Sabine Feist, Michael Heinzelmann, Norbert Zimmermann, Emanuela Borgia, Hannah Boes, Arne Schröder, Mara Elefante, Angelita Troiani, Francesca Russo

New Insights into the Building Design and Construction Phases of the Constantinian Bishop's Church at Ostia. Results from the Initial Excavation, 2023

Römische Mitteilungen Bd. 130 (2024)

https://doi.org/10.34780/09x9b346

Herausgebende Institution / Publisher:
Deutsches Archäologisches Institut

Deutsches Archäologisches Institut

RM

MITTEILUNGEN DES DEUTSCHEN ARCHÄOLOGISCHEN INSTITUTS RÖMISCHE ABTEILUNG

130/2024

HARRASSOWITZ VERLAG · WIESBADEN

IMPRESSUM

Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung
erscheint seit 1829 / *published since 1829*

RM 130, 2024 • 315 Seiten mit 140 Abbildungen / *315 pages with 140 illustrations*

Für wissenschaftliche Fragen und die Einreichung von Beiträgen / *Send editorial corespondence and submissions to:*

Deutsches Archäologisches Institut Rom
Redaktion
Via Sardegna 79/81
00187 Rom
Italien
Tel: +39 06 488 81 41
Fax: +39 488 49 73
E-Mail: redaktion.rom@dainst.de
Online: https://publications.dainst.org/journals/index.php/rm/about/submissions

Peer Review
Alle für die Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung, eingereichten Beiträge werden einem doppelblinden Peer-Review-Verfahren durch internationale Fachgutachterinnen und -gutachter unterzogen. / *All articles submitted to the Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung, are reviewed by international experts in a double-blind peer review process.*

Redaktion und Layout / *Editing and Typesetting*
Gesamtverantwortliche Redaktion / *Publishing Editor:*
Deutsches Archäologisches Institut, Redaktion der Abteilung Rom
Norbert Zimmermann • Marion Menzel • Luisa Bierstedt
Satz / *Typesetting:* le-tex publishing services (https://www.le-tex.de/de/index.html)
Corporate Design, Layoutgestaltung / *Layout design:* LMK Büro für Kommunikationsdesign, Berlin

Umschlagfoto / *Cover Illustration*: Ostia antica. Konstantinische Basilika. © Archive Ostia Project, drone photography: Arne Schröder, University of Cologne

Verlag / Publisher: Harrassowitz Verlag (https://www.harrassowitz-verlag.de)

ISBN: 978-3-447-12331-0 – Zenon-ID: 003049508

Druck und Bindung in Deutschland / *Printed and Bound in Germany*

Digitale Ausgabe / *Digital Edition*

Webdesign: LMK Büro für Kommunikation, Berlin
XML-Export, Konvertierung / *XML-Export, conversion:* le-tex publishing services
Programmierung Viewer-Ausgabe / *Programming Viewer edition:* LEAN BAKERY, München

DOI: https://doi.org/10.34780/jpj90p34
E-ISSN: 2749-8891
Zu den Nutzungsbedingungen siehe / *For the terms of use see:* https://publications.dainst.org/journals

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DES DEUTSCHEN ARCHÄOLOGISCHEN INSTITUTS
RÖMISCHE ABTEILUNG

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RM 130/2024

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Das Deutsche Archäologische Institut in Rom
trauert um seine Freunde und Mitglieder

MARIA GIUSEPPINA CERULLI IRELLI
† 5. NOVEMBER 2024

ABSTRACT

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Results from the Initial Excavation, 2023

Sabine Feist – Michael Heinzelmann – Norbert Zimmermann – Emanuela Borgia – Hannah Boes – Arne Schröder – Mara Elefante – Angelita Troiani – Francesca Russo

