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Stone Barn



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Alternate Names

Main Barn

Architect(s)

David R. Brown, and Hugh Vallance, Brown and Vallance Architects, Montreal

Builders

Alexander R. Greig

Construction Dates

1911-1912

Recognition

University of Saskatchewan 'A' Listed



Figure 1. Concrete silos with cedar shingle roofs.



Figure 2. Top to bottom: Asphalt roof shingles have replaced the original cedar shingles, carved exposed wooden truss ends. The cedar shakes on the upper portion of the main barn have been painted white.

1. Statement of Significance

The Stone Barn is a landmark building that serves as a symbol of the agricultural focus and history of the University of Saskatchewan. The barn reflects the importance of the College of Agriculture as a fully affiliated college within the university, a relationship that at the time defied Canada's tradition of separate agricultural colleges. The prominent location of the Stone Barn at the eastern edge of the campus makes it a marker for the University of Saskatchewan within the city. The Stone Barn originally served as a facility to house cattle and horses. The first Dean of Agriculture, William Rutherford, presided over the operation of the Stone Barn for many years before his death. The Stone Barn is therefore heavily associated with this individual who had a great influence on the development of agricultural education at the university and across Western Canada.



Figure 3. The Stone Barn, 1920. Photo A-11007, retrieved from University of Saskatchewan Archives.

Architecturally, the barn distinguishes itself from other university buildings, deviating from the Collegiate Gothic style that typifies the rest of the main campus. With its Gambrel roofs, roof ventilators, and dormer windows, the Stone Barn is in keeping with other North American dairy and livestock barns of the early twentieth century, although it is larger than most and its distinctive stone walls are unusual. Its two concrete silos are also likely the oldest in the province. Though still standing and retaining most of its architectural integrity, the Stone Barn is no longer functional. The building was closed in September 2010 due to the structural degradation of its stone pilasters.



Figure 4. Ground floor walls are constructed of red and grey, rough-faced granite. Windows are framed in wood.

2. Character - Defining Elements

2.1 Materials

Despite its name, the Stone Barn is predominantly a wooden building; both its structure and cladding are built of wooden materials. Only the ground floor walls are built of stone. The upper portion of the exterior walls is clad in cedar shingles. The roof was initially also finished in cedar shingles, but these have since been replaced by asphalt shingles. The roofs of the silos are still shingled in cedar (Figure 1). The roofs of the barn, cupolas and silos all feature ornamental exposed wooden rafter ends, which are well preserved and are shown in Figure 2.



Figure 5. A portion of the stone fence which has fallen down.



Figure 6. Interior walls clad in wooden planks.

Windows are framed in wood and are single-glazed (Figure 4). In some places there are storm windows. Some exterior window sills feature concrete that has been replaced. A majority of the windows have retained their original glass; however, most are heavily weathered and are in poor physical condition. In a few instances the windows have been replaced or have been boarded up.

The ground floor walls and piers are constructed of rough granite of varying shades of grey and red (Figure 4).^{*} A stone paddock wall in the same rough granite was added at some time after the construction of the barn. The condition of the paddock walls is poor in many places. Parts of the stone wall have crumbled and have been replaced by a more temporary fence. The stone piers on the barn are failing in several instances and were the immediate cause of the building's recent closure. The stone walls of the barn have fared somewhat better but require re-pointing. The stone retaining wall that supports the remaining ramp is in good condition and maintains its commemorative integrity. Concrete has been used to refinish the top of this ramp.

