



Parks
Canada

Parcs
Canada

Manuscript Report
Number

438

ARCHAEOLOGICAL INVESTIGATIONS AT THE
COACH-HOUSE SITE, BELLEVUE HOUSE NHP,
KINGSTON, ONTARIO

by Philip E. Gerrard

Gerrard & Hossack Restoration Consultants

1981

Archaeological Investigations at
the Coach-house Site,

Bellevue House NHP,

Kingston, Ontario

1980

by Philip E. Gerrard

Gerrard & Hossack Restoration Consultants

1981

The Manuscript Report Series is printed in a limited number of copies and is intended for internal use by Environment Canada. Copies of each issue are distributed to various public repositories in Canada for use by interested individuals.

Many of these reports will be published in Canadian Historic Sites or History and Archaeology and may be altered during the publishing process by editing or by further research.

Archaeological Investigations at

the Coach-house Site,

Bellevue House NHP,

Kingston, Ontario

1980

by Philip E. Gerrard

Gerrard & Hossack Restoration Consultants

1981

vi Abstract

vii Acknowledgements

viii Preface

1 Introduction

4 Archaeology

5 10H2

6 10H3

7 10H4

11 10H5

11 10H6

12 10H7

13 10H8

16 10H9

17	10H10
18	10H11
19	Interpretation
21	Size & Location
22	Construction Details
35	Significant Artifacts
39	Conclusions
43	Stratigraphy Tables
69	References Cited

Illustrations

75	1 Map of Kingston, 1850
77	2 Map of Kingston, 1869
79	3 Kingston Insurance Map, 1908
81	4 Kingston Insurance Map, 1963
82	5 Archaeological Location Plan
83	6 10H2A, 10H2B Plan and Profiles
84	7 10H4A,B, 10H3A,B,C Plan and Profiles
85	8 10H4C,D,E Plan (before removal of lower roof assembly)
86	9 10H4C,D,E Plan (after removal of lower roof assembly)
87	10 10H4C,D, North Profiles
88	11 10H4C, East Profile
89	12 10H4C, South Profile
90	13 10H4C,D,E, West Profile
91	14 10H3B, 10H5A, 10H6A, Plans and North Profiles
92	15 10H5A, 10H6A, West Profiles and Details

93	16	10H7A Plan and Profiles
94	17	10H8A,B,C,D,E,F and 10H3B,C Plan
95	18	10H3B, 10H8D, North Profiles
96	19	10H8A,B,C,D,E, East Profiles
97	20	10H8A, 10H8B-F, South Profiles
98	21	10H8B,F, 10H8E, Profiles
99	22	10H8F Stratification
100	23	10H9A,B Plans and Profiles
101	24	10H10A,B Plans and Profiles
102	25	10H10B Stratification
103	26	10H11A Plan and Profile
105	27	Coach-house Reconstruction (South and East Facades)
107	28	Coach-house Reconstruction (North and West Facades)
109	29	View of Coach-house East End (South Facade)
111	30	Original Privy Site

ABSTRACT

This report documents the results of archaeological investigations at the site of the coach-house at Bellevue House NHP, in Kingston Ontario. Hand-trenched excavations were carried out during November and December 1980, in the rear yard of the Park administration building. Two supplemental trenches were excavated; one in the basement of the administration building, and one on an adjacent Kingston Public Utilities Commission right-of-way.

This research was undertaken as part of the park's ongoing interpretation of the site and as a salvage operation in advance of proposed construction activities, on the coach-house site. The accurate location and size of the structure was determined from the research. In addition, unique masonry construction details and a substantial wing attachment which originally had a stone masonry vaulted roof were documented. Additional details regarding the buildings functions, its interior, its outward appearance and previous grade levels surrounding it were identified.

ACKNOWLEDGEMENTS

The archaeological research reported here was carried out under contract to Parks Canada, Ontario Region. This report has been made possible through the kind assistance of many people; notably Superintendent E.R. Friel and Wayne Crossen at Bellevue NHP, Don Gormley (Parks Canada Manager, Engineering and Architecture), David Buchon (Kingston Public Utilities), William Gordier (a local resident who provided a valuable oral history) and Harley Stark (Parks Canada Archaeologist), Ron Whate, Lynn Sussman, and Gerard Gusset of the Material Culture Research Division, and Martin Brooks, Jim Moore and John Stuart of Conservation Division.

Special acknowledgements are necessary to Phillip Wright (Regional Archaeologist with the Ontario Ministry of Culture and Recreation); Elizabeth Snow (Parks Canada Senior Archaeologist) and especially two excellent site assistants Steven Powell and David Shouldice.

PREFACE

This report describes the historic archaeological research at the coach-house site at Bellevue House NHP. The objectives of the investigation were: (1) to determine the exact size and location of the coach-house structure; (2) to salvage and/or record the cultural remains associated with the site in order to permit an accurate interpretation of the coach-house; (3) to record building hardware and construction details in order to increase our present knowledge in those areas and to assist in creating a data base for comparative analysis purposes; (4) to determine the evolution and functions of the coach-house; (5) to establish the relationship of the coach-house to Bellevue itself, and (6) in broader terms, to establish the relationship between coach-houses and their associated residences.

Hand-trenching techniques were employed, and it was discovered that a portion of the feature extended onto the adjacent Kingston Public Utilities Commission property. Permission was granted by the Commission to allow limited excavations on their property. This aspect of the research was carried out under the authority of the conservation licence issued to the Regional Archaeologist, Eastern Region,

Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation, and the supervision of the regional archaeologist.

Preliminary excavations had been conducted on the park property during October 1979 by Harley Stark. The interpretations of his draft report (1980) have been re-evaluated in light of these more recent findings.

INTRODUCTION

Bellevue's coach-house was demolished in the mid - 1950s, after a long period of deterioration during the first half of this century. The history of the coach-house has been examined in two modern sources: R.R. Dixon (1969) and M.L. Evans (1979).

Bellevue House was built during a time of prosperity, shortly before Kingston had been chosen as capital for the combined provinces of Upper and Lower Canada. A local grocer and entrepreneur, Charles Hales, constructed the Italian style villa sometime between 1838 and 1840. When Kingston was proclaimed the capital in 1841, Hales was leasing out his villa. In August 1848, the house was rented to John A. MacDonald, who was at that time a Member of the Legislative Assembly.

MacDonald and his wife, Isabella, only occupied Bellevue for a year. A month after they moved into the house, their young son died. A short time later, MacDonald's law practise began to fail and they were forced to move to more modest quarters in downtown Kingston. Presumably, Bellevue continued to be leased out while in Hales' possession. Ownership of the property passed through many hands until it was

purchased by the federal government in 1964.

It would have been necessary for a residence such as Bellevue to have had outbuildings such as a coach-house, a stable, a privy, etc. Therefore, it is very possible that the coach-house structure, which was excavated, dates to the time that Bellevue itself was constructed. The first historical documentation of its existence is on a plan of the city of Kingston, dating to 1850 (Figure 1). This map shows Bellevue House and an L-shaped carriage house. The next piece of historical documentation which illustrates the coach-house, is a fortification survey plan of Kingston, in 1869 (Figure 2). This drawing shows the L-shaped coach-house with a projecting wing on its north side. The insurance plan of Kingston for 1908 (Figure 3), shows the coach-house, but does not indicate the wing addition.

The building is documented in this century in home movies taken in the 1920s by the Attack family, the last private owners of the property. The insurance plan from 1908 indicates that the east end of the building was used as a stable and the west end was used for the carriages (Evans 1979: 3). The Attack family had used the building as a garage for their automobiles. As the structure began to deteriorate it was used as a children's club house, until portions of it began to collapse. Finally, that part of the lot was sold, the remainder of the building levelled, and a bungalow (the present administration building) built on the site. Arch-

aeological excavations were conducted during October 1979 (Stark 1980) and November and December 1980.

The results of the latter investigations are recorded in the body of this report. The Parks Canada provenience and excavation records systems were used throughout the project; and the soil colours were matched to the Munsell Soil Color charts.

A major logistics problem was encountered during the process of excavation. A large twentieth century midden was found to extend across nearly the entire site. Due to the recent date of the artifacts (c.1950), it was determined that these artifacts related to the coach-house after it had ceased to function and was in a state of ruin. In addition, the time constraints of the project (six week field season) made it impossible to salvage all of the artifacts as well as completing the scope of the work as outlined in the excavation plan.

Therefore, it was agreed among the acting Superintendent, the Senior Archaeologist and the Contractor that the salvage of artifacts relating to the midden would be suspended.

ARCHAEOLOGY

The excavations were concentrated in the rear yard of the administration building. The terrain of the yard drops sharply in two directions (towards the east and towards the south). The surrounding land slopes steeply to the south, down to Lake Ontario. The underlying geology consists of limestone bedrock, which is part of the Napanee Plain geological formation.

The archaeological operations were excavated to bedrock where feasible. However, the unusual nature of the site resulted in severe logistical problems. The yard itself was confined on all four sides and therefore the excavated fill could not be removed from the site. In addition, it was necessary to protect several large trees and their root systems. An unusual soils engineering problem resulted due to the proximity of the feature to the administration building and the depth of the feature below grade. Consequently, it was necessary to restrict the extent of the excavations, since the floor of the coach-house occurred at a level below the bungalow's footings.

Supplemental excavations in the Public Utilities right-of-way and in the administration building's basement were

necessary in order to determine the exact size of the coach-house and the construction details and size of the north wing.

Operation 10H2

This excavation was divided into two main sub-operations; 10H2A and 10H2B. These excavations were originally the southern end of a 1.0 m wide trench which extended across the width of the yard. The purpose of this trench was to locate the long walls of the coach-house by intersecting them at ninety degrees. It was excavated in conjunction with operation 10H3 and 10H9, to the north. The coach-house wall was not located in operation 10H2.

Sub-operation 10H2A (Figure 6, Table 1)

This trench was 3.0 m long and was not excavated deeper than 0.60 m below grade due to the presence of many very large limestone "slabs". The average size of these slabs was approximately 0.20 m thick, by 0.80 m long, by 0.50 m wide. The size and extent of distribution of this type of stone was consistent across the entire site. These limestone slabs were not trimmed in any way and were generally too large to have been used for masonry wall construction.

Sub-operation 10H2B (Figure 6, Table 2)

The southern limit of 10H2A was extended approximately

1.0 m south to the fence-line. This 1.5 m wide sub-operation was designated as 10H2B. The upper soil layers were similar to those recorded for 10H2A. However, it was possible to excavate 10H2B to a much deeper level. Excavation proceeded to a depth of 1.5 m below grade but was suspended at that level for site safety and logistical reasons.

Operation 10H3

This operation was the northern 5.7 m long section of the 1.0 m wide trench across the yard. It was divided into three sub-operations: 10H3A, 10H3B, and 10H3C. This operation was intended to identify the long walls of the coach-house by intersecting them at a ninety degree angle. The entire operation was excavated in conjunction with operations 10H2 and 10H9 to the north. Sub-operation 10H3B located the north wall of the structure. The south wall was exposed in operation 10H9.

Sub-operation 10H3A (Figure 17, Table 3)

The large limestone slabs, identified in 10H2A, were found in sub-operation 10H3A as well. It was possible to excavate to bedrock in this trench, and the first feature relating to the coach-house was discovered here. This sub-operation was 4.0 m long and located immediately north of 10H9A. It was separated from the adjacent sub-operation, 10H3B, by a 0.70 m wide balk. Part of an extremely large limestone "slab" rested

on the top of the balk. The slab was approximately 1.0 m wide, 0.20 m thick and 2.0 m long; and extended through a 0.50 m wide balk to the west and into the adjacent operation, 10H5. A 0.05 m diameter bore-hole extended through the thickness of the stone.

Sub-operation 10H3B (Figure 14,17,18, Table 4)

This trench was the 1.0 m long northern extension of the 1.0 m wide trench, 10H3A. The northern limit of 10H3B was a rough coarsed, rough cut, limestone masonry wall. The mortar in the wall was crumbling and deteriorating and tree roots had penetrated the thickness of the wall in a few locations. Excavation of this trench proceeded until the concrete floor (uncovered in sub-operation 10H3A) was reached. The excavation was halted there, for safety reasons.

Sub-operation 10H3C (Figure 17, Table 5)

Sub-operation 10H3C, was excavated on the other side of the masonry wall. It was the 1.0 m wide northern extension of 10H3B. The upper layer of this excavation was found to contain twentieth century glass, ceramic and metal artifacts. The sub-operation extended 0.80 m north from the northern limit of 10H3B.

Operation 10H4

This operation consisted of a 1.0 m wide trench which was

excavated 10.1 m across the west end of the yard. This end of the yard was considerably higher than the east end. Although the excavations were continued down to a depth of 1.5 m below grade in some places; the work was severely hampered by the presence of large limestone "slabs". The initial purpose of the 1.0 m wide trench was to identify the location of the long walls of the coach-house by intersecting them at ninety degrees. The south wall was not located, but the north wall and an attached wing addition were exposed on the north end of the site (10H4C). The operation was broken down into five sub-operations:

- 10H4A - south end of 1.0 m wide trench
- 10H4B - north end of 1.0 m wide trench
- 10H4C - interior of wing addition (north of 10H4B)
- 10H4D - exterior of wing addition (west of 10H4C)
- 10H4E - exterior of wing addition (north of 10H4C on Public Utilities property).

Sub-operation 10H4A (Figure 7, Table 6)

This trench was the 7.65 m long southern end of the 1.0 m wide excavation. The large limestone "slabs" were encountered at a depth of 0.90 m below grade. Consequently, it was not possible to excavate this trench deeper than 1.45 m below grade. The north end of the trench cut through the site of one of the preliminary archaeological trenches (Stark 1980; 10H1D).

Sub-operation 10H4B (Figure 7, Table 7)

This trench was the 2.45 m long northern end of the 1.0 m wide excavation. The large limestone slabs also occurred at the same depth as in 10H4A. Therefore, excavations could not proceed beyond that level. A 0.12 m diameter log was uncovered at the north end of the trench. The log occurred perpendicular to the length of the trench, and it was determined that it was unrelated to any major feature. The extreme northern end of this sub-operation cut into a midden which contained large quantities of glass, ceramic and metal artifacts.

Sub-operation 10H4C (Figures 8-13, Table 8)

The northern 2.50 m of the 1.0 m wide trench was designated as sub-operation 10H4C. It encountered a large twentieth century midden, and limestone building rubble. This sub-operation was expanded laterally to the east and west. The remainder of a walled structure, and collapsed sections of a vaulted stone roof were uncovered during this process. This area was preliminarily interpreted as having been the attached north wing of the coach-house.

The lateral extensions of sub-operation 10H4C exposed substantial masonry walls on both sides parallel to the original trench. Excavations on the exterior of the east wall (i.e. to the east) were not possible due to the presence of several very large trees. It was determined that this feature

was a separate wing attachment of the coach-house.

Sub-operation 10H⁴D (Figures 8,9,10,12,13, Table 9)

A trench was excavated on the west side of the west wall, close to the administration building's foundation. This sub-operation, 10H⁴D, revealed that the exterior of the masonry wall identified in 10H⁴C was built against a comparatively shallow bedrock ledge. A previous grade level 0.60 m below existing grade level was identified in this sub-operation. In addition, the intersection of the west wall of the wing with the north wall of the coach-house was uncovered. It was noted that the masonry of the walls was not interlocked (i.e. the walls of the wing were not tied into the walls of the coach-house). It was also noted that the north wall of the coach-house continued to the west towards the administration building. Limestone building rubble had apparently been piled between the north face of the coach-house wall and the bedrock ledge to the north.

Sub-operation 10H⁴E (Figures 8,9,13, Table 10)

It was determined that the north wall of the structure extended onto the adjacent Kingston Public Utilities Commission right-of-way. Permission was received from the Commission to undertake a limited excavation on their property, and this work was carried out under authority of the Ontario Ministry of Culture and Recreation's Eastern Archaeologist,

Phillip Wright. The excavations in that sub-operation, 10H4E, subsequently revealed the extent of the structure and its construction details. A 1.0 m trench was excavated and it exposed the north end of the north wall and revealed a "double-wall" type of masonry construction which had been identified in the east and west walls of the wing. A previous grade level was identified 0.25 m below existing grade.

Operation 10H5

Sub-operation 10H5A (Figures 14,15, Table 11)

This was the only sub-operation in operation 10H5. It consisted of a 2.0 m by 2.0 m square trench, approximately 0.50 m to the west of operation 10H3 and approximately in line with sub-operations 10H3B,C. Its purpose was to investigate the north wall of the coach-house which was exposed in operation 10H3. The northern end of the excavation, 10H5A, exposed the interior side of the main north wall. The excavation proceeded to a depth of approximately 1.75 m below grade. At that point, a concrete floor surface was encountered. At that stage, excavations were suspended for safety reasons.

Operation 10H6

Sub-operation 10H6A (Figures 14,15, Table 12)

The only sub-operation was 10H6A. It consisted of a 2.0 m

by 2.0 m square trench, 0.50 m to the east and in line with operation 10H6. Its purpose was to further investigate the interior side of the north wall of the coach-house. The northern end of the trench exposed a portion of the main north wall. The trench was excavated to a depth of 2.35 m below grade. A concrete floor structure was encountered 2.0 m below grade. A section of the floor was broken away and decayed wood members were revealed immediately beneath the concrete. Limestone bedrock was reached 0.35 m below the concrete floor surface.

Operation 10H7

Sub-operation 10H7A (Figure 16, Table 13)

The only sub-operation was 10H7A. It consisted of a 1.5 m by 2.0 m rectangular trench which was located adjacent to the administration building's east foundation wall, 3.0 m south of the north end of the building. The purpose of this trench was to determine the extent of the disturbances to the coach-house ruin, resulting from the construction of the bungalow. The west end of the operation cut through a 0.40 m thick layer of crushed stone at a depth of 1.25 m below grade. This was apparently related to the drainage tile system around the perimeter of the administration building. The main north wall of the coach-house was located 1.60 m below grade and was located in the centre of the trench. This limestone

masonry wall appeared to continue under the layer of crushed stone, and therefore under the administration building. Cut limestone building rubble appeared to have been piled on either side of the coach-house wall remains, similar to the situation described in 10H4D.

Operation 10H8

This operation was concentrated around the east end of the coach-house. The purpose of the operation was to expose as much of this end of the coach-house as possible in order to identify the layout and functions of the building. Preliminary investigations (Stark 1980: 10H1B) in this area uncovered a section of the main south wall. Operation 10H8 was divided into six sub-operations (designated A to F, inclusive). The provenience of the sub-operations was laid out as follows:

- 10H8A - coach-house exterior, south-east corner
- 10H8B - coach-house interior, south half
- 10H8C - coach-house interior, unexcavated balkhead
- 10H8D - coach-house interior, north half
- 10H8E - coach-house exterior, north-east corner
- 10H8F - coach-house exterior, south side entrance

The results in this operation were that the perimeter walls were identified on three sides; two doorways and one window were located; at least three floor structures were identified; and previous grade levels were identified on the

north and south sides of the building.

Sub-operation 10H8A (Figures 17,19,20, Table 14)

This sub-operation was a 1.0 m by 1.5 m trench which uncovered the site of the preliminary archaeological excavation (Stark 1980: 10H1B). The finished end of a limestone masonry wall was exposed, as well as a concrete floor surface and wooden door sill. Sub-operation 10H8A was extended on the exterior side of the masonry walls and was excavated down to bedrock. The stratigraphy had been disturbed in the area when the concrete footing for the fence post was installed.

Sub-operation 10H8B (Figures 17,19,20,21, Table 15)

This sub-operation was a 2.0 m by 4.0 m trench which examined the south half of the coach-house interior. The south-east corner of the building was identified. A window was located in the east wall and a doorway was identified in the south wall. An extensive twentieth century midden was uncovered as well as a decayed wood floor and a concrete floor structure below that. The concrete floor structure was broken through and a 0.70 m by 1.20 m trench was excavated down to bedrock. The trench exposed an earlier concrete floor structure and recovered a number of red-ware sherds (from below the earlier concrete floor level).

Sub-operation 10H8C (Figures 17,19,21, Table 16)

This sub-operation was a 0.80 m wide unexcavated balk which was left intact for vertical and stratigraphy control purposes. The stratigraphy is essentially the same as that of sub-operation 10H8B and 10H8D, with a few minor variances.

Sub-operation 10H8D (Figures 17-19, Table 17)

This sub-operation was a 2.0 m by 3.0 m trench which investigated the north half of the coach-house interior. The north-east corner of the building was identified as well as two floor structures (one wood and one concrete). Once again, the stratigraphy was similar to 10H8B and 10H8C with a few exceptions.

Sub-operation 10H8E (Figures 17,19,21, Table 18)

This sub-operation was a 0.90 m by 2.0 m trench which investigated the exterior of the coach-house at its north-east corner. The exterior face of the wall was exposed and a previous grade level identified. Due to the peculiar nature of the terrain in this area and the logistics of the site, it was not possible to excavate this trench to bedrock. A few nineteenth century ceramic, glass and metal artifacts were recovered from the previous grade level.

Sub-operation 10H8F (Figures 17,20,22, Table 19)

This sub-operation was a 0.70 m by 1.0 m trench which

concentrated on the exterior of the coach-house at a door location in the south wall. The doorway and doorsill were identified. It was not possible to excavate this trench to bedrock, due to the number of very large limestone "slabs" present in this area.

