



TreeKeeper Jr (TKJR) was developed by the Davey Resource Group and is distributed by The National Arbor Day Foundation (NADF) based in Nebraska City, Nebraska. The NADF is a non-profit organization which has a mission to promote tree planting, care, and conservation, and to educate people on tree issues. Information about the number of communities using TKJR is not available. TKJR is limited to records for 5000 tree sites, and is licensed for direct use by communities.



▲ Figure 3.6.1: TreeKeeper Jr. splash screen.

System requirements

- MS-DOS® 3.1 or later
- 386SX processor (486DX recommended)
- 4 MB of RAM (8 MB recommended)
- 1 MB of hard disk space for every 5,000 trees
- 1 MB of hard disk space for every 10,000 work records
- VGA color monitor recommended

TKJR was primarily used on a Gateway™ G6-200 Pentium® Pro PC with Windows NT®. TKJR was also used with Windows® 95 and 98, on a Gateway™ P5-166 Pentium® and a Gateway™ G6-300 Pentium® II, respectively. The TKJR directory uses 4,085 KB of hard disk space. After entering data for 384 tree sites the directory size increased to 4,589 KB. Therefore 1,000 tree sites would require approximately 1,312 KB (1.28 MB).

Software cost

TKJR is purchased from The NADF for \$200.00. The cost is \$99.00 for Tree City USA members.

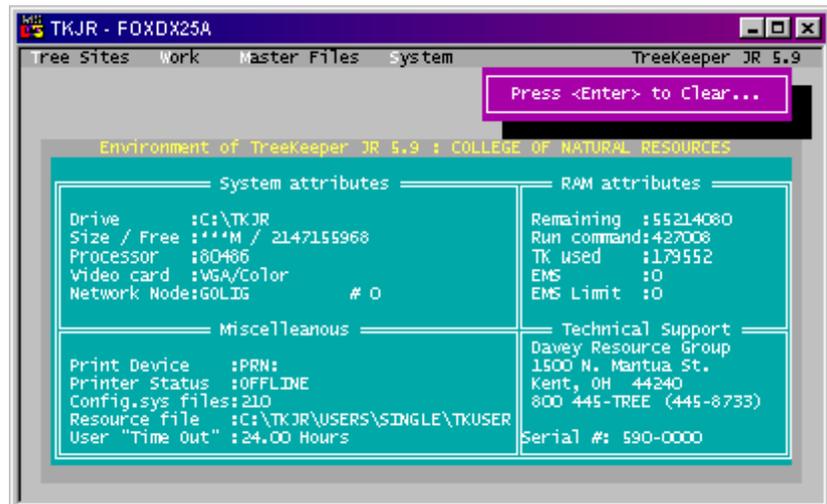
Technical support

A 44 page manual in a 3-ring binder is provided with TKJR. Online documentation is not available. Additional support can be obtained from the Davey Resource Group.

Contact

The National Arbor Day Foundation
100 Arbor Avenue
Nebraska City, NE 68410

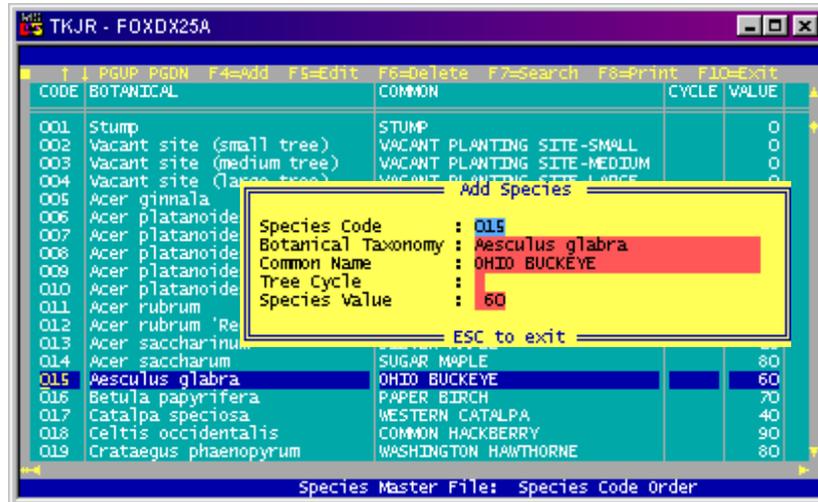
Phone: (402) 474-5655
Internet: www.arborday.org



▲ Figure 3.6.2: An undocumented utility allows for viewing miscellaneous computer information such as available memory, hard drive space, and processor speed. TKJR menu selections include tree site, work, master files, and system.