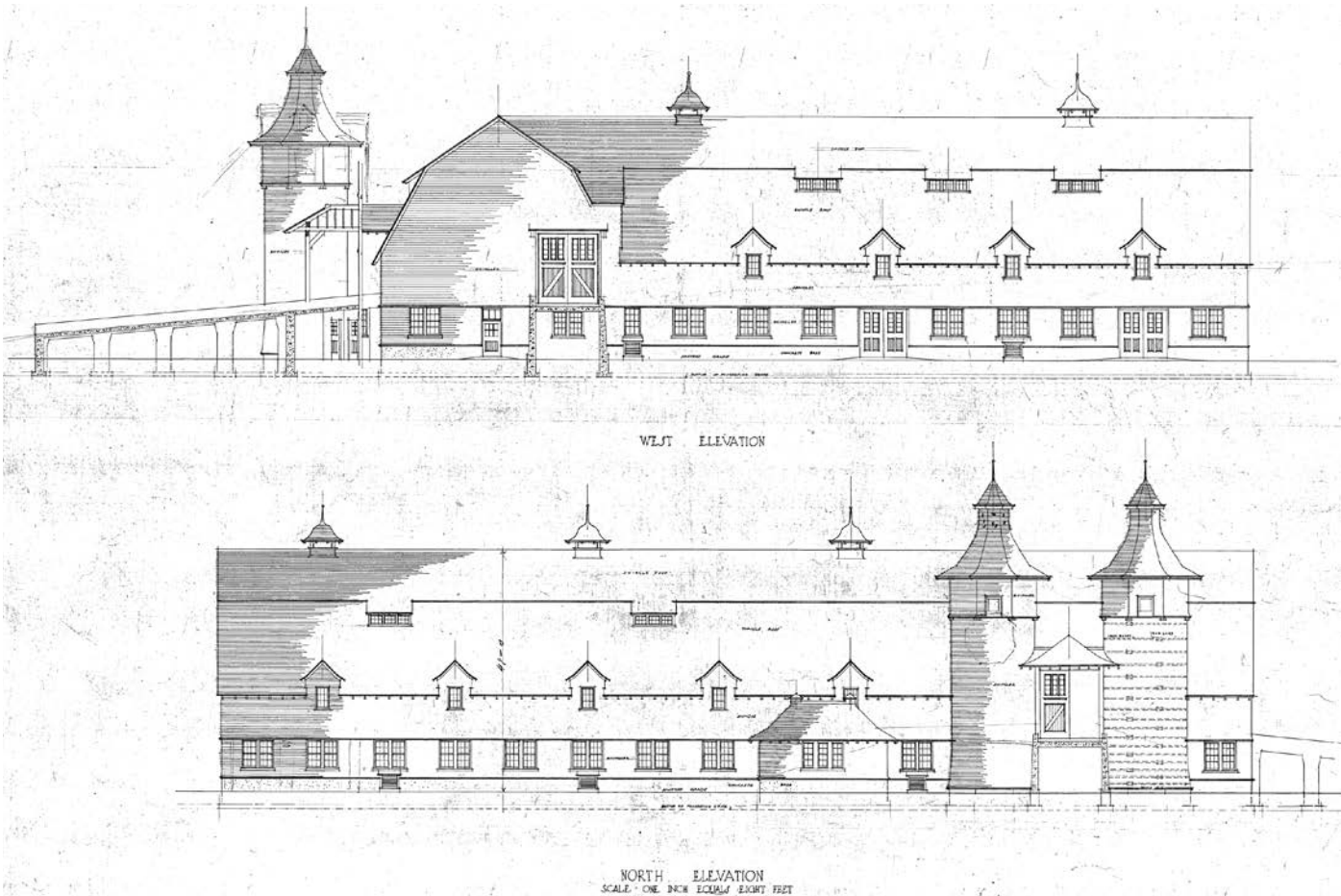


Figure 7. Elevations by Brown and Vallance Architects. In these drawings the lower walls of the barn are indicated to be wood rather than stone. The barn was not built exactly as shown. Retrieved from Facilities Management Division Asset Record system, File B-1-T.

On the interior of the building, the stone walls are clad with vertical wooden planking, painted white. Figure 6 shows this wooden sheathing covering the stone walls. Early elevations by Brown and Vallance Architects show that the building was originally conceived of as a wooden structure (Figure 7). The roof of the building is supported by a series of intricate trusses, made of Douglas fir. The trusses and decking are exposed and unpainted, and have been maintained to an excellent degree of commemorative integrity (Figure 8). These Douglas fir trusses and decking are important character-defining elements.



Figure 9. The interior of a silo constructed of concrete and Douglas fir

The silos are made out of cast-in-place concrete, with wooden roofs (Figure 9). Many of the original metal fixtures such as latches, hinges and pulley systems

still exist in a good state of commemorative integrity. They are all either rusted or painted but remain functional.

The choice of material for the Stone Barn reveals the importance placed on agricultural education at the time. Service buildings at the university were generally constructed out of brick in its early years. Following this practice, the Livestock Pavilion was constructed of brick, as was the Power House. The high-quality materials of the Stone Barn reflect the importance of agricultural education to the University of Saskatchewan.

*For further information on building stones used at the U of S, refer to [‘Appendix: Stone’](#).

2.2 Form & Style

The plan of the Stone Barn is in the shape of an ‘L’ (Figure 15). There is an east and a west wing, the former measuring 160 feet by 48 feet and the latter 176 feet by 48 feet. The Stone Barn’s roofline is 44 feet from the ground and the building measures an even 50 feet high when the ventilation cupolas are taken into account. The ground floor area is 19,000 square feet. This is matched by the second storey hay loft. Two cylindrical concrete silos adjoin the building. The form of the Stone Barn maintains a great degree of integrity except for the removal of one of the large ramps; the barn used to have two ramps, however one was removed in order to make room for parking. Figure 3 pictures the Stone Barn in its original form with both ramps intact.



Figure 8. The loft features unfinished Douglas fir. The lower right corner shows a ventilation shaft that has been disconnected from a cupola. The opening for the cupola can be seen at the top left of the photograph.

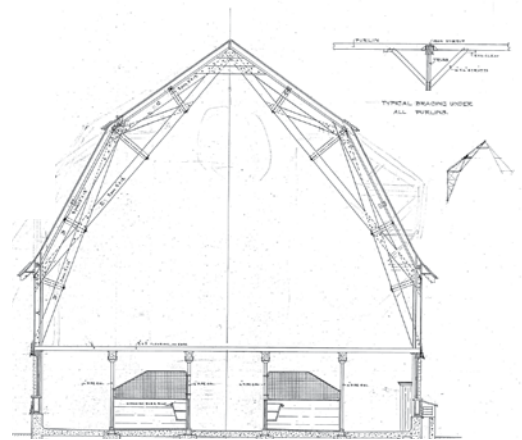


Figure 10. The Stone Barn’s Gambrel style roof. Retrieved from Facilities Management Division Asset Record System, File B-1-T.