Operation 10H9

This operation was divided into two main sub-operations; 10H9A and 10H9B. These trenches were excavated in order to expose the remainder of the coach-house south wall and identify its details. The excavation of both trenches was severely hampered by the presence of very large limestone "slabs" and only a short piece of the wall was exposed in the east end of 10H9A.

Sub-operation 10H9A (Figure 23, Table 20)

This sub-operation was a 2.0 m by 5.5 m trench which attempted to expose more of the south wall of the coach-house. The east end of the excavation revealed a relatively short section of the wall. The wall feature deteriorated towards the west end of the trench and a large number of very large limestone "slabs" occurred directly on top of the wall. Therefore it was not possible to further expose the wall in this sub-operation.

Sub-operation 10H9B (Figure 23, Table 21)

This sub-operation was a 2.0 m by 3.5 m trench which attempted to locate any remains of the south wall of the coach-house. However, the excavations could not proceed below a layer of large limestone "slabs", since they were concentrated in this area. As a result, the coach-house wall could not be located in this sub-operation.

Operation 10H10

This operation attempted to locate the inside corner of the L-shaped structure. The excavations consisted of two sub-operations; 10H10A and 10H10B, and neither of these were successful in locating the remains of the building.

Sub-operation 10H10A (Figure 24, Table 22)

This sub-operation was a 1.5 m by 2.0 m trench near the administration building garage. The trench was excavated to a depth of 1.85 m below grade. Due to the higher grade level at this end of the yard, it was not possible to excavate to either bedrock or the coach-house occupation level.

Sub-operation 10H10B (Figures 24,25, Table 23)

This sub-operation was a 1.25 m by 1.0 m trench near the administration building's foundation. Due to the higher grade level at this end of the yard, it was not possible to excavate down to either bedrock or to the coach-house walls.

Operation 10H11

Sub-operation 10H11A (Figure 26, Table 24)

There was only one trench in this operation. Sub-operation 10H11A was a 0.50 m by 0.50 m trench in the floor of the basement of the administration building. The purpose of this excavation was to determine the overall length of the coach-house and whether any remains existed beneath the administration building. Based on historic documentation and using standard surveying techniques, the approximate location of the north-west corner of the coach-house was located in the basement. A section of the concrete floor was broken out and excavation proceeded until the coach-house wall was located. The north-west corner of the coach-house was located 0.60 m to the west of where its location had been projected.

INTERPRETATION

The site of the coach-house has been known and accurately documented almost continuously since 1850. These archaeological investigations have contributed some new data to the record; but there still remain many unanswered questions. The most disappointing aspect of the research was that the west wing of the structure could not be located due to the adverse site conditions.

The duration of the field work was limited in scope to six weeks in November and December, 1980. While the weather conditions were generally good and the frost had not settled in for the winter; it was necessary to provide makeshift shelters of wood and polyethylene in order to keep the trenches dry and unfrozen. The site was confined on all four sides by a fence and consequently, it was not possible to remove any of the excavated fill from the backyard. As a result, it was necessary to continually move large piles of backfill from one area to another. A substantial amount of fill had to be excavated since the bottom of the coach-house walls occurred 1.60 m below grade at the east end of the yard and 3.10 m below grade at the west end of the yard. The use of heavy machinery had been precluded from the beginning and there-

fore, it was necessary to hand-trench the entire excavation.

In addition, it was necessary to break through concrete floor structures in five different locations. During the field work it was also necessary to obtain the proper permissions necessary in order to excavate on adjacent private property, which fell under provincial jurisdiction. It should be noted that adherence to safety regulations and accepted soils engineering practises required that excavations should not be carried out within 2.0 m of the rear wall of the Administration Building, or to a depth greater than 1.20 m without providing properly designed shoring.

The subsoil conditions of the site further complicated the research since it became obvious that the coach-house walls had been levelled by heavy construction machinery in approximately 1945 to 1950. The site was then used as a garbage dump for a period, resulting in the deposition of a layer (0.70 m to 0.90 m thick) of domestic garbage. A 1957 Ontario automobile license plate was recovered in sub-operation 10H4B3 near the bottom of this midden.

Subsequently, the yard had been backfilled with large sections of limestone to a depth of 0.30 m to 0.50 m. The most striking example of this is evident in sub-operations 10H3B and 10H5A. A bore-hole through the "slab" indicated that it was probably blasted from its original site and then transported to Bellevue. The size of this particular slab indicated that heavy machinery must have been used to deposit

the slab in its present location. Finally, the west end of the yard was built up with nearly a metre of clay backfill. In spite of these constraints, a large portion of the coach-house was exposed and much of the original research design was accomplished.

Size and Location

The extent and location of the structure was determined and is shown on Figure 5. The overall length of the building was found to be approximately, 23.0 m long. The north-west corner of the building was found to be set back approximately 18.0 m from the curb on the east side of Centre Street. The east end of the building was 5.80 m wide (exterior dimension).

A rectangular wing addition occurred along the north wall of the coach-house. This wing was located 6.80 m from the north-east corner of the building, and 11.15 m from the north-west corner. The addition was 5.10 m wide (exterior) and extended north from the coach-house for a distance of 5.9 m (exterior). However, the interior dimensions of this wing were substantially smaller; 3.1 m wide by 5.0 m long (north to south). There were indications that heavy construction equipment was used to demolish the north wing. One corner of the masonry wall has been apparently pushed out of place (Figures 8 and 12).

The west wing of the coach-house was not identified; but based on historic documentation, it was possible to extrapolate

the approximate dimensions. Based on this technique, it would appear that the west wing was approximately 13.0 m long (north to south from the north-west corner) by approximately 7.0 m wide (42'- 8" x 23'- 0"). These dimensions are supported by recent conversations with Mr. W. Gordier. He recalled that as a child he used to climb onto the roof of the coach-house from the existing butternut tree located outside the yard fence (at the corner of the concrete block wall), (W. Gordier pers. com., 28 Nov.1980). The corner of this concrete block wall is in approximately the correct location for the corner of the coach-house (see Evans 1979: Fig. 16).

Construction Details

The coach-house was constructed of rough coarsed, rough cut limestone, bonded together with a sand-lime mortar mixture. There were no footings uncovered at either the north wing or the east end of the structure. The walls rested directly on bedrock (Figure 11). There was no indication of a builder's trench in association with the foundations. This could indicate that a trench, the thickness of the wall, was dug down to bedrock and the masonry for the walls was laid in the trench. The door sills were approximately 0.75 m above the underlying bedrock, indicating that the grade level on the south side of the coach-house was at approximately the same height (i.e. the top of Layer 7 in 10H8A). A grade level from an earlier period (Layer 4) was identified on the north side of the structure

in sub-operation 10H8E (Figure 21). This particular stratum was one of the few on the entire site which contained an assemblage of nineteenth century artifacts. Fragments of Staffordshire transfer-ware were identified absolutely as having been produced between 1863 and 1868 (Cushion 1976).

The location of this stratum on the north side of the building was unusual since it occurred 1.05 m above the ground floor level of the interior of the coach-house. This would have meant that the grade would have sloped steeply from north to south and that the north side of the coach-house was dug into the slope. This theory was later confirmed through conversations with Mr. W. Gordier (W. Gordier pers. com., 28 Nov. 1980). He recalled, that as a child he used to climb in through windows along the north side of the building. These windows were at grade levels (on the north side) but actually occurred in the second storey of the coach-house. Mr. Gordier also remembered having to climb down (through the floor joists) to the ground floor, which was at approximately the same level as Bellevue House.

Previous grade levels were also identified in sub-operation 10H4D and 10H4E (Figures 10 and 13, respectively). The configuration of Layer 3 (10H4D) and Layer 3 (10H4E) indicates that the grade level used to cover the top of the north wing's vaulted roof (Figure 28). A coin or token was recovered from this stratum in 10H4D. However, there is some doubt surrounding its authenticity since it was not found in-situ.

At least three previous floor levels were identified on

the interior of the coach-house. The first floor structure encountered was the remains of a wooden floor (Figure 21), which consisted of 1.0 m by 0.03 m sleepers. These sleepers were laid in a north-south orientation 0.55 m apart (centre to centre). The remains of floorboards, laid on top of the sleepers and at right angles (running east-west) were identified. The floorboards had been fastened onto the sleepers with modern common (wire) nails. This decayed wooden feature rested directly on top of a painted concrete floor surface (Figures 17-21).

The concrete floor was 0.12 m thick and had been poured on top of broken pieces of limestone and brick which had probably been used as a "filler", in order to cut down the quantity of concrete used. The limestone and brick rested directly on the level surface of a previous concrete floor.

The second concrete floor was 0.14 m thick and had been poured on top of a layer of small limestone. In the south-east corner of the coach-house, where this feature was exposed, a large amount of redware (unglazed earthenware) plant pot fragments were recovered. The style and construction of these pots indicated a late nineteenth to early twentieth century provenience. It is quite possible that this layer of small broken limestone was a floor surface at some time.

There were only two indications of interior partitions. These both occurred at the east end of the building. The floor paint in both sub-operations 10H8B and 10H8D ended 0.12 m from the interior face of the wall. This could indicate that a "false

wall" had been constructed around the interior perimeter of the structure. In addition, a 0.25 m "key" occurred in the upper concrete floor. Plaster marks on the adjacent masonry wall indicated that an interior partition existed in that location. This partition would have been built after the lower (earlier) concrete floor was finished, since it rested directly on it. However, the wall would have been constructed prior to the upper (more recent) concrete floor having been poured. This would explain the "key" in the upper concrete floor.

The latter feature indicated that the interior of the east end of the coach-house was partitioned in at least one location, perpendicular to the long axis of the building. Unfortunately, due to the nature of the two floor structures involved (both concrete), there were no artifacts recovered in association with these partitioned areas. Consequently, it was not possible to interpret the functions of these areas through the spatial distribution of artifacts.

The historic documentation provided limited insight into the functions of the structure. Charles Hales apparently built the structure to service his prestigious new villa, in the same manner as his row-house down the road (Evans 1979: 1,2). Therefore, the building would have provided the following functions:

- storage facility for carriage(s) and sleigh(s)
- storage for harness equipment
- stable for horses and feed storage for horses

There may also have been domestic living quarters for servants or workers. However, there is no documentation at present to support this idea. In addition, there is no indication of chimney flues even in the earliest photographs. These would have been necessary for heating residential areas of the building in the winter. However, the 1908 Fire Insurance Map (Figure 3) shows only the east end of the building as a stable. The west end of the coach-house apparently had some other function.

The east end of the building obviously served as the carriage house and stable. The large arched opening (Figure 29) at the west end would have provided access for the carriages while the three doorways to the east would have entered into the horse stalls. This latter theory is supported by the archaeological evidence. These doorways were found to be 1.20 m wide (with the door jambs removed). Standard residential doorways are only 0.80 m wide. The larger door openings would have been necessary to allow larger animals (i.e. horses) to enter the building. Lines in the masonry mortar on the door jamb indicated that the door frame members were set in 0.10 m from the exterior face of the building and 0.35 m from the interior face of the masonry wall. The framing members were 0.15 m wide and would have been 0.05 m thick if nominal size lumber was used. In addition, two door hinges were recovered (one was found in-situ in the rotted out door frame) in sub-operation 10H8F8. These were similar to the hinge described

in R.R. Dixon's report (Dixon 1969 : 40).

A door at the second storey level (Figure 29) probably serviced a hay loft. The position of the doorway in the photograph could indicate that such a loft extended across the entire east end of the building (above the stall area).

Neither the large arched carriage entrance nor the doorway immediately to the east, were located during the archaeological excavations. A large quantity of limestone "slabs" were deposited in this area (Figure 23) and the ground level raised substantially. The remains of these door openings may still be intact; but it is estimated that they would occur approximately 2.30 m below the existing grade level.

Likewise, the three windows on the south facade were not identified since the wall was demolished to a level below the window sills. However, the partial remains of a window were uncovered in the east end wall (Figure 17). Part of the north reveal was still visible and a concrete sill was in place. It was felt that the concrete window sill may have been poured during the late 1960's (Dixon 1969: 44) for stabilization purposes.

Only one other masonry opening was identified on the site. This was a doorway which led from the main part of the carriage house into the north wing. This doorway was 1.0 m wide with indications of a wooden door frame set inside (Figures 11 and 13). It is noteworthy that this doorway was 0.20 m narrower than the two exterior doorways which were

excavated. The door jamb was estimated to be 0.24 m wide from mortar lines on the masonry. If standard size wooden members were used for the door frame, the nominal thickness for the framing members would probably have been 0.05 m.

The north wing was the most unusual feature to come to light as a result of the excavations. Little was known about it prior to excavation. The walls of the structure were built directly on bedrock. The west wall (Figure 10) was actually built against a bedrock shelf. An unusual construction technique was employed in the walls of the north wing. The west, north and east walls were "double-walls" consisting of two 0.43 m thick masonry walls separated by a 0.10 m wide cavity. The overall thickness of this wall assembly was 1.00 m and the two walls were apparently only tied together at the roof level.

The other unusual feature of the north wing was that the roof was a vaulted stone type (Figures 8,10,11 and 13). The "springer" assembly for the vaulted arch roof occurred on the interior wall. The exterior wall was not apparently tied into the arch assembly (Figure 10) for structural purposes.

The double-wall construction may have been a structural consideration in order to take up some of the side-thrust from the arch. However, a solid masonry wall of reduced proportions could have facilitated such engineering requirements, just as easily; or buttresses could have been provided. It seems that the important aspect of this wall construction

is the 0.10 m wide cavity in the middle. In that case, there are two other possible explanations for this unique feature. Cavity spaces in walls have been used to provide some degree of thermal insulation. Therefore, this double-wall may have been constructed in an attempt to regulate the internal room temperature of the north wing.

The other, more plausible, explanation was that the double-wall construction was used to provide protection from moisture penetration. The original grade level would have covered the roof of the north wing. Therefore, the structure was designed to meet the specialized needs of such a building. A vaulted stone roof was constructed to carry the weight of the superimposed topsoil (and snow in the winter). The construction of a double-wall assembly would have prevented natural sub-surface drainage (down to Lake Ontario) from penetrating into the interior of the north wing.

This theory accepts the fact that natural ground water will eventually penetrate a masonry wall (e.g. stone foundation walls). Therefore, the outer wall could have been built simply as a retaining wall to hold back the weight of the surrounding soil. Any moisture which did manage to penetrate this first wall would then encounter the 0.10 m wide cavity. The water would then be forced to run down the interior side (of the outer wall) to the bedrock floor level inside the cavity. Therefore, the inner wall which was carrying the structural thrust from the vault roof would not be deteriorated

by moisture penetrating it. The moisture collected in the cavity would probably have flowed out across the bedrock underneath the inner wall. The amount of deterioration there would have been minimal. This type of scheme might require the addition of a raised wooden floor structure inside the north wing itself to prevent contact with moisture on the bedrock "floor". Whichever of these interpretations is correct, the north wing exhibits unique and sophisticated masonry construction techniques, which implies a level of sophisticated engineering that was not usually associated with domestic structures of this period.

The acceptance or rejection of these interpretations is not critical to the most important issue surrounding the north wing. The reason for the construction of such a distinctive structure must be tied directly to some specialized function. No other explanation could justify the output of time, effort and expense to build these unusual masonry features. Economically, it would have been more practical to build an addition at the east end of the coach-house. This also implies that the desire for the unique characteristics of a subterranean vault were the prime motivation for the construction of the north wing. Therefore, the requirements for a cool, dark and dry space were probably the reason why such a structure had to be built. Consequently, the function of the north wing must be directly related to those requirements - cool, dark and dry. The most obvious occupation with

these qualities is that of food preservation.

The unusual nature of the north wing's construction does not end here, however. The method of construction of the vaulted stone roof is evident from the excavations (Figure 8). The pattern of the stone comprising the roof indicates that the roof was built as a series of inter-connecting stone arches. A possible outline of the construction technique employed would have been as follows:

1. A wooden form would have been built at one end of the structure. The form could have been as small as 0.50 m wide and would have had the configuration of the underside (interior face) of the roof.
2. Rough cut limestone would have been placed on top of the form and mortared together. The essential components here were the "springer assembly" at the top of the two walls (Figure 12) and the "keystone" in the centre of the arch.
3. The wooden form would have been removed and moved forward.
4. The stone for the next arch would then be laid up on the form and mortared together as well as being mortared into the previously constructed arch.
5. This procedure would have been continued until the entire structure was completed.

The "keystone" of an arch is the centre stone of the arch which is usually tapered on two sides. A series of clay

bricks were used as keystones for the vaulted roof of the north wing. This is unusual since the keystone must accept the lateral pressure of the other stones which form the arch. A relatively soft material such as clay brick is seldom, if ever, used in conjunction with heavy limestone. It is possible that the bricks were used to repair the roof structure at some later date. The ends of the bricks are flush with the interior face of the roof, and it is possible for them to have been installed from the inside. There was however, no discernible difference in the mortar used around the brick "keystones" and the mortar used elsewhere in the vault. The bricks were a late nineteenth to early twentieth century variety of manufactured brick which had a shallow, machine made depression (or "frog") on one side.

The underside (interior side) of the vaulted roof, the interior walls of the north wing and the interior face of the rest of the coach-house had all been parged with mortar. Only a few isolated patches remained intact (Figure 14). A few traces of paint still adhered to the surface of the parging in sub-operation 10H6A. One source has indicated that the coach-house was limewashed (Dixon 1969: 37b). It is not certain whether this refers to the interior, the exterior or both. However, there did not appear to be any indication of lime-wash used on any of the few areas of the exterior that were exposed.

A remnant of the coach-house's roof may have been

recovered in sub-operation 10H8D. A log member was exposed there which was 2.70 m long and 0.20 m in diameter (Figures 17,18 and 19). Approximately 0.45 m of the north end of the log had been notched out to approximately half of its thickness. A few large cut nails were found in-situ on the top (opposite side of the notch) of the member. It is possible that this log may have been a roof rafter of the coach-house. However, there is no additional data to support this theory.

It is possible that the coach-house was built in different sections and not constructed as one unit. There is some evidence which supports this hypothesis. In the north wing for example, the double-wall constructions merely butt against the exterior of the main coach-house wall. The masonry of the north wing, therefore; is not tied into the masonry of the coach-house (Figures 8,11 and 13). The implication of this construction detail is that the north wing was built separately from the main portion of the coach-house.

It is also possible that the main portion of the coach-house was built in two different sections. The 1908 Insurance Plan (Figure 3) indicated that the east and west ends of the building had two separate functions. These functions were undoubtedly carried over from the nineteenth century and may possibly date back to the time of construction of the building. In that case, the coach-house may have been built in two parts at two different times to accomodate two distinct functions.

This theory was supported by dissimilar construction details on the two sections of the building. The lintels over the doors and windows in the east end of the building were made of stone. However, the lintels over the doors in the west end of the building were made of wood (Evans 1979: 9,10). This situation could indicate two different periods of construction for the main coach-house structure. It was not possible to test this hypothesis further by using standard archaeological procedures, however; due to the large amount of limestone "fill" deposited on the critical areas.

Additional details concerning the north and west facades of the coach-house were provided in an interview with Mr. W. Gordier (pers. com., 28 Nov. 1980). According to this source the north side of the building had three or four "normal" size windows in the second storey level (this was grade level on that side of the building). The west (Centre Street) facade of the coach-house had two very wide and low windows. The heads of these two windows were slightly arched (Figure 28). However, these statements are in conflict with some of the existing documentation (Evans 1979: 6).

Mr. Gordier also seemed to remember that the roof-line of the west end of the coach-house was a gable-end type as opposed to the hip type roof as shown in Figure 27 (Dixon 1969: 36).

Significant Artifacts

The vast majority of the artifacts recovered from the site dated to the mid-twentieth century. However, a few of the artifacts were important in interpreting the date or the function from the strata. These artifacts and a brief explanation of their significance is set out in this section. The artifact provenience number is followed by the Artifact Control Number and Packing Box Number (e.g. 10H8B6/311/019; 10H8B6 - Provenience; 311 - Artifact Control No.; 019 - Packing Box No.). A complete inventory of all of the artifacts recovered from the site is on file at Parks Canada, Ontario Regional Office in Cornwall.

10H3B4/072/004

"McDougall, Glasgow" kaolin pipe stem fragment. This was the only piece of clay pipe found on the entire site. The date of manufacture could be as late as 1967 (Walker 1977: 345). The stratum in which it was located was dated to the time of the coach-house's destruction, in the mid-1950s, by the large amount of mortar and limestone building rubble located there.

10H4B3/097/009

1957 Ontario automobile license plate (975-752). This artifact was recovered near the bottom of the midden which extended across nearly all of sub-operation 10H4C.

The absolute date on the plate provides a time frame for the deposition of the midden.

10H4B3/116/009

1945 bicycle license plate (2772). This artifact was recovered from the midden, as well. It also provides an indication as to when the midden was deposited.

10H4B3/210/014

a piece of moulded wood. This may have been a piece of trim from the coach-house; possibly from a window frame.

10H4C3/078/007

1949 Kingston dog tag. This artifact was recovered near the top of the midden and indicates the date of the feature.

10H4C3/255/013

two curved wood pieces. These may have been either parts of an architectural element (e.g. cornice bracket) or parts of a piece of furniture (e.g. chair arm).

