

Rev. 10/11/2011

#### **AGTEK Software License Agreement**

PLEASE READ CAREFULLY. BY USING THIS PRODUCT, YOU ARE CONSENTING TO BE BOUND BY THIS AGREEMENT.

- **Copyright** The AGTEK software package, on CD or in electronic form, together with associated documentation, is protected under copyright. The buyer may make copies for the buyer's internal use only. The buyer agrees not to reverse engineer or otherwise seek to discover the source code, or to modify or create derivative works from this software.
- **Single License** AGTEK grants to the buyer a non-exclusive, single license to load and use the AGTEK software on one or more computers operated by the buyer, provided that use by the buyer shall not be on more than one computer at a time. The buyer agree not to rent, loan or otherwise temporarily transfer this software for use on computers not operated by the buyer.
- Access Key Access key. The AGTEK software is enabled by means of an access key that must be present on the computer when the software is running. The access key may be a key code checked-out from the Internet or a physical device that plugs into a computer port.
- **Export** AGTEK software includes cryptography that is not user-accessible, specifically designed to allow execution of copy-protected software. Accordingly, this software is controlled under ECCN EAR99 of the Export Administration Regulations (NLR, no export license required). The buyer agrees to comply with all applicable regulations and prohibitions with regard to export or re-export to sanctioned countries or individuals.
- Limitations of Limitations of warranty and liability. AGTEK software is licensed "as is" and with all faults. AGTEK Development Company, Inc. and its Representatives make no warranties, either expressed or implied, with respect to AGTEK software, its quality, performance, merchantability, or fitness for any particular use. In no event will AGTEK Development Company, Inc. or its Representatives be liable for direct, indirect, incidental or consequential damages resulting from any defect in AGTEK software, even if AGTEK Development Company, Inc. has been advised of the possibilities of such damages.

Copyright<sup>©</sup> 2011 AGTEK Development Company, Inc.

Trademark<br/>CreditsWindows XP®, Windows Vista® and Windows® 7 are registered trademarks of<br/>Microsoft Corp. Google Earth™ is a trademark of Google. AutoCAD®, CAiCE™, DWG™,<br/>DXF™ are trademarks of Autodesk, Inc. GEOPAK, MicroStation, GPK and DGN are trade-<br/>marks of Bentley Systems, Inc, Leica™

# NSTALLATION

SITEWORK 4D INSTALLATION - USB Key	1-1
SITEWORK 4D WITH INTERNET KEY INSTALLATION - USERS	1-3
SITEWORK 4D WITH INTERNET KEY INSTALLATION - ADMINISTRATION	1-7

# PDF TAKEOFF TUTORIAL

DOCUMENT CONVENTIONS
Lesson Examples 2-1
PDF Entry Overview
PDF Guide 2-3
Data Entry Sequence
Lesson 1 - Importing and Scaling PDF File
Lesson 2 - Enter Existing Data
Lesson 3 - Enter Design Data 2-12
Lesson 4 - Review Graphics
Lesson 5 - Calculating Volumes
Lesson 6 – Printing Reports
CAD TUTORIAL

3D Modeling Overview	3-1
CAD ENTRY GUIDE	3-1
Lesson 1 - CAD Data Transfer	3-3
Lesson 2 - Existing Ground	3-7
Lesson 3 - Design Data	3-10

Lesson 4 - Verify the 3D Model	3-29
Lesson 5 - Calculating Volumes	3-31
Lesson 6 – Printing Reports	3-34

# Haul Planning Tutorial

Haul Planning Entry Overview	4-1
Lesson 1 - Haul Planning - Stockpile	4-2
Lesson 2 - Haul Planning - Hauls 1 and 2	4-8
Lesson 3 - Print Page	ŀ-19

# Google Export Tutorial

GOOGLE EARTH EXPORT	5-1
Launching Software	5-1
Enter Benchmarks and Locate Lat/Long information	5-2
Export KMZ File	5-4

### Field Use Tutorial

Field Use Overview	. 6-1
DATA COLLECTION TUTORIALS	. 6-1
Lesson Examples	. 6-1
Lesson 1 – Instrument Setup	. 6-2
Lesson 2 – Checking Job Site Data	. 6-5
Lesson 3 – Field Supervision	6-17
Stake Checking	6-19

# Digitizer Support

DIGITIZER SUPPORT SETUP	7-1
Lesson 1 - TabletWorks Driver Installation	7-1
Lesson 2 AGTEK 16-BUTTON CURSOR CONFIGURATION	7-2
Plansheet Takeoff Overview	7-3
TABLET ENTRY GUIDE	7-3

