



DRAFT

AFRICAN BURYING GROUND STEWARDSHIP COMMITTEE

**Thursday February 18, 2021 2:00 p.m.
Meeting by Remote Zoom Conference**

Members Present: Councilor Petra Huda, Vernis Jackson, Valerie Cunningham, Bill "Towny" Manfull, Dr. Jan Nisbet, Ron Baisden

Ex-Officio Members Present: JerriAnne Boggis, Dr. Kathleen Wheeler

Staff Present: Suzanne M. Woodland, Deputy City Attorney
Nancy Carmer, Economic Development Program Manager
Stephanie Secord, Public Information Officer

Guests: Dr. Amy Michaels, Dr. Meghan Howey

Chair Suzanne Woodland opened the meeting and read the following statement:

Per NH RSA 91-A:2, III (b) the Chair has declared the COVID-19 outbreak an emergency and has waived the requirement that a quorum be physically present at the meeting pursuant to the Governor's Executive Order 2020-04, Section 8, as extended by Executive Order 2021-01, and Emergency Order #12, Section 3. Members will be participating remotely and will identify their location and any person present with them at that location. All votes will be by roll call.

1. Acceptance of draft minutes of October 19, 2020 meeting

On a motion by Mr. Manfull, seconded by Ms. Jackson, the minutes of the October 19, 2020 meeting, with incorporated corrections identified by Ms. Cunningham, were unanimously approved via roll call vote.

2. Federal legislation honoring and preserving African burying grounds

Attorney Woodland noted that there is recent federal legislation proposed to honor and preserve African Burying Grounds. It was unanimously approved by the U.S. Senate and the City is tracking the bill for possible grant or other funding opportunities. Ms. Cunningham is also tracking the bill.

3. Welcome to new committee members

Attorney Woodland welcomed new Committee Member Ron Baisden after which Committee members introduced themselves. The appointment of Ms. Boggis and Ms. Wheeler as ex-officio members was also noted.

4. Update and discussion of research opportunities

On the topic of other opportunities for further research on the burying grounds remains, the group reviewed the work done to date and what further examination is possible.

By way of summary, last year Dr. Michaels conducted non-destructive testing and calculus scraping on the teeth and analysis is ongoing (slowed by the closure of university labs due to Covid-19). In addition, as reported previously, the material submitted to Othram was not viable and no DNA sequencing or forensic genealogy was able to be undertaken.

There are eight teeth available for further study and the next phase of investigation would likely involve destructive analysis. Attached for the record is the memorandum of research opportunities prepared by Drs. Howey and Michaels and circulated to the Committee and reflecting the subject of discussion.

Additional information and committee reaction includes the following:

- Dr. Michael indicated that she has gathered information on laboratory costs for some of the research work that could be done if the Committee elected to do that.
- Dr. Howey noted that the age of the remains is significant when it comes to finding labs that have the capacity to analyze older material for genome analysis.
- An example of what information might be determined from the teeth (depending on quality of the sample) are childhood health and geographic origin and movement.
- There was discussion about the importance of the committee articulating up front and clearly what further analysis it anticipates obtaining and setting expectations. There was questioning and concern about the value of individual genealogy with the thought that perhaps it should not be included.
- There was a suggestion of using a cost versus outcome approach where the committee determines how it will use the results and prioritize what we learn in relation to cost.
- It is important to get clarity around what we want to know to be of best service to the descendant community to allow them to connect people to their history.

To facilitate the next discussion on the topic of next research steps, Drs. Michael and Howey will prepare (with the assistance of City staff as needed) for the next meeting an outline/table/flow chart shared through PowerPoint or other means an overview what can be known through further research to help the Committee determine what it wants to know and the associated costs for undertaking such an effort.

5. Curation

Ms. Woodland circulated a draft curatorial Memorandum of Agreement (MOU) between the City of Portsmouth and the University of New Hampshire ("UNH") that will enable the burying ground remains to be moved from the custodial care of Dr. Kathleen Wheeler to UNH. Ms. Wheeler believes that the draft includes most of the standard best practices and noted that in these situations, it is important that the descendant community have the most authority over access to the remains. Ms. Woodland welcomes further input and suggests it might be best to start with a 2-3 year agreement term and evaluate its success before extending it. Hearing no objection, she will forward it to UNH for its review.

6. Memorial Park expenses summary

The Committee reviewed the memorandum from the Department of Public Works on park expenses. That memorandum is attached for the record. In response to a question on the resurfacing work on the statues, Ms. Woodland will circulate a summary of the work to be

undertaken. A copy of the annual stewardship report required as a condition of LCHIP grant funds will also be circulated.