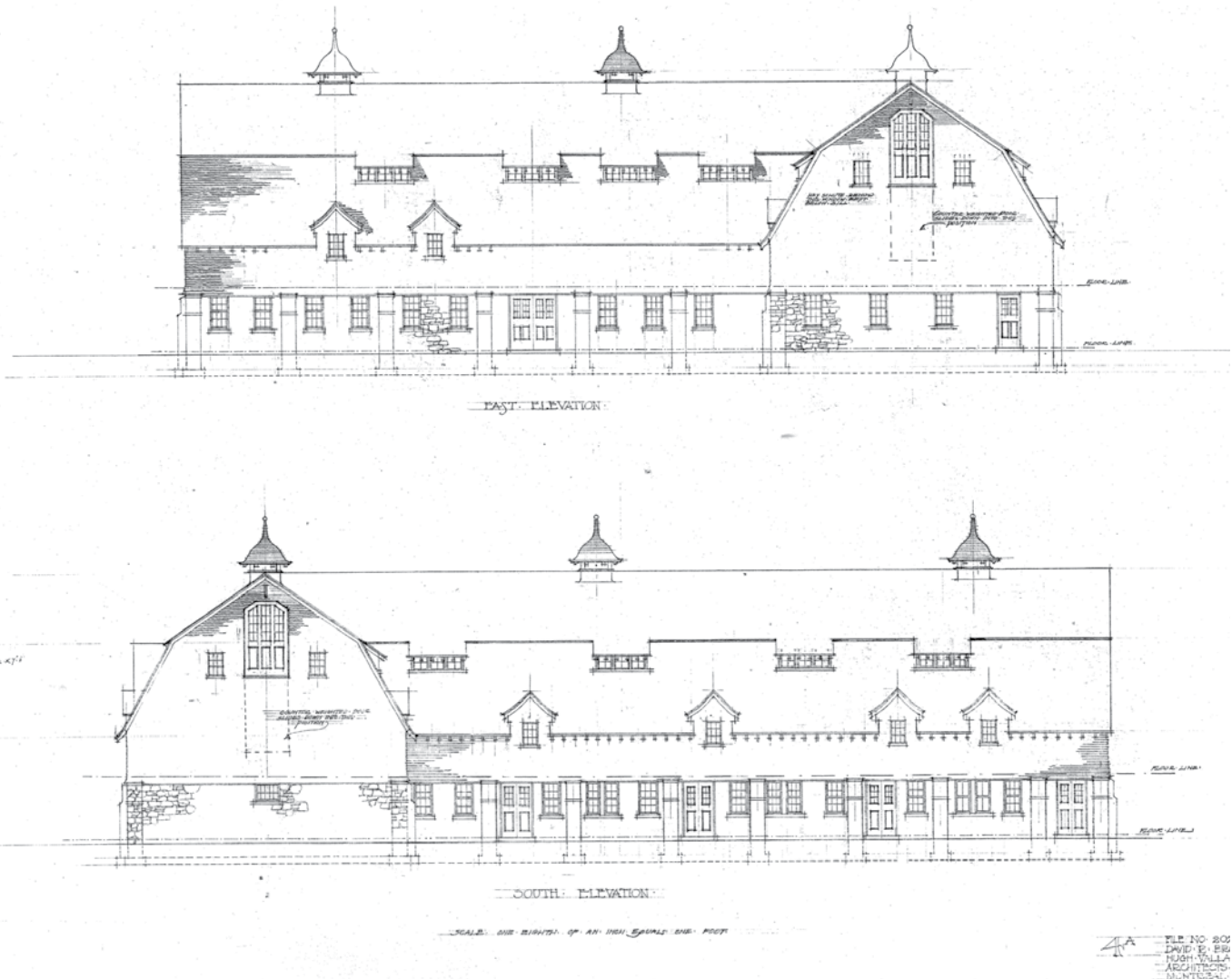


Figure 11. South and East elevations of the Stone Barn, by Brown and Vallance Architects. Here the lower walls are rendered as they were built, in stone. Note that the barn was not built exactly as shown. Retrieved from Facilities Management Division Asset Record System, File B-7-T.

The Stone Barn is different in style, form and material from other University of Saskatchewan buildings of its time. Rather than the limestone walls and characteristic forms of the Collegiate Gothic, the barn features a Gambrel style roof, and is built of wood and granite. In style, the Stone Barn is typical of North American dairy and livestock barns of the early twentieth century, although it is larger than most, and built to a very high standard of construction. Gambrel roofs, roof ventilators and dormers, and multiple windows are the distinctive features of this style of barn, which became popular in the United States and Canada around 1850. The Gambrel roof has a shallow slope near the peak of the roof and a steeper pitch near the eaves (Figure 10). This shape provides the Gambrel roof with more space in the loft. The roof is meant to overhang the walls.