# VECTOR PDF

VECTOR PDF ENTRY OVERVIEW	8-1
DATA ENTRY SEQUENCE	8-2
Lesson 1 - Importing and Scaling	8-3
Lesson 2 - Vectorizing and Transferring Data	8-5
Lesson 3 - Verifying the Scale	8-6
Lesson 4 - Assigning Elevations	8-7

# Reference

DOCUMENT CONVENTIONS	9-1
User Interface	9-1
Screen Modes	9-4
Keyboard Shortcuts	9-5
Tool Bars	9-10
Menus	9-14
View Menu	9-26
Display Menu	9-30
Data Transfer Menu	9-33
Instrument Menu	9-35
Utility Menu	9-38

Options Menu Window Menu Help Menu	9-47 9-52 9-53
Point Types in Earthwork 4D	9-56
Elevation List	9-57
Earthwork 4D Surfaces and Layers	9-61
Adding a Surface	9-65
SNAP TECHNIQUES	9-66
Snapping in Edit Mode	9-66
Snap	9-66
Elevation Snap	9-66
Auto-Increment Snap	9-66
Point Snap	9-66
Snapping in Entry Mode	9-67
Line Snap	9-67
Area Snap	9-67
Intersection Snap	9-67
Elevation Snap	9-67
Print Page Basics	9-68
Selecting Objects	9-68
Moving and Sizing Objects	9-68
Scaling	9-68
Deleting	9-68
Adding/Editing Text	9-68
Changing Cut-Fill Labels	9-68
	5-00
EXPORTING CAD FILES	9-69
Surfaces	9-69
File Type	9-70
Data	9-70
Triangular Meshes	9-70
Entity Type	9-70
Adding a Point to a Line	9-71
Using F6	9-71
Using the Elevation List	9-71
	9-72
AutoCAD, NEZ, Topcon LN3, Microstation, PDF, and TIF Files(.dxf, .dwg, .agt, .cs	
.txt, .ln3, .dgn, .pdf, .tif)	9-72
Print Preview Files (.aip)	9-72
TRANSFORMING JOBS	9-73

Translate North/East	9-73
All Data	9-73
Selected Data/Whole Job	9-74
Align Matching Edges	9-75
Matching Data to a Common Edge	9-75
Rotating Data	9-76
Moving Data	9-76
Stretch Site	9-78
Whole Job	9-78
Selected Lines Only	9-79
Stake Checking	9-80
CHECKING EXISTING GROUND	
Correcting Existing Ground	9-81
Progress Topoing	9-83
Grade Checking	9-84
Updating a 3D Model with Survey Data	
Apply Survey Dialog box	9-85
Applying Survey Data Collected in Earthwork 4D	9-85
Collect the Data	9-85
Stage the Data	9-86
Applying Survey Data Collected in SitePilot RTK	9-87
Collect the Data	9-87
Stage the Data	9-87
CALCULATING VOLUMES	9-89
Volume Area	9-89
Starting the Volume Calculation	9-89
Calculating Survey Volumes	9-90
Islands and Holes	9-90
Islands	9-90
Holes	9-90
Design Perimeter Hole	9-90
Report Region Hole	9-90
Stripping Area Hole	9-90
Sectional Area Hole	9-90
Templates	9-91
OFFSET LINE EDITOR	9-92
Line Controls	9-92
Start/End of Line	9-93
Confirmation Controls	9-93
Determining Line Direction	9-93

Section 1

Installation

### Sitework 4D Installation - USB Key

There are two parts to installing Sitework 4D; installing the software and installing the USB/Internet key. Installation must be performed in the following order to ensure the proper function of the software. For video instructions on installation please visit http://www.agtek.com/trainingvideos.asp

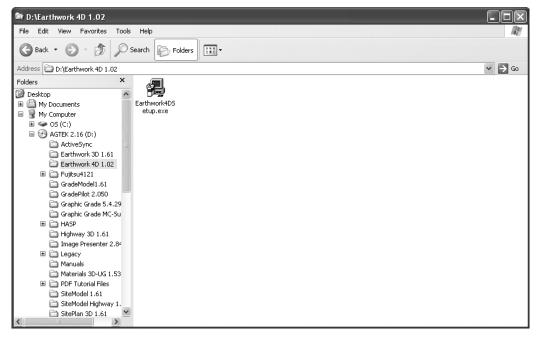
- 1. Sitework 4D Software Installation
- 2. USB/Internet Key Installation

#### Sitework 4D Software Installation

Sitework 4D is a Microsoft Windows XP, Vista and Windows 7 compatible program. The program can be downloaded from the email you recieved at the time of purchase, or you can download the current version at http://www.agtek.com/software.asp. Be sure to have your UserID/Login and Password available.