10H4C3/350/018

a piece of wood with an associated nail. This was found in-situ and was probably part of the doorway into the north wing.

10H4D3/306/006

a coin or token. This artifact was not found in-situ and therefore may not be associated with the site. The artifact was badly defaced and no markings were visible. The stratum in which it was recovered was interpreted as a late nineteenth century grade level.

10H8A4/245/020

a silver-plated match box case inscribed "S.S. Duchess of Richmond". The ship was documented as a twenty thousand ton steam-ship owned by Canadian Pacific Steamship Ltd. It was built in 1928 and its period of service was not determined (PAC: Lloyds Register).

10H8B6/311,312/019 and 327/016

coarse red earthenware flowerpot fragments. These artifacts exhibited crude details which could indicate an early date of manufacture.

10H8E4/240/022

glazed white earthenware pot fragments. The style and attributes of these sherds indicate a date in the late nineteenth century (R. Whate pers. com., 2 Feb. 1981). There were enough fragments recovered to enable a vessel to be re-assembled. It was apparently a decorative plant pot. These artifacts were recovered from what was inter-

preted as a late nineteenth century grade level.

10H8E4/244/022

fine earthenware sherds with a transfer print. These artifacts were also associated with the interpreted nineteenth century grade level. They were identified as Staffordshire ceramic with a date of manufacture between 1863 and 1868 (L. Sussman: pers. com., 2 Feb. 1981; Cushion 1976).

10H8F4/239/017

a copper plate inscribed (in reverse) "Dr. F.W. Attack, Consulting Chemist". This artifact was recovered from the twentieth century midden at the east end of the site. The metal plate was probably the printing plate for Dr. Attack's business cards. It identifies the midden with the last private residents of Bellevue House.

10H8F8/248/020

metal door hinges. One of these was found in-situ in the decayed wood of the doorway. They are similar to the documented hinges associated with the coach-house (Dixon 1969: 40).

CONCLUSIONS

Summary

The coach-house was built in conjunction with Bellevue House and therefore could date to as early as c.1840. The first historical documentation of the structure does not occur until 1850 (Figure 1). The building stood until c.1955 when it was demolished for the construction of a house (the present administration building).

The objectives of the archaeological investigations have been set out in the Preface of this report. The excavations which were undertaken, exposed the north and east walls, the north wing, a portion of the south wall and located the building's north-west corner. However, much of the south wall and the entire west wing of the structure were impossible to locate due to the site conditions and the time constraints of the project. The previous grade level on both sides of the building were identified and an extensive twentieth century midden was revealed across most of the site. Period construction details were documented and some building hardware was recovered during the investigations. The overall size and exact location of the structure were positively identified.

In relation to the initial research design of the pro-

ject, only a few of the broader objectives were not realized. It was not possible to determine the interior functions of the coach-house through the analysis of the spatial distribution of artifacts since a nineteenth century component was only tentatively identified as being located under two concrete floor structures. Since the usage of the various areas inside the coach-house could not be positively identified, it was therefore not possible to accurately determine the functional relationship to Bellevue House. Consequently, new information regarding the relationship between manor houses and their outbuildings was not forthcoming.

Recommendations

The results of this research indicated some areas which require further investigation and other areas which have direct implications on the present interpretation of the site. The most obvious recommendation concerns the need for further archaeological research on the coach-house site. The west wing of the structure should be excavated as completely as possible. This would require the use of a back-hoe in order to move the large limestone slabs located in this area. Unfortunately, the west half of this wing is situated underneath the Administration Building. If the bungalow is to be demolished eventually; it is strongly advised that limited archaeological research should be programmed into the planning process for the site. It would be ideally scheduled between

the demolition of the bungalow and the construction of any new building.

The research design for this field work should endeavour to locate any indications of the function of the west wing (e.g. fireplaces foundations, etc). The determination of the west wing's function may indicate whether or not the structure was built in two stages or all at once.

In conjunction with this research, the main portion of the coach-house should be completely uncovered (with the use of a back-hoe) down to the concrete floor level. The concrete floor should then be removed in order to expose and interpret the nineteenth century component. In this way it may be possible to record the interior layout of the building and determine the various activities carried on in each area.

Further information regarding the appearance of the north and west facades of the coach-house may be obtained by interviewing Mr. Harvey Brendt of Kingston. He was the works supervisor for the Kingston Public Utilities Commission and was responsible for the re-grading work at the Centre Street sub-station.

The location of the privy and the fence between it and Bellevue House can be re-evaluated in light of the findings of this report. The historic documentation (Figure 2) shows the fence located from one corner of Bellevue House to the south-east corner of the coach-house. The existing fence

does not follow this line exactly and it is not tied into the corner of the coach-house. However, more important than that, is the location of the privy. The original privy was in a direct line with the south face of the coach-house. Therefore, it would be located to the north-east of the existing (reconstructed) privy. Interpretation of the historic documentation indicates that the site of the original privy is still on the Bellevue House property (Figure 30). In view of the fact that most of this important component should still be intact, it is strongly recommended that this area be handled with the utmost sensitivity to the potential archaeological resources and should ultimately be excavated.

STRATIGRAPHY TABLES

These tables were arranged numerically by sub-operation. Since the sub-operations were excavated using the individual strata as the basic excavation unit; the lot numbers correspond directly to the stratigraphic layers. There were only a few instances where a stratum was sub-divided into smaller units.

All of the soils encountered were matched to the Munsell Soil Color charts. The types of artifacts recovered from each stratum was noted in the "Comments" column of the Tables. The arrangement of the Tables is as follows:

- 1 10H2A
- 2 10H2B
- 3 10H3A
- 4 10H3B
- 5 10H3C
- 6 10H4A
- 7 10H4B
- 8 10H4C
- 9 10H4D
- 10 10H4E
- 11 10H5A
- 12 10H6A

13 10H7A

14 10H8A

15 10H8B

16 10H8C

17 10H8D

18 10H8E

19 10H8F

20 10H9A

21 10H9B

22 10H10A

23 10H10B

24 10H11A

TABLE 1

SUB-OPERATION 10H2A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H2A1	1	0.05 m	sod, very dark grayish brown humus	10YR 3/2	
10H2A2	2	0.17 m	dark grayish brown coarse clay	10YR 4/2	- large limestone "slabs"
10H2A3	3	0.25 m	dark grayish brown clay-loam	10YR 4/2	- large limestone "slabs" - asphalt roof shingles, vinyl floor tiles - depth undertermined

TABLE 2

SUB-OPERATION 10H2B

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H2B1	1	0.05 m	sod, very dark grayish brown humus	10YR 3/2	
10H2B2	2	0.06 m	dark grayish brown coarse clay	10YR 4/2	
10H2B3	3	0.60 m	dark grayish brown clay	10YR 4/2	- large limestone "slabs" - some artifacts
10H2B4	4	0.70 m	reddish brown sand, small stones	5YR 4/3	- on the south 0.20 m of the trench in association with a fence post (replaces layers 2 and 3)
10H2B5	5	0.25 m	ash, charcoal		- beneath both layers 3 and 4
10H2B6	6	0.07 m	very dark grayish brown clay	10YR 3/2	
10H2B7	7	0.01 m	ash		
10H2B8	8	0.03 m	very dark grayish brown clay	10YR 3/2	
10H2B9	9	0.01 m	charcoal		
10H2B10	10	0.42 m	very dark grayish brown clay	10YR 3/2	- very hard and compacted - depth undertermined

TABLE 3

SUB-OPERATION 10H3A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H3A1	1	0.06 m to 0.18 m	sod, very dark grayish brown humus	10YR 3/2	- pH = 6.75
10H3A2	2	0.15 m	dark grayish brown coarse clay	10YR 4/2	- pH = 7.5
10H3A3	3	0.15 m	dark grayish brown clay-loam	10YR 4/2	- pH = 6.75 - artifacts near bottom relate to layer 4
10H3A4	4	0.30 m to 0.90 m	ash, mortar, charcoal		- pH = 6.75 - midden containing modern ceramic, glass, metal
10H3A5	5	0.27 m	unburned soft coal		
10H3A6	6	0.30 m	concrete floor		- soft concrete containing much sand, small aggregate
10H3A7	7	0.20 m	small pieces of limestone (0.20 m by 0.20 m average size)		- decayed wood (0.20 m thick) resting on bed- rock below, on the west side
10H3A8	8		limestone bedrock		

TABLE 4

SUB-OPERATION 10H3B

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H3B1	1	0.05 m	sod, very dark grayish brown humus	10YR 3/2	
10H3B2	2	0.26 m	dark grayish brown clay	10YR 4/2	
10H3B3	3	0.05 m	dark grayish brown clay-loam	10YR 3/2	
10H3B4	4	1.05 m	mortar, limestone building rubble		- ceramic, glass, metal artifacts
10H3B5	5		concrete floor		- thickness undertermined

TABLE 5

SUB-OPERATION 10H3C

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H3C1	1	0.05 m	sod, very dark grayish brown humus	10YR 3/2	- some modern ceramic, glass, metal
10H3C2	2	0.40 m	very dusky red clay-loam	10R 2.5/2	- ceramic, glass, bone, metal
10H3C3	3	0.26 m	unburned soft coal, mixed with clay-loam from layer 2		
10H3C4	4	0.10 m	reddish brown clay	5YR 4/3	- depth undetermined

TABLE 6

SUB-OPERATION 10H4A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H4A1	1	0.07 m	sod, very dark grayish brown humus	10YR 3/2	
10H4A2	2	0.37 m	dark brown mottled clay-sand	10YR 3/3	
10H4A3	3	0.30 m	dark reddish gray clay, small stones	5YR 4/2	- large limestone "slabs" - glass, ceramic, metal artifacts - depth undetermined
10H4A4	4	0.80 m	1.40 m long intru- sion of very dark grayish brown clay- loam, small stones	10YR 3/2	- layer of dark green polyethylene at bottom of intrusion

TABLE 7

SUB-OPERATION 10H4B

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H4B1	1	0.07 m	sod, very dark grayish brown humus	10YR 3/3	
10H4B2	2	0.48 m	dark brown/brown clay, small stones	7.5Yr 4/2 (or 5YR 4/2)	- the same as layers 2 and 3 in 10H4A but not as clearly defined
10H4B3	3	0.30 m	ash		- midden containing large quantities of glass, ceramic, metal - depth undetermined

TABLE 8

SUB-OPERATION 10H4C

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H4C1	1	0.07 m	sod, very dark grayish brown humus	10YR 3/2	
10H4C2	2	0.50 m	dark brown/brown clay, small and large stones	7.5YR 4/2	
10H4C3	3a	0.20 m	very dusky red loam	10R 2.5/2	- midden (upper part) - glass, ceramic, metal
10H4C3	3b	0.60 m	ash		- midden (lower part) - glass, ceramic, metal
10H4C4	4	0.45 m	cut limestone masonry sections with mortar		- masonry roof structure - extended diagonally through layer 3
10H4C5	5	0.60 m	ash, unidentified slag		
10H4C6	6	0.80 m	cut limestone masonry sections and mortar		
10H4C7	7		limestone bedrock		
10H4C8	8	0.80 m	black loam, organic debris, mortar, small cut limestone	5YR 2.5/1	- occurred at north end only under roof structure

TABLE 9

SUB-OPERATION 10H4D

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H4D1	1	0.05 m	sod, dusky red humus	10R 3/3	
10H4D2	2	0.90 m	dark reddish gray clay	5YR 4/2	
10H4D3	3	0.16 m	very dusky red clay-loam, small stones	10R 2.5/2	- occurred only at north end - glass, ceramic, metal
10H4D4	4	0.70 m	dusky red clay- loam, small stones	10R 3/3	- limestone building rubble in lower 0.30 m
10H4D5	5	0.40 m	limestone building rubble		- "piled" on both sides of coach-house wall - at south end only - depth undetermined
10H4D6	6		limestone bedrock shelves		- at north end of trench

TABLE 10

SUB-OPERATION 10H4E

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H4E1	1	0.04 m	sod, red humus	10R 4/6	
10H4E2	2	0.19 m	dusky red clay	10R 3/3	
10H4E3	3	0.35 m	dark reddish brown clay-loam	5YR 2.5/2	- some glass, ceramic, metal - depth undetermined

TABLE 11

SUB-OPERATION 10H5A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H5A1	1	0.09 m	sod, dark brown humus	7.5YR 3/2	- some ceramic, glass
10H5A2	2	0.08 m	dark brown/brown humus	7.5YR 4/2	
10H5A3	3	0.32 m	very dusky red sandy loam	10R 2.5/2	- deteriorated mortar
10H5A4	4	0.53 m	dark reddish brown sand	2.5YR 2.5/4	- deteriorated mortar - limestone building rubble
10H5A5	5	0.74 m	limestone building rubble, deteriorated mortar		
10H5A6	6		concrete floor		- thickness undetermined

TABLE 12

SUB-OPERATION 10H6A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H6A1	1	0.09 m	sod, dark brown humus	7.5YR 3/2	- some glass, ceramic, metal
10H6A2	2	0.15 m	dark brown/brown clay	7.5YR 4/2	
10H6A3	3	0.12 m	dusky red clay	10R 3/2	
10H6A4	4	0.20 m	reddish brown loam, sand	2.5YR 2.5/4	- deteriorated mortar - some ceramic, metal
10H6A5	5	1.40 m	limestone building rubble, deteriorated mortar		
10H6A6	6	0.10 m	concrete floor		
10H6A7	7	0.25 m	decayed wood, rubble		
10H6A8	8		limestone bedrock		

TABLE 13

SUB-OPERATION 10H7A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H7A1	1	0.08 m	sod, dark reddish brown humus	5YR 3/3	
10H7A2	2	1.30 m	dark brown/brown clay-loam, large, small stones	7.5YR 4/2	- some ceramic, glass, metal
10H7A3	3	0.40 m	crushed stone		- at west end only
10H7A4	4	0.30 m	dark brown/brown clay-loam	7.5YR 4/2	- "piled" building lime- stone on both sides of wall feature - some ceramic, glass, metal - depth undetermined

TABLE 14

SUB-OPERATION 10H8A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H8A1	1	0.05 m	sod, very dark grayish brown humus	10YR 3/2	
10H8A2	2	0.08 m	dark brown clay- loam	10YR 3/3	
10H8A3	3	0.20 m	dark grayish brown clay	10YR 4/2	
10H8A4	4	0.40 m	dusky red loam	10R 3/3	- limestone rubble, deter- iorated mortar - some glass, metal
10H8A5	5	0.10 m	yellowish brown sand	10YR 5/4	
10H8A6	6	0.10 m	ash, charcoal		
10H8A7	7	0.75 m	dusky red loam	10R 3/2	- some ash, mortar
10H8A8	8	0.08 m	dark brown clay	7.5YR 3/2	
10H8A9	9		limestone bedrock		

TABLE 15

SUB-OPERATION 10H8B

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS	
10H8B1	1	0.05 m	sod, dusky red humus	10R 3/2		
10H8B2	2	0.02 m	dark reddish brown sand	5YR 3/3		
10H8B3	3a	0.77 m	dark reddish brown loam	2.5YR 2.5/4	- deteriorated mortar - limestone building rubble - midden containing modern glass, ceramic, metal	
10H8B3	3b	0.09 m	decaying wood floor structure		- wire nails	5 6
10H8B4	4	0.12 m	concrete floor		- stones, bricks used in bottom of layer	
10H8B5	5	0.14 m	concrete floor		- some stone, brick near bottom of layer	
10H8B6	6	0.38 m	small broken lime- stone		- upper pieces of stone were adhered to the under- side of the concrete from layer 5 - ceramic, glass, metal	
10H8B7	7	0.30 m	strong brown mottled clay, stones	7.5YR 5/6		
10H8B8	8		limestone bedrock			

TABLE 16

SUB-OPERATION 10H8C

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H8C1	1	0.05 m	sod, dusky red humus	10R 3/2	
10H8C2	2	0.16 m	dusky red sandy- loam	10R 3/3	
10H8C3	3	0.09 m	decaying leaves, ash		
10H8C4	4	0.10 m	ash		- midden containing modern glass, ceramic, metal
10H8C5	5	0.50 m	ash, limestone building rubble		- some artifacts from layer 4 above
10H8C6	6	0.09 m	decayed wood floor		- wire nails
10H8C7	7		concrete floor		- depth undetermined

TABLE 17

SUB-OPERATION 10H8D

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H8D1	1	0.08 m	sod, dark reddish brown humus	5YR 3/2	
10H8D2	2	0.12 m	dark reddish brown loam	2.5YR 3/4	
10H8D3	3	0.80 m	decaying leaves, ash, limestone building rubble, deteriorated mortar		- midden containing ceramic, glass, metal
10H8D4	4	0.09 m	decaying wood floor		- wire nails
10H8D5	5		concrete floor		- depth undetermined

TABLE 18

SUB-OPERATION 10H8E

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H8E1	1	0.07 m	sod, dusky red humus	2.5YR 3/2	
10H8E2	2	0.10 m	dusky red clay- loam	10R 3/3	
10H8E3	3	0.45 m	dark reddish brown loam	2.5YR 2.5/4	- limestone building rubble - deteriorated mortar - ceramic, glass, metal
10H8E4	4	0.15 m	very dusky red clay-loam	2.5YR 2.5/2	- glass, ceramic
10H8E5	5	0.75 m	light yellowish brown clay	10YR 6/4	- large limestone slab in north end - depth undetermined
10H8E6	6	0.50 m	lens of reddish brown clay	5YR 4/3	- adjacent to coach- house wall

TABLE 19

SUB-OPERATION 10H8F

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H8F1	1	0.07 m	sod, dusky red clay	10R 3/2	
10H8F2	2	0.09 m	dark reddish brown clay-loam	2.5YR 2.5/4	
10H8F3	3	0.05 m	dark reddish gray clay	5YR 4/2	
10H8F4	4	0.70 m	ash, charcoal, small, large limestone		- midden containing modern glass, metal
10H8F5	5	0.20 m	limestone building rubble, deteriorated mortar		
10H8F6	6	0.13 m	brown sand	7.5YR 5/4	
10H8F7	7	0.06 m	light yellowish brown sand	10YR 6/4	
10H8F8	8	0.35	dusky red sandy loam	10R 3/2	- decaying wood door jamb - glass, metal - depth undetermined

TABLE 20

SUB-OPERATION 10H9A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H9A1	1	0.07 m	sod, dusky red humus	10YR 3/2	
10H9A2	2	0.53 m	dark reddish gray clay	5YR 4/2	
10H9A3	3	0.30 m	ash, deteriorated mortar		- large limestone "slabs"
10H9A4	4	0.65 m	ash, slag, limestone building rubble		
10H9A5	5	0.07 m	dusky red loam	10R 3/2	
10H9A6	6		concrete floor		- depth undetermined

TABLE 21

SUB-OPERATION 10H9B

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H9B1	1	0.03 m	sod, dusky red humus	10R 3/2	
10H9B2	2	0.20 m	dark brown/brown clay, small stones	7.5YR 4/2	- deteriorated mortar, brick fragments, charcoal
10H9B3	3	0.17 m	dusky red clay- loam, small stones	10R 3/2	- deteriorated mortar
10H9B4	4	0.07 m	deteriorated mortar, small limestone		
10H9B5	5	0.20 m	dusky red clay, small stones	10R 3/2	- large limestone "slabs" - glass, ceramic, metal - depth undetermined

TABLE 22

SUB-OPERATION 10H10A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H10A1	1	0.05 m	sod, dusky red humus	10R 3/2	
10H10A2	2	0.10 m	dark brown clay	10YR 3/3	
10H10A3	3	0.55 m	reddish brown mottled clay	5YR 4/3	- modern clay tile frag- ments in upper half of layer
10H10A4	4	0.55 m	dark reddish gray clay, small stones, hard clay particles	5YR 4/2	
10H10A5	5	0.60 m	dusky red clay	10R 3/2	- large limestone "slabs" - glass, ceramic, metal - depth undetermined

TABLE 23

SUB-OPERATION 10H10B

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H10B1	1	0.05 m	sod, dusky red humus	10R 3/2	
10H10B2	2	1.35 m	weak red clay, small stones	2.5YR 4/2	- modern clay tile frag- ments in upper 0.20 m of layer - deteriorated mortar
10H10B3	3	0.20 m	dusky red clay	10R 3/2	- limestone building rubble, deteriorated mortar, asphalt roof shingles - depth undetermined

TABLE 24

SUB-OPERATION 10H11A

LOT NO.	LAYER	DEPTH	SOIL TYPE	COLOUR	COMMENTS
10H11A1	1	0.15 m	concrete floor		
10H11A2	2	0.35 m	crushed stone		
10H11A3	3	0.35 m	dusky red clay, deteriorated mortar, limestone building rubble	10R 3/3	- exterior side of coach- house wall - glass, ceramic, metal - depth undetermined
10H11A4	4	0.35 m	dusky red clay, deteriorated mortar, limestone building rubble	10R 3/3	- interior side of coach- house wall - some glass - depth undetermined

REFERENCES CITED

Canada. Public Archives (hereafter cited PAC). National Library.

"Lloyd's Register of Shipping, from 1st July 1930 to June 1931". (1931)

Canada. PAC. National Map Collection.