The initial excavation that took place under the auspices of the new DFG project, 'The Constantinian Bishop's Church at Ostia: Structure – Development – Context' (*Die konstantinische Bischofskirche von Ostia: Struktur – Entwicklung – Kontext*) concentrated on the eastern part of the building, including the apse and presbytery. This excavation has already provided new and foundational insights that not only bring markedly greater precision to our knowledge of the Ostian cathedral, but also generally shed new light on Constantinian basilicas in the greater Roman region and provide evidence of previously unknown building phases and liturgical fixtures. For example, the foundations of the recessed apse revealed projecting walls on which columns probably stood. These columns would have framed the apse and also borne the weight of the apsidal arch. As such, this is a variant of apse architecture otherwise undocumented in Rome, now evident at the very beginning of Constantine's church construction programme. Secondarily, a solea was built into the nave that likewise displays an unusual form. Finally, a chord of the apse was added most likely during the late 6th or early 7th century, probably when the apse was renovated after it was partially destroyed. Such a renovation project attests to a surprising degree of economic potential held by the Ostian bishopric, even at this relatively late stage of the city's history.

KEYWORDS

Ostia Antica, Christian Basilica, Constantinian Church, Cathedral, Bishop's Palace

SABINE FEIST – MICHAEL HEINZELMANN – NORBERT ZIMMERMANN –
EMANUELA BORGIA – HANNAH BOES – ARNE SCHRÖDER –
MARA ELEFANTE – ANGELITA TROIANI – FRANCESCA RUSSO

New Insights into the Building Design and Construction Phases of the Constantinian Bishop's Church at Ostia

Results from the Initial Excavation, 2023

1. The Current State of Research, Preliminary Work, and Aims

1 The Constantinian Bishop's Church at Ostia, previously known only from the written sources, was discovered by aerial image analysis and geophysical survey during the 1990s. These investigations revealed a large, three-aisled basilica within Regio V, close to the Porta Laurentina. The existence of the building was subsequently (1998/1999) verified within the still unexcavated part of the city via a few sondages (hereafter referred to as 'old sondages') (Fig. 1): five sondages in the interior of the church confirmed the basic dimensions of the structure, the position and shape of the apse, as well as the placement of the columns between the nave and side aisles. Two additional sondages revealed the western atrium, a baptistry, and a possible episcopal residence to the south, and a final sondage was dedicated to the west-running via del Sabazeo[1]. The three-aisled, columned basilica, which had no transept, measured approximately 77.5 m long and 24 m wide, including the atrium. The raised nave was supported by fourteen columns with fifteen intercolumns, and a baptistry was later built into the southern part of the structure.

2 The location and size of the structure, the presence of the baptistry, and the ceramic dating taken from these superficial investigations had already confirmed that this must have been the Bishop's Church of Ostia, which according to the entry in the Liber

1 From 1996 to 2001, the German Archaeological Institute, Rome, in cooperation with the American Academy in Rome, conducted an urban research project aimed at investigating the unexcavated parts of the city of Ostia, which account for ca. 60–70 % of the city's once 100–120-hectare urban area (directors: Michael Heinzelmann and Archer Martin). Non-invasive methods were used (geophysical survey and aerial image analysis), as well as targeted stratigraphic sondages. This research was presented in preliminary reports and in a comprehensive final publication, see, e.g., Heinzelmann et al. 1997; Heinzelmann 1998; Bauer – Heinzelmann 1999; Bauer et al. 1999; Bauer et al. 2000; Heinzelmann 2001; Heinzelmann 2002a; Heinzelmann 2002b; Heinzelmann – Martin 2002; as well as Heinzelmann 2020; and especially on the basilica Bauer 2020.