7. Other business

Attorney Woodland had previously asked if the Committee wished to undertake a fundraising effort to add to the Trust resources for other potential research opportunities and park improvements. Before a vote is taken on fundraising, the Committee would like more discussion on potential fundraising goals and intentions. With the City's upcoming 400th anniversary, there was discussion that this could be an opportunity for fundraising. In the interest of time, this topic will be continued at the next meeting. Attorney Woodland will provide a copy of the Trust and the previous fundraising case statement.

At the last meeting, Ms. Cunningham asked if the names of students who created the tiles for the park are listed anywhere. Attorney Woodland stated that since the last meeting, the City's community development program manager has been working with the school's art department chair to assemble names and get permission from the respective parents to list the students' names for the historical record.

8. Next Meeting Date

Attorney Woodland will circulate a poll to determine the next meeting date.

9. Adjourn

Ms. Jackson made the motion, seconded by Councilor Huda to adjourn the meeting. Motion was unanimously approved via roll call vote.

Prepared by Nancy Carmer

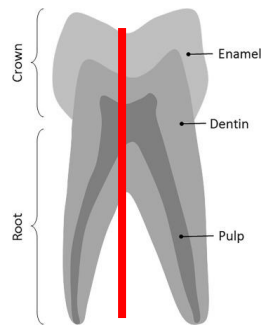
PORTSMOUTH AFRICAN BURIAL GROUND

Dental sample for DNA

The teeth are fairly well-preserved and there are multiple lines of data that could be generated from a single tooth sample. The process for DNA sequencing is destructive, though the whole tooth will not have to be consumed. It is possible to send half of a tooth and retain the other half for histology and isotope studies.

Summary of analytical methods:

- 1) **Dental metrics** – completed (Oct. 2019, by Dr. Amy Michael)
 - a. Measuring the teeth provides further evidence for ancestry estimation.
 - b. No charge
- 2) **Calculus analysis for diet** – in progress (Dr. Samantha Blatt)
 - a. Identifying plant fossils embedded in dental calculus (plaque) will yield information about what individuals were eating.
 - b. No charge
- 3) **DNA sequencing** – possible (Dr. David Mittelman, Othram Inc.)
 - a. Cost to be worked out with Othram, Inc.
- 4) **Histology** (study of dental microstructure) – possible (Dr. Amy Michael and Dr. Samantha Blatt)
 - a. This will tell about childhood health. Our teeth retain stress markers as our enamel develops. We can see disruptions to the enamel that indicate acute health stress events.
 - b. It is not possible to determine from teeth if the disruptions are due to emotional and psychological stress, malnutrition, etc. but these data are powerful because we can use the archaeological and historical record to interpret the data.
 - c. No charge
- 5) **Isotope analysis** – possible (need to find expert based on the question that needs to be answered)
 - a. Isotope analysis (e.g., Strontium, Nitrogen, Oxygen) can tell about migration over the life span and/or diet and drinking sources. These analyses will give broad regional patterns that can help show how an individual moved across a landscape and what food and water resources they relied on during life. This is a very informative, accessible and short video from an expert on archaeological isotopes working with teeth:
<https://www.youtube.com/watch?v=rsrcwzFvUgcw>
This website offers an accessible synthesis of Isotope research and its usefulness in historic/archaeological research: <https://www.pbs.org/time-team/experience-archaeology/isotope-analysis/>
 - b. Charge to be worked out based on which isotopes are of interest



Red line represents cutting the tooth sample in half. One half can be shipped to Othram, Inc. for DNA sequencing. One half can be retained for histology analysis and isotope analysis.

Potential individuals to submit for DNA sequencing:

- 1) **Burial #6** – Adult female, aged 21-40 – Mandibular left second molar
 - Upper central incisor is culturally modified
 - Inflammation to tibial shaft surface (indicates ongoing infection)
 - Signs of nutritional stress in teeth (could likely see this histologically and estimate age at which stress occurred)
 - **JUSTIFICATION FOR USING THIS TOOTH:** This person was certainly of child-bearing age when she died, so potentially she had children (helpful for the genealogical investigation). The tooth is robust and large enough to cut in half and use for multiple analyses.

- 2) **Burial #3** – Indeterminate sex, aged 30-50 – right second molar
 - Lower central and lateral incisors missing and long healed over (indicates ritual tooth ablation)
 - Ablation of all four incisors is rare:
https://www.uc.pt/en/cia/grupos/app/Posters/Posterres2011/Miranda_et_al_2011
 - Lower incisor ablation in Sudan (Dinka, Nuer and Maban tribes), South Saharan tribes, Masai tribe males (Kenya):
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4945341/>
 - **JUSTIFICATION FOR USING THIS TOOTH:** This person is likely female (per Kathy Wheeler based on small size), so potentially bore children as well. The person had ritual tooth ablation (this is purposeful removal of the teeth for cultural and/or aesthetic purposes). See above links for populations that are known to have practiced ablation in the past and present. Interestingly, all four lower incisors are removed quite some time before death which is known to be rare. More research is needed to determine if males and females received this treatment equally, and at what age this process occurred.