V 40-400 - Kingston - (1869), sheet 3

"Fortification Surveys Canada. Plan of Kingston and its environs, surveyed in 1867-8 under the direction of Lieut. H.S. Sitwell and under the superintendence of Col. Wm. F. Drummond Jervois, Deputy Director of Works (Fortification)" (1869)

Canada. PAC. National Map Collection

Kingston insurance plan, sheet 47

(1908) Revised 1911

Canada. PAC. National Map Collection

Kingston insurance plan

(1963)

Cushion, J.P.

1976

"Pocket Book of British Ceramic Marks, Including an Index to Registered Designs 1842-43".

Dixon, R.R.

1969

"A Study and a Basic Interpretation Plan for the Restoration of Bellevue House National Historic Park". Manuscript on file, Parks Canada, Ontario Regional Office, Cornwall.

Evans, M.L.

1979

"Bellevue Carriage House". Manuscript on file, Parks Canada, Ontario Regional Office, Cornwall.

Kingston. Queen's University. Douglas Library.

Special Collection, "Plan of the City and Liberties of Kingston delineating severally the wards and lots with the streets, wharves and principal buildings, compiled by Thos. Eraser Gibbs, Provincial Surveyor".

(1850)

Munsell Color Company

1975

Munsell Soil Color Charts. Pocket ed. Baltimore.

Oral interview with Bill Gordier, Kingston, 28 Nov. 1980.

Mr. Gordier is a local resident who lived near Bellevue House in the early 1950s.

Oral interview with Gerard Gusset, Ottawa, 2 Feb. 1981.

Mr. Gusset is an earthenware specialist with Material Culture Research Division, Parks Canada.

Oral interview with Lynn Sussman, Ottawa, 2 Feb. 1981. Ms.

Sussman is a ceramics specialist with Material Culture Research Division, Parks Canada.

Oral interview with Ron Whate, Ottawa, 2 Feb. 1981. Mr. Whate is a ceramics specialist with Material Culture Research Division, Parks Canada.

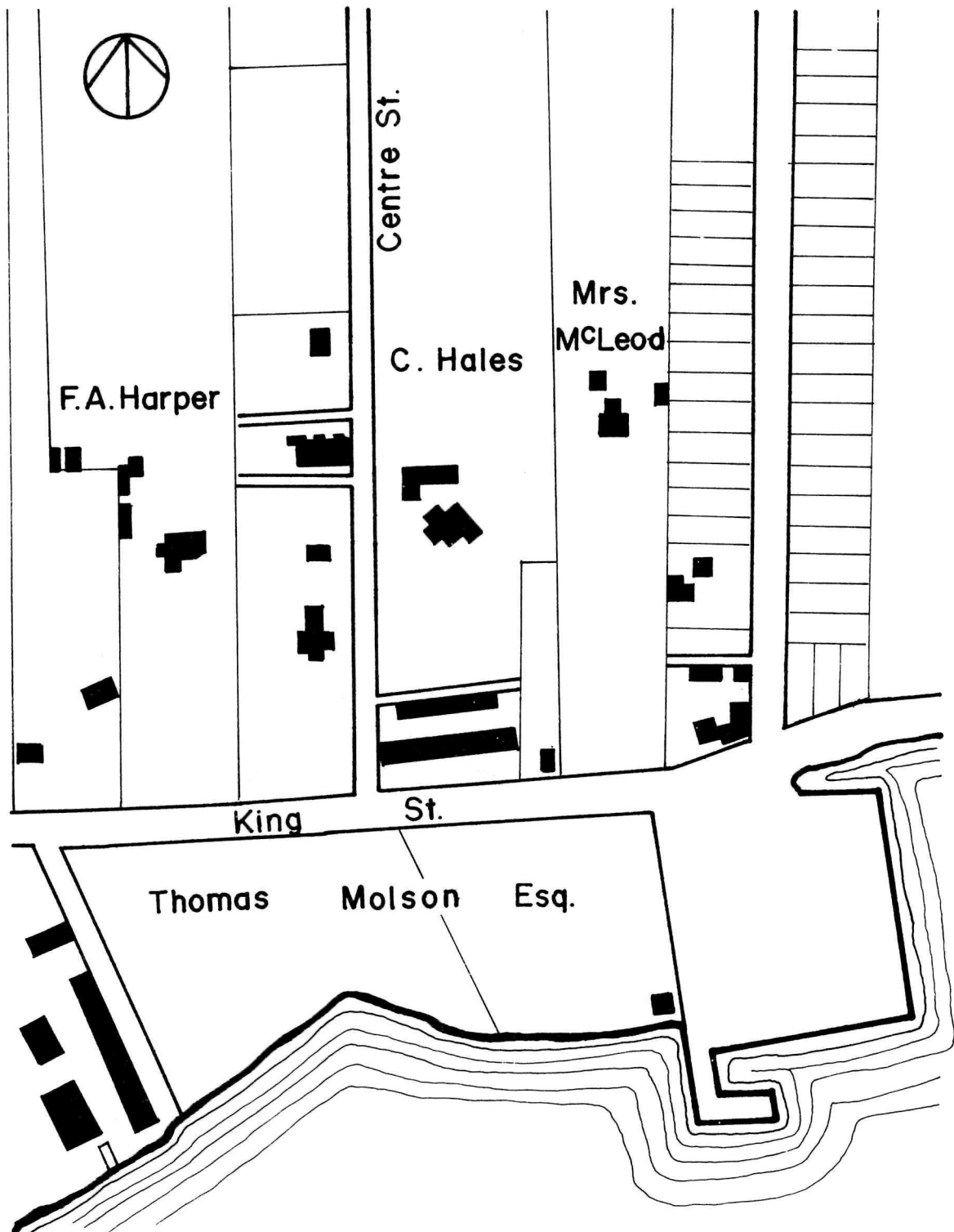
Walker, Iain C.

1977

"Clay Tobacco - Pipes, with Particular Reference to the Bristol Industry". History and Archaeology series (vol. 11a, b,c,d), National Historic Parks and Sites Branch, Parks Canada, Ottawa.

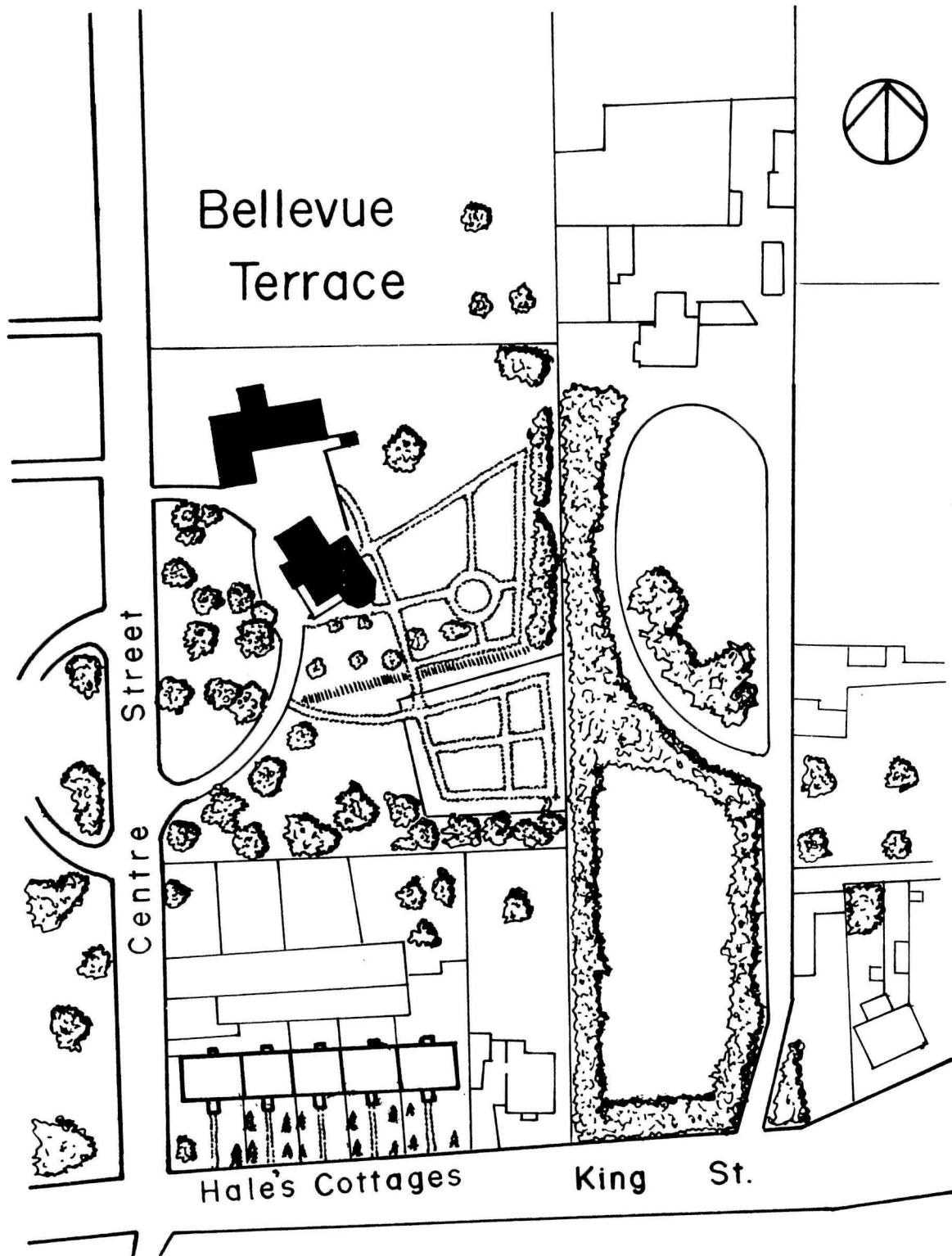
ILLUSTRATIONS

Figure 1 "Plan of the City and Liberties of Kingston", dated 1850, by Thos. Eraser Gibbs showing Bellevue (C. Hales property). The north wing is not shown on the L-shaped coach-house. (Douglas Library, Queens University). Re-drawn by D. Shouldice.



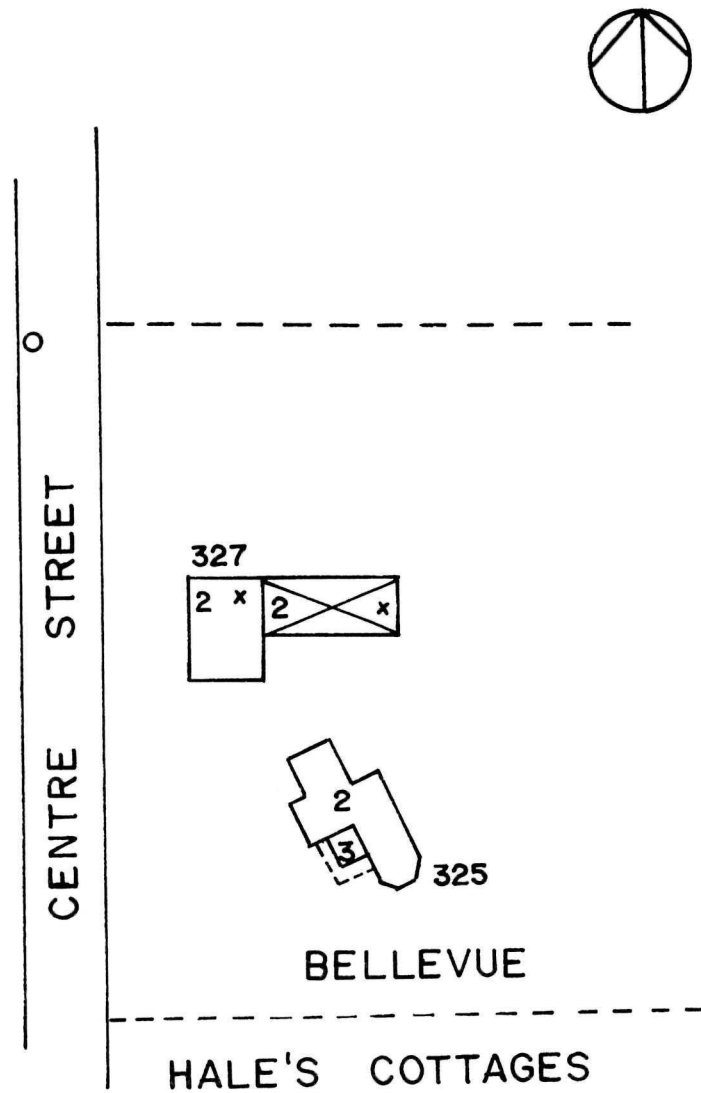
1850 SURVEY PLAN

Figure 2 "Plan of Kingston and its environs", dated 1869, by Lieut. H.S. Sitwell showing Bellevue House, its grounds and the coach-house. The north wing is shown attached to the L-shaped coach-house. (Public Archives of Canada). Re-drawn by D. Shouldice.



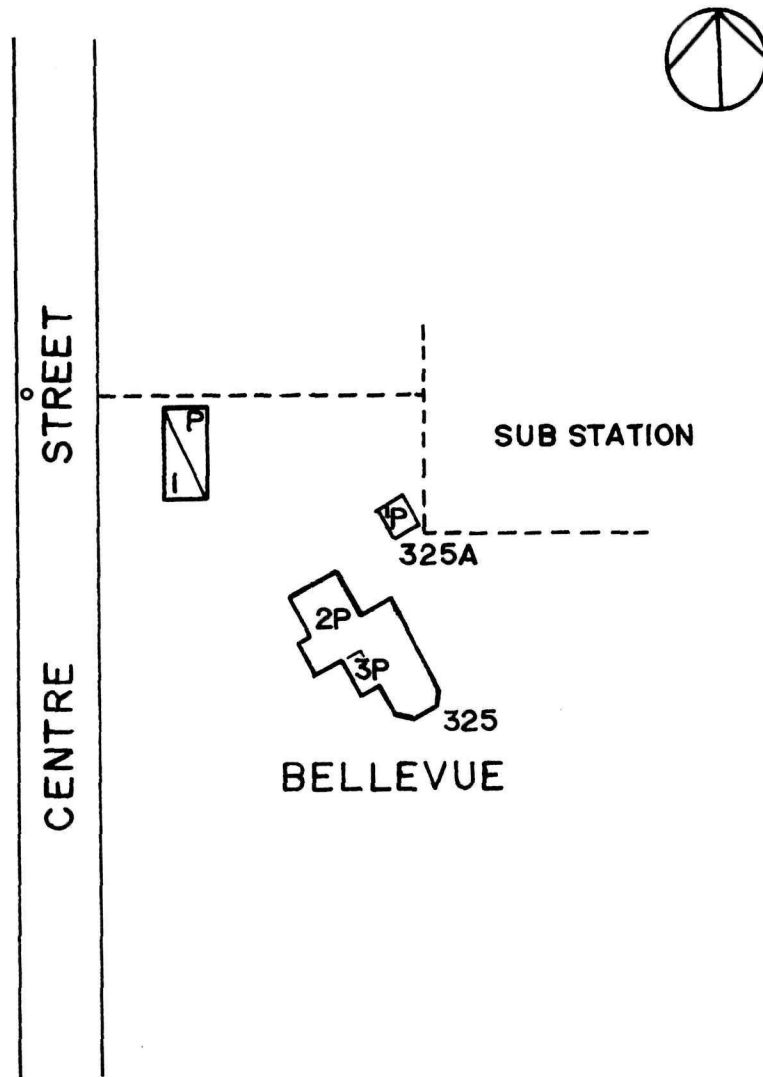
1869 FORTIFICATIONS PLAN

Figure 3 Kingston Insurance Plan, dated 1908. The legend on the original indicates that both structures are stone masonry. The coach-house is two storeys (2) with a wood or wood shingle roof (x). The diagonal cross through the east half of the building indicates that it is a stable. Re-drawn by D. Shouldice.



1908 FIRE INSURANCE PLAN

Figure 4 Kingston Insurance Plan, dated 1963. The coach-house has been demolished and the administration building bungalow has been built on part of the site. There is also a small unidentified building on the property near the Sub-station. Re-drawn by D. Shouldice.



