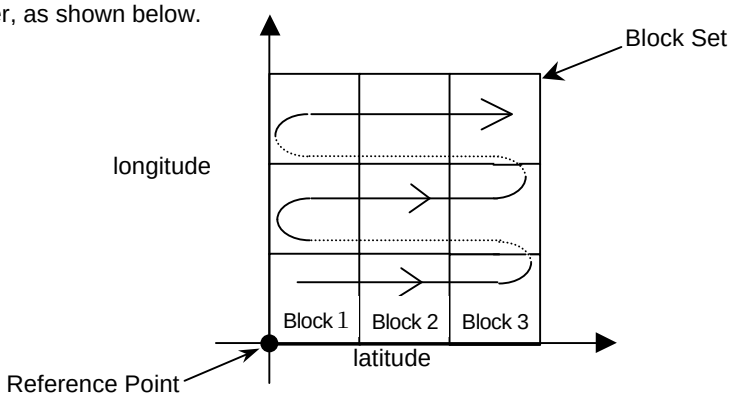
6. Parcel-related Data Management Frame (Main Map and Route Guidance Data Management)

The parcel-related data management frame is used to manage the data contained in the parcels (equally-sized rectangles on the same level) of main map and route guidance data.
A sequence of block management tables are placed in descending order of level. If two or more areas on the same level are included in a sequence of block set management records, the sequence of block management tables on the same level is placed in the same way as the block sets. The block sets are placed from the reference point (point having the smallest longitude and the smallest latitude) to the opposite point, side to side in the longitudinal direction on one latitudinal level and another, as shown below.



name [Parcel Data Management Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	B1		Parcel Data Management Distribution Header		a
2	-	-	-			c
3	free			Parcel Management List		a

6.1 Parcel Data Management Distribution Header

Block set management records are placed in order of block management tables.

name [Parcel Data Management Distribution Header]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	2	SWS	Header Size	(1)	a
2	2	2		(RESERVED)		a
3	4	2	:B	File Name Designation	(2)	a
4	6	2		(RESERVED)		a
5	8	3	B:N	Latitude of Upper Edge of Coverage Area	(3)	a
6	11	3	B:N	Latitude of Lower Edge of Coverage Area	(3)	a
7	14	3	B:N	Longitude of Left Edge of Coverage Area	(3)	a
8	17	3	B:N	Longitude of Right Edge of Coverage Area	(3)	a
9	20	2	SWS	Size of Level Management Record	(4)	a
10	22	2	SWS	Size of Block Set Management Record	(5)	a
11	24	2	SWS	Size of Block Management Record	(6)	a
12	26	2	N	A Sequence of Level Management Records	(7)	a
13	28	2	N	Total Number of Block Set Management Records	(8)	a

No.	offset	Data length	Data type	Item name	Remarks	Classification
14	30	B1		A Sequence of Level Management Records		a
15		B2		A Sequence of Block Set Management Records		a
16		B3		A Sequence of Block Management Tables		a

(1) Header Size

This field describes the size of the parcel data management distribution header. If there is no entity, the size field is set to 0.

(2) File Name Designation

No.	bit	Description		
1	15 to 1	(RESERVED)		
2	0	File Name Designation Flag	bit0	Meaning
			0	No file name designated
			1	File name designated

When the parcel management information is managed in files, the designation flag (bit 0) is set to 1.

If no file name is specified (bit 0 is set to 0), the file name designation field of the reference record of parcel management information is deleted (classification c).

(3) Latitude and Longitude of Coverage Area

No.	bit	Description		
1	23	North/South East/West Flag	bit23	Meaning
			0	North latitude/east longitude
			1	South latitude/west longitude
2	22 to 0	Longitude/Latitude (in units of 1/8 seconds)		

A value of the latitude of upper edge, latitude of lower edge, longitude of left edge, or longitude of right edge is represented by a combination of the north/south east/west flag in the first bit and a latitude or longitude specified in units of 1/8 seconds in the remaining 23 bits.

(4) Size of Level Management Record

This field describes the size of the level management record. The size is 20 (40 bytes).

(5) Size of Block Set Management Record

This field describes the size of the block set management record. The size is 5 (10 bytes).

(6) Size of Block Management Record

This field describes the size of block management record managed by the block set management record.

(7) Total Number of Level Management Records

This field describes the number of level management records managed by the parcel data management distribution header.

(8) Total Number of Block Set Management Records

This field describes the number of block set management records managed by the parcel data management distribution header.

6.1.1 Level Management Record

This record manages the top address of each level of block set management records.

The record manages the numbers of block sets, blocks, and parcels on the same level, and describes hierarchical relationship between levels by comparing their parcel management units.

Level management records are placed in descending order of level.

name [Level Management Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	2	I::N	Level Management Header	(1)	a
2	2	2	N:N:N:N	Number of Basic/Extended Data Frame Management Records, of the Parcel Entity of the Level	(5)	a
3	4	4	N	Display Scale Flag 1	(8)	a
4	8	4	N	Display Scale Flag 2	(8)	a
5	12	4	N	Display Scale Flag 3	(8)	a
6	16	4	N	Display Scale Flag 4	(8)	a
7	20	4	N	Display Scale Flag 5	(8)	a
8	24	2	N:N	Number of Latitudinal/Longitudinal Block Sets	(9)	a
9	26	2	N:N	Number of Latitudinal/Longitudinal Blocks	(12)	a
10	28	2	N:N	Number of Latitudinal/Longitudinal Parcels	(15)	a
11	30	2	N:N	Number of Latitudinal/Longitudinal Divided Parcels (Parcel Division Type 1)	(18)	a
12	32	2	N:N	Number of Latitudinal/Longitudinal Parcels (Parcel Division Type 2)	(18)	a
13	34	2	N:N	Number of Latitudinal/Longitudinal Parcels divided by (Parcel Division Type 3)	(18)	a
14	36	2	D	Offset to the Top of the Block Set Management Records of the Level	(21)	a
15	38	2	SWS	Node Record Size	(23)	
16	40			Expansion Field	(22)	c