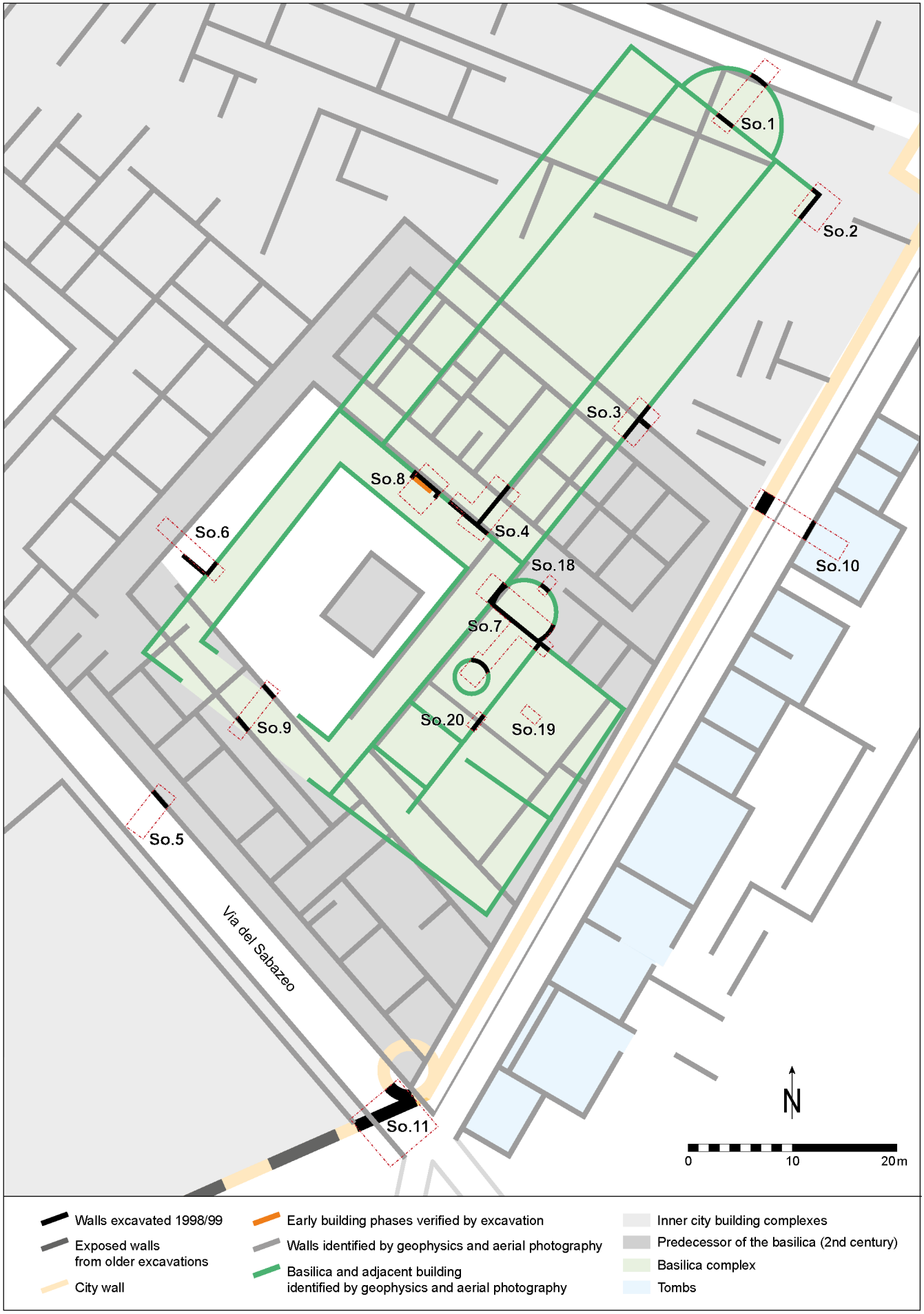

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Fig. 1: Ostia antica, Regio V, basilica. Reconstructed plan based on aerial imagery and prospection results with the details of the sondages 1–11, 18–20

Pontificalis and the Acta Sanctorum XXVII was commissioned around 320–330 CE by Constantine the Great and Gallicanus, who was later canonised[2]. The church remained in use and underwent diverse alterations until the city was abandoned in early medieval times. Its discovery was not only a key addition to the Christian sacred topography of Ostia, but far more importantly represented one of the most significant new archaeological finds regarding Constantine's commissioning of the construction of church buildings, which form the very beginning of early, monumental ecclesiastical architecture.