The roof of the barn is topped by a series of prominent wooden cupolas that function to provide ventilation. On the interior, these cupolas are connected to wooden shafts that are designed to produce a stack effect and exhaust stale air from the building. These shafts reach from the centre of the roof to the floor on either side of the barn. The amount of ventilation could be controlled by opening and closing doors located on the sides of the wooden shafts. The majority of these ventilating systems are intact, although some of the cupolas have been disconnected from their shafts. Figure 8 shows one such disconnected shaft.

The Stone Barn features two very distinctive concrete silos with ornate steepled roofs (Figure 11). The gambrel style roof of the Stone Barn, its roof ventilators, dormer windows and silos are all character-defining elements.

2.3 Location

The Stone Barn is located outside of the pedestrian area of [‘The Bowl’](#), but its location gives it prominence nonetheless. Currently the barn is perhaps the most visible structure from outside the university. Located alongside College Drive, the Stone Barn’s height and size draw attention from pedestrians and motorists. The pasture to the south of the barn serves to frame the agricultural scene. Figure 14 illustrates the prominence of the barn to passersby on College Drive. The Stone Barn is a marker that serves to herald the presence of the University of Saskatchewan.



Figure 12. Carved wooden brackets flank the ramp doorway and carved wooden rafter extensions are visible under the eaves.



Figure 13. Cupola and dormer window.

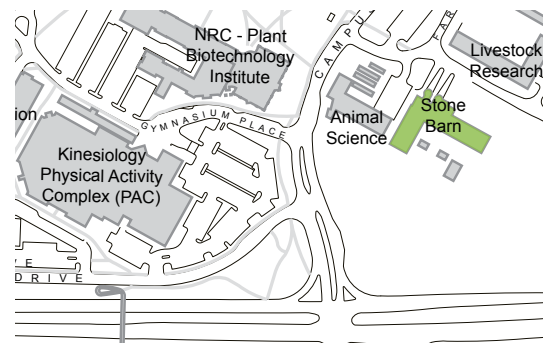


Figure 14. The Stone Barn is located immediately north of College Drive.