(1) Level Management Header

No.	bit	Description					
1	15 to 10	Level Number (2)					
2	9 to 8	(RESERVED)					
3	7 to 4	Number of Regular Parcels Integrated on the Next-higher Level (3)	bit7	bit6	bit5	bit4	No. of Managed Regular Parcels
			0	0	0	0	$1 \times 1 = 1$
			0	0	0	1	$2 \times 2 = 4$
			0	0	1	0	$4 \times 4 = 16$
			0	0	1	1	$8 \times 8 = 64$
			0	1	0	0	$16 \times 16 = 256$
			0	1	0	1	$32 \times 32 = 1024$
			0	1	1	0	(0110 (2) and after not yet determined)
4	3 to 0	Number of Regular Parcels Divided on the Next-lower Level (4)	bit3	bit2	bit1	bit0	No. of Managed Regular Parcels
			0	0	0	0	$1 \times 1 = 1$
			0	0	0	1	$1/2 \times 1/2 = 1/4$
			0	0	1	0	$1/4 \times 1/4 = 1/16$
			0	0	1	1	$1/8 \times 1/8 = 1/64$
			0	1	0	0	$1/16 \times 1/16 = 1/256$
			0	1	0	1	$1/32 \times 1/32 = 1/1024$
			0	1	1	0	(0110(2) and after not yet determined)

(2) Level Number

This field describes the block set level number. The number can range from -31 to +31, and -32 is assigned to null.

(3) Number of Regular Parcels Integrated on the Next-higher Level

For the highest level, the number of managed parcels is 1.

(4) Number of Regular Parcels Divided on the Next-lower Level

For the lowest level, the number of managed parcels is 1.

(5) Number of Basic and Extended Data Frame Management Records of the Parcel Data of the Level

No.	bit	Description
1	15 to 12	Number of Basic Data Frame Management Records of Main Map Data Frame (6)
2	11 to 8	Number of Extended Data Frame Management Records of Main Map Data Frame (6)
3	7 to 4	Number of Basic Data Frame Management Records of Route Guidance Data Frame (7)
4	3 to 0	Number of Extended Data Frame Management Records of Route Guidance Data Frame (7)

These fields describe the numbers of basic and extended data frames of the main map data frame and route guidance data frame of each level. If the value specified here is smaller than the value predefined with metadata, data frames are deleted from the end of the sequence of basic or extended parcel data frames of the level.

(6) Number of Basic and Extended Data Frame Management Records of Main Map Data Frame

These fields describe the number of basic and extended data frames of the main map data frame of each level.

If the value specified here is smaller than the value predefined with metadata, data frames are deleted from the end of the sequence of basic or extended data frames of the main map parcel data (main map data frame) of each level. Values #n and #m of items 15 and 16 of the main map distribution header are described in these fields.

If 0(16) is assigned to both fields "the number of basic and extended data frame management records", the main map parcel management list of each level is not created.

(7) Number of Basic and Extended Data Frame Management Records of Route Guidance Data Frame

These fields describe the number of basic and extended data frames of route guidance data frame of each level.

If the value specified here is smaller than the value predefined with metadata, data frames are deleted from the end of the sequence of basic and extended data frames of the route guidance parcel data (route guidance data frame) of each level. Values #n and #m of items 7 and 8 of the route guidance distribution header are described in these fields.

If 0(16) is assigned to both fields, "the numbers of basic and extended data frame management records", the route guidance parcel management list of each level is not created.

(8) Display Scale Flag

This field describes the data source scale, which functions as the display scale flag of the road, background, and name data frames described in Chapter 7. A denominator value of the scale is specified here. (If the scale is 1/10,000, for instance, 10,000 is specified in this field.)

For an unused display scale flag, FFFFFFFF(16) is set.

(9) Number of Latitudinal/Longitudinal Block Sets

No.	bit	Description
1	15 to 8	Number of Latitudinal Block Sets (10)
2	7 to 0	Number of Longitudinal Block Sets (11)

(10) Number of Latitudinal Block Sets

This field describes the number of latitudinal block sets in the block set management table of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, and 16)

(11) Number of Longitudinal Block Sets

This field describes the number of longitudinal block sets in the block set management table of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, and 16)

(12) Number of Latitudinal/Longitudinal Blocks

No.	bit	Description
1	15 to 8	Number of Latitudinal Blocks (13)
2	7 to 0	Number of Longitudinal Blocks (14)

(13) Number of Latitudinal Blocks

This field describes the number of latitudinal blocks in the block management table of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, 16, 32, 64, 128, and 256)

(14) Number of Longitudinal Blocks

This field describes the number of longitudinal blocks in the block management table of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, 16, 32, 64, 128, and 256)

(15) Number of Latitudinal/Longitudinal Parcels

No.	bit	Description
1	15 to 8	Number of Latitudinal Parcels (16)
2	7 to 0	Number of Longitudinal Parcels (17)

(16) Number of Latitudinal Parcels

This field describes the number of latitudinal parcels in the parcel management information of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, 16, 32, 64, 128, and 256)

(17) Number of Longitudinal Parcels

This field describes the number of longitudinal parcels in the parcel management information of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, 16, 32, 64, 128, and 256)

(18) Number of Latitudinal/Longitudinal Parcels divided by Parcel division type 1 to 3

No.	bit	Description
1	15 to 8	Number of Latitudinal Divided Parcels (19)
2	7 to 0	Number of Longitudinal Divided Parcels (20)

This field describes the number of divided parcels in the parcel management information of each level.

Up to three different types (Type 1 to Type 3) can be specified for dividing parcels.

The field numbers for the number of divided parcels 1 to 3 are referred to as parcel dividing type numbers.

For a level on which no parcels are divided or for a field not used, 00h,00h is assigned to these fields.

The number of latitudinal/longitudinal divided parcels must not exceed the number of integrated parcels and the number of divided parcels between levels, defined in the level management information.

(19) Number of Latitudinal Divided Parcels

This field describes the number of latitudinal divided parcels defined in the parcel management information of each level.

The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, 16, 32, 64, 128, and 256)

(20) Number of Longitudinal Divided Parcels

This field describes the number of longitudinal divided parcels defined in the parcel management information of each level.

