

INTERIM REPORT ON THE FORKS ACCESS PROJECT

SUBMITTED TO

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**QUATERNARY
CONSULTANTS
LIMITED**

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1.0 North of Water Avenue

1.1 Scope of the Project

The construction of the continuation of Pioneer Boulevard northward from Water Avenue to link with Lombard Street has entailed several components. The project had two components which had the potential for impact upon archaeological resources. The first was the installation of a land drainage sewer system with two attendant outfalls. The second component was the construction of the roadbed. A third component, which did not have any impact upon archaeological resources, consisted of the placement of rip-rap along the west bank of the Red River.

As depicted on Figure 1, the project was along the west bank of the Red River to the north of Water Avenue in the downtown section of Winnipeg. The land drainage sewer was installed in two phases. The southern section, which extended to the new outfall, was installed in the fall of 1997. The northern portion, north of the control unit, was installed in the fall of 1998. Both sections were constructed by drilling vertical shafts and horizontal boring.

The southern outfall was excavated as an open-cut trench during the winter of 1997/98. The excavation for the control unit was excavated by backhoe, with all excavated material being trucked off the site. The northern outfall component (winter 1998/99) consisted of refurbishment of the existing control unit at the end of Lombard Avenue, with the pipe from the control unit to the river being replaced. The existing pipe was dug out and all excavated soil consisted of previous fill.

The roadbed construction required importation of soil to build the road surface to the required level. The only sub-surface impact associated with this component was the installation of rock caissons as a bank stabilizing mechanism. Fifty-two holes were drilled to bedrock and filled with limestone.

1.2 Recoveries and Observations

A total of **573** artifacts were recovered from the portion of the project that lies north of Water Avenue. All artifacts post-dated the development of the area as Winnipeg's first industrial park in the 1870s. Most dated to the late 1890s or early 1900s. The majority of the artifacts were derived from secondary deposition locations, i.e., disposal in garbage dump situations rather than deposition at the place of use. Bottle, sherds from broken bottles, and broken dinnerware were the most common recoveries.

The entire area has experienced considerable prior impact, beginning in the 1870s with the establishment of the various lumber industry facilities along the west bank of the Red River. The construction of the Winnipeg Transfer Railway system from The Forks into downtown Winnipeg resulted in the demolition of all the structures already existing in the area and the placement of large