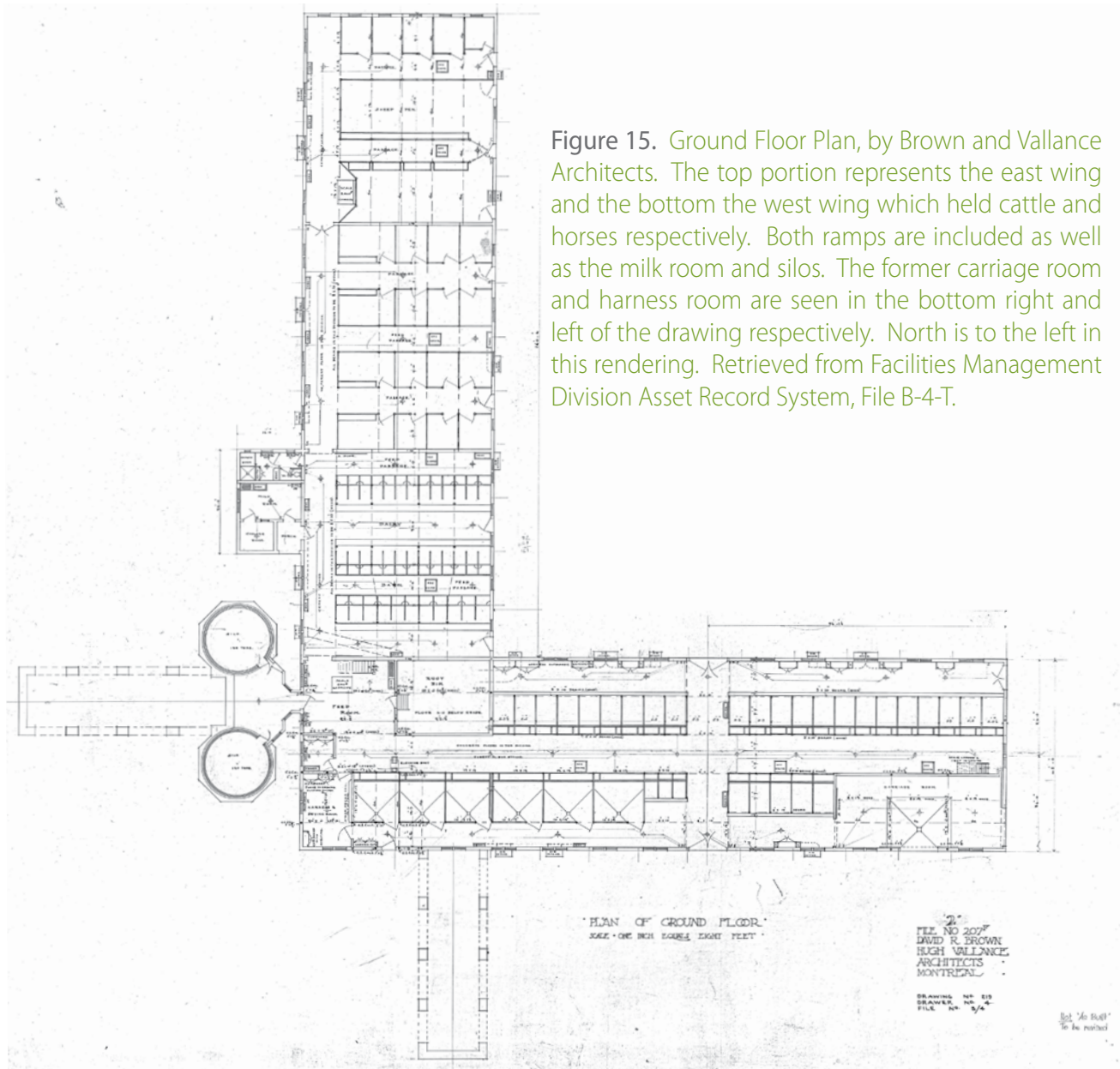


Figure 15. Ground Floor Plan, by Brown and Vallance Architects. The top portion represents the east wing and the bottom the west wing which held cattle and horses respectively. Both ramps are included as well as the milk room and silos. The former carriage room and harness room are seen in the bottom right and left of the drawing respectively. North is to the left in this rendering. Retrieved from Facilities Management Division Asset Record System, File B-4-T.



Figure 16. Interior of the horse corridor ca. 1920 with mangers on either side. The photo demonstrates how tightly configured the building was before the stalls were removed. Photo A-72, retrieved from http://scaa.sk.ca/gallery/uofs_buildings/

2.4 Spatial Configuration

As a working agricultural building, the spatial configuration of the Stone Barn has necessarily changed over time. Figures 15 and 16 show how the ground floor was originally divided into livestock stalls. Originally, the west wing was configured for equestrian use and the east for cattle and sheep. Figure 16 is a view of the west wing when the stalls and feeders were in place. All of these stalls have since been removed, leaving the area a completely open space. The existing layout of the ground floor is therefore in a poor state of commemorative integrity.

Originally, a 22 foot by 40 foot carriage room, visible in Figure 15, was located in the southwest corner of the west wing. When horse-drawn carriages went out of use the carriage room was removed. The northwest corner of the east wing was set aside as a room for harnesses and horse accessories. In addition to this, approximately 10 harness cupboards were installed on the east and west walls of this wing. Adjacent to the harness room there was originally a staircase with access to the loft. All of these features have been removed. A large feeder stands where the harness room used to be. A heavy wooden door with an iron latch are all that remain of this room.

The hay loft is a remarkable, cathedral-like space; soaring to a height of about 35 feet and supported by a series of intricate wooden trusses. The hay loft is accessible from both a staircase inside the building and from an exterior ramp on the north side of the building (Figure 17). Another ramp on the west side, visible in Figure 3, has been removed.

2.5 Systems

In 2010, a structural analysis of the Stone barn was carried out, which determined that degradation of the stone piers had reached a critical state. As a result, the Stone Barn was closed in September 2010. The failing structure of the Stone Barn is obviously a threat to its heritage value.

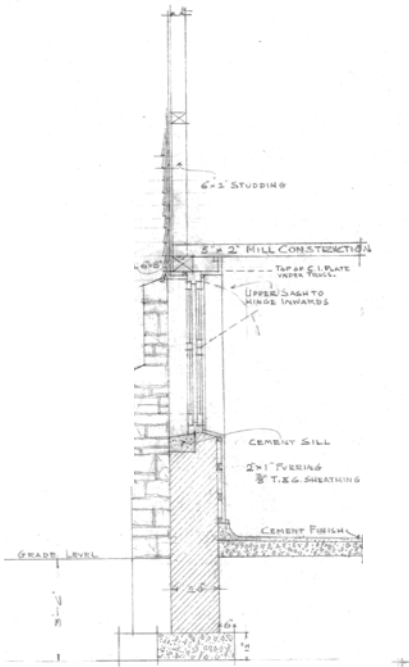


Figure 20. A wall section by Brown and Vallance Architects: Stone pilasters thicken towards the base.

The roof of the building is composed of Douglas Fir decking, supported by a series of intricate Gambrel style bolted girder trusses, also made of Douglas Fir, shown in Figures 18 and 19. The trusses span the full width of the building, and are supported by the exterior load-bearing stone walls and pilasters. The exterior walls of the Stone Barn are constructed of granite. Stone pilasters, which thicken as they reach the ground, pick up the roof trusses (Figure 20). Figure 21 illustrates the deterioration of the stone walls.

The loft floor is composed



Figure 17. The remaining ramp.



Figure 18. The structure of the barn roof.

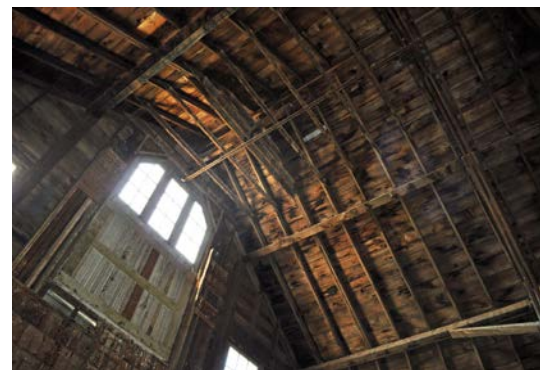


Figure 19. An elevated door at the end of the loft intended to receive hay.