The **bold** text in the following description refers to screen titles indicated in either the header or the footer section of the screen. *Italicized* text refers to either commands, menus, menu items, or field names.

Figure 3.6.2 indicates TKJR menu selections which include *tree sites*, *work*, *master files*, and *system*. Master file databases include species, street, work type, staff, equipment, and crew. Data can be added, edited, deleted, searched, or printed for each of these.



▲ Figure 3.6.3: Species master file and add species screens.

Defining species

The *botanical taxonomy*, *common name*, *tree cycle*, and *species value* (CTLA valuation) are entered in the **add species** screen (Figure 3.6.3). A *species code* is entered automatically and can not be edited at this time. *Botanical taxonomy* and *common name* fields are required and can each be up to 28 characters. Entering a *tree cycle* (pruning cycle) is optional, and can be a number or a relative one character description. The *species value* represents the CTLA value for the species expressed as a percent.

All fields including species code can be modified when in editing mode. When the species code is modified a dialog appears prompting to change its occurrences for the tree site and work record databases. Species referenced by other databases can not be deleted.

Defining streets

Up to a 20 character *street name* must be entered when defining streets (Figure 3.6.4). If the street has a direction associated with it a *N*, *S*, *E*, or *W* can be entered. A *street code* is automatically assigned and can only be changed while in editing mode.

Streets referenced by other databases cannot be deleted.

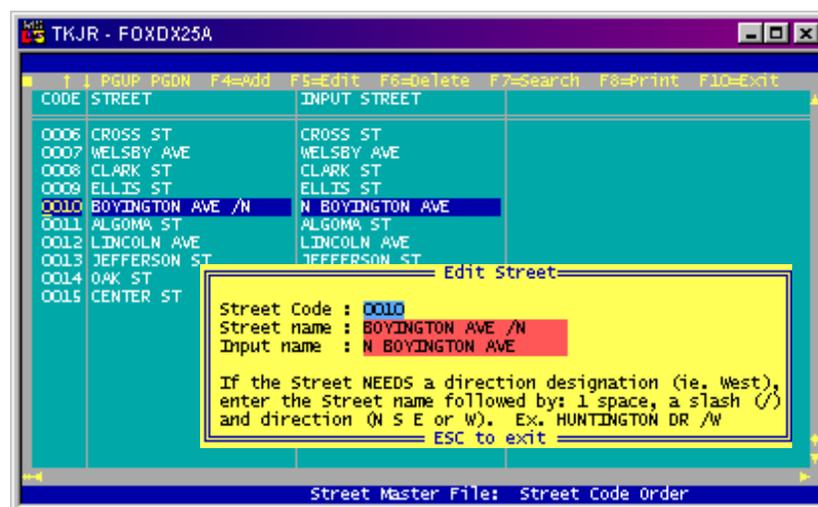
Defining work types

Work types refer to tree maintenance and work activities. When adding or editing work types a *primary* and *secondary work type* description must be entered (Figure 3.6.5). The former is a broad description such as *prune*, and can be up to five characters. The latter is a specific

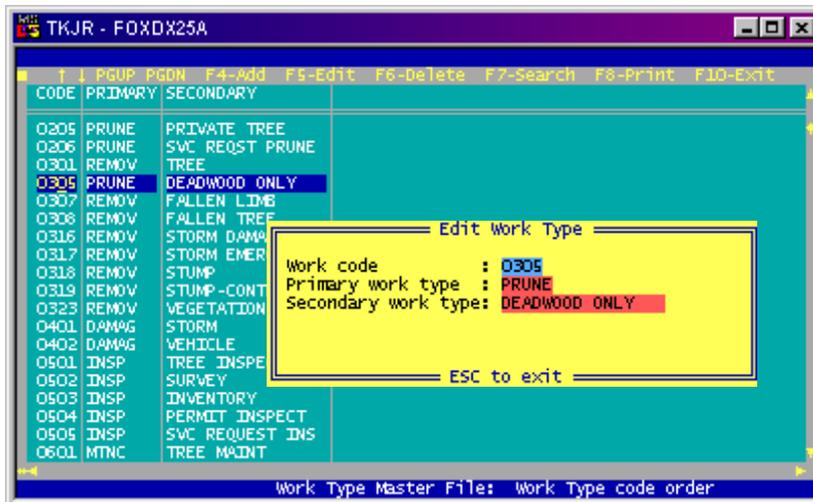
description such as *deadwood*, and can be up to 16 characters.