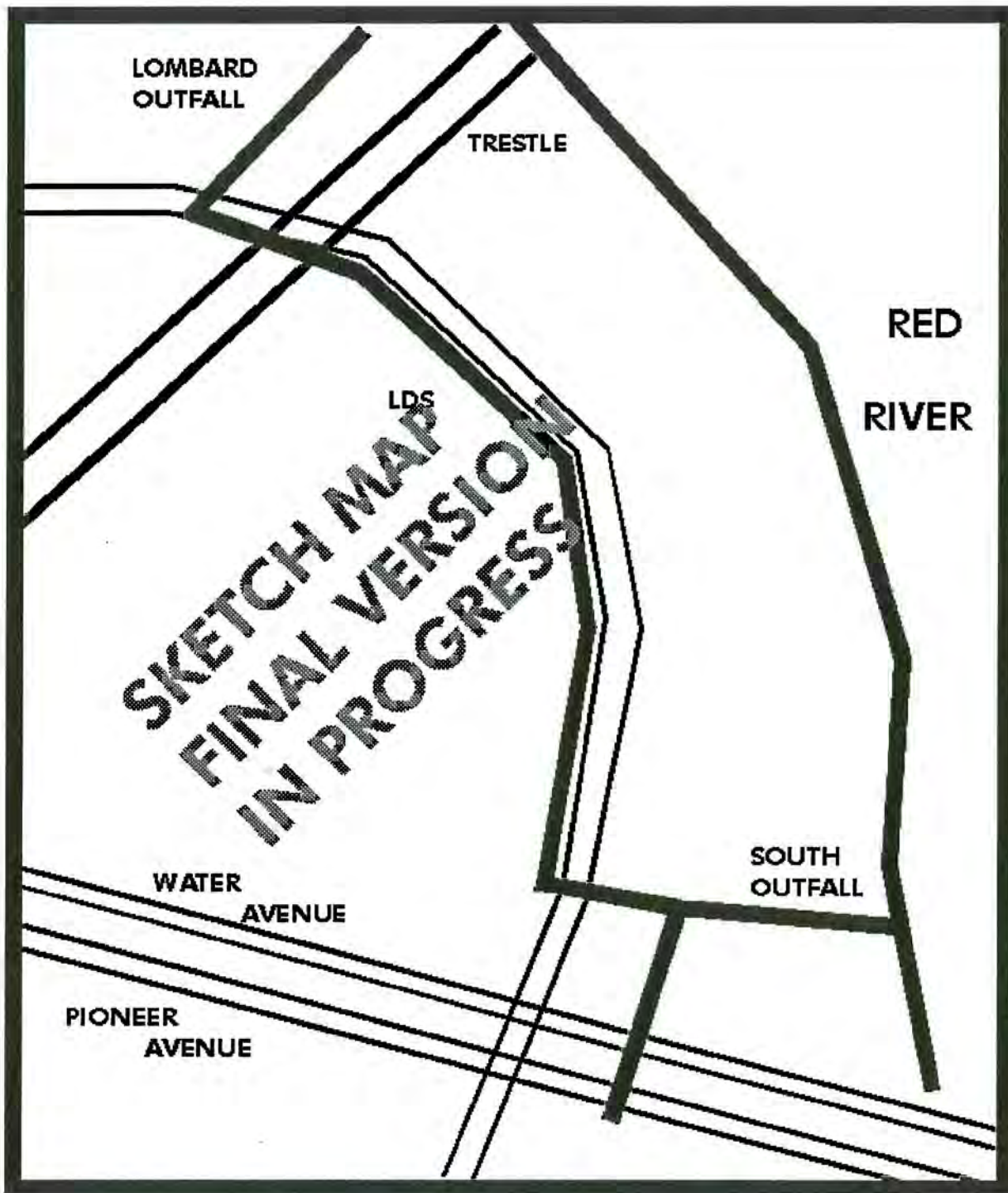


Figure 1: Location of Project Impacts

quantities of fill to produce a level grade. This fill component appears to have extended from the original upper bank, which is depicted on Fowler's 1880 map, to near the location of the wooden dike constructed after the 1950 flood.

Subsequent to this original land modification, a series of bank enhancement operations appear to have taken place (Figure 2). Using the temporal information obtainable from the recovered artifacts from each of the three loci (West, Dike, and Riverbank) at the south outfall, it is possible to determine the time periods in which each riverbank modification was undertaken. For purposes of analysis, only the period up to 1930 is taken into consideration. Several of the companies represented in the following time chart (Figure 3) were still in operation after 1930 but only one specific artifact was recovered which definitely post-dates WWI—a green bottle base sherd which was produced by Dominion Glass Company of Canada in 1962. This artifact, plus a 1917 Drewry bottle, was deposited near the Water Avenue intersection, after most of the land modification had ceased.

For determination of the dates of the different riverbank surfaces, bottles tend to be better indicators than ceramic dinnerware. Bottles are usually discarded when empty, while ceramic artifacts are usually used until broken, at which point they are discarded. In addition, with the represented ceramic manufacturers being English, one must allow time for trans-Atlantic shipment, the duration that the product sat on the merchant's shelf, and the period of use within the home or business establishment. Thus, dates derived from ceramic artifacts can only be used as a minimum date rather than defining a specific temporal period.

The artifacts from the West Area could not have been deposited any earlier than 1889, which is the beginning date of the North West Aerated Water Company. This company ceased operation in 1894 and the deposition of the bottle would probably have occurred within that time period. The two dateable ceramic specimens—Alfred Meakin and Mellor, Taylor—would have been available during that time. Thus the probable date for this configuration of the bank is between 1890 and 1895.

The artifacts from the Dike Area are slightly later. The earliest time of deposition would have been after the production of Blackwoods Ginger Beer which began in 1901. Given the temporal ranges of the identifying marks on the ceramic artifacts, it is likely that the period of deposition was in the earlier part of the range covered by the production of the Blackwoods Ginger Beer, which continued until 1921. It is probable that this position of the riverbank occurred between 1901 and 1910.