#### **Download Current Version of the Software**

- 1. Launch your internet browser, most likely Internet Explorer, and go to www.agtek. com/software.asp.
- 2. Click the link on the left hand side of the screen for Earthwork 4D.
- 3. Enter your AGTEK UserID/Login and Password, then click Login.
- 4. Click the **Download** link, and choose **Save**.
- 5. Save the download somewhere easy to find, such as your desktop.



### Installation from an Internet Download

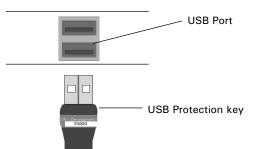
- 1. Find the downloaded installation file and double-click the icon.
- 2. Click Next in the Welcome Dialog.
- 3. Click Next in the Choose Destination Location dialog box.

Select Components	×
Please select the components that you want to install.	AGTEK
🗸 Allow Internet Key	
www.agtek.com <back< td=""><td>Next &gt; Cancel</td></back<>	Next > Cancel

- 4. Select the **Allow Internet Key** check box, then click **Next** and the Setup Complete box is displayed.
- 5. Click **Finish** to complete the installation.

### **USB Protection Key Installation**

Sitework 4D uses either an Internet Key or a USB protection key and will not run if a key is not available. If using a USB key, use the diagram below to install the USB key before starting AGTEK software.



Do not force the key into a port. If it does not fit, make sure it is right side up and try again. Only one USB key should be installed on a computer.

# Sitework 4D With Internet Key Installation - Users

An Internet Key allows multiple users access to a common Sitework 4D license. Users are added by the Internet Key's administrator. You will need to have your Internet Key administrator add you as a user before you have access to an Internet Key.

### Using an Internet Key

- Obtain and Install the Current Version of the Sitework 4D software
- Launch the Software Using an Internet Key

### **Download Current Version of the Software**

- 1. Launch your internet browser, most likely Internet Explorer, and go to www.agtek. com/software.asp.
- 3. Enter your AGTEK Login and Password, then click Login.
- 4. Click the link for Earthwork 4D on the left hand side of the screen.
- 5. Click the **Download** link, and choose **Save**.



6. Save the download somewhere easy to find, such as your desktop.

### Installation from an Internet Download

- 1. Find the downloaded installation file and double-click the icon.
- 2. Click Next in the Welcome Dialog.
- 3. Click Next in the Choose Destination Location box.

Select Components	×
Please select the components that you want to install.	AGTEK
✓ Allow Internet Key	
www.agtek.com <back< td=""><td>Next &gt; Cancel</td></back<>	Next > Cancel

- 4. Select the **Allow Internet Key** check box, then click **Next** and the Setup Complete box is displayed.
- 5 Click **Finish** to complete the installation.

#### Launch Program Using an Internet Key

To use Sitework 4D with an Internet Key, you must be entered as a user by the key administrator. To check out an Internet Key, you need the email address and password associated with your user name. The first time you open the software, you will be asked to enter a password and then confirm it. This will be your permanate password.

#### Launching the Program

- 1. Double-click the Sitework 4D icon on your desktop.
- 2. If no USB key is found in the system, the Internet Key box is displayed. Click Yes.

AGTEK	Earthwork 4D 🛛 🕅
♪	Key not found Would you like to try an Internet Key?
	Yes No

3. If this is your first time using the software, you will be asked to enter a new password. Enter the password you have chosen and click **OK**.

Internet Key User		×
Email Address	jmiller@agtek.com	]
Password	•••••	]
🗹 Rememb	er login on this computer.	
	OK Cancel	

4. The first time you use the software, you will also be asked to confirm your password. Enter your password again and click **OK**.

Password Confirmation	 	×
Password		
Confirm Password		
0	Cancel	

4. Choose an available Internet Key from the list and click **OK**. If no Internet Key is available you will be unable to use the program until one becomes available.

	Key ID	Product
1	36208	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D
2 3	36209 36210	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D

5. When closing Sitework 4D, the Internet Key dialog box displays and asks if you want to release the Internet Key. If you choose not to release the Internet Key, it automatically releases after the time period set by your key administrator has expired.

# Sitework 4D With Internet Key Installation - Administration

An Internet Key allows multiple users access to a common Sitework 4D software license. Users are created by the Internet Key's administrator. As an Internet Key administrator you have the ability to add and/or delete users and set the number of days an Internet Key can remain checked out. As the administrator, a user name is created for you when your software order is processed by AGTEK. You need the email address associated with your user name to launch the AGTEK Software, and to manage users. The password used to login for the first time is your permanent password.

### Using a Internet Key

- Obtain the Current Version of Sitework 4D
- Install Software
- Launch Software Using an Internet Key
- Manage user accounts

### Obtain the Current Version of the Software

The current version of Sitework 4D, at the time of your order, is found on the software CD located inside the front cover of your software manual. If the software CD is not available, or you wish to update your software, you can download the current version at www.agtek.com.