Defining staff, crews, and equipment

Employee and equipment information are stored in the staff and equipment master file databases, respectively. Crews can be created which comprise of employees and equipment. Each of these are described below.



▲ Figure 3.6.4: Street master file and edit street screens.



▲ Figure 3.6.5: Work type master file and edit work type screens.

A *code*, *name*, *hire date*, and *work rate* (hourly wage) are entered when defining staff (Figure 3.6.6). *Staff code* can be up to three characters and must be unique for each person. *Staff name* can be up to 25 characters. Entering a *work rate* and *hire date* is optional. Up to a three character *code* and up to a 25 character *description* must be entered

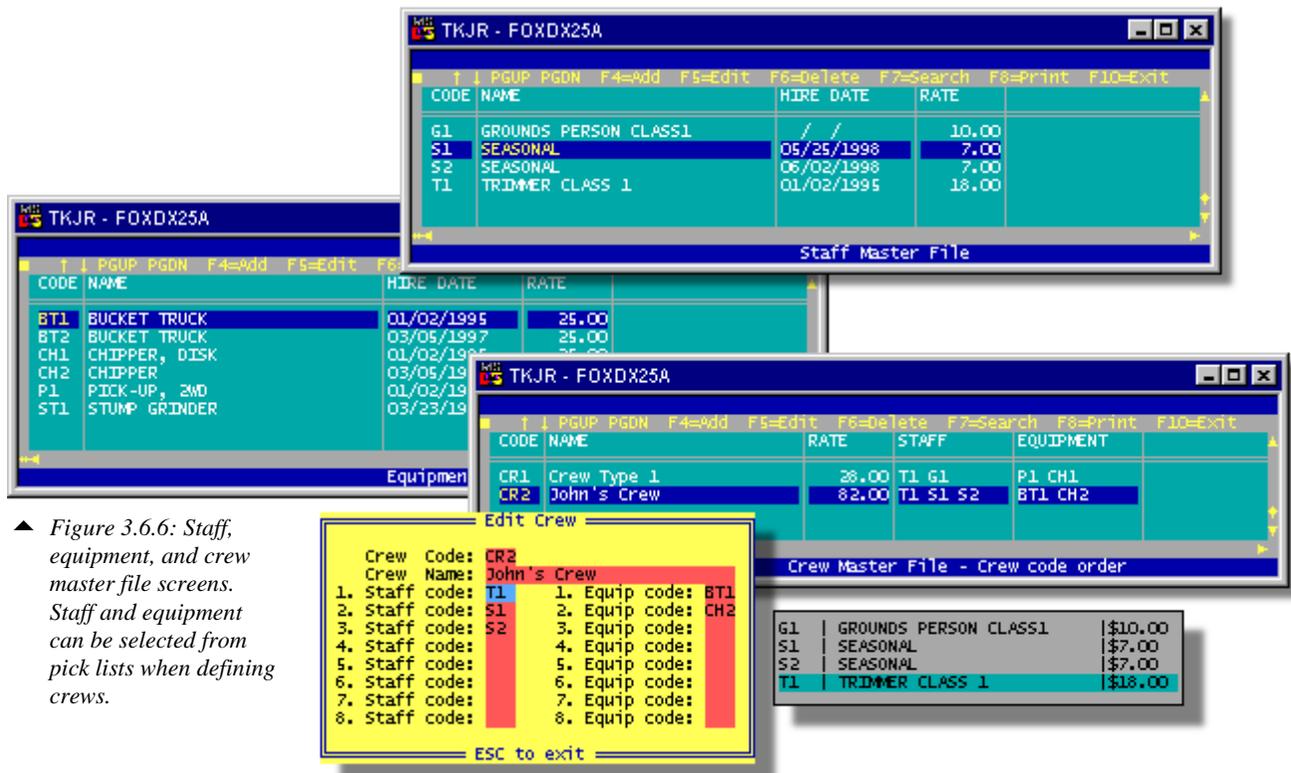
when defining equipment. Entering a *purchase date* and *work rate* is optional. When creating crews up to a three character *code* and up to 25 character *name* must be entered. Up to eight staff member and equipment codes can be assigned to a crew. Pick lists are available for staff and equipment codes.