There seems to be a wider range of applicable dates for the third position of the riverbank which is represented by the artifact concentration from the Riverbank Area. The two Drewry bottles have dates of 1901 and 1903, while the Blackwoods bottles have a range between 1901 and 1923. At the far end of the time range, the Diamond Glass product could not have been deposited prior to 1924. If one uses this date as the time of deposition, the Blackwoods bottle would represent the period at the end of the use of the temporally diagnostic labeling. This possibility also accommodates the time range for Illinois Glass, Owen Bottle Company, and Whistle Bottling. The Brathwaite pharmaceutical bottle could have been produced up to 1919. The manufacturing technique indicated by the Crescent Dairy bottle suggests the early 1920s. Overall, the general indication is that this deposit of bottles

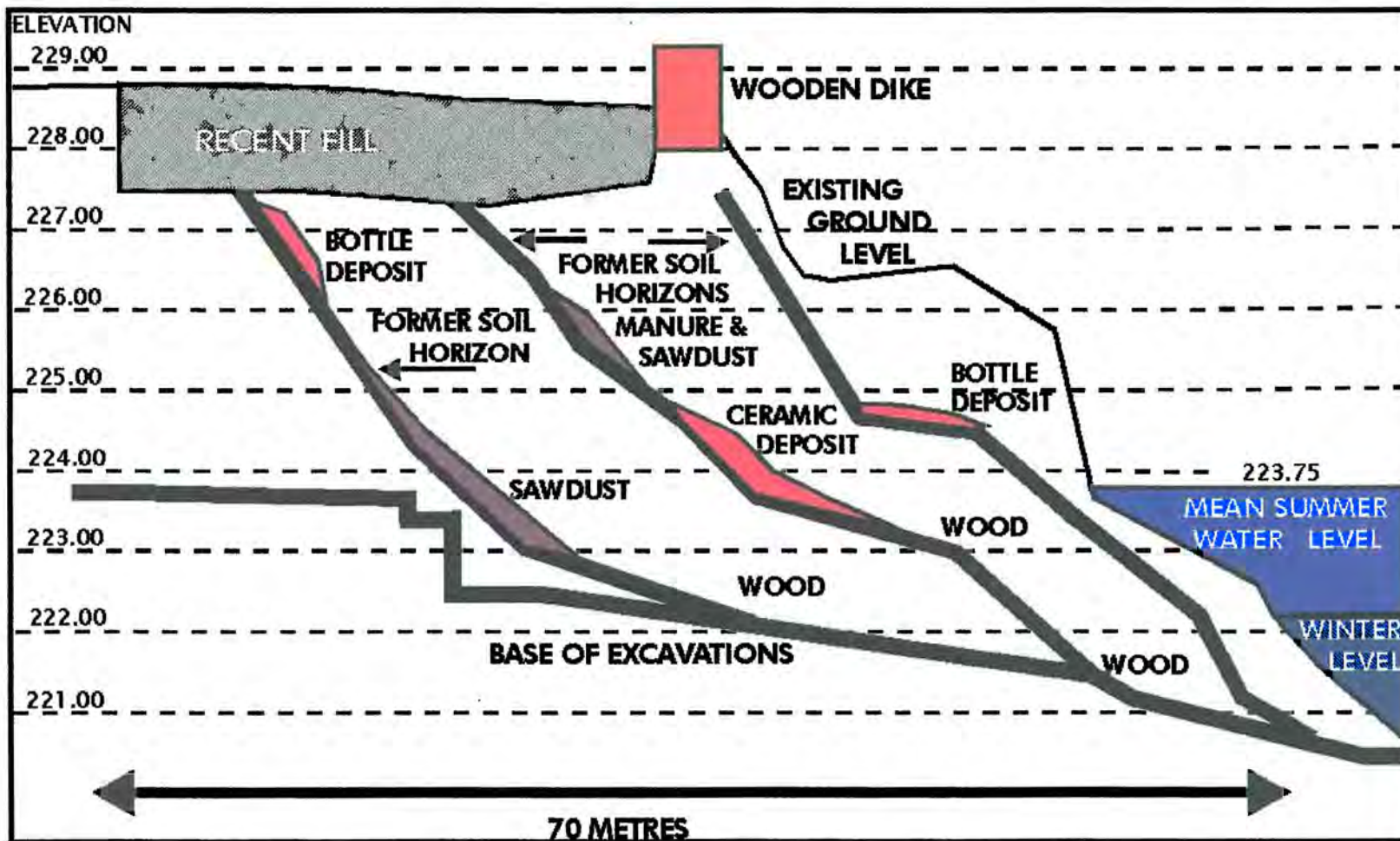


Figure 2: Stratigraphy at the Southern Outfall Component

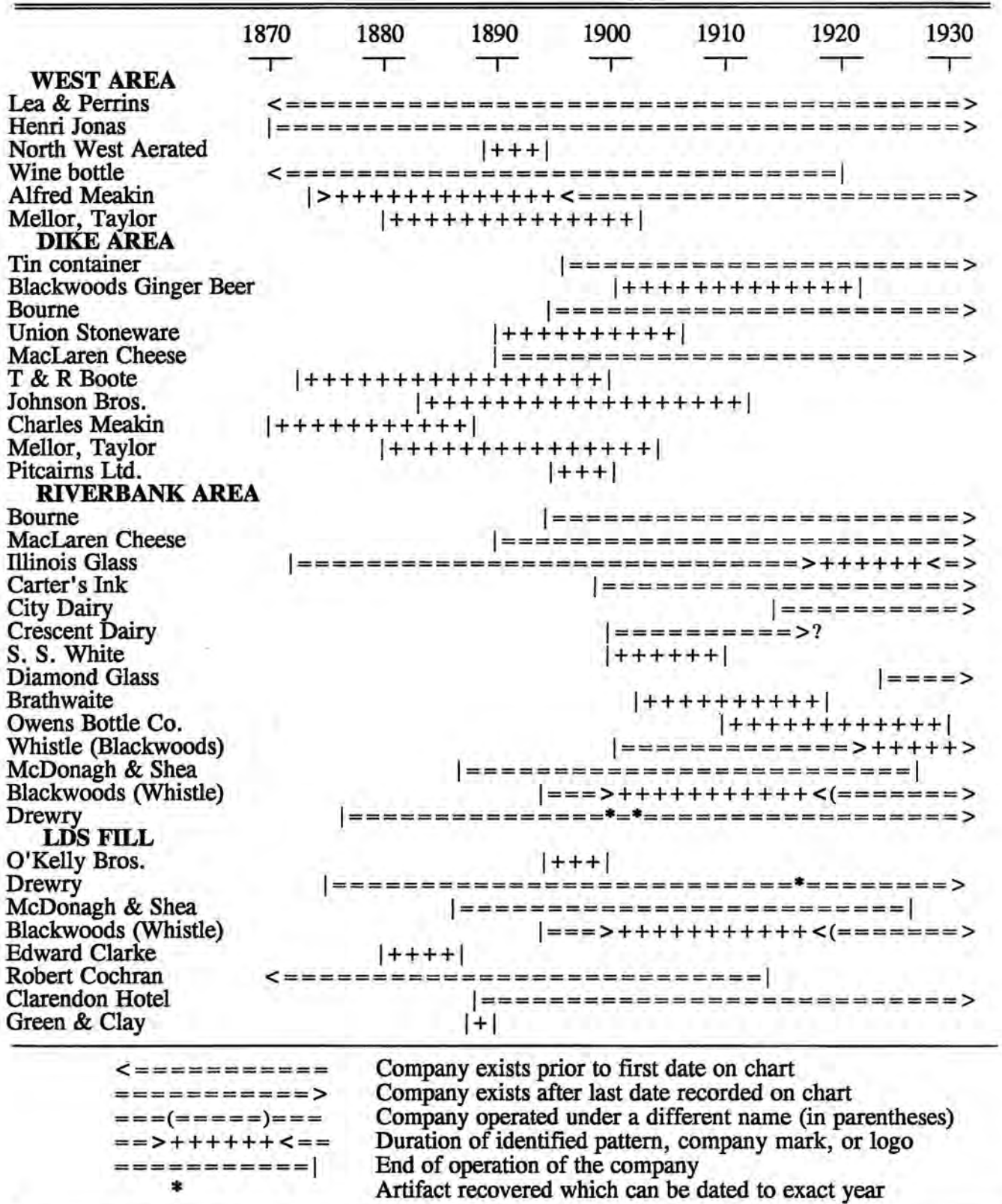


Figure 3: Temporal Chart of Recovered Historic Artifacts

occurred in the mid-1920s. The two Drewry bottles appear to be anomalous but they may have been used as containers long after the original contents had been consumed. Given that the deposit consisted almost entirely of bottles, it may have occurred as a result of secondary deposition, i.e., someone hauled a pile of garbage to the riverbank and dumped it over the edge.

The material recovered from the vertical shafts drilled for the land drainage system appears to have been deposited during the late 1890s (O'Kelly Bros. bottle) or early 1900s (Blackwoods bottle). If this area was occupied by a functioning railyard, it is highly probably that beverages would be consumed by the workmen and the empty bottles discarded along the track. Alternatively, individuals walking along the track as a short-cut could also have been responsible for the deposition. The ceramic artifacts could have derived from the fill brought in to raise the ground level for the construction of the Winnipeg Transfer Railway (circa 1890) or were dumped in the area as garbage deposits.