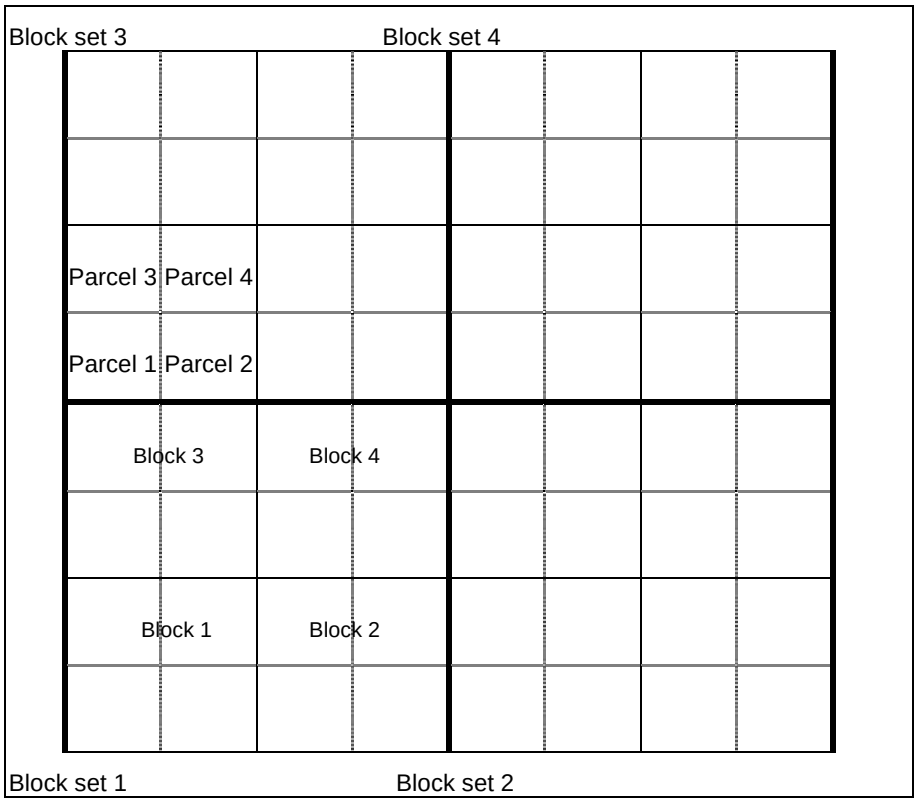
The value can range from 0 to 255, and the value has the meaning of its value plus 1, ranging from 1 to 256. (Limited to 1, 2, 4, 8, 16, 32, 64, 128, and 256)

(21) Offset to the Top of the Block Set Management Record of Each Level

This field describes the address location of the block set management record of each level. This field describes the displacement from the top of the parcel data management frame to the block set management record.

Note: Level management and relationship among block sets, blocks, and parcels

Level



(22) Expansion Field

The presence or absence of the expansion field is judged according to the size of the level management record defined in the parcel-related data management distribution header.

(23) Node Record Size

This field describes the size of node record of the road data frame in the main map parcel of each level. If the node record does not have extended data, the value is 4 (8 bytes). If the record has extended data, the record size including the extended part is described in this field.

In the above example:

The number of latitudinal/longitudinal block sets is $2 \times 2 = 4$.
The number of latitudinal/longitudinal blocks is $2 \times 2 = 4$.
The number of latitudinal/longitudinal parcels is $2 \times 2 = 4$.

6.1.1.1 Level Management Record Expansion Field

The structure of the expansion field of the level management record is defined below.

name [Level Management Record Expansion Field]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	2	:N:N:N	Number of Road Display Classes + Number of Background Display Classes + Number of Name Display Classes	(1)	a
2	2	B1		A Sequence of Display Class Information Items (for Road Data Frame)	(2)	a
3	O1	B2		A Sequence of Display Class Information Items (for Background Data Frame)	(3)	a
4	O2	B3		A Sequence of Display Class Information Items (for Name Data Frame)	(4)	a
5	O3	B4		Adjustment Field	(5)	c

(1) Number of Road Display Classes + Number of Background Display Classes + Number of Name Display Classes

No.	bit	Description
1	15 to 14	(RESERVED)
2	13 to 10	Number of Road Display Classes (1-1)
3	9 to 5	Number of Background Display Classes (1-2)
4	4 to 0	Number of Name Display Classes (1-3)

These fields describe the number of display classes for the road, background, and name data frames of the main map data frame, which is described in Chapter 7.

(1-1) Number of Road Display Classes

The number described in this field is the same as described for the display class management information in “7.2 Road data frame.”

A value ranging from 0 to 15 is specified, and the value has the meaning of its value plus 1, ranging from 1 to 16.

(1-2) Number of Background Display Classes

The number specified in this field is the same as described for the item management information in “7.3 Background data frame.”

A value ranging from 0 to 31 is specified, and the value has the meaning of its value plus 1, ranging from 1 to 32.

(1-3) Number of Name Display Classes

The number described in this field is the same as described for the name data management information in “7.4 Name data frame.”

A value ranging from 0 to 31 is specified, and the value has the meaning of its value plus 1, ranging from 1 to 32.

(2) A Sequence of Display Class Information (for Road Data Frame)

Display class information items for the road display class data are placed in the order corresponding to the order of the display class management information sequence in “7.2 Road data frame.”

(3) A Sequence of Display Class Information (for Background Data Frame)

Display class information items for the background display class data are placed in the order corresponding to the order of the item management information sequence in “7.3 Background data frame.”

(4) A Sequence of Display Class Information (for Name Data Frame)

Display class information items for the name display class data are placed in the order corresponding to the order of the name data management information sequence in “7.4 Name data frame.”

(5) Adjustment Field

An adjustment field is provided so that the size of the level management record equals the basic part + extended part, as indicated below:

S: Size of level management record

B0: Size of basic part of level management record (40 bytes)

B1: Size (2 bytes) = Number of road display classes + background display classes + name display classes

B2: Size of a sequence of display class information (for road Data Frame)

B3: Size of a sequence of display class information (for background Data Frame)

B4: Size of a sequence of display class information (for name Data Frame)

S > B0 + B1 + B2 + B3 + B4

→ Adjustment field provided

S = B0 + B1 + B2 + B3 + B4

→ No adjustment field provided

0(0000(16)) is assigned to the adjustment field.

6.1.1.1.1 Display Class Information

name [Display Class Information]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	2	N	Display Class Code	(1)	a

(1) Display class code

For the display class code, see Chapter 32.

6.1.2 Block Set Management Record

Block set management records have a one -to-one relationship with block management tables.

