

Digitalisering Alberta's... 4 + New

Dashboard

Updates 4 Health Check

Heritage Sites Team Members News

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Appearance Plugins 1

Users Tools Settings

WP Cerber Toolkit Google Analytics

Collapse menu

WordPress 4.8.4 is available! Please update now. An automated WordPress update has failed to complete - please attempt the update again now.

To use Toolkit in the most convenient way, we suggest always installing Types, Views and Layouts plugin. For advanced functionality, check out the rest of Toolkit plugins.

Download Toolkit plugin!

View Site Heritage Sites Team Members News Pages Help

Last 30 Days Sessions

Sessions: 34 Bounce Rate: 47.05% Time on Page: 00:01:33

Users: 10 Organic Search: 0 Page Load Time: 0.00

Page Views: 214 Pages/Session: 6.29 Session Duration: 00:08:14

Digitally Preserving Alberta's Diver... 4 4 New View Heritage Site

Heritage Sites

WordPress 4.8.4 is available! Please update now. An automated WordPress update has failed to complete - [Please attempt the update again now.](#)

Edit Heritage Site [Add New](#)

McDougall United Memorial Church

Permalink: <http://128.192.200.24/sites/mcdougall-united-memorial-church/> [Edit](#)

**Details**

SketchFab ID  
Copy ID from SketchFab URL:  
010101d2f424e4a6998f2292242324aba

Description  
The McDougall Memorial United Church is a one-storey building located on the north bank of the Bow River, roughly two kilometres east of Morley.

Region Southwest Alberta [Edit](#)

Field Documentation Date  
June 1, 2019 [Clear](#)

Field Documentation Type Terrestrial LiDAR [Edit](#)

Historic Period  
1875

Threat Level High [Edit](#)

Datum Type NAD 83 [Edit](#)

Featured: Featured Spot [Edit](#)

Background

Capture Techniques

Photo Gallery

Map

Data Files

Video

YouTube ID  
Please copy and paste YouTube ID found here within URL: [https://www.youtube.com/watch?v=\[ID\]](https://www.youtube.com/watch?v=[ID])  
THfcGq0Bck

[Add new](#)

Panorama

Content Template  
None

**Publish**

[Preview Changes](#)

Status: Published [Edit](#)

Visibility: Public [Edit](#)

Published on: Jan 6, 2018 @ 18:00 [Edit](#)

[Move to Trash](#) [Update](#)

**Categories**

All Categories Most Used

Dutch

Irish

Blackfoot

Chinese

Chipewyan/Dene

Cree

French

German

[+ Add New Category](#)

**Tags**

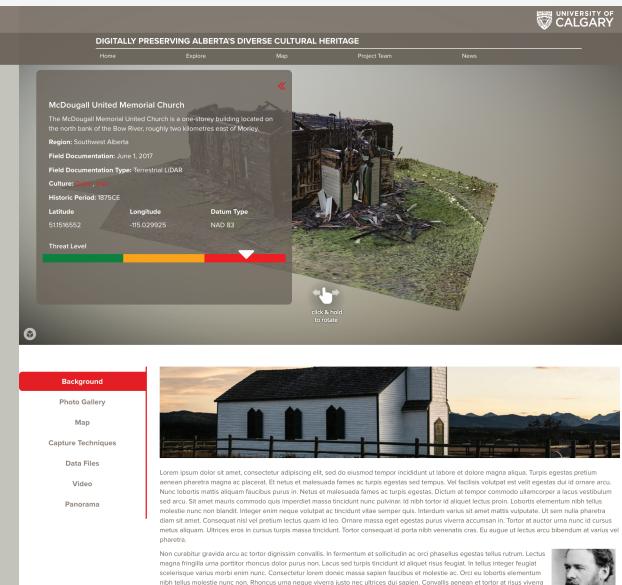
Add

Separate tags with commas

Choose from the most used tags

**Featured Image**

  
Click the image to edit or update  
[Remove featured image](#)



The screenshot shows the 'Digitally Preserving Alberta's Diverse Cultural Heritage' website. On the left, a 3D model of the McDougall United Memorial Church is displayed with numbered callouts (1 through 9) pointing to specific features: 1 points to the title 'McDougall United Memorial Church'; 2 points to the building itself; 3 points to the location on the map; 4 points to the region dropdown; 5 points to the field documentation date; 6 points to the field documentation type; 7 points to the historic period dropdown; 8 points to the threat level slider; 9 points to the datum type dropdown. A tooltip at the bottom left says 'click & hold to rotate'. On the right, the 'Edit Heritage Site' page for 'McDougall United Memorial Church' is shown. It includes fields for 'SketchFab ID' (01fd91d2f42e4a4b96f2292242324aba), 'Description' (The McDougall Memorial United Church is a one-storey building located on the north bank of the Bow River, roughly two kilometres east of Morley.), and various dropdown menus for region (Southwest Alberta), field documentation date (June 1, 2017), field documentation type (Terrestrial LiDAR), historic period (1875CE), threat level (High), and datum type (NAD 83). A red arrow points to the 'Featured' dropdown set to 'Featured Spot 1', with the text 'This indicates if the page will be featured on the explore page'.