To summarize, the initial use of this riverbank area was by lumber mills and derivative industries in the 1870s. As these establishments used river transport, docks and piers would have been built at the edge of the river. Some land modification could have occurred at this time. The construction of the Winnipeg Transfer Railway tracks through the area shortly after 1890 resulted in a very thick layer of fill (up to six metres) being deposited over the structural remnants of the lumber facilities. The initial riverbank position, demarcated by the West Area artifact deposit, would have been the result of this construction. Approximately ten years later, fill was deposited on the bank, moving it about eight metres eastward. This bank position is denoted by the soil horizon on which the Dike Area artifact deposit is positioned. The third phase of bank aggradation occurs in the mid-1920s, indicated by the Riverbank Area artifact deposit. The fourth, and final, position of the west bank of the Red River is the current configuration which would have come about due to construction activities relating to the building of the wooden dike after the 1950 flood.

1.3 Recommendations

Future land modification along the west bank of the Red River, north of Water Avenue, will minimally impact *in situ* heritage resources. Pre-European cultural evidence occurs west of the current impact zone. These archaeological horizons are within the upper three metres of the original bank surface. Any manifestations that occurred on the lower terrace of the riverbank may have been impacted by high-water episodes prior to the industrial development in the 1870s. The construction of buildings, saw pits, and dock facilities may have impacted on earlier archaeological resources. Even the remains of the 