1963 FIRE INSURANCE PLAN

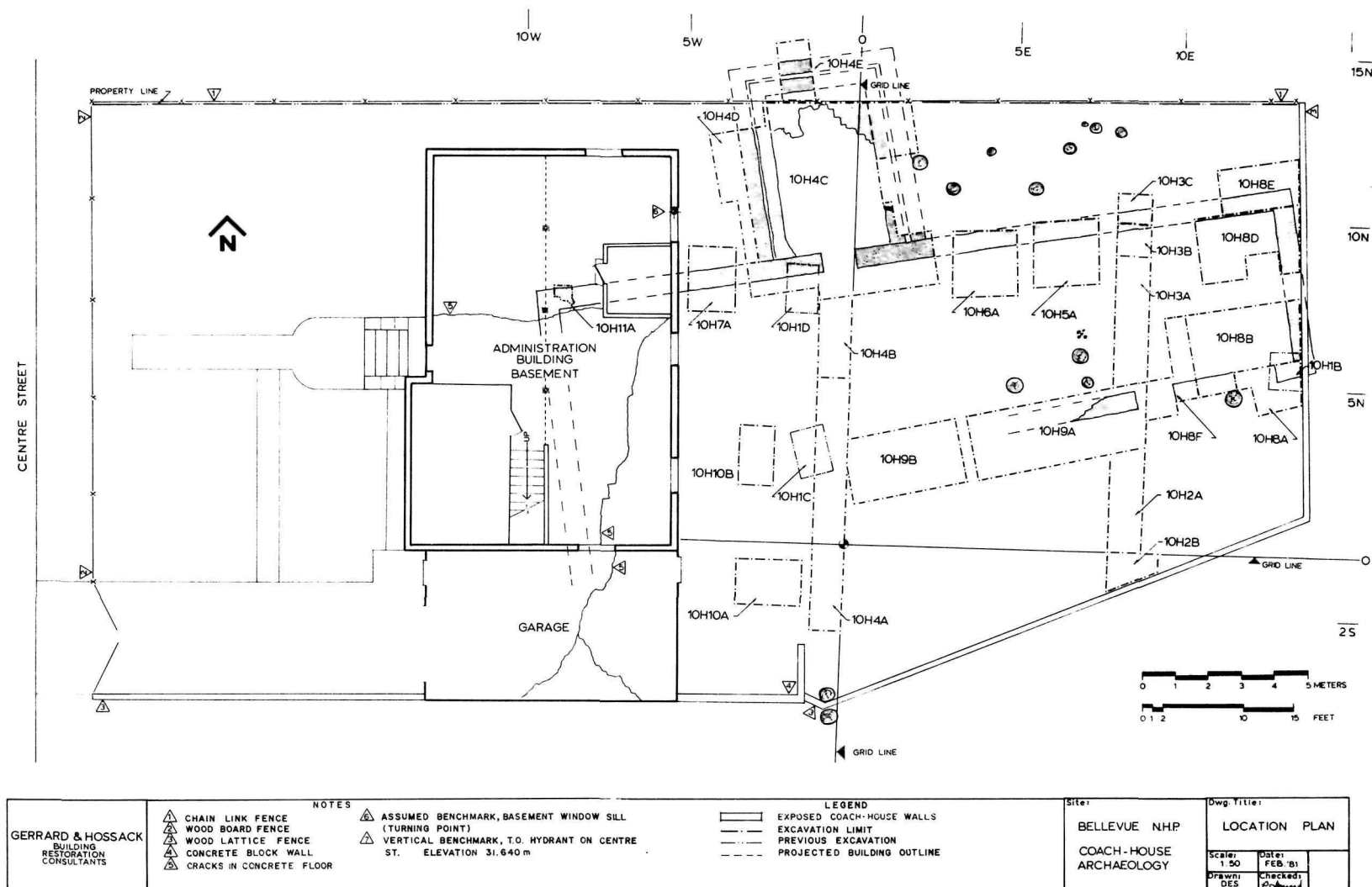


Figure 5

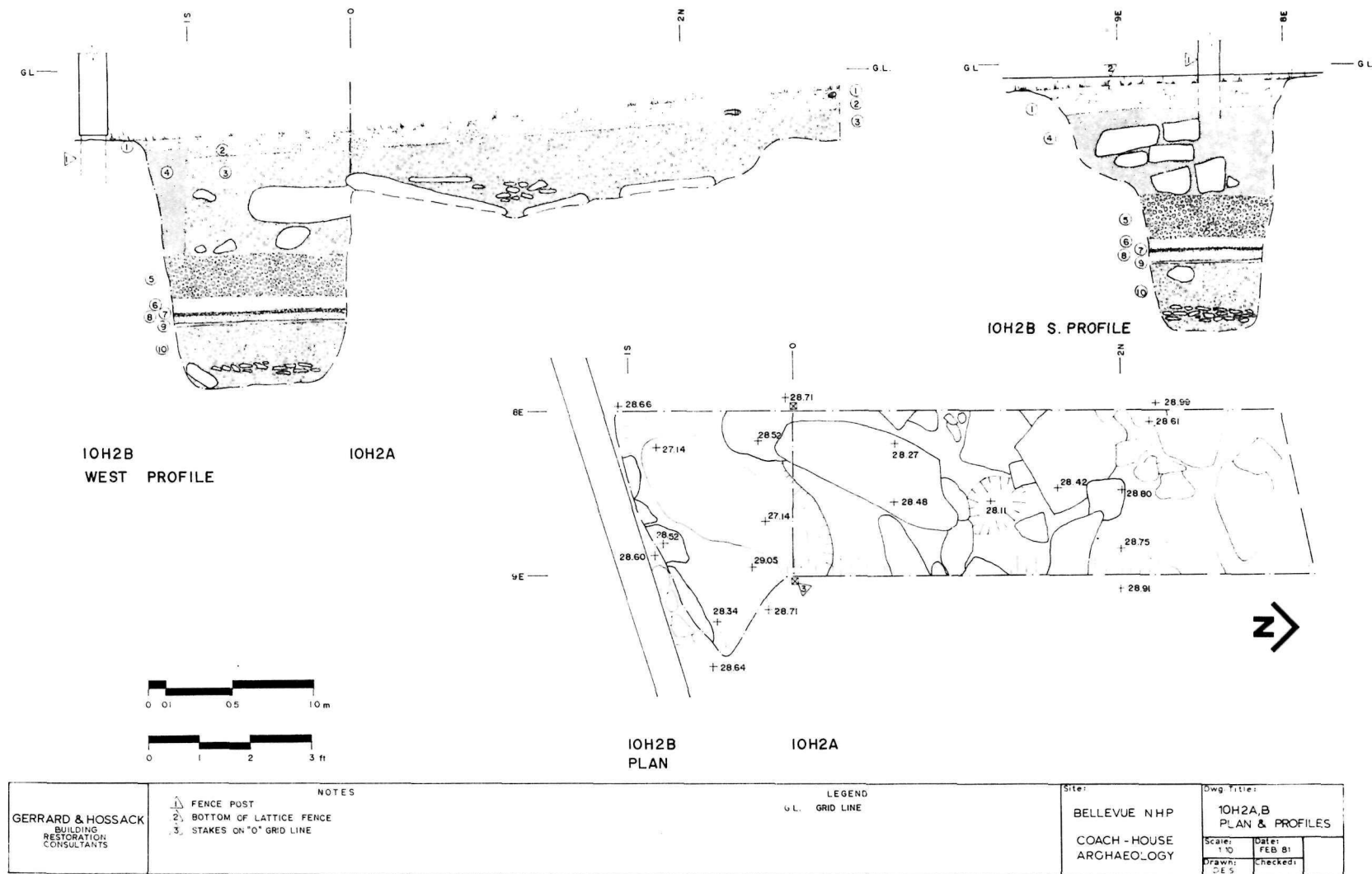


Figure 6

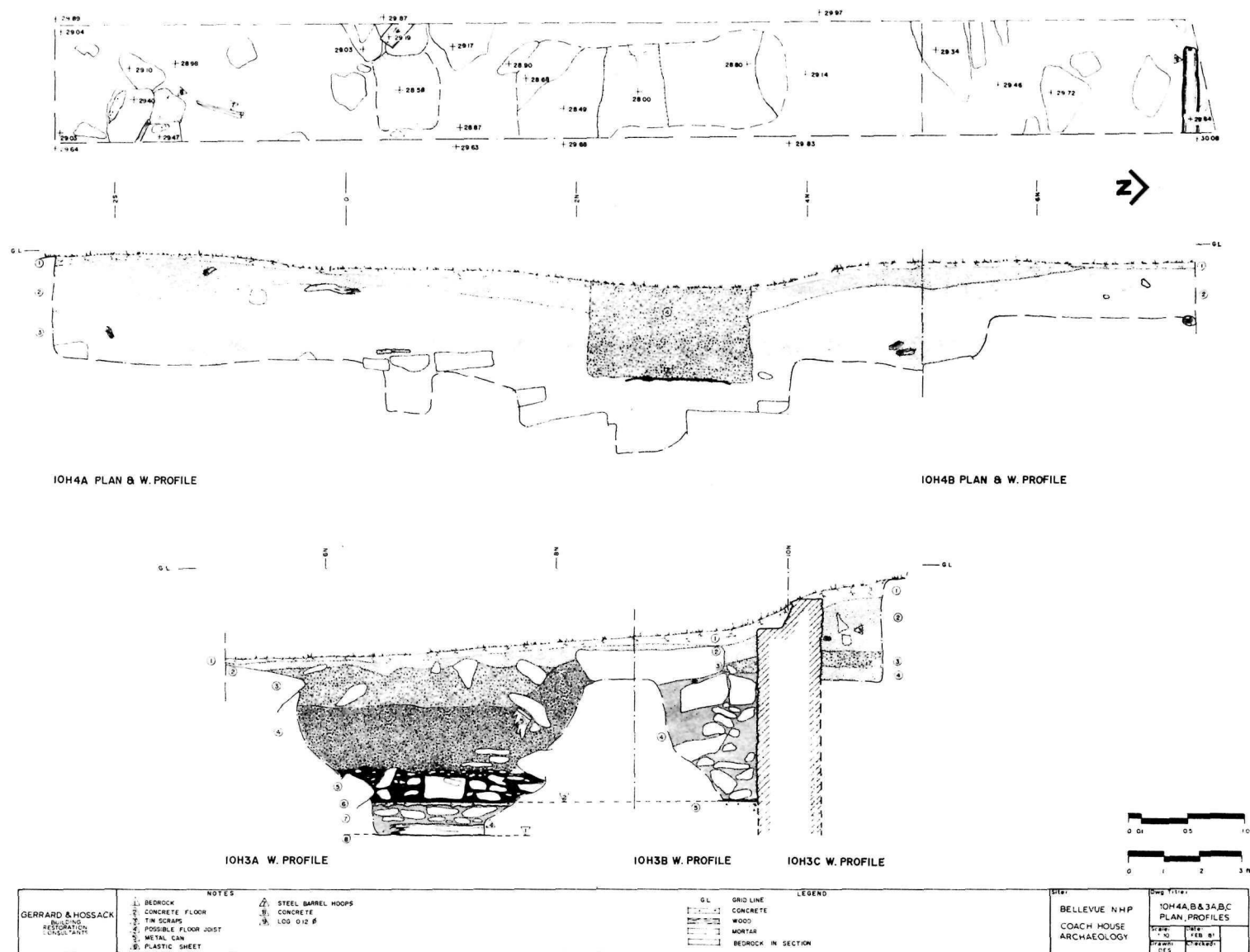


Figure 7

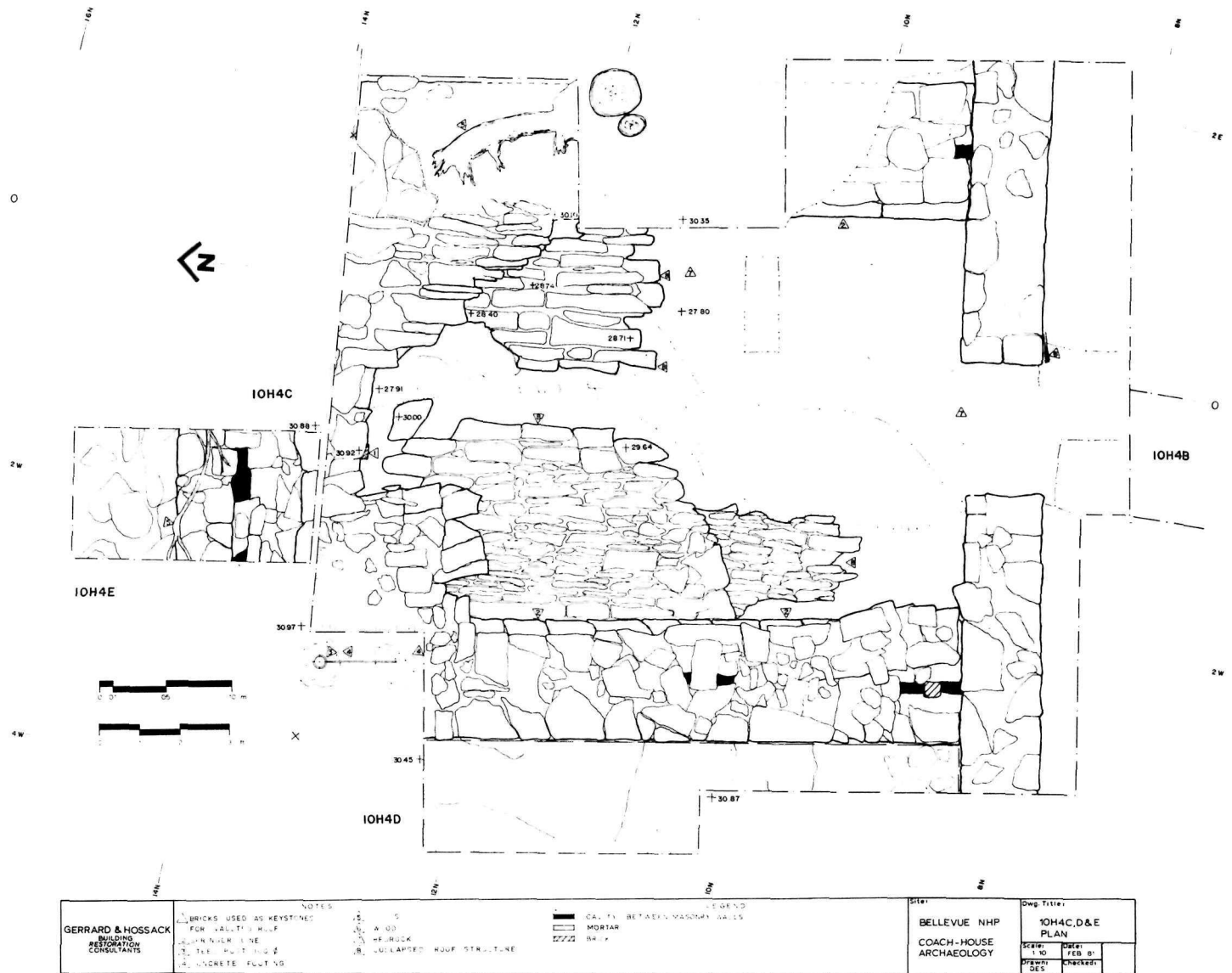
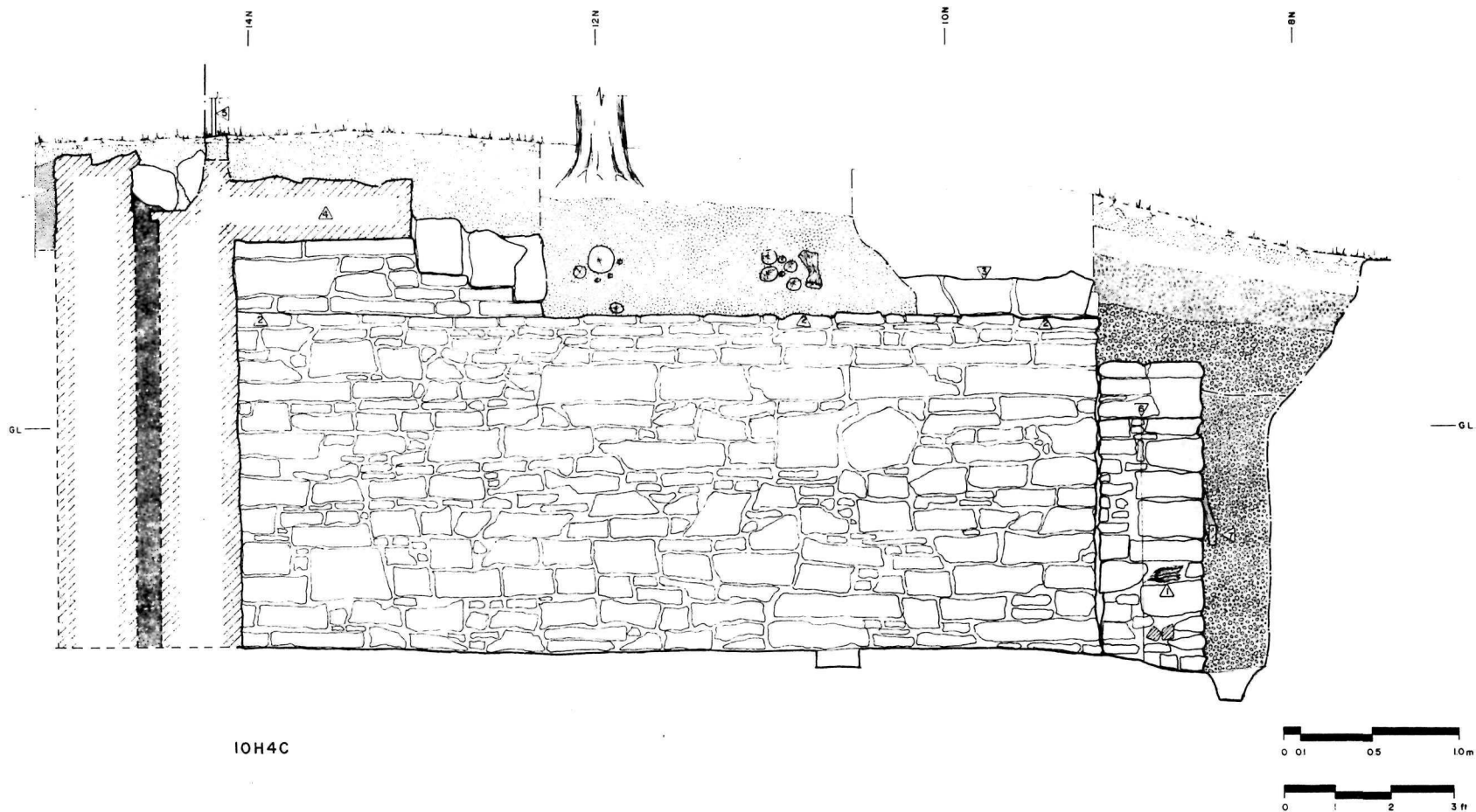


Figure 8



GERRARD & HOSSACK BUILDING RESTORATION CONSULTANTS	<div>1. WOOD SET IN MORTAR</div> <div>2. TOP OF WALL</div> <div>3. SPRINGER LINE FOR VAULT</div> <div>4. SECTION THROUGH VAULT</div> <div>5. WIRE FENCE</div>	<div>6. LOCATION OF ORIGINAL DOOR FRAME</div> <div>7. WOOD</div>	<div>LEGEND</div> <div><div></div> MORTAR</div> <div><div></div> BRICK</div> <div><div></div> WOOD</div> <div><div></div> CAVITY BETWEEN MASONRY WALLS</div> <div><div></div> BEDROCK IN SECTION</div> <div><div></div> GRID LINE</div> <div>GL</div>	Site: BELLEVUE NHP COACH - HOUSE ARCHAEOLOGY	Dwg. Title: 10H4C EAST PROFILE	
					Scale: 1:10	Date: FEB 81
					Drawn: D.E.S.	Checked:

Figure 11

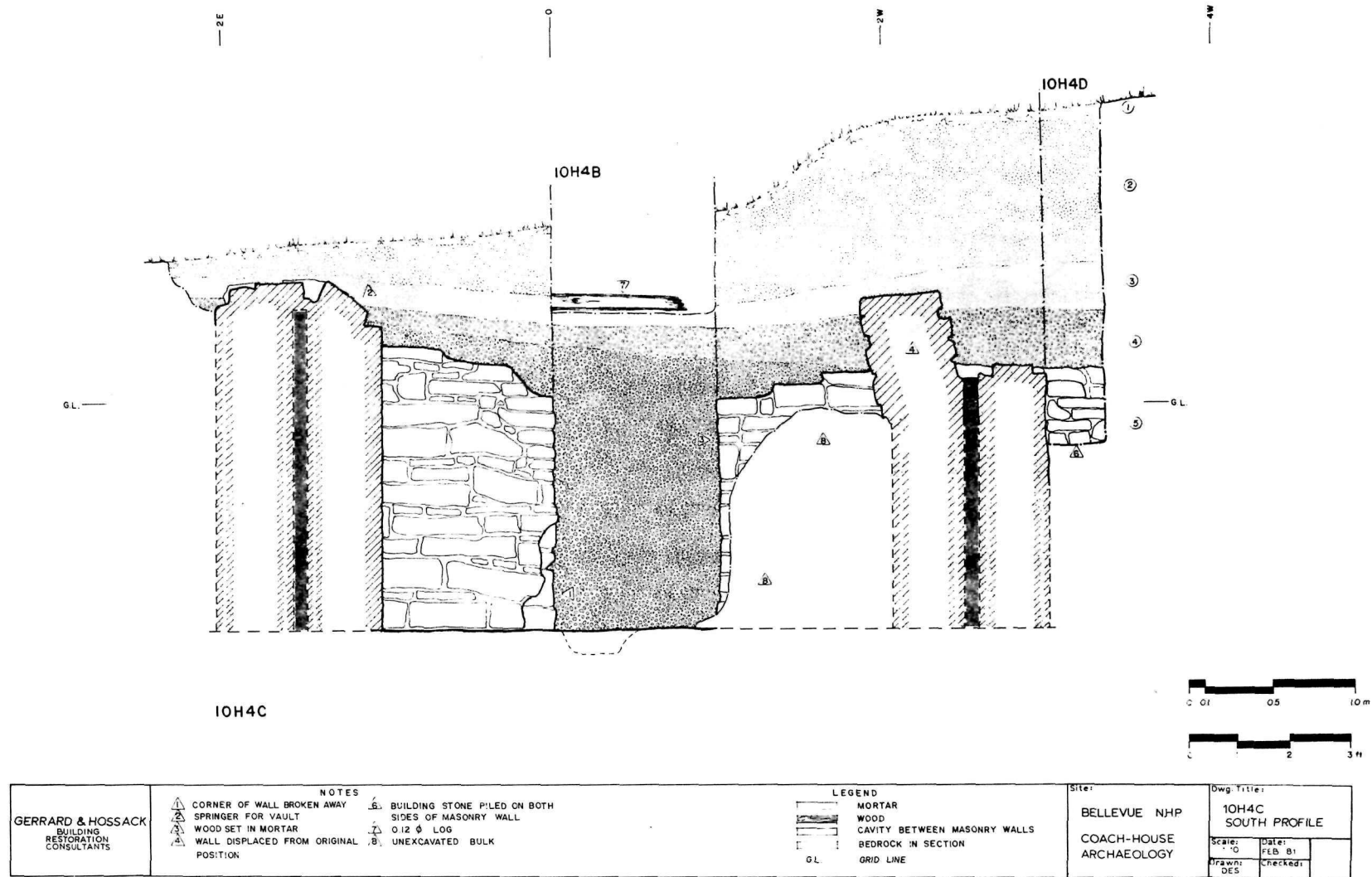


Figure 12

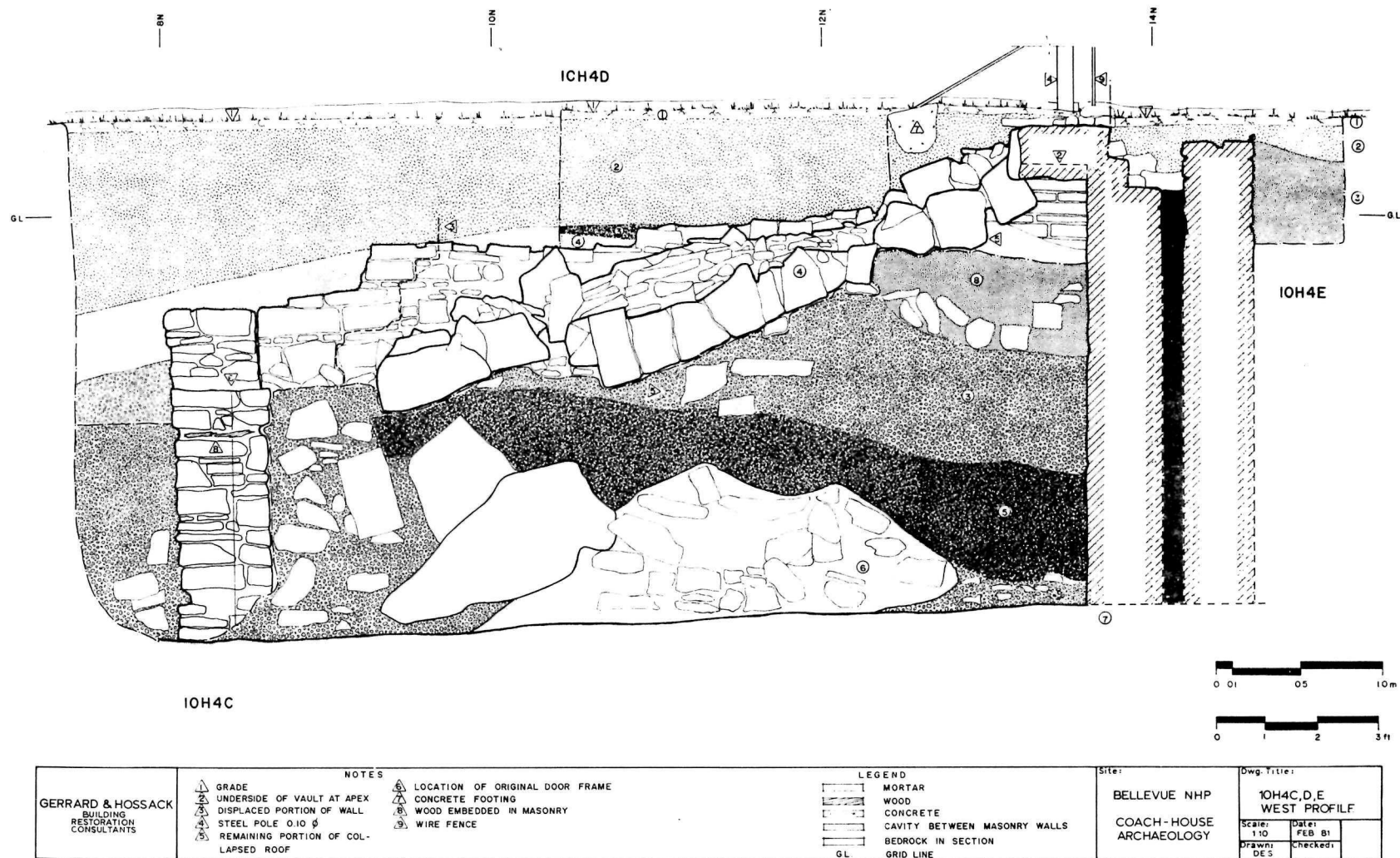


Figure 13

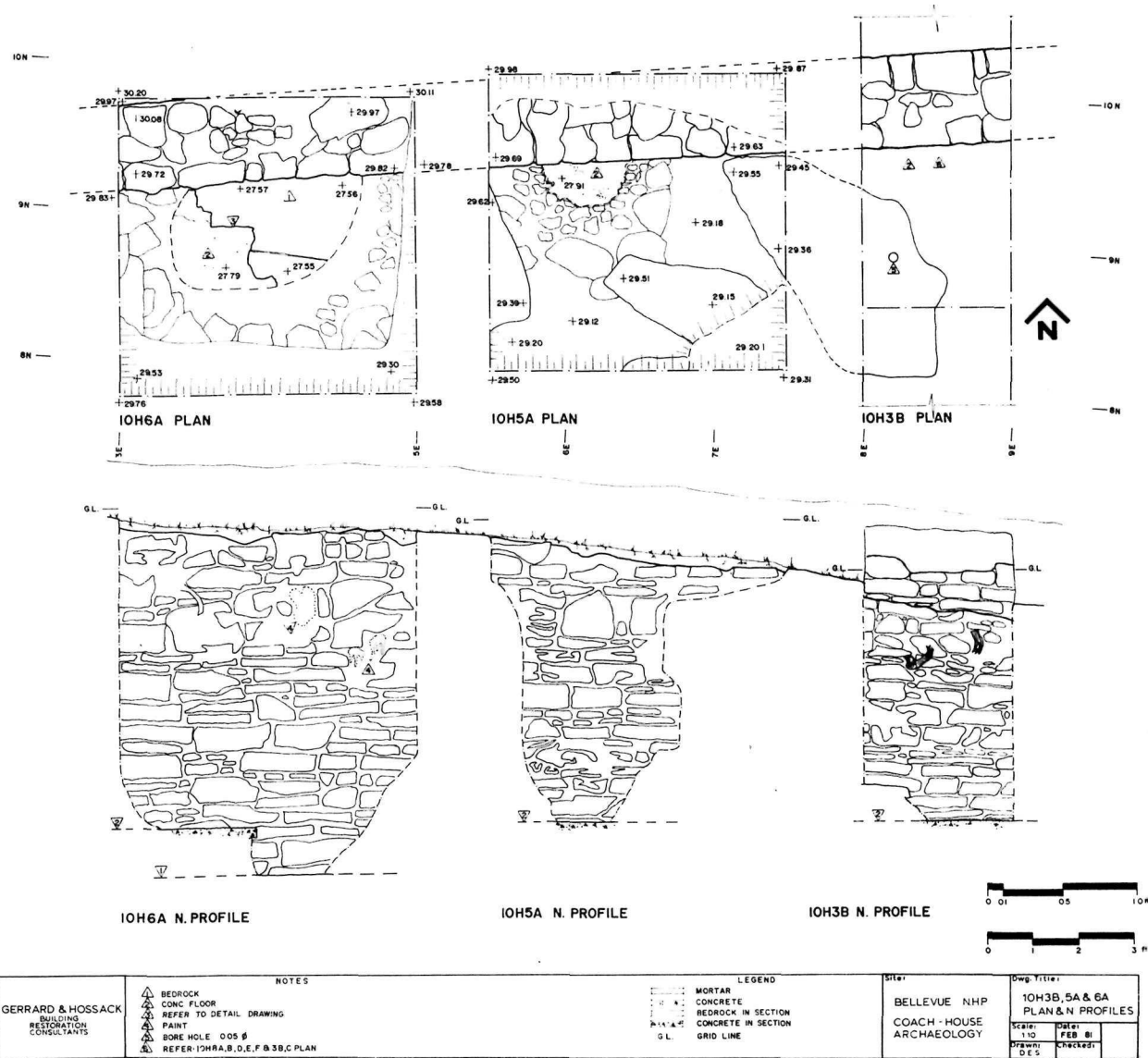


Figure 14

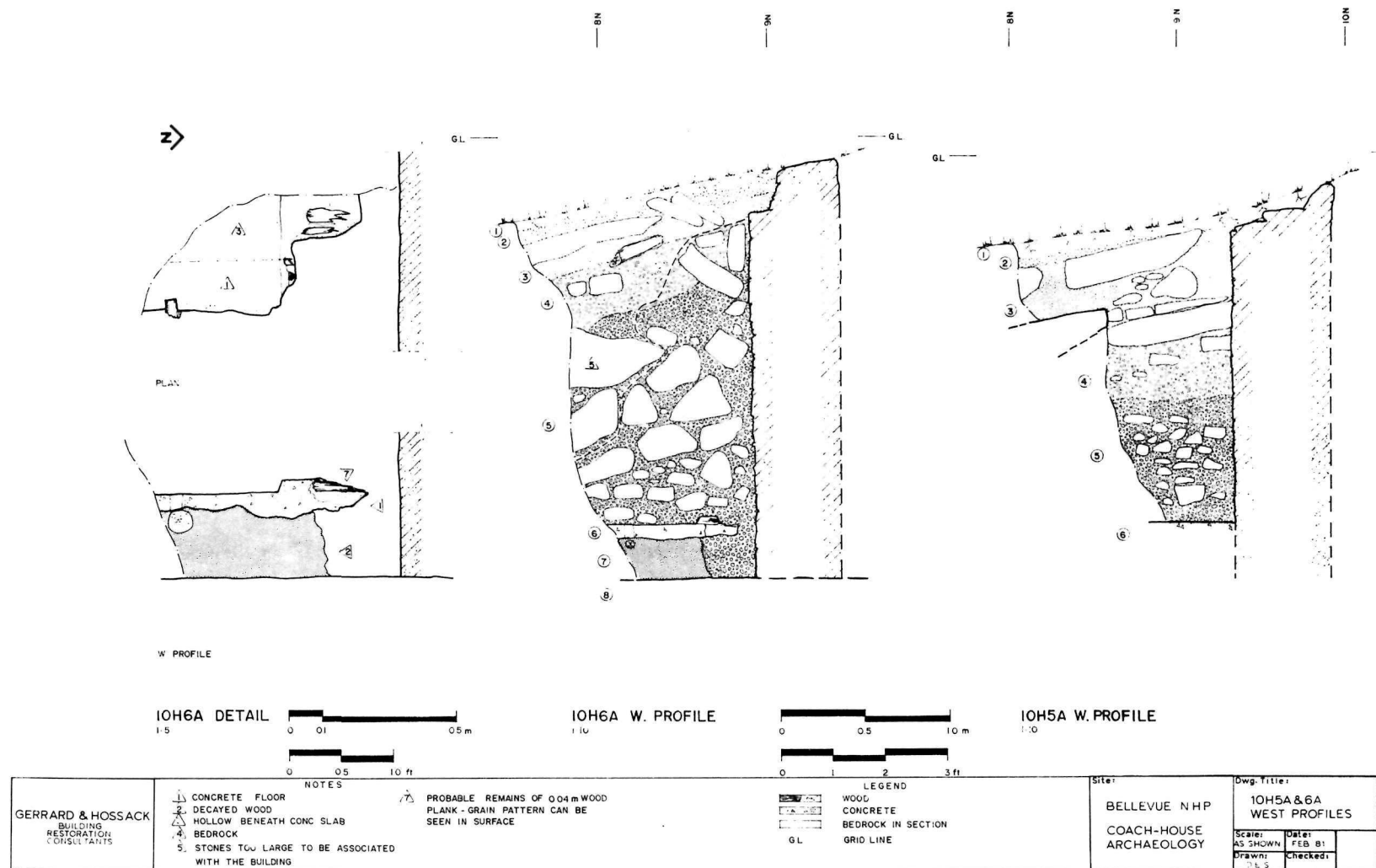


Figure 15

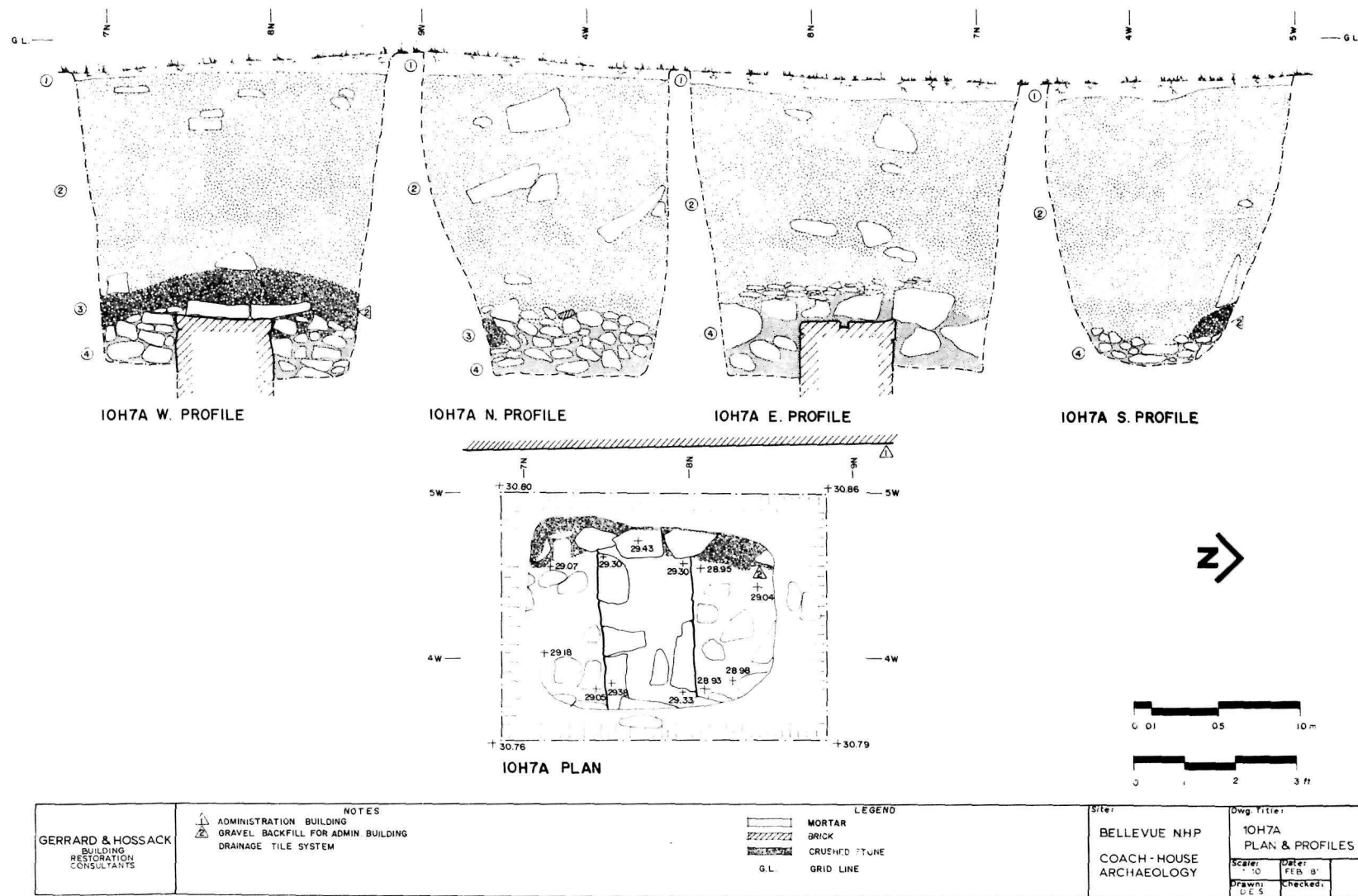


Figure 16

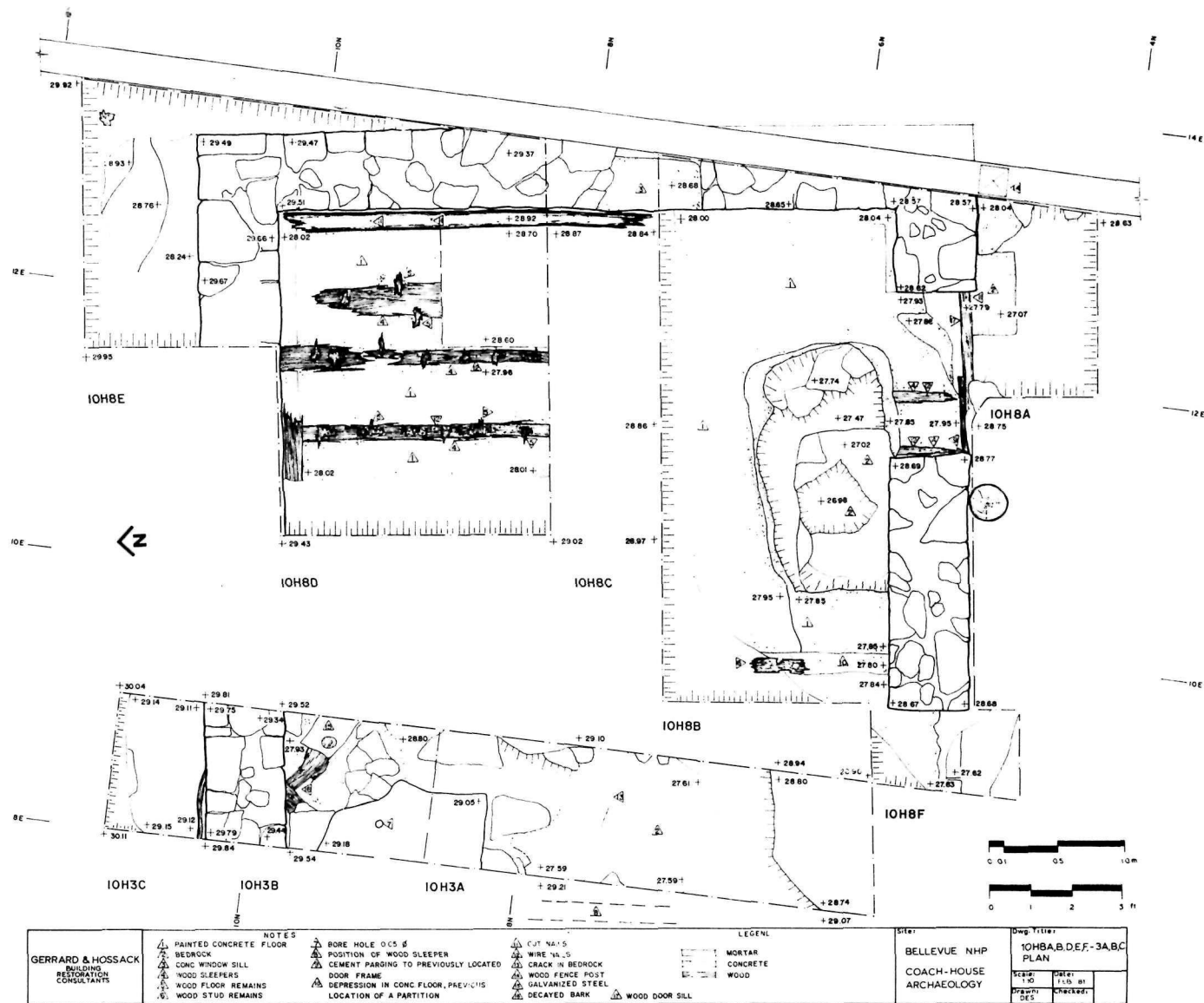


Figure 17

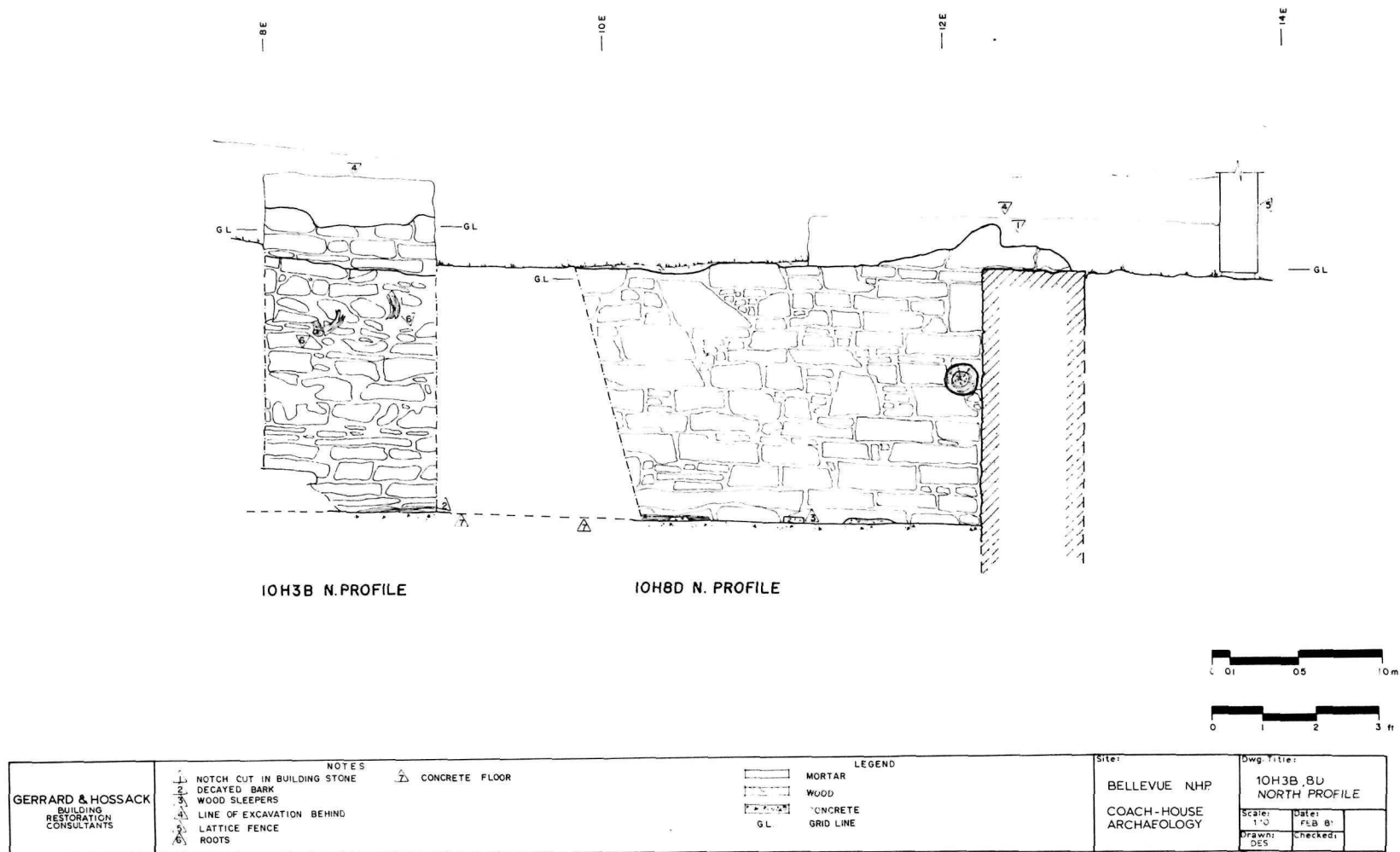


Figure 18

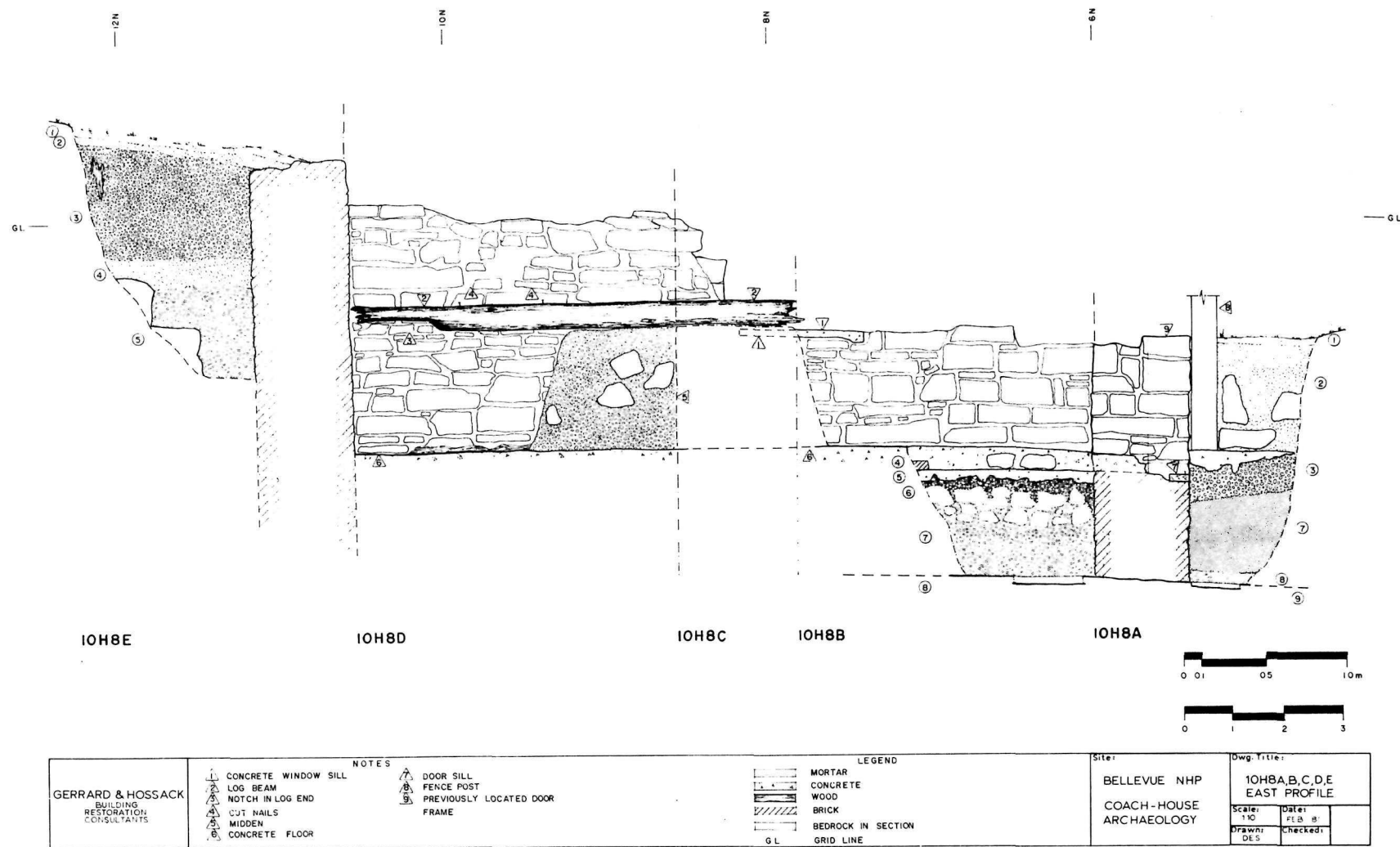


Figure 19

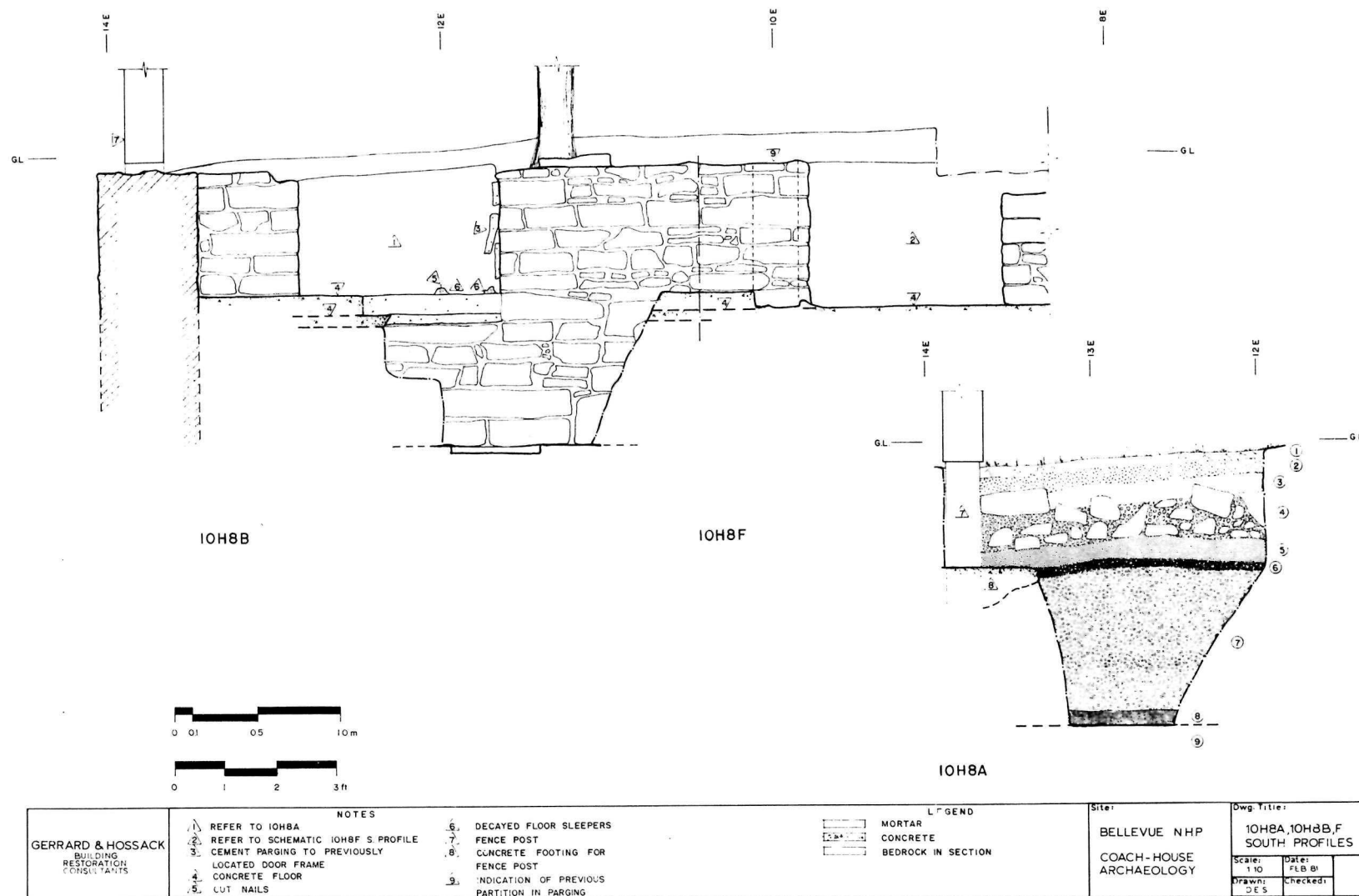


Figure 20

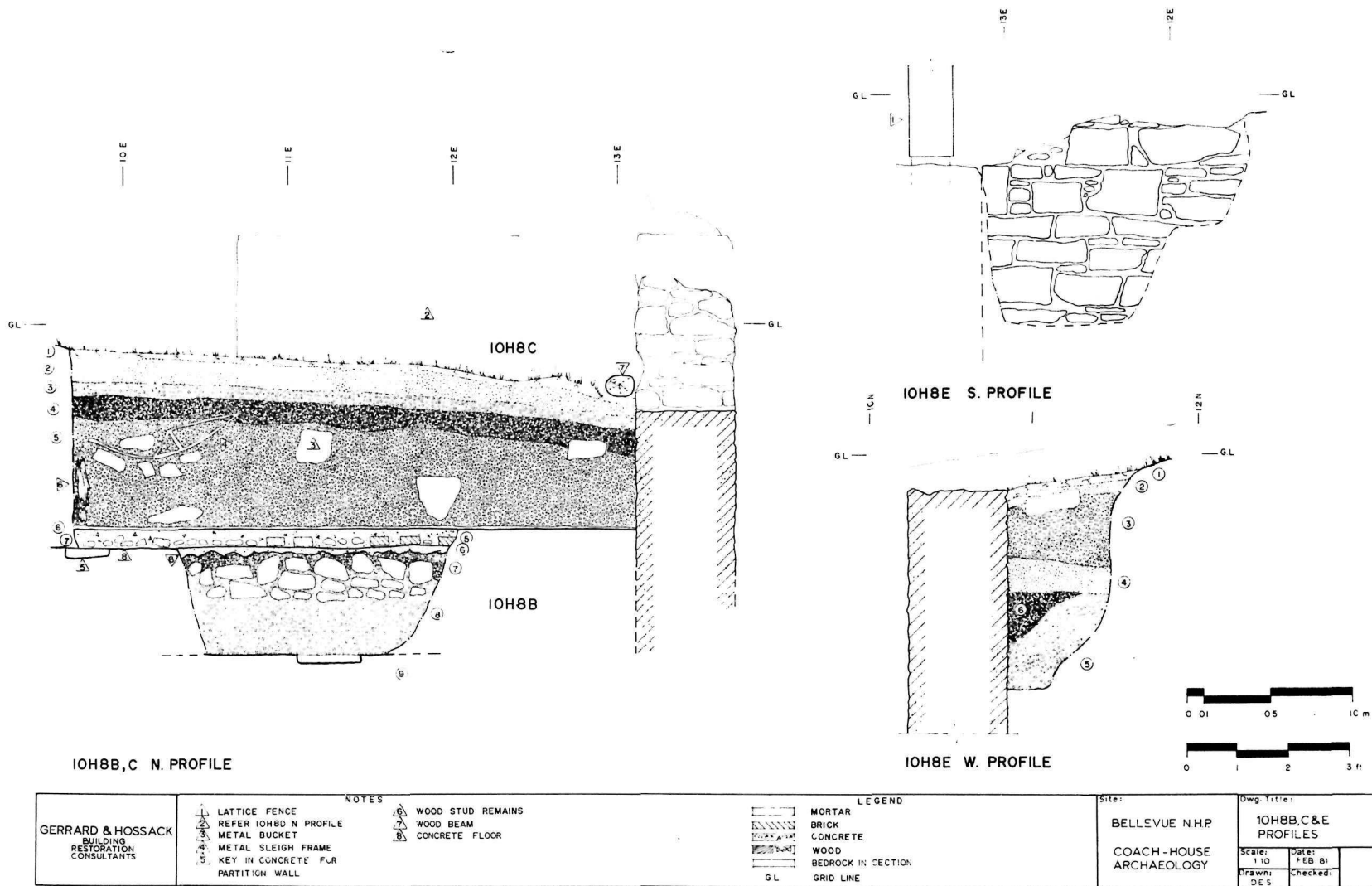