Block set management records are placed in descending order of level. A sequence of block set management records on the same level is placed from low latitudes to high latitudes, assuming that the values of east longitude and north latitude are positive and the values of west longitude and south latitude are negative.

name [Block Set Management Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	2	I::N	Block Set Management Header	(1)	a
2	2	4	D	Offset to Block Management Table	(4)	b
3	6	4	SWS	Size of Block Management Table	(5)	b

(1) Block Set Management Header

No.	bit	Description
1	15 to 10	Level Number (2)
2	9 to 8	(RESERVED)
3	7 to 0	Block Set Number (3)

(2) Level Number

This field describes the level managed by the block set management record. The value can range from -31 to +31, and -32 is assigned to null.

(3) Block Set Number

Block sets are the units by which the coverage area of the distribution header is managed. The numbers of latitudinal and longitudinal block sets are used to manage the coverage area. This field describes the serial number (ascending order) given to a block set management record on the same level, ranging from 0 to 255.

(4) Offset to Block Management Table

This field describes the address of the block management table managed by the block set management record.

The value represents the displacement from the top of the parcel-related data management frame to the top of the block management table. If there is no corresponding block management table within the target area, an invalid value FFFF(16):FFFF(16) is assigned.

(5) Size of Block Management Table

This field describes the size of the block management table managed by the block set management record.

If there is no corresponding block management table within the target area, an invalid value 0000(16) is assigned in this field.

6.2 Block Management Table

A block management table is a list of data items corresponding to all valid block management tables recorded in a block set management record. A sequence of block management records (blocks) is placed in descending order of level. The records are placed from the block set management origin (point having the smallest longitude and the smallest latitude) to the opposite point, side to side in the longitudinal direction on one latitudinal level after another.

name [Block Management Table]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	B1		A Sequence of Block Management Records		

6.2.1 Block Management Record

A sequence of block management records in a single block set is placed from low latitudes to high latitudes, assuming that the values of east longitude and north latitude are positive and the values of west longitude and south latitude are negative. The total number of block management records equals the latitudinal block management data multiplied by the longitudinal block management data.

The sequence of block management records in a single block set directly represents a sequence of block numbers.

Values ranging from 0 to 65534 are held according to the order of storage within the block set.

name [Block Management Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0		M	Reference Record of Parcel Management Information	(1)	a

Parcels managed by the parcel management information are main map data frames and route guidance data frames.

6.2.1.1 Reference Record of Parcel Management Information

name [Reference Record of Parcel Management Information]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	Address of Parcel Management Information	(1)	b
2	4	2	BS	Size of Parcel Management Information	(2)	b
3	6	12	C	File name of Parcel Management Information	(3)	c

(1) Address of Parcel Management Information

This field describes the storage location (track address relative to the reference track) of the parcel management information managed by this block management record. This field is valid if one or more parcels are managed by the parcel management information.

If there is no corresponding parcel management information in the target area, an invalid value FFFF(16):FFFF(16) is assigned.

(2) Size of Parcel Management Information

This field describes the size of the parcel management information managed by the block management record.

If parcels are divided in the parcel management information, the size including the parcel management information for division is held. If there is no corresponding parcel management information in the target area, an invalid value 0000(16) is assigned.

(3) File Name of Parcel Management Information

This field is provided if file name specification is provided in item 3 of the parcel data management distribution header.

This field is specified if the parcel management information managed by this block management record is managed in files.

A file name of up to 12 bytes including the extension is specified.

The setting is left-justified, and 00(16) is set in any remaining positions. If there is no corresponding information, 00(16) is set in all positions of the 12-byte area.

6.3 Parcel Management Information

name [Parcel Management Information]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	2	:N:N	Parcel Management Type	(1)	a
2	2	2	D	Offset to Route Guidance Parcel Management List	(4)	b
3	4	B1		Main Map Parcel Management List		a
4	O1	B2		Route Guidance Parcel Management List		c

(1) Parcel Management Type

No.	bit	Description
1	15 to 10	(RESERVED)
2	9 to 8	Parcels Type Number given by the Number of Managed Parcels(2)
3	7 to 0	Parcel Management List Type Number (3)

(2) Parcels Type Number given by the Number of Managed Parcels

The parcel management information (parent) referenced from a block management record is given type number 0.

For the parcel management information referenced to divide parcels, the number of latitudinal/longitudinal divided parcel management data 1 to 3 (parcel division type number: 1 to 3) specified by the level management information of the level is stored.

If the type number is 1, for instance, number of latitudinal/longitudinal divided parcels 1 of the level management information of each level is used.

(3) Parcel Management List Type Number

This field describes the type number of the parcel management list of the parcel management information. The value can range from 0 to 254, and 255 is assigned to null. The data management method in the parcel depends on the type.

(4) Offset to Route Guidance Parcel Management List

This field describes the address of the route guidance parcel management list managed by the parcel management information.

The value represents the displacement from the top of the parcel management information to the top of the route guidance parcel management list.

If this level has no route guidance data frame according to item 2 (Number of the basic and extended data frame management records of route guidance data frame = 0:0) in the level management record, an invalid value FFFF(16) is assigned.

6.3.1 Main Map Parcel Management List

The sequence of main map parcel management records are placed from low latitudes to high latitudes, assuming that the values of east longitude and north latitude are positive and the values of west longitude and south latitude are negative. The number of parcel management records equals the number of latitudinal parcels multiplied by the number of the longitudinal parcel management data of the level management record of each level.

name [Main Map Parcel Management List]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	B1		A Sequence of Main Map Parcel Management Records		a
2	O1			A Sequence of Main Map Divided Parcel Management Information		c

6.3.1.1 Main Map Parcel Management Record

This record describes the storage location and size of the main map data frame (parcel).

If multiple parcels in a single block are integrated into a single parcel, the individual management records hold the first address and size of the same integrated parcel.

If a parcel is divided into multiple parcels, the division is performed according to the number of divided parcels 1 to 3 of the level management record of the level. The divided parcel considers this parcel as a block. The first address (No.1) of the main map parcel management record describes the displacement from the top of the parent parcel management information to the top of the sequence of divided parcels management information, and the size field (No.2) is assigned 0000(16) as the ID information.