1870s buildings are currently deeply buried by the massive fill layer of the 1890s and are unlikely to be impacted by most developments that can occur alongside the riverbank. After the construction of the Winnipeg Transfer Railway, incremental bank enhancements occurred in the 1900s, the 1920s, and the 1950s. Between each building episode, the riverbank became the repository for the dumping of garbage, as was evident during the monitoring of the southern outfall. These isolated garbage repositories are of some, albeit limited, archaeological value, inasmuch as they are removed from the locations of original use. The severing of the link between the artifacts and the individuals who used them limits the degree of interpretation that can be made concerning

lifeways of the past. As non-contextual data, the information retrieved from deposits such as those encountered during this project can provide some insight into generalized mercantile and lifestyle patterns of Winnipeg as a whole but cannot be linked to a specific neighbourhood or family.

Accordingly, **it is recommended** that any riverbank excavations be monitored by an archaeologist to retrieve culturally diagnostic artifacts.

The stratigraphic data obtained during this project indicates that the west bank of the Red River is probably less stable in this area than in areas where the bank is composed of original, undisturbed silts and clays. Each of the former bank surfaces could act as a slip face where, if the soils are saturated, the entire layer resting on a former soil horizon could slide into the river. For this reason, construction of any structures along the riverbank would require sufficient underpinning to be able to withstand the loss of much of the soil beneath the structure. Additionally, each of these former soil horizons could act as a water transport layer, with flood level waters on the Red River pressuring inland under the soil, potentially erupting as an artesian outburst.