Background

Photo Gallery

**Map**

Capture Techniques

Data Files

Video

Panorama

51°09'06.0"N 115°01'47.7"W Direct... Save

[View larger map](#)

Map data ©2018 Google Terms of Use Report a map error

Map

Map Location  
Bow Valley Trail, Bighorn No. 8, AB, Canada

Show/Hide coordinates | Use my location

Display Google map with latitude and longitude

Map Satellite

Map data ©2018 Google Terms of Use Report a map error

Background

Photo Gallery

Map

**Capture Techniques**

Data Files

Video

Panorama

Two approaches were used to digitally capture the McDougal United Memorial Church. A Z+F SOKKIA laser scanner was used to capture the exterior of the church after the fire. The interior and floor made scanning inside the church impossible. This problem was solved by using the drone to fly over the church in a grid pattern to capture the interior and any details, such as the altar and pews, that remained.

In order to capture the exterior and floor made scanning inside the church impossible. This problem was solved by using the drone to fly over the church in a grid pattern to capture the interior and any details, such as the altar and pews, that remained.

Scenes targets were strategically placed around the exterior of the church, such that no less than three were visible from each scanning location. The scans were registered using Z+F Laser Control software, and then exported into Autodesk ReCap for further processing. The resulting point cloud was imported into AutoCAD® Believe to create a 3D model of the site.

Scenes targets were strategically placed around the exterior of the church, such that no less than three were visible from each scanning location. The scans were registered using Z+F Laser Control software, and then exported into Autodesk ReCap for further processing. The resulting point cloud was imported into AutoCAD® Believe to create a 3D model of the site.

The 3D point cloud was then overlaid onto the original orthophoto of the church. The resulting image was processed using Pix4Dmapper software, creating a point cloud, 3D model, DSM, and orthomosaic of the site.

Specific architectural details which are visible in the point clouds will provide important information should the church ever be reconstructed.

**Scan Locations**

Scan Locations

1

2

3

4

5

6

7

8

Scan Location 1

Scan Location 2

Scan Location 3

Scan Location 4

Scan Location 5

Scan Location 6

**Scanning Techniques**

**Details**

**Scanning the church after the fire presented many challenges. First, the burning of the exterior caused by the fire damage made acquiring color data for the point cloud difficult. Second, a large amount of debris was distributed in areas around what remained of the church, which restricted where we could place the scanner.**

**Extending damage to the interior and floor made scanning inside the church impossible. This problem was solved by using the drone to fly over the church in a grid pattern to capture the interior and any details, such as the altar and pews, that remained.**

**The 3D drone view flew in an overlapping grid over the church at an altitude of 20 meters, such that the images captured by the onboard camera overlapped by 90%. The resulting images were processed using Pix4Dmapper software, creating a point cloud, 3D model, DSM, and orthomosaic of the site.**

**Architectural details have been retained off the exterior of the church. (Includes building and texture of what remains of the roofline walls, and distribution from the bottom to a regular shape).**

**Scan Locations**

1

2

3

4

5

6

7

8

Photos should be ordered as they numbered in the Scan Locations photo.

1. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-1.jpg>

2. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-2.jpg>

3. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-3.jpg>

4. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-4.jpg>

5. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-5.jpg>

6. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-6.jpg>

7. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-7.jpg>

8. <https://199.199.200.24/exp-content/uploads/2019/01/mcduogal-scan-8.jpg>

The screenshot shows a software application window with a sidebar on the left containing links: 'Background', 'Photo Gallery', 'Map', 'Capture Techniques', 'Data Files' (which is highlighted in red), 'Video', and 'Panorama'. The main content area has a red vertical bar on the left. On the right, there are two sections: 'Data Files' and 'File URL'. The 'Data Files' section contains two entries: 'Testing File Name' (marked with a blue circle 1) and 'Test 2 Name' (marked with a blue circle 2). Each entry has a small blue icon, a delete button labeled 'Delete file name', and an 'Add new' button. The 'File URL' section also contains two entries: 'https://dataverse.scholarsportal.info/file.xhtml?fileId=57465&version=RELEASED&version=.0' (marked with a blue circle 1) and 'https://library.ucalgary.ca' (marked with a blue circle 2). Each entry has a small blue icon, a delete button labeled 'Delete file url', and an 'Add new' button.

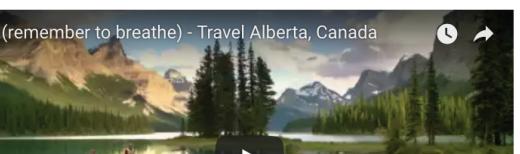
① Testing File Name

② Test 2 Name

① https://dataverse.scholarsportal.info/file.xhtml?fileId=57465&version=RELEASED&version=.0

② https://library.ucalgary.ca

- [Background](#)
- [Photo Gallery](#)
- [Map](#)
- [Capture Techniques](#)
- [Data Files](#)
- [Video](#)
- [Panorama](#)



(remember to breathe) - Travel Alberta, Canada

**Video**

**YouTube ID**

Please copy and paste YouTube ID found here within URL: [https://www.youtube.com/watch?v=\[ID\]](https://www.youtube.com/watch?v=[ID])

[Add new](#)

A screenshot of a mobile application interface. On the left, there is a vertical navigation bar with the following items: "Background", "Photo Gallery", "Map", "Capture Techniques", "Data Files", "Video", and "Panorama". The "Panorama" item is highlighted with a red background. To the right of the navigation bar is a large, blurred image of a cultural heritage site. Overlaid on this image is a white "360°" icon with arrows pointing up, down, left, and right.