Figure 21. Deterioration of the walls of the Stone Barn.

of 2" x 5" fir planks laid on edge. This floor is supported by the exterior walls, as well as by two 10" x 16" fir beams running the length of the building, which are in turn supported by steel posts (Figure 23.) In the west wing, two wooden posts can also be found.

The structural systems of the Stone Barn are original, and with the exception of the exterior stone walls and pilasters, exist in an excellent state of commemorative integrity. They are a large contributor to the aesthetic value of the space, and are important character-defining elements.

The Stone Barn also features a noteworthy system for circulating feed. A steel rail runs along the roof line of the loft and extends outside either end. Figure 24 pictures the rail system extending out from the wall above the loft door. Figure 25 shows the curving rail drawn to serve the whole loft space. At the end of each wing of the building, a loft door still exists. With hooks and pulleys, bales and feed could be hoisted from the ground outside into the hay loft, and from there could be transported around the building and lowered to the ground floor through trap doors in the loft floor. Most of the trap doors have been fastened shut or covered over with wood. Figure 26 illustrates a trap door that has not been decommissioned. The rail system remains in an excellent state of commemorative integrity.

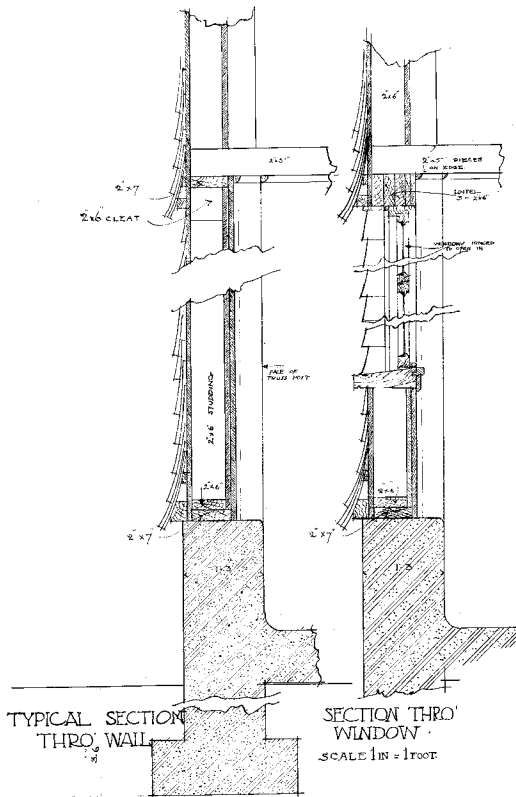


Figure 22. Early wall sections by Brown and Vallance architects showing a wall structure of 2x6 studs rather than load bearing stone.

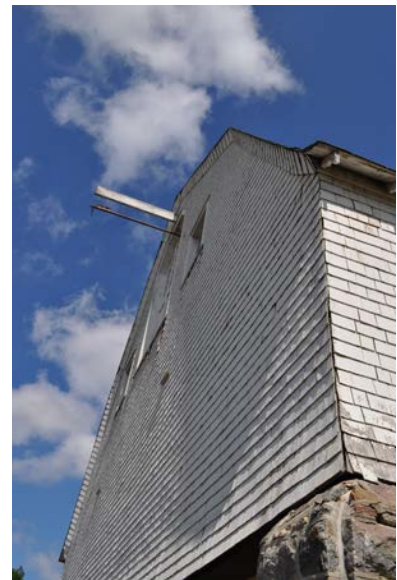


Figure 24. The loft trolley system extends from the barn.



Figure 23. Steel posts support wooden beams.