2.0 South of Water Avenue

2.1 Scope of the Project

The area of the project encompassed the section of Pioneer Boulevard north of Arrival Square (Figure 4). The project included reconstruction of the existing two lane road, construction of an additional parallel two lane road, installation of watermains, a land drainage system, and a sanitary sewer system, as well as the installation of a Winnipeg Hydro ductline and underground traffic signals.

Due to the information available from prior projects in the vicinity, it was known that there was a very high potential of considerable impact upon sub-surface archaeological resources. Accordingly, it was determined that a pre-construction impact assessment program be undertaken. This assessment program consisted of the excavation of a 120 metre trench paralleling the roadway, the recovery of artifacts from the trench, and the mapping of buried soil horizons and cultural layers (Figure 5).

The stratigraphic data recorded from the assessment trench permitted the contractor to proceed expeditiously with the installation of sub-surface services. These services were installed by excavating vertical shafts and then horizontal boring to place the pipes. As the depths of the cultural horizons were already determined, the drillers and backhoe operators could be advised of sensitive depths at which the sediments had to set aside for archaeological examination, while proceeding quickly downward through culturally sterile layers.



Figure 4: Map of Project Components South of Water Avenue

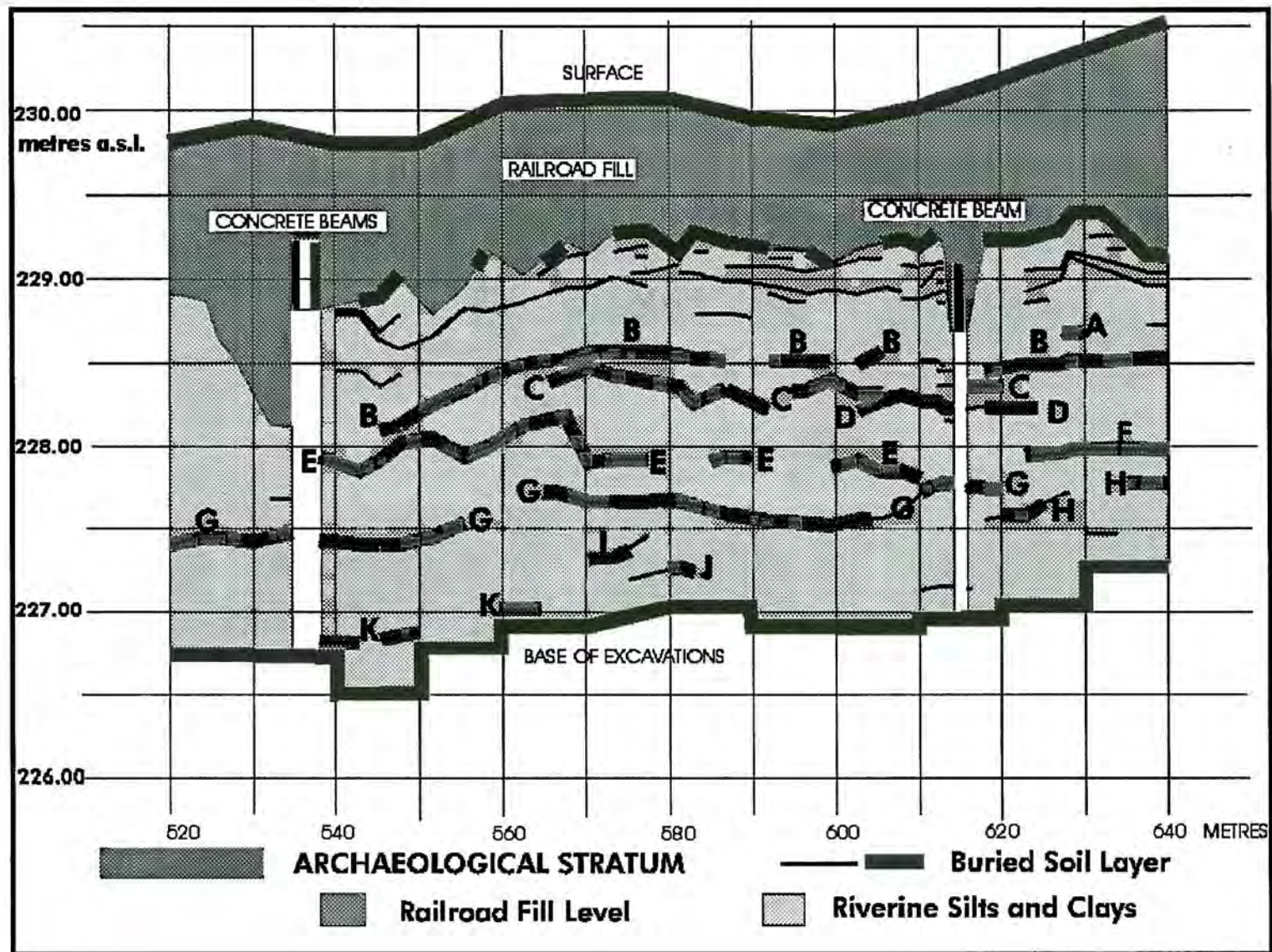


Figure 5: Stratigraphy of the Pioneer Boulevard Assessment Trench

2.2 Recoveries and Observations

A total of **2,699** historic artifacts were recovered, both from the assessment trench and during the monitoring of the construction of the roadbed for the northbound and southbound rights-of-way. A total of **84,611** Pre-Contact artifacts were recovered during the various phases of the project that lie south of Water Avenue.

The assessment trench profile indicates the presence of twelve separate Pre-Contact cultural layers beginning at approximately 0.6 metres below the base of the railroad fill (Figure 5). Radiocarbon dates and stratigraphic sequencing have permitted the correlation of some of the disjunct components of the horizons. Identical dates from Horizon K and Horizon H indicate that these horizons and the intervening Horizon J are part of the same occupation. This lowermost occupation (Horizons K, J, and H) occurred around A.D. 1080. Five of the horizons (B, C, D, E, and G) are dated sequentially between A.D. 1270 and A.D. 1340. The diagnostic artifacts from these horizons indicate the presence of several different cultural groups—Blackduck, Selkirk, Plains Woodland, and Oneota. Rarely does only one type of diagnostic artifact occur in a single horizon, indicating that these campsites had representatives of two or more cultural groups present at the same time.