Parcels must be integrated to form a rectangle and must not be integrated to form an area with projection, depression, or discontinuity. Latitudinal/longitudinal divided parcel management data 1 to 3 of the level management record corresponding to the level must not exceed the integration data or division data between levels managed by the level management information. The parcel division type number specifies the division method. Up to eight parcels can be integrated in the latitudinal and longitudinal directions. The divided parcel management information must not be used for further integration or division.

The parcel management information for division is placed adjacent to the parent parcel management list (see supplements 3-1 and 3-2). If parcels are divided in different positions, the information is placed in order of parcel management.

6.3.1.1.1 Main Map Parcel Management Record (When Parcel Management Type Number is 0)

name [Main Map Parcel Management Record (When Parcel Management Type Number is 0)]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Main Map Data Frame (Parcel)	(1)	b
2	4	2	BS	Size of Main Map Data Frame (Parcel)	(2)	b

(1) First Address of Main Map Data Frame (Parcel)

This field describes the storage location (track address relative to the reference track) of the main map data frame (parcel) of the position managed by the main map parcel management record. If there is no corresponding parcel, FFFFFFFF(16) is assigned.

If the corresponding parcel position is divided, the value represents the storage location of the divided parcels management information.

The displacement from the top of the parent parcel management information to the top of the corresponding divided parcel management information is described as an offset to the address of the divided parcel management information. (Data type: D)

(2) Size of Main Map Data Frame (Parcel)

This field describes the size of the main map data frame (parcel) managed by the main map parcel management record. If there is no corresponding parcel, FFFFFFFF(16) is assigned to the address field, and 0000(16) is assigned to this size field.

If the corresponding parcel position is divided, 0000(16) is assigned to this size field.

6.3.1.1.2 Main Map Parcel Management Record (When the Parcel Management Type Number is 1)

name [Main Map Parcel Management Record (When Parcel Management Type Number is 1)]

No.	Offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Main Map Data Frame (of Parcel Data)	(1)	b
2	4	2	BS	Size 1 of Main Map Data Frame (of Parcel Data)	(2)	b
3	6	2	BS	Size 2 of Main Map Data Frame (of Parcel Data) (Size of Basic Data Frame)	(3)	b

(1) First Address of Main Map Data Frame (of Parcel Data)

Same as when the parcel management type number is 0

(2) Size 1 of Main Map Data Frame (of Parcel Data) (Whole Main Map Data)

This field describes the size of the main map data frame (parcel) managed by the main map parcel management record. If there is no corresponding parcel, FFFFFFFF(16) is assigned to the address field and 0000(16) is assigned to this size field.

If the corresponding parcel position is divided, 0000(16) is assigned to this size field.

(3) Size 2 of Main Map Data Frame (Parcel) (Size of the Basic Part)

This field describes the size of the main map data frame (basic data frame) of the position managed by the main map parcel management record. If there is no corresponding parcel, 0000(16) is assigned to this field.

6.3.1.1.3 Main Map Parcel Management Record (When the Parcel Management Type Number is 2)

name [Main Map Parcel Management Record (When the Parcel Management Type Number is 2)]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Main Map Data Frame (Parcel)	(1)	b
2	4	2	BS	Size 1 of Main Map Data Frame (Parcel)	(2)	b
3	6	2	BS	Size 2 of Main Map Data Frame (Parcel) (Size of road Data)	(3)	b

(1) First Address of Main Map Data Frame (Parcel)

Same as when the parcel management type number is 0

(2) Size 1 of Main Map Data Frame (Parcel) (Size of Whole Main Map Data)

This field describes the size of the main map data frame (parcel) of the position managed by the main map parcel management record. If there is no corresponding parcel, FFFFFFFF(16) is assigned to the address field and 0000(16) is assigned to this size field.

If the corresponding parcel position is divided, this size field is set to 0000(16).

(3) Size 2 of Main Map Data Frame (Parcel) (Size of Road Data Only)

This field describes the size of the main map data frame (road data) managed by the main map parcel management record. If there is no corresponding parcel, 0000(16) is assigned to this field.

6.3.1.1.4 Main Map Parcel Management Record (When the Main Map Parcel Management Type Number is 100)

name [Main Map Parcel Management Record (When the Main Map Parcel Management Type Number is 100)]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Main Map Data Frame (Parcel)	(1)	b
2	4	2	BS	Size of Main Map Data Frame (Parcel)	(2)	b
3	6	12	C	File Name of Main Map Data Frame (Parcel)	(3)	b

(1) First Address of Main Map Data Frame (Parcel)

This field describes the storage location (track address relative to the reference track) of the main map data frame (parcel) of the position managed by the main map parcel management record. If there is no corresponding parcel, FFFFFFFF(16) is assigned to this field.

If the position corresponding to the parcel is divided, the field describes the storage location of the parcel management information for division management.

The displacement from the top of the parent parcel management information to the top of the divided parcel management information is stored as an offset to the address of the divided parcel management information. (Data type: D)

(2) Size of Main Map Parcel Data

This field describes the size of the main map data frame (parcel) of the position managed by the main map parcel management record. If there is no corresponding parcel, FFFFFFFF(16) is assigned to the address field and 0000(16) is assigned to this size field.

If the corresponding parcel position is divided, 0000(16) is assigned to this size field.

(3) File Name of Main Map Parcel Data

This field describes the file name of the main map data frame (parcel) managed in files by the main map parcel management record.

If the corresponding parcel position is divided, the file name of the parcel management information for division management is indicated.

A file name of up to 12 bytes including the extension can be specified.

The file name is left justified, and the remaining area is padded with 00(16). If there is no corresponding information, all bits of the 12-byte are padded with 00(16).

6.3.2 Route Guidance Parcel Management List

A sequence of route guidance parcel management records is placed from low latitudes to high latitudes, assuming that the values of east longitude and north latitude are positive and the values of west longitude and south latitude are negative. The number of parcel management records in a sequence equals latitudinal parcel management data multiplied by longitudinal parcel management data of the level management record corresponding to the level.

name [Route guidance Parcel Management List]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	B1		A Sequence of Route Guidance Parcel Management Records		a
2	O1			A Sequence of Route Guidance Divided Parcel Management Information		c

6.3.2.1 Route Guidance Parcel Management Record

This record describes the storage location and size of the route guidance data frame (parcel).

If multiple parcels in a block are integrated into a single parcel, the Management records of the parcels hold the first address and size of the same integrated parcel.