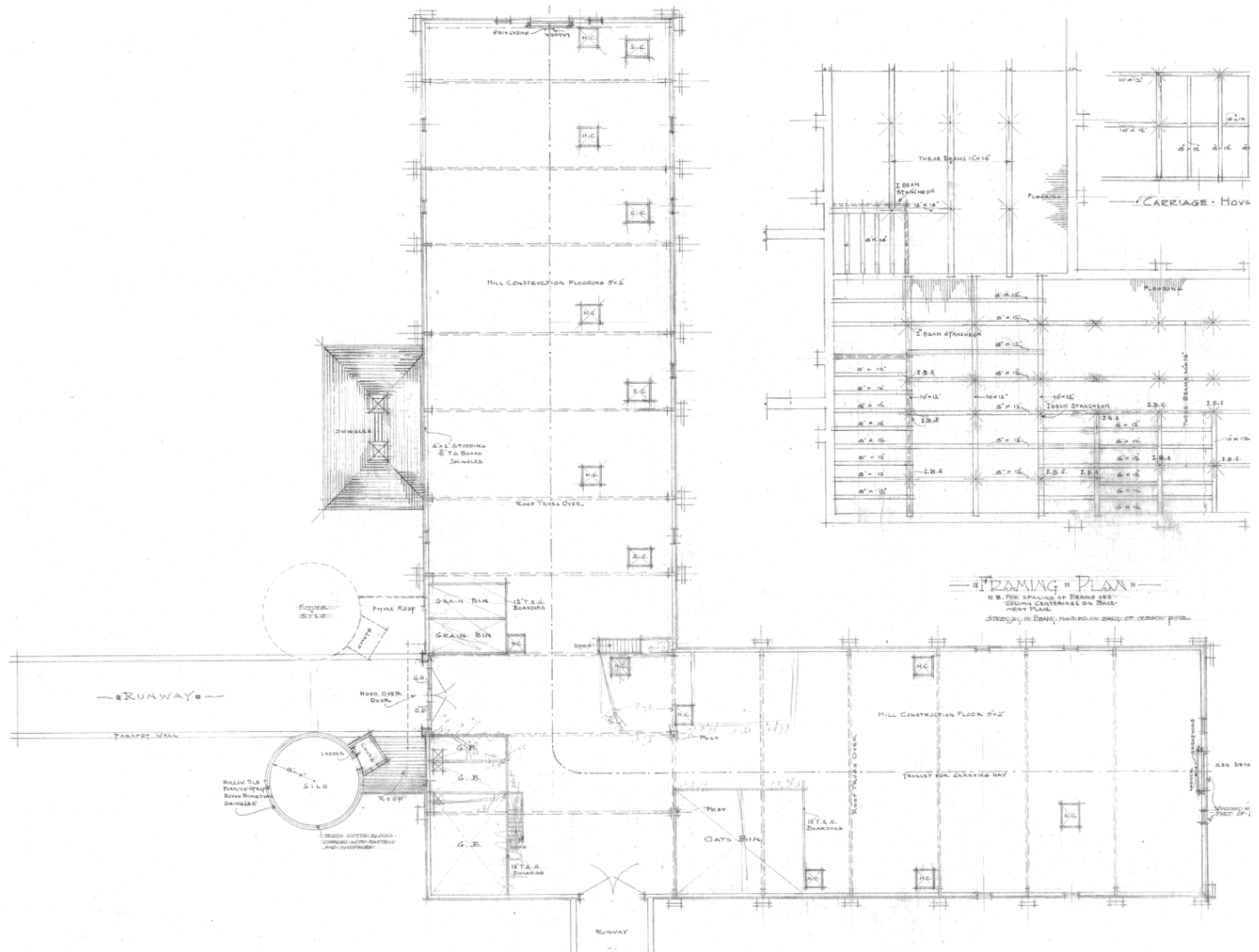


Figure 25. A plan view of the loft. Retrieved from Facilities Management Division Asset Record System, File B-8-T.

2.6 Use(s)

The Stone Barn was built to house 50 head of cattle and 30 horses in the east and west wings respectively. The entire loft was set aside for hay storage. The barn housed different sized stalls for younger animals, maternity animals, bulls, stallions and milking stations. A milk room and carriage room as well as a room for storing harnesses served the primary functions of the building. Horses were housed in the building up until the early 1950's. The horses were used to tend to the crops of the University Farm until they were replaced by tractors. Figure 27 shows the horses being readied for use in the field, before the era of tractors. The University of Saskatchewan was one of the last agricultural colleges to eliminate its equine stock. Besides housing animals, the Stone Barn served the many



Figure 26. A trap door in the loft opens into an aisle below.