#### **Download Current Version of the Software**

- 1. Launch your internet browser, most likely Internet Explorer, and go to www.agtek. com.
- 2. Click on Support, then Downloads.
- 3. Enter your AGTEK Login and Password, then click Login.
- 4. Click the link on the left hand side of the screen for Sitework 4D.
- 5. Click the **Download** link and choose Save.



6. Save the download somewhere easy to find, such as your desktop.

#### Installation from an Internet Download

- 1. Find the downloaded installation file, and double-click the setup icon.
- 2. Click Next in Welcome dialog box.
- 3. Click **Next** in the Choose Destination Location dialog box. The Select Components box is displayed.



- 4. Select the **Allow Internet Key** check box, then click **Next** and the Setup Complete dialog box is displayed.
- 5. Click **Finish** to complete the installation.

#### Launch Software Using an Internet Key

As the Internet Key administrator you need to create a user name for each person who will be using the software. To create a user name, launch the software as normal.

#### Launching Software

- 1. Double-click the Sitework 4D Software icon on your desktop.
- 2. If no USB key is found in the system, the Internet Key box is displayed. Click Yes.

AGTEK	Earthwork 4D
1	Key not found Would you like to try an Internet Key?
	Yes No

3. Enter the email address and password associated with your user name, and click **OK**.

Internet Key User			$\mathbf{X}$
Email Address	jmiller@agtek.com		
Password	•••••		
🗹 Remembe	r login on this computer.		
(	OK	Cancel	

To manage users skip step 4 and move to the next section.

The first time a user logs in, they enter the password they wish to use. This will becomes their permanent password.

- 4. Choose an available Internet Key from the list and click **OK**. If no Internet Key is available you will be unable to use the software until one becomes available. The In Use tab displays which keys are in use, who is using those keys, and the user's phone number.
- 5. When closing the Sitework 4D Software, the Internet Key dialog box is displayed. You are asked if you want to release the Internet Key. If you choose not to release the Internet Key, it automatically releases after the time period set by a key administrator has expired.

#### Manage Users

As Internet Key administrator you have the ability to create, modify, delete users and set the offline check-out period. To create a user you need the following information for each user: first and last name, email address and phone number. You also have the ability to allow administrator access for other users, and check the total usage time for each user.

#### **Creating a User**

1. Follow steps 1 through 3 in the Launching Software section and the Internet Key Selection dialog box is displayed.

Intern	net Key	Selection	$\mathbf{X}$
Avail	able In	Use User A	dmin Internet Key Admin
		Key ID	Product
	1	36208	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D
	2	36209	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D
	3	36210	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D
			OK Cancel Apply

2. Select the **User Admin** tab and click the **Add** button. The **Add User** dialog box displays.

Add User	X
First Name	
Last Name	
Email Address	
Phone Number	
Net Key Administrator	0K Cancel

- 3. Enter the requested information. If the user is to be an Internet Key administrator, select the Internet Key Administrator check box.
- 4. Click **OK** and the new user will be added to the Internet Key.
- 5. When the new user logs into the program for the first time they will set their own password.

#### **Deleting a User**

1. Follow steps 1 through 3 in the Launching Software section and the Internet Key Selection dialog box is displayed.

	Key ID	Product
1	36208	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D
2 3	36209 36210	Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D Earthwork 4D, Tablet 4D, Highway 4D, GPS 4D, Trackwork 4D, Materials 4D, Underground 4D
0	30210	Earth Work 49, 1 doix 49, 11gr May 49, at 5 49, 11dek Work 49, 11dek Hale 49, 51derground 49

2. Select the User Admin tab and select the user you wish to remove.

Last Name	First Name	Email Address	Phone Number	Admi
Miller	Jonathon	jmiller@agtek.com	925-606-8197	X

3. Click **Delete** and then **Yes** to permanently remove the user, or **No** to cancel the operation.

#### **Right-click Menus**

Under the User Admin tab of the Internet Key Selection dialog box you can perform the following operations by right-clicking on a user: Allow or Remove Admin, Reset Password, Total Usage, Cancel.

Allow or Remove Admin:	Changes the Administrator status of a user.
Reset Password:	Allows the user's password to be reset by a Internet Key administrator
Total Usage:	Shows the total time a Internet Key has been checked out by the selected user.
Cancel	Cancels the operation.

#### **Setting Offline Check-out Period**

The Offline Check-out Period defines the number of days a user can keep a key checked out. Once this time period has expired, the key is be checked in automatically. The default check-out period is three days.

- 1. Follow steps 1 through 3 in the Launching Software section and the Internet Key Selection dialog box is displayed.
- 2. Select the Internet Key Admin tab.
- 3. Enter the number of days you wish to allow a user to check out a key.
- 4. Click **Apply** and then **OK**.