If the parcel corresponding to the parcel position is divided, the division is performed according to the number of divided parcels 1 to 3 of the level management record of the level. A group of divided parcels is considered as a block. The first address field (No.1) of the route guidance parcel management record describes the displacement from the top of the parent parcel management information to the top of the route guidance divided parcel management information sequence, and 0000(16) is assigned to the size field (No.2) as the ID information.

Parcels must be integrated to form a rectangle and must not be integrated to form an area with projection, depression, or discontinuity. Latitudinal/longitudinal divided parcel management data 1 to 3 of the level management record corresponding to this level must not exceed the integration data or division data between levels managed by the level management information. The parcel division type number specifies 0 the division method. Up to eight parcels can be integrated in the latitudinal and longitudinal directions. The divided parcel management information must not be used for further integration or division.

The parcel management information for divided parcels is placed adjacent to the parent parcel management list (see supplements 3-1 and 3-2). If parcels are divided in different positions, the information is placed in order of parcel management. The route guidance parcels are integrated and divided in the same way as in the main map parcel management list.

6.3.2.1.1 Route Guidance Parcel Management Record (When the Parcel Management Type Number is 0)

name [Route Guidance Parcel Management Record (When the Parcel Management Type Number is 0)]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Route Guidance Data Frame (Parcel)	(1)	b
2	4	2	BS	Size of Route Guidance Data Frame (Parcel)	(2)	b

(1) First Address of Route Guidance Data Frame (Parcel)

This field describes the storage location (track address relative to the reference track) of the route guidance data frame (parcel) of the position managed by the route guidance parcel management record. If there is no corresponding parcel, the field is set to FFFFFFFF(16).

If the corresponding parcel position is divided, the field describes the storage location of the parcel management information for division management.

The displacement from the top of the parent parcel management information to the top of the divided parcel management information is stored as an offset to the address of the divided parcel management information. (Data type: D)

(2) Size of Route Guidance Data Frame (Parcel)

This field describes the size of the route guidance data frame (parcel) of the position managed by the route guidance parcel management record. If there is no corresponding parcel, the field is set to 0000(16).

If the corresponding parcel position is divided, the size field is set to 0000(16).

6.3.2.1.2 Route Guidance Parcel Management Record (When the Parcel Management Type Number is 1)

name [Route Guidance Parcel Management Record (When the Parcel Management Type Number is 1)]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Route Guidance Data Frame (Parcel)	(1)	b
2	4	2	BS	Size 1 of Route Guidance Data Frame (Parcel)	(2)	b
3	6	2	BS	Size 2 of Route Guidance Data Frame (Parcel) (Size of Basic Data Frame)	(3)	b

(1) First Address of Route Guidance Data Frame (Parcel)

Same as when the parcel management type number is 0

(2) Size 1 of Route Guidance Data Frame (Parcel) (Whole Route Guidance Data)

This field describes the size of the route guidance data frame (parcel) of the position managed by the route guidance parcel management record. If there is no corresponding parcel, the address field described above is set to FFFFFFFF(16), and this size field is set to 0000(16).

If the corresponding parcel position is divided, this size field is set to 0000(16).

(3) Size 2 of Route Guidance Data Frame (Parcel) (Size of Basic Part)

This field describes the size of the route guidance data frame (basic data frame) of the position managed by the route guidance parcel management record. If there is no corresponding parcel, this field is set to 0000(16).

6.3.2.1.3 Route Guidance Parcel Management Record (When the Parcel Management Type Number is 2)

Same as when the parcel management type number is 1

6.3.2.1.4 Route Guidance Parcel Management Record (When the Parcel Management Type Number is 100)

name [Route Guidance Parcel Management Record (When the Parcel Management Type Number is 100)]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	DSA	First Address of Route Guidance Data Frame (Parcel)	(1)	b
2	4	2	BS	Size of Route Guidance Data Frame (Parcel)	(2)	b
3	6	12	C	File Name of Route Guidance Data Frame (Parcel)	(3)	b

(1) First Address of Route Guidance Data Frame (Parcel)

Same as when the parcel management type number is 0

(2) Size of Route Guidance Data Frame (parcel)

Same as when the parcel management type number is 0

(3) File Name of Route Guidance Data Frame (Parcel)

This field describes the file name of the route guidance data frame (parcel) if the frame of the position managed by the route guidance parcel management record is managed in files.