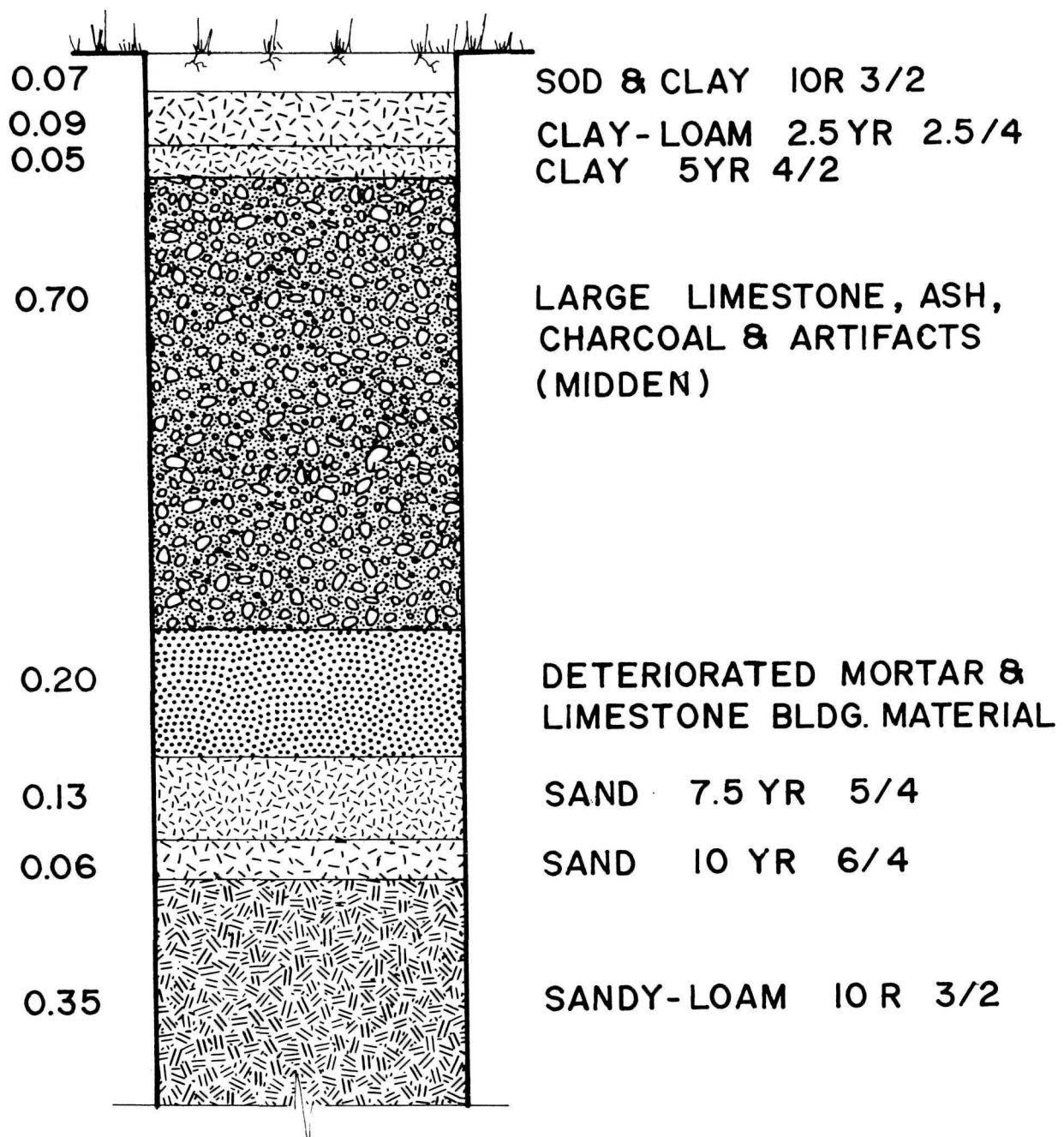
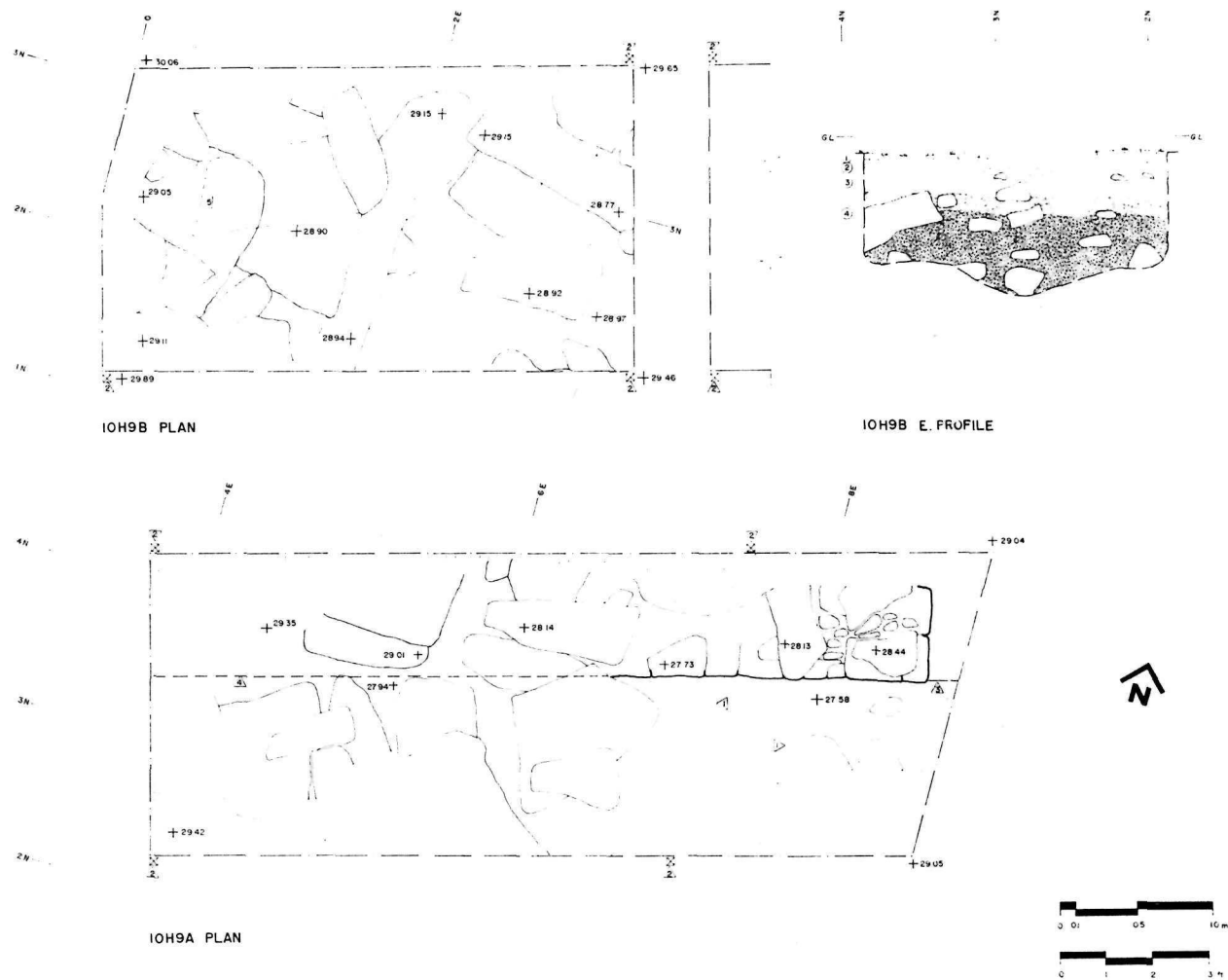


Figure 21



10H8F STRATIFICATION

Figure 22



GERRARD & HOSSACK RESTORATION CONSULTANTS	NOTES		LEGEND	Site BELLEVUE NHP COACH-HOUSE ARCHAEOLOGY	Swg Title IOH9A, 9B PLAN, EAST PROFILE	
	1. POSITION OF REMOVED BULKHEAD	5. DOTTED LINE REPRESENTS ORIGINAL POSITION OF ROCK			Scale PLAN 91	Drawn Checked
	2. FILL STAKES		GL. MORTAR GRID LINE			
	3. DOOR SILL					
	4. PROJECTED EXTERIOR FACE OF WALL					
	5. ROCK LIFTED TO VERTICAL POSITION					