3 The objectives set for the original project – beyond determining these most important features of the cathedral and neighbouring buildings – did not include any large-scale excavation, and central questions regarding the original structure and later development had to be left open. This was the starting point for the new project, which was initiated in 2023. Within the context of this project, the site is now being examined in a manner commensurate with its significance[3]. Before presenting the most important results of the initial excavation, we will summarise briefly the state of current research, preliminary work, and the aims of the project.

1.1. Ostia in Late Antiquity

4 The former port city of Rome at the mouth of the Tiber boasts a long and volatile history from its founding in the 4th century BCE until the abandonment of the city in the 8th century CE. However, the final five centuries of the city's development, after it forfeited its intermittent role as one of the central trading hubs of the Mediterranean and went through many social, economic and urban transformations, has long been neglected in modern research. Even the last extensive large-scale excavations in Ostia (1938–1942) were concentrated almost entirely on the Roman Empire, as the phase that, in accordance with the philosophy of the fascist regime of the time, was perceived as more glorious and suitable to their propaganda[4]. Apart from selected individual finds such as the lavishly decorated late antique houses[5], the remains from late antiquity that were perceived as decadent remained at best unnoticed, and in many cases were destroyed without documentation because they were considered to be 'obscuring interventions'[6].

5 It was only at the beginning of the 20th century that awareness slowly grew concerning the significance and historical potential of Ostia's late antique heritage. At the outset, this interest focussed on the 4th century houses and their rich decorations[7]; later, the focus widened to include other buildings such as public bathhouses[8]. The Terme del Nuotatore excavations, which were in many respects considered ground-breaking in Italian archaeology, were the first to systematically record all phases of use after the imperial period[9]. Only in the final few decades of the 20th century did the late antique periods

2 Lib. Pont. I, 183_{18}–184_{22}; for the translation cf. Duchesne 1886 and for discussion Février 1958, 299 f.; Acta Sanctorum XXVII = Juni, VII, 33 f.; Février 1958, 300 f.; Meiggs 1973, 521–523. On the dating of the passion of Saint Gallicanus cf. Grégoire – Orgels 1956, 125–146; Bundy 1987. On the commission by Constantine with Gallicanus, see Bauer 2003, 53 f.; Nuzzo 2016, 379; finally, Liverani 2019, 180 f. The person named as Gallicanus could either be Flavius Gallicanus, consul in 330 CE, or Ovinius Gallicanus, praefectus urbanus from 316 to 317 CE and consul in 317 CE, see Nuzzo 2016, 379.

3 The DFG-Projekt no. 507752214 entitled "Die konstantinische Bischofskirche von Ostia: Struktur – Entwicklung – Kontext" will be completed under the leadership of Sabine Feist (University of Bonn), Michael Heinzelmann (University of Cologne), and Norbert Zimmermann (German Archaeological Institute, Rome), in cooperation with Emanuela Borgia (La Sapienza University, Rome), as well as with the Parco Archeologico di Ostia Antica.

4 On these excavations see, e.g., Calza et al. 1953, 40–52; Meiggs 1973, 109 f.; Olivanti 2001, 60–63.

5 See, e.g., Becatti 1969.

6 Cf. generally Gering 2018, especially 9–18.

7 E.g., Becatti 1969.

8 E.g., Heres 1979.

9 See, e.g., Carandini 1968; Carandini et al. 1968–1972; Berti 1968/1969. In the original edition of Russel Meiggs' overview of Ostia (Meiggs 1960, expanded in Meiggs 1973), there was also already discussion of many late antique aspects of the development of the city.

of usage gain unrestricted consideration[10]. Since the turn of the millennium in particular, a broad spectrum of research aimed at the very latest phases of the city has flourished[11]. Thanks to the wealth of these new investigations and information, Ostia has become one of the most important reference points in the study of late antique urban history.