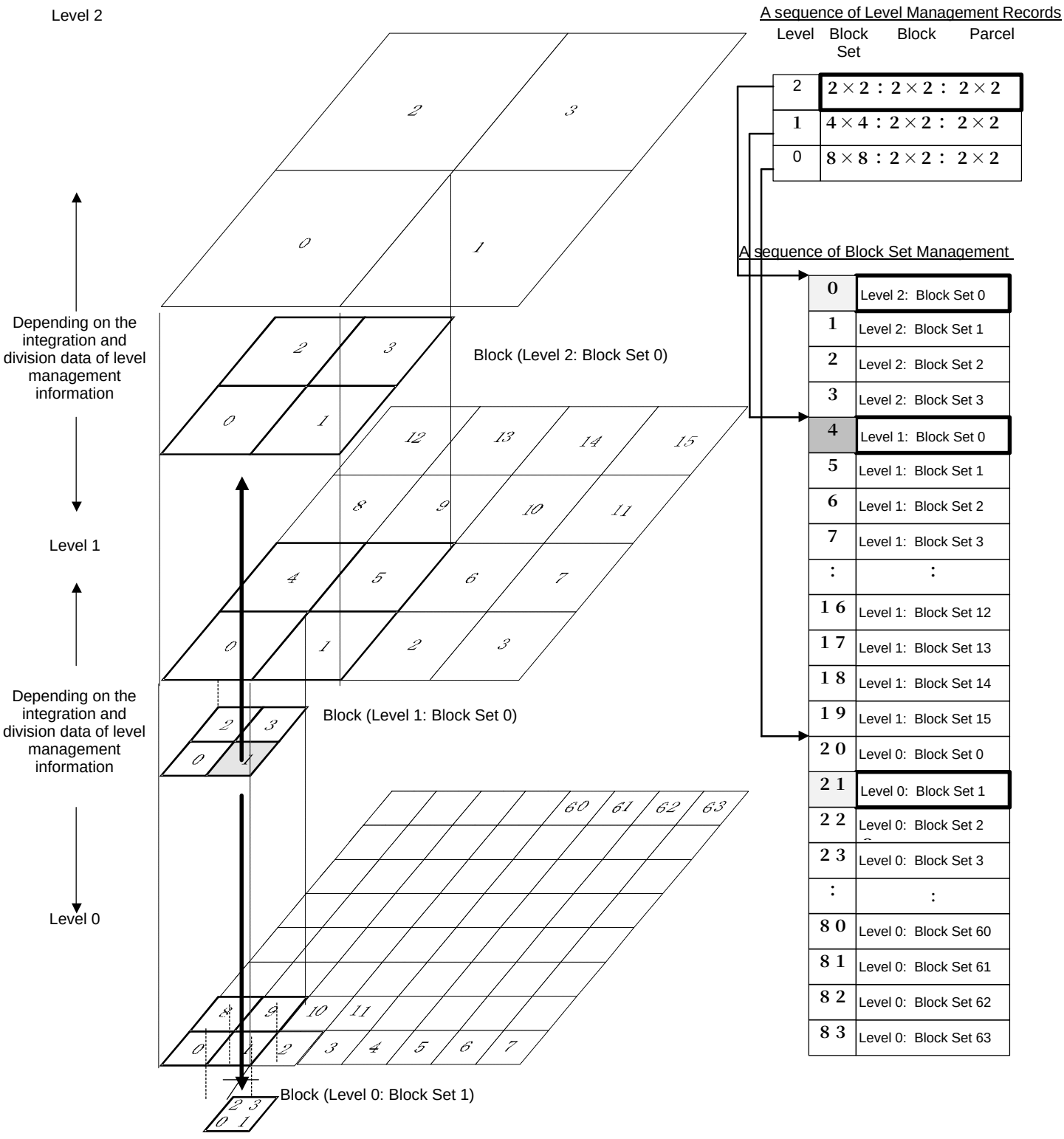
If the corresponding parcel position is divided, the file name of the parcel management information for division management is indicated.

The file name of up to 12 bytes including the extension can be specified.

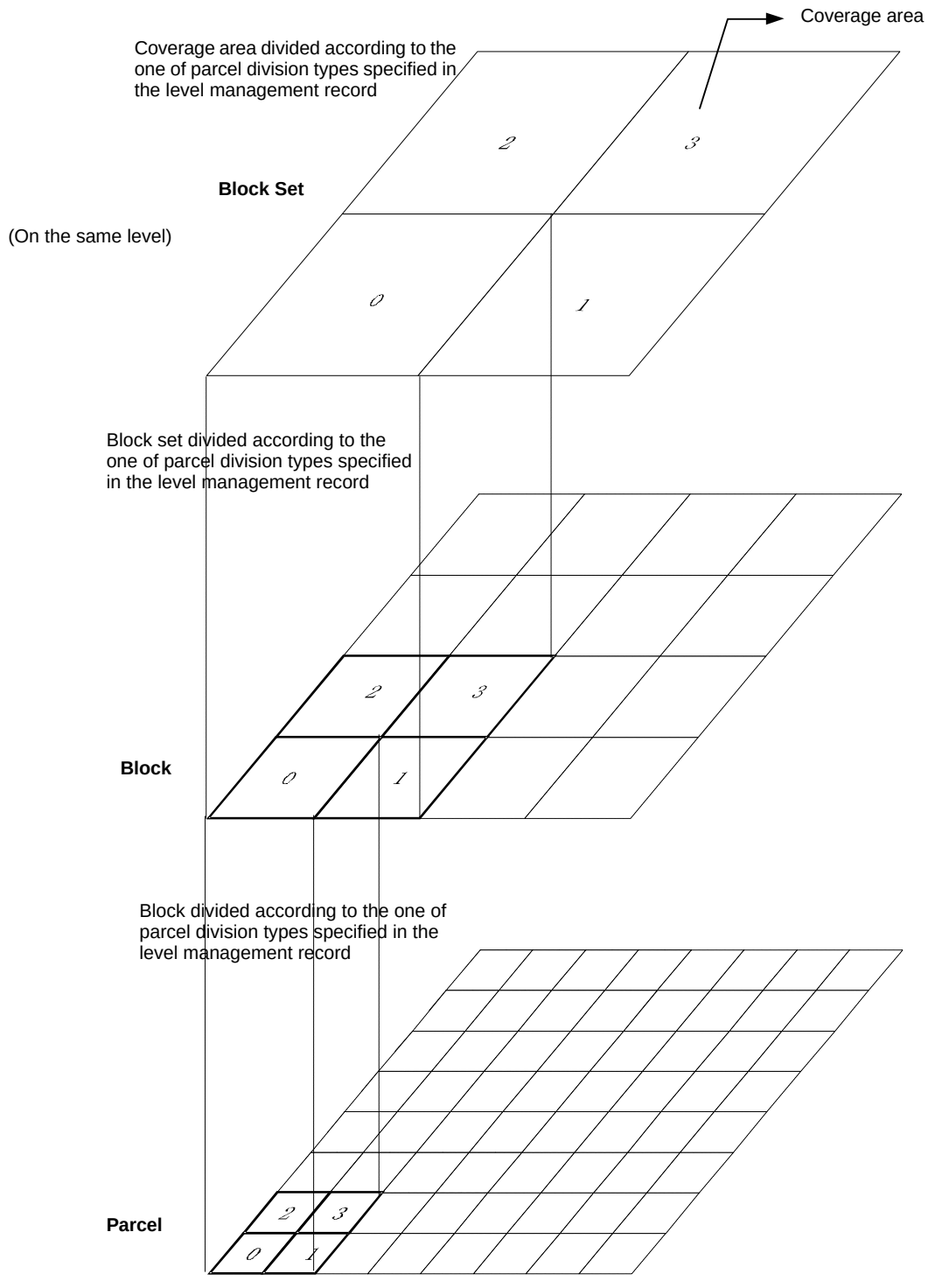
The file name is left-justified, and any remaining positions are set to 00(16). If there is no corresponding information, all positions of the 12-byte area are set to 00(16).