Example of ritual tooth ablation in lower central incisors (only two are missing). Other cultures in Asia practice ritual tooth ablation as well.

Appendix 1: Dental Metrics

On Oct. 14, 2019, Amy Michael and UNH Anthropology student Logan Snell traveled to Portsmouth to remove calculus from and measure the 8 teeth retained from the PABG. All dental scraping tools were sterilized with isopropyl alcohol and Kim wipes following protocols outlined by Samantha Blatt. All teeth were photographed and measured (mm) in buccal-lingual (B-L) labial-lingual (L-L) and mesial-distal (M-D) dimensions. Presence of enamel hypoplasia (LEH) was noted.

PROVENIENCE	TOOTH	AGE	SEX	L-L / B-L	M-D	LEH	CALCULUS NOTES
ABG 27-RK-384 1-005	Left maxillary central incisor	21-30	Male	0.29	0.31	None	3 areas of possible calculus
ABG 27-RK-384 2-002	Right mandibular first molar			0.43	0.46	None	Very little calculus
ABG 27-RK-384 3-005	Right second molar	30-50	Probable Female	0.41	0.41	None	Probably no calculus
ABG 27-RK-384 4-003	Left maxillary third molar	Young adult		0.38	0.50	None	None
ABG 27-RK-384 6-003	Left mandibular second molar	Adult	Female	0.38	0.41	None	Visible calculus

ABG 27-RK-384 7-003	Right maxillary incisor			Fractured	Fractured	None	
ABG 27-RK-384 5-004	Right second molar			0.40	0.45	None	Some calculus
ABG 27-RK-384 12-003	Right canine			0.27	0.31	None	

Appendix 2: Current Status of Dental Calculus Samples for Plant Microfossil Analysis

We are processing the calculus samples using a modified “Warriner Protocol” to isolate and extract plant microfossils, such as pollens, starches, and phytoliths from the matrix of the calculus. Teeth were scaled by Dr. Amy Michael and sent to Dr. Samantha Blatt. Subsequently, Dr. Blatt and Dr. John Dudgeon (both of Idaho State University, Anthropology), along with help from an undergraduate and graduate student, will process the samples and prepare them for microscopy in order to identify the microfossils. Below are the first steps completed in a series of digestion, decontamination, purification, and isolation/extraction. This will be updated each time the samples reach the next step in the protocol. Generally, it can take several weeks before the processing is complete and involves multiple chemical reagents to elute proteins and DNA first.

Calculus sample weights prior to treatment and during transfer from sampling tubes to weighing tubes.

	Sample ID	Sample Tube (Sart) g	Sample Tube (End) g	Extraction Tube (Start) g	Extraction Tube (End) g
1	6-003	1.08201	1.07979	1.09989	1.10199
2	12-003	1.09827	1.09685	1.10547	1.1056
3	7-003	1.08412	1.08265	1.09355	1.09696
4	2-002	1.07923	1.07895	1.09648	1.09503
5	5-004	1.06994	1.0677	1.09386	1.09559
6	1-005	1.07669	1.07665	1.1057	1.1056
7	3-005	1.08107	1.08022	1.10318	1.10401

10/5/20 - Day 1

1. Record number for each sample tube of specimen for the ASB dental calculus project.
2. All original ASB dental calculus sample tubes (7) were then weighed with specimen contents in them on a gram balance to the fifth decimal place and the starting weight was recorded in grams.
3. 7 transfer tubes were then labeled per corresponding sample number, weighed, and recorded without sample.
4. All 7 original tubes were then centrifuged at 12500 rpm for 30 seconds to collect specimen at the bottom of the tube.
5. The samples were then transferred to the new corresponding tube by overlaying the empty tube directly over the original specimen tube (with contents) lining the open ends together.
6. Then, carefully inverting 180 degrees, the sample from the original tube fell into the new sample tube, tapping the bottom gently on a hard surface to free the sample.
7. If contents stuck in the old tube and didn't transfer immediately, with the tubes still lined up, an antistatic gun was used to help transfer the sample from the original tube to the new tube.
8. After the transfer had been completed, and the lids capped tightly to prevent contamination, the new weights for the old and new specimen tubes were recorded to measure the difference in sample transfer.
9. After this had been completed, the samples were then stored in a labeled tube rack for two days.