6 The late antique religious history and topography of the city gained attention early on[12]. Researchers noted the conspicuous persistence of pagan cults[13] and the presence of a Jewish community. The dating of the synagogue at Ostia has remained a marked and constant focal point[14]. Given the extensive excavation of the city, the apparent scarcity of sacred Christian architecture was noted from the very beginning[15]. This scarcity was explained as a result of the incomplete knowledge of the unexcavated parts of the city[16] as well as of the serious economic and social breakdown of Ostia during the 3rd century[17]. A single church, built later in the Terme del Mitra, and the Oratorio of S. Ciriaco, a small martyr's chapel near the theatre, were confirmed within the urban boundaries, but both buildings are remarkable because of their small dimensions and late construction (late 4th or early 5th century)[18]. Since the Liber Pontificalis and the Acta S. Gallicani record the commission of an episcopal church by Constantine the Great, Guido Calza tried to identify this church with a late antique structure, the Domus Tigriniani, located on the western end of the Decumanus[19]. After much debate, this building has been classified as a house, possibly with some kind of public function[20].

7 A similarly sparse picture of early ecclesiastical architecture, such as that found *intra muros*, is also evidenced in the *suburbium*: here, in the location of Ostia's extended pagan necropoleis, there is clear evidence that three churches were erected over older graves. The largest is the Basilica di Pianabella, which was founded in the late 4th century as a funerary church[21]. Furthermore, the presence of two memorial places – S. Ercolano[22] and S. Aurea[23] – has been confirmed. It is presumed that both buildings were built over martyrs' graves and can be dated to the late 4th or early 5th century. Subsequently, these chapels were put to use for numerous burial services.

8 Until the discovery of the Constantinian Bishop's Church, there was no evidence of a church in either the urban or suburban areas that could be dated to the early or mid-4th century, just as there was no trace of large-scale church architecture from the *intra muros* urban centre. Against this background, the discovery of the Con-

10 E.g., Heres 1982; Boersma et al. 1985; Ciarrocchi et al. 1993; Spagnoli 1993; Paroli 1996; Ricciardi – Scrinari 1996; Bauer – Heinzelmann 1999; Kockel – Ortisi 2000. The initial edition of Pavolini's foundational archaeological guide from 1983 also acknowledges the state of the research at that time (Pavolini 1983).

11 On urban studies see, e.g.: Lavan 2012; Gering 2014; Gering 2018; on the houses: Danner 2017; Batty 2018; Pavolini 2018; Pavolini 2019/2020; on bathing and water culture: DeLaine 2006; Poccardi 2006; Schmölder-Veit 2010 and on funerary customs: e.g., Mastrorilli 2007; Torres 2008. On various material categories see, e.g., sculpture: Romeo 2019; on ceramics: Martin 2005; De Sena-Martin 2005; on the phenomenon of reuse: e.g., Pensabene 2009; Murer 2016; Damgaard 2018; Gering 2020. This scholarship is summarised once more in current overviews (cf., e.g., Boin 2013).

12 Cf., e.g., Février 1958; Broccoli 1982; Paroli 1993; Brenk 2001; Pannuzi 2006; Pannuzi 2009; David 2014; Ruotulo 2017; De Togni – Melega 2020.

13 Cf., e.g., Rieger 2004; van Haeperen 2018; Melega 2020.

14 D'Alessio – Zevi 2023.

15 Cf., e.g., Février 1958; Brenk 2001; Bauer 2003.

16 Février 1958.

17 Broccoli 1982.

18 Bauer 2003, especially 58–60; on the church in the Terme del Mitra, see most recently Sonnemans 2017 and Melaga 2020.

19 Calza 1940; Calza 1941/1942.

20 Cf., e.g., Brenk – Pensabene 1998/1999; Danner 2017. On public usage, it could have served as the governer's residence, cf. Gering 2018, 186.

21 Cf., e.g., Giordani 1979; Paroli 1999; Nuzzo 2016.

22 Pergola 1990; Pannuzi 2008; Pannuzi 2009.

23 Cf., e.g., Broccoli 1982; Pannuzi 2006; Mastrorilli 2011; Mastrorilli 2012.

stantinian basilica in the context of the project running from 1996 to 2001 gained great attention, and an overview of the most important results of these investigations is provided below.