6.A1 Supplements

Supplement 1: Relationship among Block Sets and blocks of different levels



Supplement 2: Relationship among Block Sets, Blocks, and Parcels



Integration and division allowed in units of parcels
(see supplement 3)

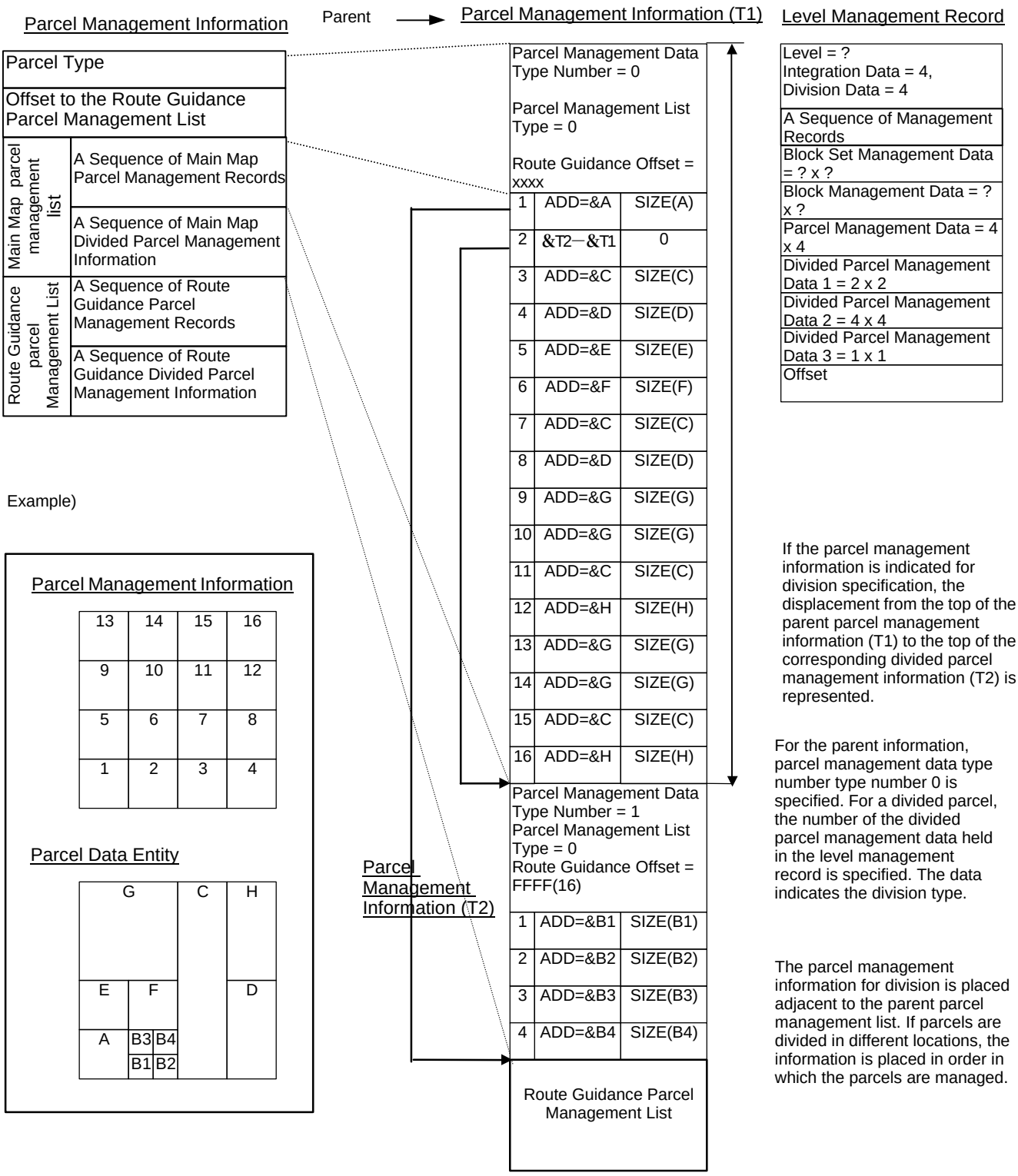
Supplement 3-1: Integrating and Dividing Parcels

The parcel management information has equally-sized parcel management records formed by division by the parcel management data (the number of latitudinal parcels multiplied by longitudinal parcel management data of the level management record of the level).

If parcels 4 and 8 are integrated into area D as shown below, for instance, the integration is represented by coding the address and size of area D in the parcel management records of parcels 4 and 8.

If parcel 2 is divided into areas B1 to B4 as shown below, for instance, parcel management information T2 having the same structure as this parcel management information is provided. The offset to the divided parcel management information (displacement from the top of the parent parcel management information to the top of the divided parcel management information) is described.

The division of parcels is represented by specifying the address and size of areas B1 to B4 in the parcel management records of T2. Up to eight parcels can be integrated in the latitudinal and longitudinal directions. The divided parcel management information must not be used for reintegration or further division. The main map parcels and route guidance parcels must be integrated or divided in the same manner.



If the parcel management information is indicated for division specification, the displacement from the top of the parent parcel management information (T1) to the top of the corresponding divided parcel management information (T2) is represented.

For the parent information, parcel management data type number type number 0 is specified. For a divided parcel, the number of the divided parcel management data held in the level management record is specified. The data indicates the division type.

The parcel management information for division is placed adjacent to the parent parcel management list. If parcels are divided in different locations, the information is placed in order in which the parcels are managed.

Supplement 3-2: Example of Parcel Integration and Division

Parcel management Information

(Note 1) Parcel management data type number = 0 (parent)

Offset to guidance → A — A: Offset from Note 1

Main map parcel management list (parent){

Parcel 1

Parcel 2 (divided) → B — B: Offset from Note 1

:

:

Parcel 16

}

B → Parcel management information (divided) [/* Main map */

Parcel management data type number = 1 (divided by 4)

Offset to guidance → 0xffff

Main map parcel management list (divided){ (No route guidance data)

Parcel 1

:

Parcel 4

}

}

A → Route guidance parcel management list{

Parcel 1

Parcel 2 (divided) → C — C: Offset from Note 1

:

Parcel 16

}

C → Parcel management information (divided) [/* Route guidance */

Parcel management data type number = 1 (divided by 4)

Offset to guidance=0 (D) No main map data

D → Route guidance parcel management list (divided){

Parcel 1

:

Parcel 4

}

}

}