System configuration

The **configuration setup** screen is used to configure the video display, report setup, certain work type and species codes, and other program setup options (Figure 3.6.7). Each of these are described below.

In the *video display setup* box either *EGA*, *VGA*, *PS/2*; *CGA mono*; or *Hercules mono* can be chosen from a drop-down list. Most monitors generally use the *VGA* setting, however the *CGA monochromatic* setting is available for older systems. A screen size of either 25 or 50 lines can be chosen from this box.

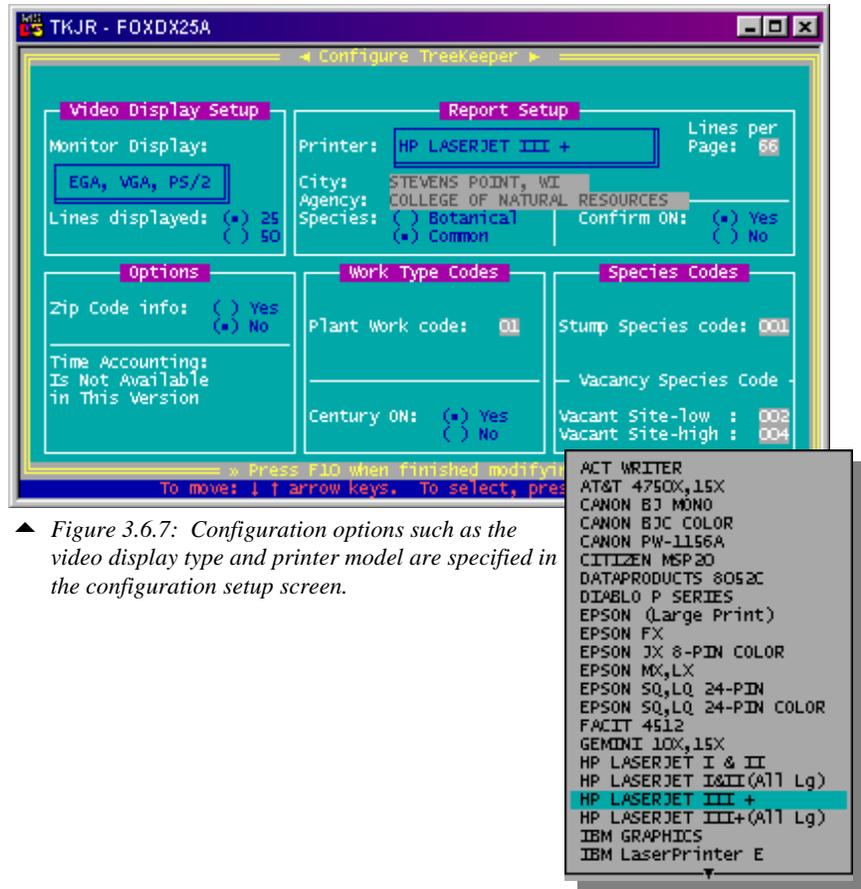
A printer can be selected from a pop-up list accessible in the *report setup* box. The number of lines per page, and whether botanical or common names are indicated on printed reports can be specified. This area also indicates the *city* and *agency* names, however these are not editable.



▲ Figure 3.6.6: Staff, equipment, and crew master file screens. Staff and equipment can be selected from pick lists when defining crews.

The *options* box allows for specifying if the zip code field should be used in the tree inventory. A *time accounting* feature is indicated which allows for entering time and costs for work records, however is not functional in this version of TKJR.