2.3 Recommendations

Future development on either side of Pioneer Boulevard must be cognizant of the extremely sensitive nature of the area. Most campsite locations are amorphous and tend to cover large areas, especially in locations where topographical constraints were not present. The density of artifacts within each horizon varies from sparse to copious. As is evident from the numbers cited above, the quantities of resources can be quite large entailing the attendant necessity of adequate laboratory and analysis procedures to comply with the reporting parameters of the Manitoba Heritage Resources Act.

It is known that manifestations of these horizons occur throughout the previously proposed St. Mary Avenue right-of-way and the previously proposed extension of York Avenue to the Provencher Bridge. Accordingly, it can be assumed that any location west of Pioneer Boulevard and north of York Avenue will definitely contain archaeological resources. The area east of Pioneer Boulevard, at least to Christie Street, will also definitely contain archaeological resources. The area west of Pioneer Boulevard and south of the York Avenue extension appears to have limited archaeological resources on the investigated peripheries, although the interior could contain significant archaeological resources.

It would be recommended that no sub-surface impact deeper than the thickness of the railroad fill layer (approximately 1.0 metre) be undertaken. If this is not feasible, sufficient lead time must be provided for pre-construction archaeological mitigation within any proposed impact zone. Given the plethora of occupation horizons and the large quantities of artifacts encapsulated within each horizon, an archaeologist should be part of the original design team to ensure that archaeological concerns and time constraints are adequately met. The lead time for any project which involves sub-surface impact should be initiated the summer preceding any proposed development. As such long range planning

has seldom occurred, adequate mitigative measures must be devised by the consulting archaeologist and the project designers and managers, in consultation with the provincial regulatory agency—Historic Resources Branch, Manitoba Culture, Heritage and Citizenship.

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