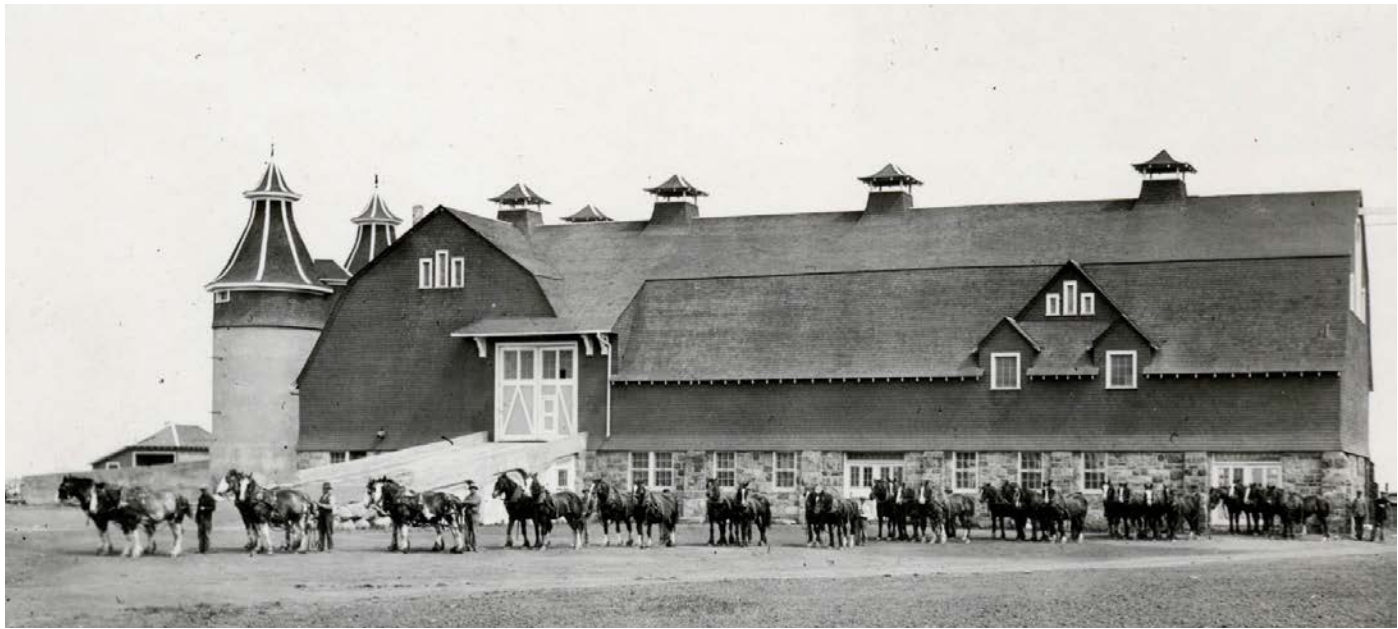


Figure 27. A photo from the 1920's shows teams and teamsters outside the Stone Barn ready for a day's work. Photo A-69, retrieved from University of Saskatchewan Archives.



Figure 28. Sheep shearing time at the University of Saskatchewan. Photo retrieved from Bell, M.J., (1996) *Hoofprints to Reprints: The History of Animal Husbandry, Animal Science and Animal and Poultry Science, University of Saskatchewan 1909-1989*.

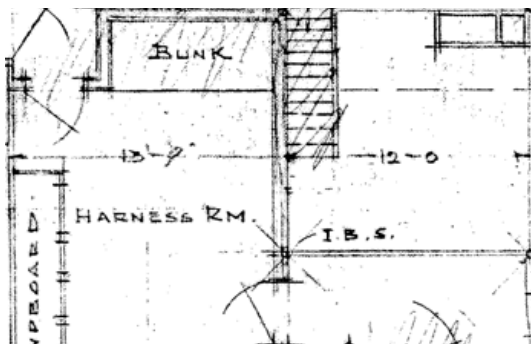


Figure 29. A bunk drawn into original floor plans. Retrieved from Facilities Management Division Asst Record system, File B-9-T.

functions that go along with livestock husbandry and research. Cows were milked, animals bred, sheep sheared (Figure 28), research and experimentation carried out. In its first decades, the Stone Barn housed several champion Clydesdale horses bred by first Dean of Agriculture, William Rutherford. Award winning cattle were raised in the barn.

The inclusion of bunks in the building plans shown in Figure 29 reveals that the building was not only a home for livestock but perhaps for people as well. Farm hands may have originally spent nights here in order to keep vigil over the animals in their care. This practice changed over time and no living quarters remain. Currently, the Stone Barn is in a state of disuse.

2.7 Cultural & Chronological Associations

The Stone Barn has a character-defining element in its cultural association with the first Dean of Agriculture at the University of Saskatchewan, William Rutherford. Rutherford was Dean of the College until his death in 1930 and was recognized as the founder of agrarian education in Western Canada. He was posthumously inducted into Saskatchewan's Hall of Fame.

The heavy concrete silos of the Stone Barn are considered to be the oldest structures of their kind in Saskatchewan. The structures therefore possess significant heritage value and are an integral character-defining element of the Stone Barn.

This building has an obvious association with agriculture. The Stone Barn expresses its association with livestock not only in its historical use, but in its form and style. The University of Saskatchewan was the first university in Canada to fully incorporate a College of Agriculture, and this aspect of its history is most prominently commemorated in the Stone Barn. The Stone Barn serves as a monument to the proud history of agricultural education at the University of Saskatchewan, marking the affiliation of the university with the agrarian culture that is innate to Saskatchewan.

3. Associated Objects

N/A

4. Supporting Documents

Bell, M.J. (1996). *Hoofprints to Reprints: The History of Animal Husbandry, Animal science and Animal and Poultry Science, University of Saskatchewan 1909-1989*. Saskatoon: University of Saskatchewan.

Facilities Management Division (2011). Asset Record System [Data File]. Retrieved from <\\usask\fmddfs\files\iis\IIS Public\ARS>

Genivar Inc. (2011). Stone Barn Structural Investigations and Recommendations. Retrieved from Facilities Management Division.

Hanson, S. (2000). *Dictionary of Canadian Biography Online: Rutherford, William John*. Retrieved from http://www.biographi.ca/009004-119.01-e.php?&id_nbr=7963&&P_HPSESSID=yhzfqkvzape

University of Saskatchewan Archives. (Retrieved 2011). *Main Barn*. Retrieved from <http://scaa.sk.ca/gallery/uofs/buildings/>



5. Summary of Character - Defining Elements



Materials

- cedar shingles
- douglas fir structural elements
- wood-framed windows
- granite walls and piers
- concrete silos
- metal fixtures

Form & Style

- gambrel style roof
- cupolas
- steeple roofs
- carved truss extensions
- dormer windows

Location

- visibility as university landmark
- part of university 'farmstead'

Spatial Configuration

- ramp
- interior loft

Structural Systems

- granite pilasters
- loft floor - 2x5's laid on edge
- fir beams
- gambrel style bolted girder trusses
- feed circulation system - trolley rail and trap doors

Uses

- livestock breeding
- livestock research and experimentation
- milking cows and shearing sheep

Cultural & Chronological Associations

- Dean William Rutherford
- silos - considered to be oldest in Saskatchewan
- agriculture at the University of Saskatchewan