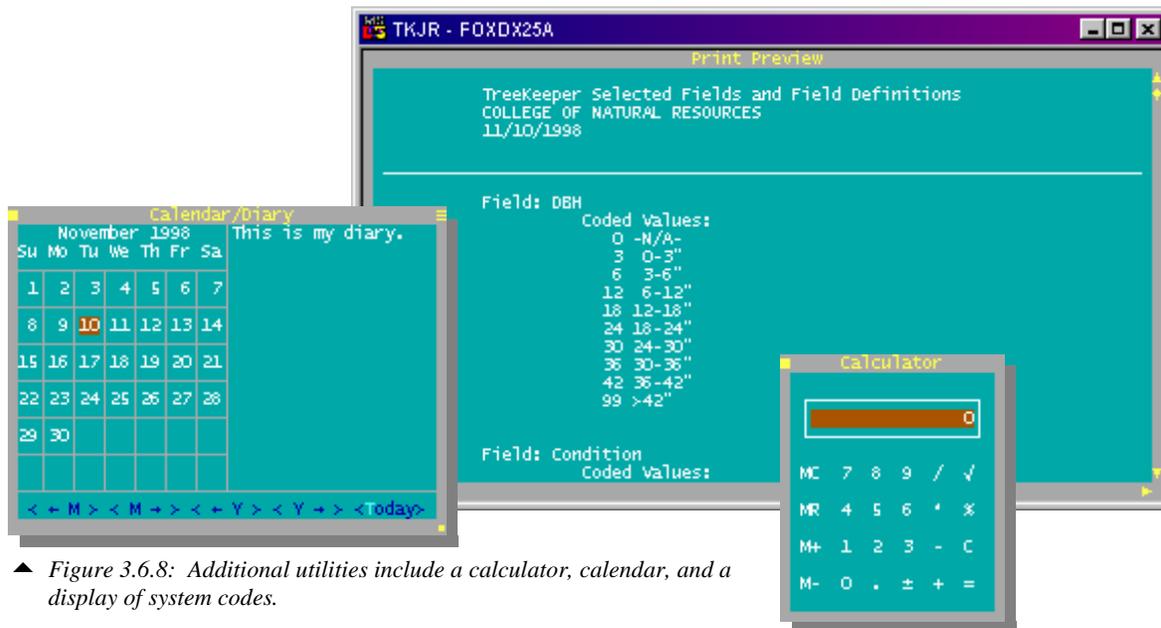
When adding work data to tree sites a default code is used by the system for plantings, which is specified in the *work type codes* box. The *species codes* box allows for specifying the default stump and vacant (planting) site codes. These codes appear in the species master list.



▲ Figure 3.6.7: Configuration options such as the video display type and printer model are specified in the configuration setup screen.

Utilities

TKJR provides several utility programs, some of which include a calculator, calendar, and diary (Figure 3.6.8). Utilities are also provided for re-indexing database files, listing and deleting past error messages, listing inventory codes (screen, printer, or file), and changing printer settings.



▲ Figure 3.6.8: Additional utilities include a calculator, calendar, and a display of system codes.

Adding tree sites

An *address* number, *street*, *lot side*, and *site* number must be entered when adding tree sites (Figure 3.6.9). The *street* name can be selected from a pick list, or the name or *code* can be entered directly. *Street* names must be entered directly. *Street* names must be defined in the street master file prior to adding tree sites. Previous address information is indicated in these fields when multiple addresses are added, and the *site* number is incremented automatically. If a tree or planting site is already recorded at the entered *site* number, a dialog appears asking to enter new information for the site. The *on*, *from*, and *to* street fields are displayed after entering the *lot side* and *site* number. The *on* street field displays the address street by default, since sites are generally found at the front of the address. Entering a *from* and *to* street is optional. These fields represent the cross streets at the lower and upper end of the block, respectively. Block information from the previously entered site is shown when adding multiple sites to an address. For new block combinations a dialog appears asking if the new combination should be added to the database.

Site and tree descriptor fields are displayed after address and block information is entered. Codes must be entered for most of these, however pick lists are available for *species*, *DBH*, *condition*, *maintenance*, and *growspace* fields (Figure 3.6.10). Data must be entered into the *species*, *maintenance*, *growspace*, *spacesize*, and *conductor* fields. Other fields include *cycle* (pruning cycle), *spacesize* (feet), *area* (management area), *zip* code, *staff*, *update* (date), and *notes*. *Cycle* is one character; *spacesize* can be up to three characters; *conductor* is either *Y* (yes) or *N* (no); and *area*, *zip*, and *staff* can each be up to five characters. The *notes* field can be up to 42 characters. A dialog appears asking to enter

▲ Figure 3.6.9: Address, block, and site data are entered in the tree site information screen.

▲ Figure 3.6.10: The site information pick lists include species, maintenance, condition, diameter, and growspace. Only the species list is editable by the user.

▲ Figure 3.6.11: A completed or scheduled work order can be recorded after tree site information is entered.

either a completed or scheduled work order after tree site information is entered. In the **work entry** screen the *type* field must be either *C* (completed) or *S* (scheduled) (Figure 3.6.11). The *work date* automatically defaults to the current date, although it can be edited. The *primary work code* and the *crew code* can be selected from their respective pick lists. The *secondary work code* is entered automatically. After entering work order information TKJR returns to the **tree site information** screen so that address information for the next site can be entered.