Figure 23

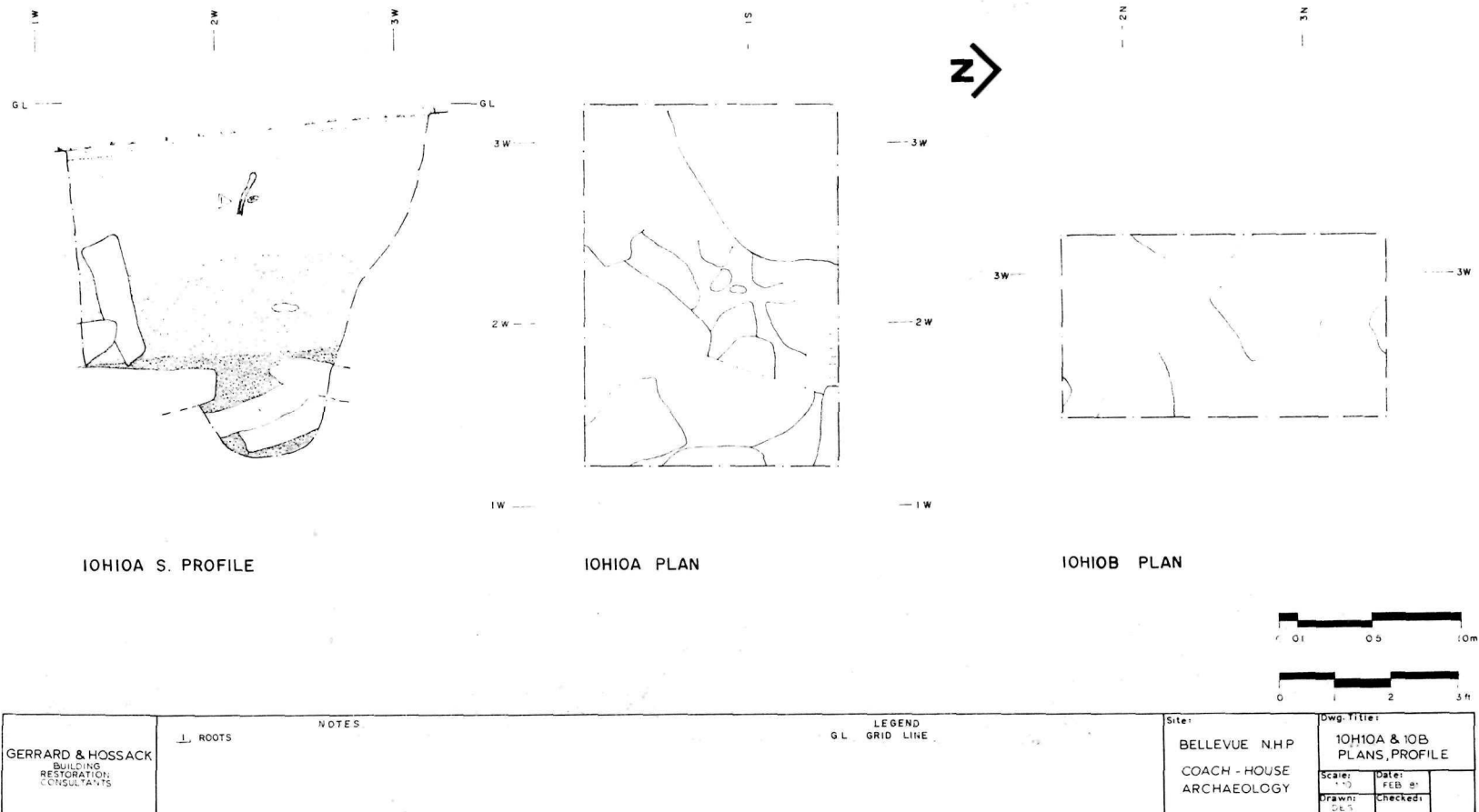
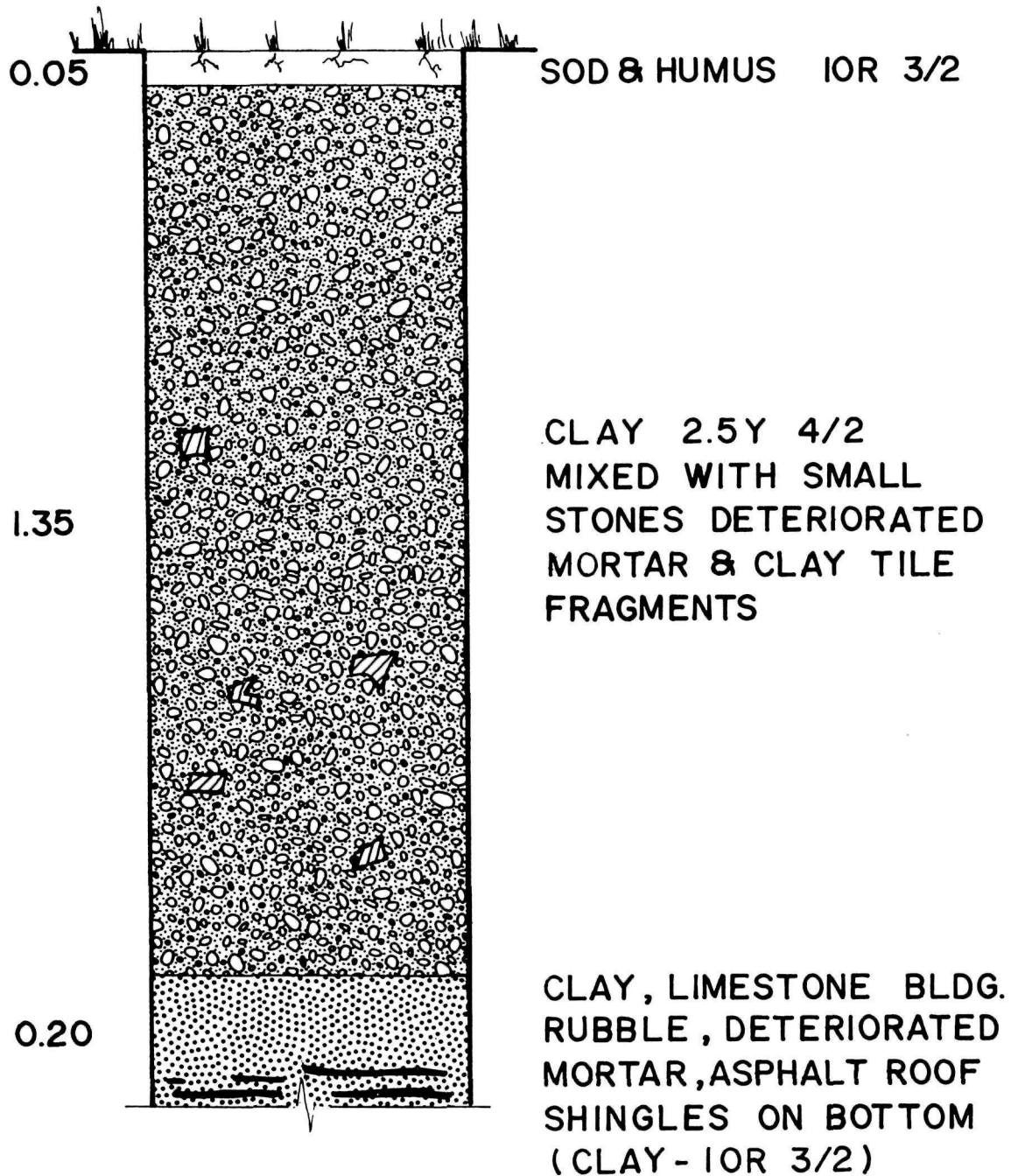
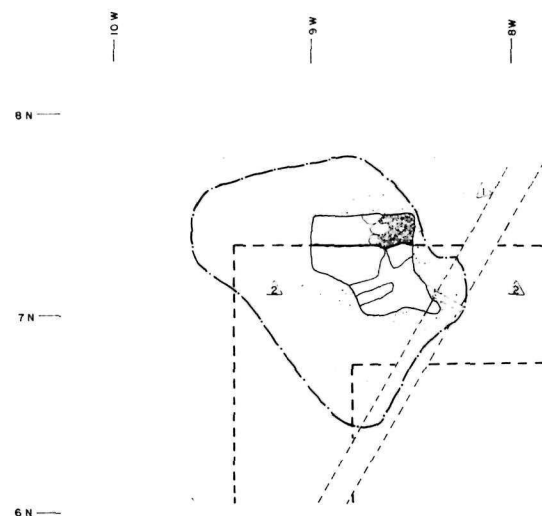


Figure 24

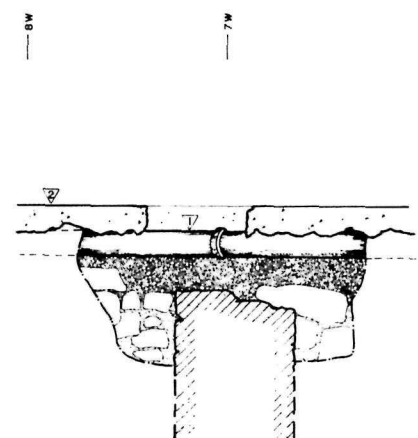


IOHIOB STRATIFICATION

Figure 25



10H11A PLAN

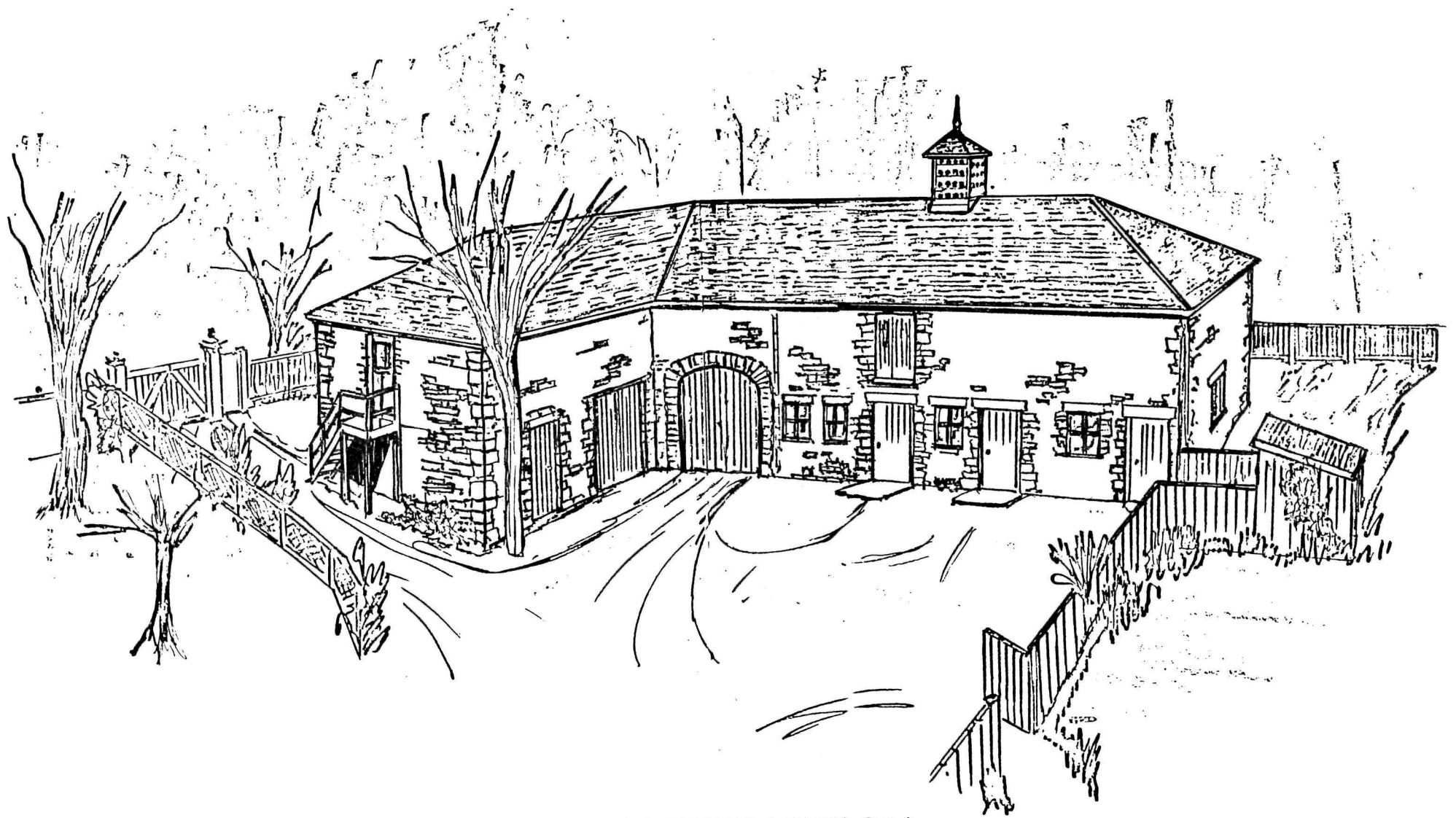


10H11A E. PROFILE



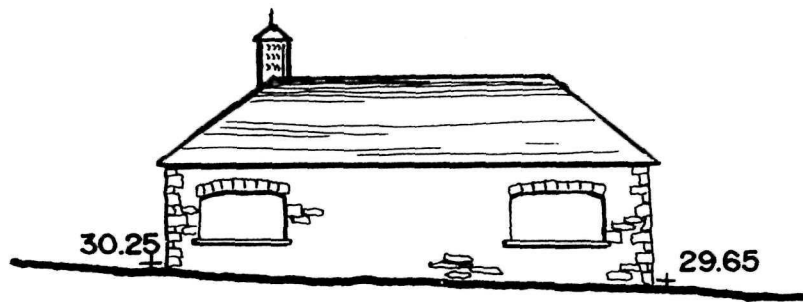
Figure 26

Figure 27 Reconstruction of Coach-house showing the south and east facades (Dixon 1969: 36).

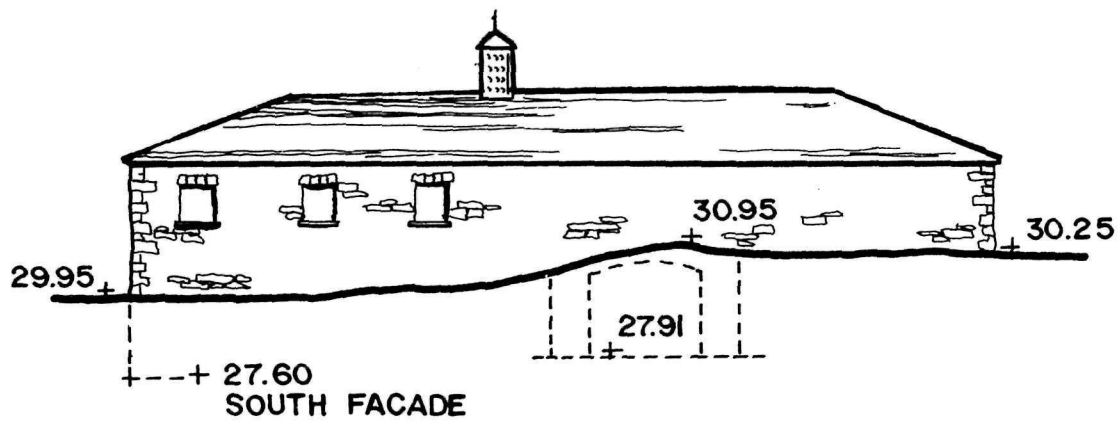


COACH-HOUSE RECONSTRUCTION

Figure 28 Reconstruction of Coach-house showing the north and west facades as described by a local resident (W. Gordier pers. com., 28 Nov. 1980). The geodetic elevations indicate the early grade levels. Drawn by D. Shouldice.



WEST ELEVATION
1:200

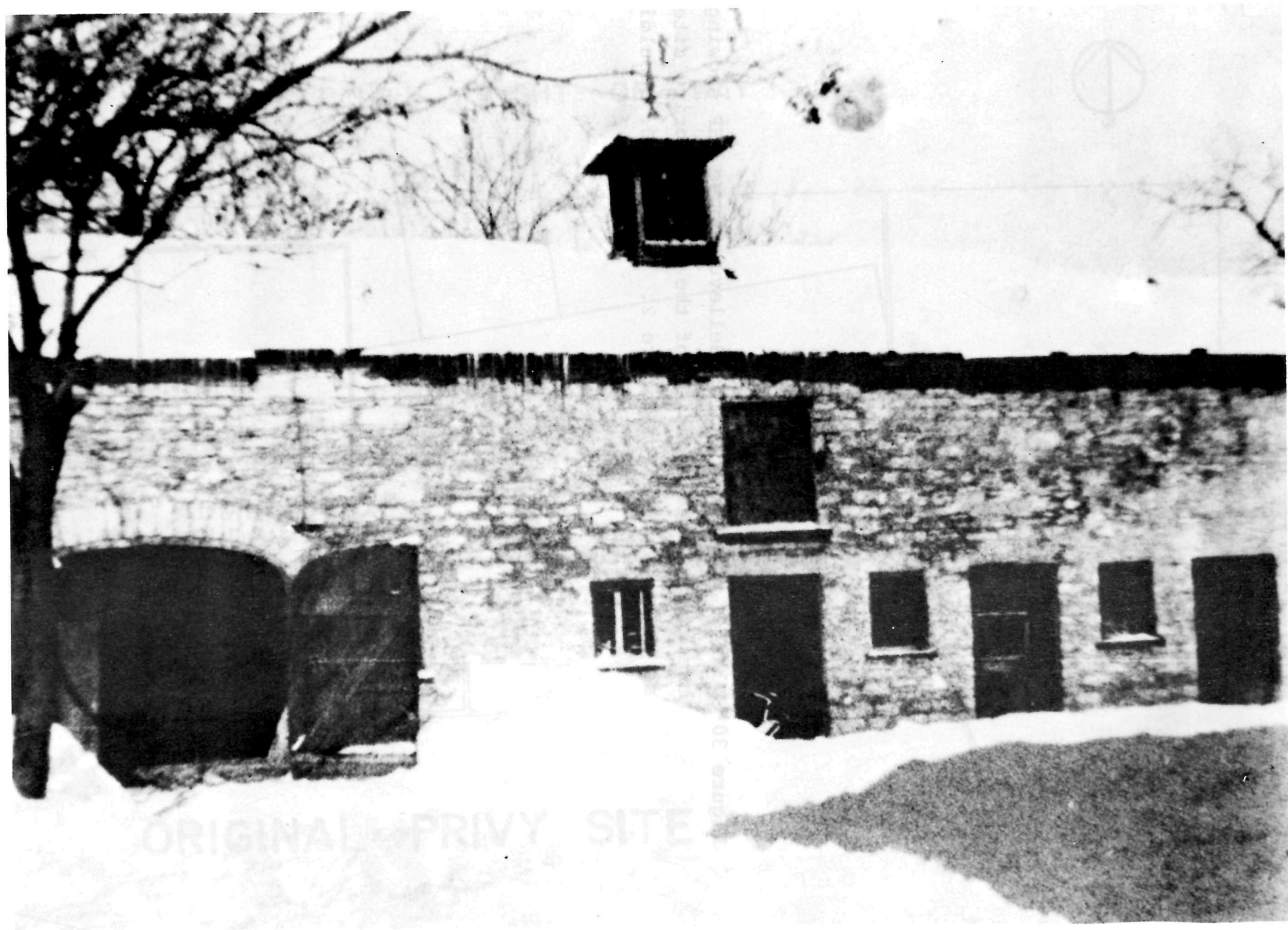


NORTH ELEVATION
1:200

WINDOW SIZE &
LOCATION CONJECTURED

COACH-HOUSE RECONSTRUCTION

Figure 29 View of the south facade of the coach-house.
(Original photograph owned by D. Attack of Kingston).



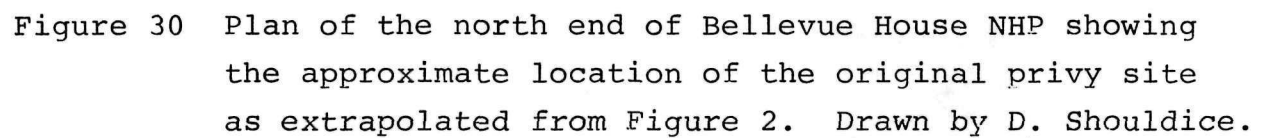
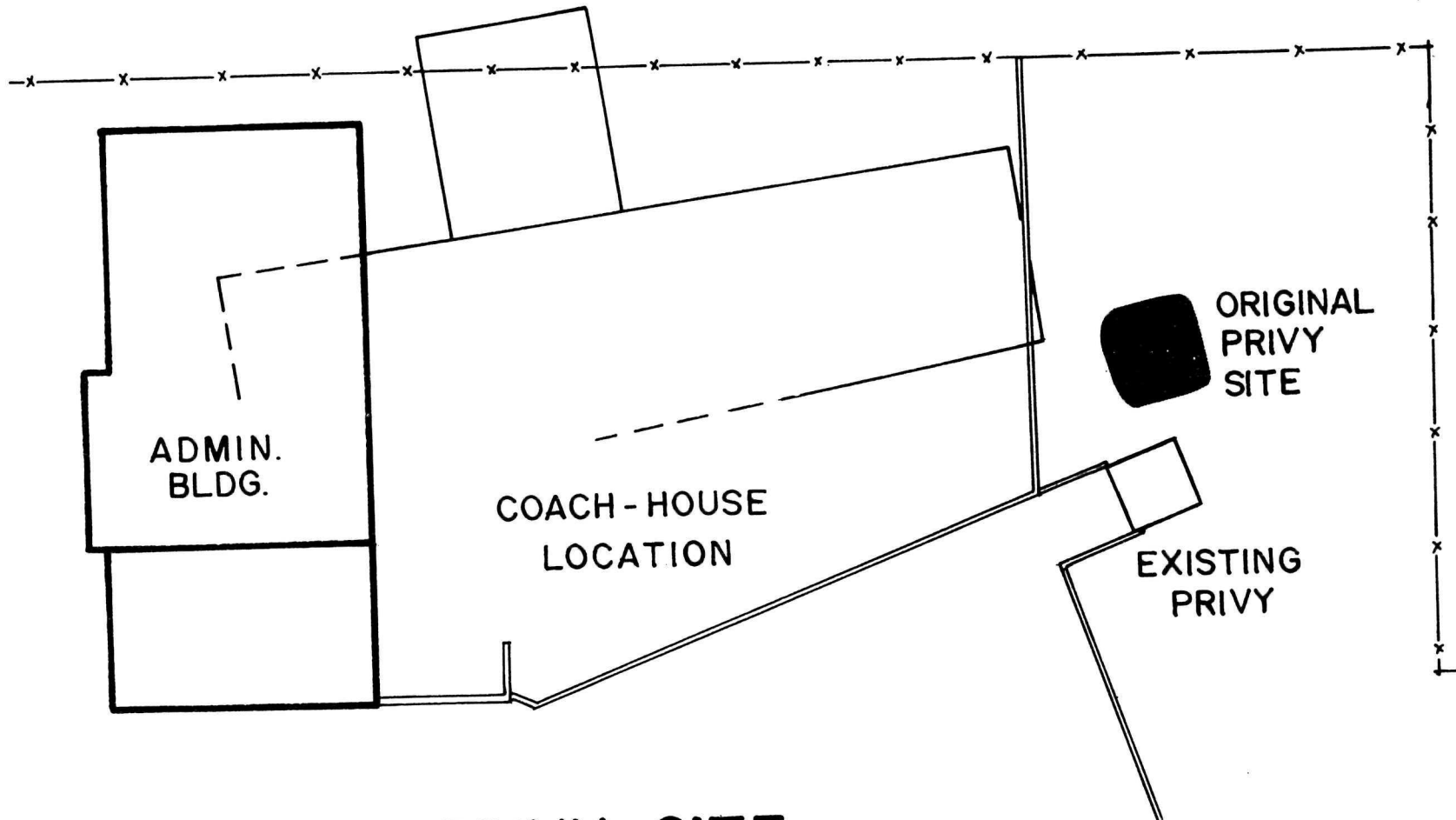


Figure 30 Plan of the north end of Bellevue House NHP showing the approximate location of the original privy site as extrapolated from Figure 2. Drawn by D. Shouldice.

P.U.C. RIGHT - OF - WAY



ORIGINAL PRIVY SITE

