

Rescue Excavation at Naan (East) - 2009

The Early Islamic Kaanatt Benth el-Kaffar Aqueduct

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This excavation was carried out in 2009 by YG Archaeology Ltd. (excavation license B-339/2009), under the direction of Eli Cohen Sasson and the academic auspices of the Hebrew Union College. Site drafting was conducted by Conn Herriott, and artifact illustration by Eli Cohen Sasson.

INTRODUCTION

The Ramla aqueduct (Figs. 1-2) is mentioned in a number of historical sources which recount the construction of Ramla. Caliph Sulayman ibn 'Abd al-Malik, the founder of the city, is said to have built an aqueduct named *Kaanatt Barda* during the years 715-717 CE (Zelinger and Shmueli 2002: 279).

Since the beginning of the 19th century much evidence has been found for this aqueduct route, running from Tell Gezer to Ramla:

- 1874: British surveyors Conder and Kitchener registered the remains of an aqueduct and recorded its contemporary local name, *Kaanatt Benth el-Kaffar*, meaning "Aqueduct of the Infidel's Sons" (Conder and Kitchener 1882: 437).
- 1950: Yaacov Kaplan noted remains of an aqueduct exposed during road works at the Ramla-Nahshon junction, recognizing them as part of the Tell Gezer-Ramla aqueduct (Zelinger and Shmueli 2002: 280).
- 1998: On behalf of the Antiquities Authority (IAA), a salvage excavation close to the railway line between Ramla and Kibbutz Naan exposed the remains of an aqueduct with finds from the Abbasid period (Zelinger 2000).
- 1999: Ground-penetrating radar was used to detect the aqueduct's path without excavation (Petersen and Wardill 2001).
- 2001a: A salvage excavation along the Trans-Israel Highway on behalf of the IAA exposed 150m of the aqueduct (Gorzalzeni 2005).



Figure 1. General view of the excavated aqueduct (facing southwest).

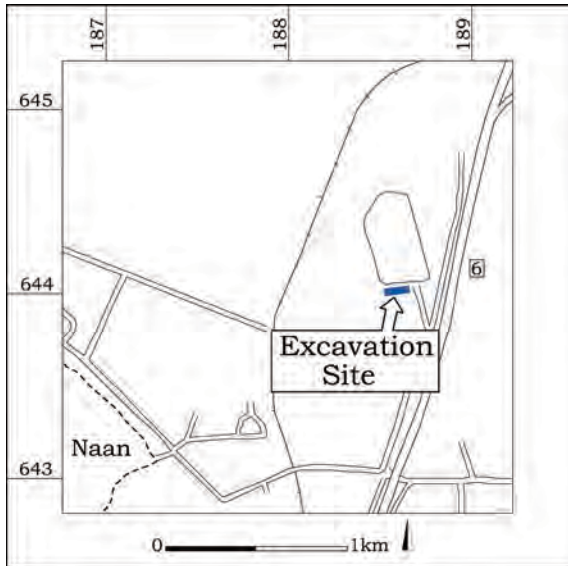


Figure 2. The site location (New Israel Grid: 188599-644039; 95m asl).

- 2001b: A salvage excavation was carried out, following damage caused by the digging of a gas pipeline trench (Tzion-Cinamon 2005).
- 2006: An IAA test excavation conducted north-east of Moshav Yashresh exposed a section of the aqueduct (Gorzalzeni 2008).
- 2008: A test excavation carried out on behalf of the IAA along the railway line to Naan found more aqueduct segments (Toueg 2010).

The most recent excavation, reported here and commissioned by Israel Railways as part of their rail infrastructure extension work, adds important new information about the aqueduct. This excavation contributed to our knowledge of the aqueduct's route, revealed techniques used in the Islamic period for aqueduct maintenance in an area of difficult terrain, and shed light on the taphonomy of the aqueduct after it had fallen into disuse.

THE EXCAVATION

Following the 2008 IAA test excavation (Toueg 2010), we elected to investigate three different areas (Fig. 3):

- 1). Area A: 30m following the course of the aqueduct to the east.

- 2). Area B: 10m of the aqueduct's length at the west end of the site.
- 3). Area C: Several distinct architectural elements revealed during the IAA test excavation.

Area A

The excavation in this area was carried out in two stages, due to developments in our research questions which arose during the course of the work: the first stage involved excavating 14.4m of the aqueduct east of the IAA test excavation; it was then decided to excavate an additional 15.3m east along the aqueduct's route.

Stage 1

Continuing east from the IAA test area, 14.4m of the aqueduct was excavated along its east-west orientation. During the course of this work a 2m interruption in the aqueduct's path was exposed, where a drain pipe had been laid in recent years. Our excavation here confirmed the consistency of what previous work had suggested: the aqueduct was constructed by the placement of a 0.3m-high foundation of bonded fieldstones, on which were built two parallel walls; the aqueduct's water channel ran between these walls.

The southern wall (W102)

This wall was constructed from five courses of limestone. The four lower courses were built of medium-sized fieldstones bonded by cementing material. The upper course was built from larger stones chiseled into roughly regular blocks. It was evident that there occurred a later robbery of stones from the upper course of this wall. The height of the wall from the base of the channel was 1m and its width 0.55-60m. It is possible to distinguish between two layers of plaster on the northern side of this wall (the interior of the aqueduct). The earlier (inner) layer had a reddish color, and quartz grain and potsherd inclusions. The later layer was grayish in color with evidence of accretion as a result of water running through the aqueduct. As was also revealed in excavations of the aqueduct approximately 200m east (Gorzalzeni 2005), the two walls of the channel were built parallel to each other