1.2. Urban Context and Development Preceding the Basilica (Results of the old Project)

9 Using a combination of non-invasive methods alongside the results of the old sondages in the unexcavated area of Regio V, it was possible to confirm the existence of very different foundations beneath the Constantinian basilica in both its eastern and western sections.

10 The area in which the church was erected underwent urban development relatively late compared to the city centre. Around 50 BCE, it became a part of the inner-city Regio V when the city wall that runs a bit to the south was built. During the Augustan period, the area was connected and integrated into the city by the construction of the via del Sabazeo, which runs northeast-southwest. The via del Sabazeo ended to the south at the Porta Laurentina, which represented a secondary break in the city walls and led towards Laurentum in the south of Ostia.

11 However, the first signs of extensive building development within the walls, to the northwest of the road and in the western area of the later church, only date from the Neronian-Flavian period[24]. This Neronian-Flavian *domus* was levelled during the Hadrian period and a ca. 70 cm higher *insula* (2.3 m above sea-level) with three buildings arranged around a courtyard was erected on the site (Fig. 1). The *insula* walls could be determined by evaluating the aerial imagery, as well as by the geophysical survey and the old sondages. The *insula*, with the slightly trapezoidal layout of its courtyard, fits into the imperfectly rectangular grid between the city wall and via del Sabazeo. Its orientation shifted to the north from the eastern axis, and also determined the orientation of the later basilica. The erection of the basilica necessitated a complete demolition and levelling of the Hadrianic *insula* to about 1 m above its previous ground level. The area of the courtyard within the atrium was retained, while some of the remaining wall stumps were used directly as foundations for the western part of the church. The western facade and the southern nave wall are founded directly on the levelled Hadrianic walls and therefore must be considered as a starting point for the basilica's general layout.

12 In contrast, in the east, beyond the *insula*, there was no evidence that pre-existing structures were used: neither the geophysical analysis nor the sondages showed any older walls or related foundations that could have been re-purposed and used by the basilica.

1.3. The Constantinian Bishop's Church (Results of the old Project)

13 The geophysical analysis, evaluation of aerial imagery and old sondages confirmed that the cathedral at Ostia was a columned basilica with nave and two side aisles, no transept, and with a slightly recessed apse and a frontal atrium with a four-sided ambulatory (Fig. 1). Thanks to old sondage 4 in the area of the southern nave wall, it was possible to reconstruct fourteen columns along each side of the nave[25]; the only surviving column base in this section has a width of 70 cm, from which it is possible to extrapolate column shafts with a minimum diameter of ca. 50 cm and a height of at

24 Cf. Heinzelmann 2020, 22 f. 90–95, old SE 835; 1.55 m above sea level.

25 These findings match the entry in the Liber Pontificalis (Lib. Pont. I, 184$_4$), which mentions, among other things, thirty silver lamps that would have fit into the two rows of fifteen intercolumns lining the nave (Bauer 2020, 109).

least 3.5 m. Following the existing street grid and the approximate line of the city walls, the church was not oriented precisely to the east, but rather to the northeast[26].

14 Despite imperial patronage (as well as the private patronage of Gallicanus), the resourcing of the building materials was not only astoundingly economical – not to mention as minimalistic as possible – but the walls themselves were also irritatingly irregular in their construction. For the lower and therefore lighter outer walls of the northern and southern aisle there were narrower foundations (45 cm), whereas the foundations on the sides of the nave, which supported not only the arcades but also the clerestory, were given a deeper and wider foundation (both 50 cm) like the foundations of the eastern enclosing wall of the nave; the strongest foundation is located in the area of the apse (72 cm). The fact that all the building material for the basilica was recycled also corresponds to this very economical, conscious use of resources. It is highly probable that whatever could be salvaged from the demolished Hadrianic *insula* was repurposed and used for the basilica. Evidence of this can be clearly seen in the remains of walls, which almost entirely consist of re-used tiles and small-sized blocks of tuff. Franz Alto Bauer suggested that Gallicanus' contribution to the endowment for the basilica may have been his provision of the building site, the levelled *insula*. As of yet, there is no direct evidence of this, but it would explain both the choice of site and the orientation of the church. At the very least it is clear that as many of the western weight-bearing walls as possible were directly re-purposed as part of the church's foundation, which means that the layout of the basilica was designed according to the position of those pre-existing walls[27]. A structure lying on the southern flank of the site clearly belongs to the Constantinian construction phase as well. Given its position and decoration with marble, it is possible that it functioned as the episcopal palace[28].

