	802
Belmont Trap Rock Co., Inc. Staunton, Va.	803
Charles W. Barger and Son Limestone Quarry, Inc. Lexington, Va.	804
Chemstone Corp. Strasburg, Va.	805
C. S. Mundy Quarries, Inc. Forrestville, Va.	806
C. S. Mundy Quarries, Inc. Singers Glen, Va.	807
Eastside Quarries Waynesboro, Va.	808
Elkton Limestone Co. Elkton, Va.	809
Frazier Quarry, Inc. Harrisonburg, Va.	810
Fred K. Betts, III, Quarry, Inc. Harrisonburg, Va.	811
Grottoes Sand and Gravel Co. Grottoes, Va.	812
Lone Jack Limestone Co., Inc. Clasgow, Va.	813
M. J. Grove Lime Co. Middletown, Va.	814
M. J. Grove Lime Co. Stephens City, Va.	815
Riverton Lime and Stone Co., Inc. Luray, Va.	816
Riverton Lime and Stone Co., Inc. Riverton, Va.	817
Shenandoah Sand and Gravel Shenandoah, Va.	818
Sidney Satterfield Elkton, Va.	819
Stuart M. Perry, Inc. Berryville, Va.	820
Stuart M. Perry, Inc. Winchester, Va.	821
Virginia Asphalt Paving Co. Strasburg, Va.	822
Virginia Dept. of Agriculture Staunton, Va.	823
Virginia Dept. of Highways Hightown, Va.	824
Vulcan Materials Co. Lowmoor, Va.	825
Vulcan Materials Co. Staunton, Va.	826
Vulcan Materials Co. Waynesboro, Va.	827
W. S. Frey Co. Clearbrook, Va.	828
Southwest Materials Vesuvius, Va.	829
Ararat's Quarry Natural Bridge, Va.	830
Shenandoah Sand & Gravel Island Ford, Va.	831
Jamison Black Marble Harrisonburg, Va.	832
Locher Silica Corporation Goshen, Va.	833

1990

Aggregate Percent (card 3, columns 40-42, 50-52, 60-62, 70-72)

The percent of the total mix represented by each aggregate should be recorded correct to the nearest percent as shown in the examples below.

Examples:	Percent of Total Mix	Code
	10 percent	010
	50 percent	050
	100 percent	100

Note: The sprinkle material used in sprinkle mixes should be shown in the aggregate information and recorded as zero percent.

Sequence Number (card 3, columns 75-78)

The sequence number printed in the top right hand corner of form DP-20 should be recorded in columns 75-78 on card 3.

Subsurface Information

The next group of items refer to subsurface courses only. As noted in the introduction, data for subsurface courses will be recorded only for new construction, and should be recorded on form DP-20-A, and submitted as a supplement to form DP-20.

In recording subsurface information, begin at the top of the form for the layer immediately under the surface and work down through the subgrade.

Mix Type (card 4, columns 23-24, 32-33, 41-42, 50-51, 59-60)

Type	Code
S-1	01
S-2	02
S-3	03
S-4	04
S-5	05
S-6	06
MS-4	10
MS-5	11
MS-7	12
MS-8	13
MS-9	14
MS-10	15
I-1	20
I-2	21
MI-2	30
MI-3	31
Portland Cement Concrete	40
Surface Treatment	41
Slurry Seal — Type A	42
Slurry Seal — Type B	43
Slurry Seal — Type C	44
Mix-in-Place	45
P-1	50
P-2	51
P-3	52
B-1	60
B-2	61
B-3	62

Select Material — Type	Code
I	70
II	71
III	72

Subbase Material — Stone Size	
19	73
20	74
21	75
21A	76
22	77
23	78

Aggregate Base Material —	
Type I	79
Type II	80

Mix Type (continued)

Type	Code
Subgrade — Native — unstabilized	90
Subgrade — Native — cement stabilized	91
Subgrade — Native — lime stabilized	92
Subgrade — Native — asphalt stabilized	93
Subgrade — Select Borrow — unstabilized	94
Subgrade — Select Borrow — cement stabilized	95
Subgrade — Select Borrow — lime stabilized	96
Subgrade — Select Borrow — asphalt stabilized	97

Depth (card 4, columns 25-27, 34-36, 43-45, 52-54, 61-63)

Record the depth correct to the nearest one-tenth inch. Do not record the decimal point.

Examples:	Depth	Code
	6.0 inches	060
	7.5 inches	075
	12.5 inches	125

Percent Cement/Lime/Asphalt (card 4, columns 28-31, 37-40, 46-49, 55-58, 64-67)

For bituminous concrete mixes record the percent asphalt correct to the nearest one-hundredth. For lime, cement, or asphalt stabilized materials, record the percent of the stabilizing material correct to the nearest one-hundredth. Do not record the decimal point.

Examples: (1) B-3 mix with 6.0% asphalt, code 0600.
(2) Cement treated subgrade (5% cement), code 0500.

Sequence Number (card 4, columns 75-78)

The sequence number printed in the top right-hand corner of form DP-20 should be recorded in columns 75-78 on card four.