

GeoCivil D-Spec

Stormwater Asset Recording

GeoCivil is well suited to the performance of as-built surveys and the supply of the digital data in a format suited for upload to GIS. Attributes may be assigned in the field through the data collector feature code list or at the desktop using specialist *GeoCivil* tools. For example, as-built stormwater systems comprise Pits, Pipes, Property Connections, Swales, Basins, etc; each of which is represented in *GeoCivil* by Point, Line, Arc or Polygon elements to which attributes are assigned.

The following example shows an extract from a CSV file, displayed in Excel, as collected in the field. For each of the surveyed features, Property Connection (151), Pipe Invert (152), Pit Invert (154) the required attribute values were entered or selected from a list.

405	367901.80	5785829.15	43.33	154	Pit_No	27	Pit_Type	JP	Con_Type	CI	Lid_Type	F	Side_Len	900	Side_Wid	600
406	367901.38	5785829.23	43.22	152	String_No	27	Pipe_Diam	225	Material	CONC						
407	367902.22	5785829.14	43.50	152	String_No	28	Pipe_Diam	225	Material	CONC						
408	367912.35	5785827.38	43.97	151	Allot_No	1304	Material	PVC	Diameter	100						
409	367922.51	5785825.80	44.43	151	Allot_No	1305	Material	PVC	Diameter	100						
410	367933.11	5785824.02	44.95	151	Allot_No	1306	Material	PVC	Diameter	100						
411	367942.80	5785823.24	46.71	151	Allot_No	1307	Material	PVC	Diameter	100						
412	367943.08	5785822.48	45.41	154	Pit_No	28	Pit_Type	JP	Con_Type	CI	Lid_Type	F	Side_Len	900	Side_Wid	600
413	367942.66	5785822.54	45.32	152	String_No	28	Pipe_Diam	225	Material	CONC						
414	367943.49	5785822.36	45.42	152	String_No	29	Pipe_Diam	225	Material	CONC						
415	367953.58	5785820.79	45.90	151	Allot_No	1308	Material	PVC	Diameter	100						
416	367965.62	5785818.91	46.56	151	Allot_No	1309	Material	PVC	Diameter	100	Comment	Deeper				

The recommended survey procedure at each pit is as follows:

- Record the pit lid centre point (used to determine the pit depth)
- Remove the pit lid.
- Record a long pit side, in clockwise direction, the string number being the pit number
- Record the pit invert point with attributes of Pit_No, Pit_Type, Con_Type, Lid_Type, Side_Len, Side_Wid, Step_Irons
- Record each pipe invert point with attributes of String_No (pit number at upstream end of pipe), Pipe_Diam (mm), Material

Note: If using Trimble Survey Controller the associated feature file, with D-Spec attribute libraries, can be obtained from Geocomp Consulting. The relevant features and their entity numbers are:

151	PRCN	Property Connection
152	PIPE	Pipe Section
153	PTLS	Pit Liner Sides
154	PINP	Pit Invert Point
155	PLCP	Pit Lid Centre Point
156	PFS	Finish Surface
157	BBOT	Basin Bottom
158	BTOP	Basin Top
159	SINV	Swale Invert
160	SEDG	Swale Edge
161	UGCP	UG Conduit
162	UGCT	UG Conduit Pit
163	DBEX	Design Boundary Extent

When entity 151 is selected the surveyor is prompted to enter the lot number. When entity 152 is selected the surveyor is prompted for string number, pipe diameter and pipe material.

D-SPEC Parameters

As-Constructed Header and Default Data

Subdivision Name: Hoddle Heights
 Stage Number: 3
 Design Company: Geocomp-Suntac
 Construction Company: Bob The Builder
 Plan Number: S6745
 Street Name: Ashburn Grove
 Construction Date: March 2007 Plot Scale: 500

Pit Default Values
 Pit Type: SEP - Side Entry Pit
 Construction Type: CI - Cast Insitu
 Lid Type: CI - Concrete Insert
 Litter Trap

Pipe Default Values
 Pipe Material: CONC - Concrete
 Diameter (mm): 450 Return Period (yrs): 20

Property Connection Default Values
 P.C. Material: PVC - Polyvinylchloride
 P.C. Diameter (mm): 150

Load Parameters Save Parameters Populate Database Close

GeoCivil does not require all attributes to be assigned to each individual element; instead allowing default values to be defined which are assigned in instances where individual ones are not.

D-SPEC Pit

Pit Attributes

Type: SEP - Side Entry Pit
 Lid Type: CI - Concrete Insert
 Construct Type: CI - Cast Insitu
 Depth (m): 1.67
 Length (mm): 1200
 Width (mm): 900
 Litter Trap (Y/N): N
 Street Name: PONTING CRT
 Comment: Gas main nearby

Apply Cancel

GeoCivil links the as-built elements to an Access database containing a table for each component (e.g. Pipe, Pit, Property Connection, Swale, Basin, etc).