Viewing tree sites

Tree sites can be scrolled, viewed, edited, and printed as needed in the **tree site information** screen (Figure 3.6.9). A matrix of tree information is viewed in the **browse tree site information** screen (Figure 3.6.12).

Searching

Addresses can be searched by *address* number, *street* name, lot *side*, or *site* number. Tree sites on a block can be searched by entering *on*, *from*, and *to* street information. Search results are indicated in a **print preview** screen (Figure 3.6.13).

Reports

Reports of tree site information can be created for one site, all sites at an address, all sites on a block, or for a specific species on a block. The report output and format is similar to that shown in Figure 3.6.13.

Queries

The query tool uses Boolean operators to search for user specified information. Boolean operators include *and*, *or*, *equal to* (=), *less than* (<), *greater than* (>), and *not equal to* (<>). When building a query a field from the *data field* list box, a Boolean operator from the *operator* list box, and a field code in the *value* box must be selected (Figure 3.6.14). Pick lists are available for the *value* box. Figure 3.6.14 indicates all *species* that are *equal to* American Elm (*Ulmus americana*), or *species code* 041, as selected. Additional filtering conditions can be chosen by using the *and* or *or* Boolean operators in the *connector* box. The aforementioned query was combined with the Boolean operator *and* to include *condition* values *less than* or *equal to* *fair*. An order of output must then be selected which can be either by *street*, *block*, or *area*. Query results can be viewed or printed. Figure 3.6.15 indicates the results from the above query ordered by *street*.

Other query tools include *count records*, *view*, and *print*. *Count records* provides a count of records from the previous query. *View* allows

Street	Address	Ext	Side	Site	Spp	Species	Space_size	Cond
ALGOMA ST	0	F		0	041	AMERICAN ELM	0	N
ALGOMA ST	1234	F		1	024	MARSHALLS SEEDLESS ASH	7	Y
ALGOMA ST	1234	F		2	024	MARSHALLS SEEDLESS ASH	7	Y
ALGOMA ST	2300	S		1	003	VACANT PLANTING SITE-M	8	N
ALGOMA ST	2300	S		2	003	VACANT PLANTING SITE-M	8	N
ALGOMA ST	2300	S		3	003	VACANT PLANTING SITE-M	8	N
ALGOMA ST	2309	F		1	002	VACANT PLANTING SITE-S	3	N
ALGOMA ST	2317	F		1	002	VACANT PLANTING SITE-S	3	N
ALGOMA ST	2317	F		2	002	VACANT PLANTING SITE-S	3	N
ALGOMA ST	2409	F		1	024	MARSHALLS SEEDLESS ASH	7	N
ALGOMA ST	2416	F		1	011	RED MAPLE	8	N
ALGOMA ST	2416	F		2	011	RED MAPLE	8	N
ALGOMA ST	2417	F		1	024	MARSHALLS SEEDLESS ASH	7	Y
ALGOMA ST	2425	F		1	024	MARSHALLS SEEDLESS ASH	7	Y
ALGOMA ST	2433	F		1	024	MARSHALLS SEEDLESS ASH	7	Y
ALGOMA ST	2433	F		2	024	MARSHALLS SEEDLESS ASH	7	Y
ALGOMA ST	2434	F		1	007	CRIMSON KING MAPLE	8	N
ALGOMA ST	2442	F		1	017	WESTERN CATALPA	8	N
ALGOMA ST	2442	F		2	017	WESTERN CATALPA	8	N
ALGOMA ST	2500	F		1	024	MARSHALLS SEEDLESS ASH	8	Y

▲ Figure 3.6.12: The browse tree site information screen shows a matrix of data for each site in the database. The table can be split to indicate columns that would otherwise not fit in one screen.

Page 1
COLLEGE OF NATURAL RESOURCES / Street Tree Inventory
ALL TREE SITES AT AN ADDRESS

2540 ALGOMA ST

Address Site	Species	DBH	Condition	Maintenance
On: ALGOMA ST / From: MICHIGAN AVE / To: WELSBY AVE				
2540 F-1	RED MAPLE	6-12"	FAIR	ROUTINE PRUNE
On: WELSBY AVE / From: ELLIS ST / To: ALGOMA ST				
2540 S-2	GREEN ASH	6-12"	FAIR	ROUTINE PRUNE
2540 S-3	GREEN ASH	12-18"	FAIR	ROUTINE PRUNE
2540 S-4	GREEN ASH	6-12"	FAIR	ROUTINE PRUNE
2540 S-5	GREEN ASH	6-12"	FAIR	ROUTINE PRUNE

5 TREE SITES LISTED

▲ Figure 3.6.13: A print preview indicating the results of an address search. All tree sites at the address are shown. Results can be printed, and for Windows® users can be copied to the clipboard.