10/7/20 – Day 4

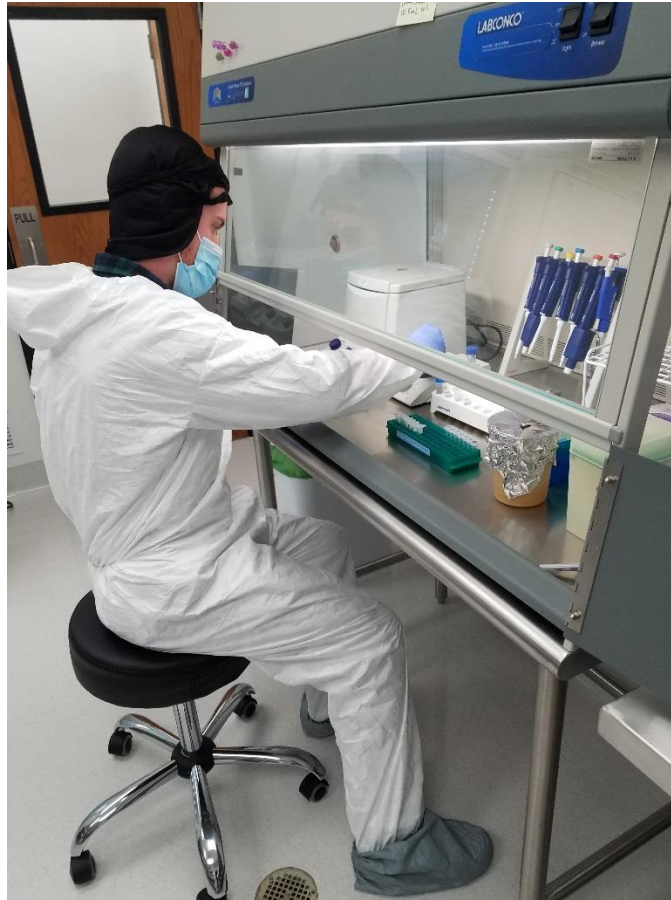
1. Retrieved the samples.
2. In a sterile DNA prep lab hood, each of the specimen tubes received 1 mL EDTA, and then capped tightly once more. A blank was also created with 1 mL of EDTA in the same type of sample tube without any material in it.
 - a. A blank EDTA tube is used in order to have both an even number of total tubes for centrifugation treatments (to prevent any samples from getting off balance as well as to prevent any one sample from being centrifuged twice which skews the results for that particular tube).
3. All 8 tubes (7 with sample and 1 blank) were vortexed each for 15 seconds.
4. They were then left to gently agitate in a 4° C fridge for 5 days, checking on the 5th day.

10/12/20 – Day 9

1. Samples were removed from gentle agitation to observe breakdown in EDTA.
2. They appeared to be responding appropriately to treatment, and in order to ensure continued viable processing, the samples were then placed in the 4° C fridge to gently agitate for another week (checking again in 7 days).

10/20-20-Day 15

1. Next scheduled processing day



Undergraduate student, Jake Shields, transferring dental calculus specimens and capping with EDTA in the DNA lab at Center for Archaeology, Materials and Applied Spectroscopy (CAMAS), Idaho State University.

City of Portsmouth

Department of Public Works



MEMORANDUM

TO: Peter H. Rice, Director of Public Works

FROM: ~~Roberta Orsini, Operations Manager~~

DATE: January 20, 2021

SUBJECT: African Burying Ground Expenditures

Compiled below, please find, the annual expenses incurred at the African Burying Ground following its installation. It is important to note the City does not have a segregated line item for the African Burying Ground. Staff have done their best to comb through the accounts where expenditures were “likely” to be charged. Corin Hallowell, the City’s Parks and Greenery Foreman has reviewed this list and does not believe any significant expenses were overlooked.

I am available to discuss at your convenience.

<i>Fiscal Year</i>	Maintenance	Snow Removal/Salting	Sankofa Restoration	Total
<i>2016</i>	\$ 2,733.25	\$ 4,941.25		\$ 7,674.50
<i>2017</i>	\$ 866.25	\$ 9,236.25		\$10,102.50
<i>2018</i>	\$ 2,258.06	\$ 9,700.00		\$11,958.06
<i>2019</i>	\$ 3,408.75	\$ 7,585.00		\$10,993.75
<i>2020</i>	\$ 3,092.77	\$ 3,560.00	\$19,851.78	\$26,504.55
<i>2021 YTD</i>	\$ 2,111.73	\$ 1,488.80		\$ 3,600.53
TOTAL	\$14,470.81	\$36,511.30	\$19,851.78	\$70,833.89