Database Link Manager

Database: D-SPEC

GIS Databases / Tables: D-SPEC SurveyP-D-SPEC_vfmc

Table: Pipe

ID	GIN	Pipe_Number	Upstream_Pit_Number	Downstream_Pit_Number	Subdivision_Name	Stage_Number	Street_Name	DS_IL	DS_End_Pipe_Easting	DS_End_Pipe_Northing	US_IL	US_End_Pipe_Easting
1	120	1-2	3/2	3/1	Hoddle Heights	3	Ashburn Grove	74.557	310050.026	8622720.804	74.732	310086.071
2	121	2-3	3/3	3/2	Hoddle Heights	3	Ashburn Grove	74.76	310086.071	8622716.615	74.915	310113.436
3	122	3-4	3/4	3/3	Hoddle Heights	3	Ashburn Grove	75.237	310113.436	8622713.502	75.454	310114.063
4	123	2-5	3/5	3/2	Hoddle Heights	3	Ashburn Grove	74.876	310086.071	8622716.615	75.051	310086.961

In addition to creating the required GIS data files, *GeoCivil* creates a comprehensive report containing all as-built attribute data for a particular project.

D-SPEC SurveyP-D-SPEC.TXT - Notepad

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D-SPEC: C:\GeoCivil\Demo Data\D-SPEC EXAMPLE\D-SPEC SurveyP
21/04/2007 4:28:39 PM
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PITS
Subdivision Name Stage Street Name Type Const Lid Easting Northing Length Width PSL Depth Trap Design Company Plan Num Construction Company Con Date Comment
1/1 Hoddle Heights 3 Ashburn Grove SEP CI CI 310050.026 8622720.804 800 800 75.352 841 N Geocomp-Suntac 56745 Bob The Builder 1/03/2007
1/2 Hoddle Heights 3 Ashburn Grove SEP CI CI 310086.961 8622724.615 900 800 75.830 1087 N Geocomp-Suntac 56745 Bob The Builder 1/03/2007
1/3 Hoddle Heights 3 Ashburn Grove SEP CI CI 310113.436 8622713.102 900 800 76.330 1451 N Geocomp-Suntac 56745 Bob The Builder 1/03/2007
1/4 Hoddle Heights 3 Ashburn Grove SEP CI CI 310114.063 8622712.502 900 800 76.930 1478 N Geocomp-Suntac 56745 Bob The Builder 1/03/2007
1/5 Hoddle Heights 3 Ashburn Grove SEP CI CI 310086.961 8622724.071 900 800 76.370 1319 N Geocomp-Suntac 56745 Bob The Builder 1/03/2007

PIPES
Pipe Num US Pit DS Pit Subdivision Name Stage Street Name DS IL DS Easting DS Northing US IL US Easting US Northing Length D1an Ht HAT Design Company Plan Construction Company Con Date RP
1-1 3/2 1/1 Hoddle Heights 3 Ashburn Grove 74.627 310050.026 8622720.804 74.731 310086.071 8622716.615 16.29 410 O CONC Geocomp-Suntac 56745 Bob The Builder 1/03/2007 20
1-2 3/3 1/2 Hoddle Heights 3 Ashburn Grove 74.760 310086.071 8622724.615 74.914 310113.436 8622713.502 21.24 410 O CONC Geocomp-Suntac 56745 Bob The Builder 1/03/2007 20
1-3 3/4 1/4 1/3 Hoddle Heights 3 Ashburn Grove 75.237 310113.436 8622713.502 75.454 310114.063 8622712.502 7.13 410 O CONC Geocomp-Suntac 56745 Bob The Builder 1/03/2007 20
1-4 3/5 1/2 1/4 Hoddle Heights 3 Ashburn Grove 74.876 310086.071 8622724.615 75.051 310086.961 8622724.071 7.12 300 O FCB Geocomp-Suntac 56745 Bob The Builder 1/03/2007 20 Crosses gas main

PROPERTY CONNECTIONS
Subdivision Name Stage Street Name DS Pipe Allot No DS Easting DS Northing US Easting US Northing Length D1an Depth Design Company Plan Num Construction Company Con Date Comment
Hoddle Heights 3 Ashburn Grove 1-2 21 310086.961 8622724.615 310086.961 8622724.615 4.98 150 1 Geocomp-Suntac 56745 Bob The Builder 1/03/2007
Hoddle Heights 3 Ashburn Grove 1-2 22 310076.008 8622717.512 310077.500 8622713.438 PVC 5.14 100 724 Geocomp-Suntac 56745 Bob The Builder 1/03/2007
Hoddle Heights 3 Ashburn Grove 2-1 26 310086.961 8622724.615 310090.931 8622717.470 PVC 4.36 100 677 Geocomp-Suntac 56745 Bob The Builder 1/03/2007
Hoddle Heights 3 Ashburn Grove 2-3 23 310094.315 8622721.619 310094.469 8622710.312 PVC 5.32 100 790 Geocomp-Suntac 56745 Bob The Builder 1/03/2007
Hoddle Heights 3 Ashburn Grove 1-4 25 310114.063 8622712.502 310116.644 8622721.000 PVC 4.86 150 687 Geocomp-Suntac 56745 Bob The Builder 1/03/2007
Hoddle Heights 3 Ashburn Grove 2-3 24 310113.436 8622713.502 310116.613 8622708.075 PVC 5.73 100 700 Geocomp-Suntac 56745 Bob The Builder 1/03/2007

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Geocomp Consulting offers the complete D-Spec service, be it supplying and supporting the specialised software module or processing client supplied survey data and processing it through to the final deliverables.

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