Data Field: Street, Side, Site, Spp, Species, Cycle, DBH, Condition, Maint, Growspace, Space_size, Conductors, Area, ZIP

Operator: = Equal to, <= Less than or equal to, < Less than, > Greater than, >= Greater than or equal to, <> Not equal to, \$ Contains

Value: 041

Connector: No more conditions, Combine with AND, Combine with OR

Query Command: val (spp)=041

▲ Figure 3.6.14: The query process involves making selections from the data field, operator, value, and connector boxes.

for viewing the previous query, and has the option of ordering the output by *street*, *block*, or *area*. *Print* allows for printing the previous query.

One field frequency reports

One field frequency reports can be created from a selection of over 20 fields. In each report the inclusion of planting spaces can be chosen. A sort format must be selected which can be by *code*, *name*, *descending amount*, or *increasing amount*. Frequency reports can be viewed and printed. The examples in Figure 3.6.16 indicate a species frequency report sorted by decreasing amount; a maintenance frequency report sorted by code; a condition frequency report sorted by increasing amount; and a DBH frequency report sorted by increasing amount. Condition, maintenance, and DBH frequency report rows are indicated by their classes (codes).

Address Site	Species	DBH	Condition	Maintenance
* ALGOMA ST 0 F-0	AMERICAN ELM	-N/A-	N/A	PLANT
* CLARK ST 2101 F-2	AMERICAN ELM	12-18"	FAIR	ROUTINE PRUNE
2117 F-2	AMERICAN ELM	18-24"	FAIR	ROUTINE PRUNE
2125 F-2	AMERICAN ELM	24-30"	FAIR	ROUTINE PRUNE
2125 F-3	AMERICAN ELM	18-24"	FAIR	ROUTINE PRUNE
2257 F-1	AMERICAN ELM	18-24"	FAIR	HIGH PRIORITY P
* FREMONT ST 1741 F-2	AMERICAN ELM	18-24"	FAIR	HIGH PRIORITY P
* JEFFERSON ST 2148 S-3	AMERICAN ELM	12-18"	FAIR	PLANT
* LINCOLN AVE 2124 F-2	AMERICAN ELM	18-24"	FAIR	ROUTINE PRUNE
2124 F-3	AMERICAN ELM	12-18"	FAIR	ROUTINE PRUNE
2133 F-1	AMERICAN ELM	18-24"	FAIR	ROUTINE PRUNE
2141 F-1	AMERICAN ELM	18-24"	FAIR	ROUTINE PRUNE

▲ Figure 3.6.15: The results of a query for all American Elms that have a condition rating less than or equal to fair. The order of output is grouped by street name.

Code	Species	Amount	Percent
011	RED MAPLE	35	13
024	MARSHALLS SEEDLESS ASH	28	10
028	JAPANESE TREE LILAC	18	6
	MAPLE	18	6
	ASH	16	6
	MAPLE	14	5
	INDI	1	0.38

Code	DBH	Amount	Percent
0	-N/A-	1	0.38
	24-30"	3	1.14
	30-36"	4	1.52
	24	22	8.33
	38	14.39	
	40	15.15	
	77	29.17	
	79	29.92	

Code	Condition	Amount	Percent
4	DEAD	1	0.38
0	N/A	2	0.76
3	POOR	22	8.33
1	GOOD	38	14.39
2	FAIR	201	76.14

Code	Maint	Amount	Percent
0	PLANT	123	32.03
1	ROUTINE PRUNE	139	36.20
2	TRAINING PRUNE	65	16.93
3	HIGH PRIORITY PRUNE	49	12.76
4	IMMEDIATE PRUNE	1	0.26
5	REMOVE - SCHEDULE	5	1.30
6	IMMEDIATE REMOVAL	1	0.26
7	STUMP REMOVAL	1	0.26

◀ Figure 3.6.16: One field frequency reports include species, maintenance, DBH, and condition. Frequency reports can be sorted by code, name, or descending or increasing amount.