15 In terms of the later fate of the Bishop's Church, the baptistery on its southern side, however, was a secondary addition, built in the 5th century[29]. Furthermore, it is suspected that the church's apse was repaired after being damaged. This assumption is based on the chord of the apse which shows signs of being a later intervention. The basilica was abandoned in the Carolingian period, likely in the early 9th century. This dating corresponds to the transfer of the episcopal seat to what is now S. Aurea in the Borgo (at the time, this site was referred to as Gregoriopolis, after Pope Gregory IV). The basilica did not simply fall into ruin. Rather, there is evidence that the entire building was intentionally dismantled.

1.4. New Questions and the Aims of the new Project

16 The results of the former archaeological investigation of the Constantinian basilica at Ostia was sufficient to prove the exceptional potential of the site: Ostia offers a unique opportunity to stratigraphically excavate a complete Constantinian cathedral complex, which is directly accessible beneath the layer of humus. This new project therefore aims to reveal new insights and knowledge on the type of building and the interior organisation of a Constantinian Bishop's Church. Additionally, it intends to clarify fundamental questions regarding the building process and the

26 Due to both the time limitations and the target inquiries of the project at that time, the old sondages vary greatly in size and depth: in all of them, only the layer of humus was initially removed, which exposed the walls and limits of the church complex lying directly below the surface. In the smaller sections, some of the old sondages were deepened to determine specific dating or the relationship of the church to the earlier architecture. Four of the old sondages were limited to the removal of the layer of humus to verify the placement of the walls. On this work, see Bauer – Heinzelmann 1999, 342–354; Bauer et al. 1999, 289–341; Bauer et al. 2000, 377–386; in summary: Heinzelmann 2020, 31–105; and especially Bauer 2020.

27 Bauer 2020, 107 f.

28 According to Bauer 2020, 116.

29 Bauer 2020, 116 f. The Liber Pontificalis mentions a silver baptismal vessel (Lib. Pont. I, 184$_{7}$), which demonstrates the initial existence of a baptismal site, without an actual baptistery.

function of the cathedral, both as a bishop's church and a baptismal church. New insights into the later changes to the church, such as its (funerary) repurposing are also expected.

17 The project therefore aims to satisfy a series of important and overarching inquiries, for example, the identification of new aspects of Constantinian building policy and its influence on late antique ecclesiastical architecture. Furthermore, the investigation of the earlier buildings and their subsequent re-use offers an opportunity to cast our gaze over the long-term urbanistic development of Regio V from the late republic to the early medieval period and therefore greatly expand our knowledge of the (Christian) sacral topography of Ostia and the underlying processes of its usage and abandonment. To answer these inquiries, a total of five excavations are planned as part of this new research project. Each excavation will specifically examine one section of the episcopal building ensemble: apse and presbytery, facade and transition from atrium to basilica interior, baptistery, presumed episcopal residence, and the connection from via del Sabazeo to the atrium.

2. Results of the Excavation in 2023

18 The first excavation was carried out during the summer of 2023[30]. It focussed on the eastern end of the church, i.e., its liturgical centre, including the apse and presbytery. To facilitate this investigation, an area measuring 20 × 25 m was first uncovered, which revealed the entire width of the eastern end of the basilica (Fig. 2. 3. 4)[31]. During the excavation, all foundations of the church's walls in this section were uncovered, including the foundations of a solea that extended along the entire length of the uncovered nave (Fig. 4). Inside the nave and southern aisle, a 3 m wide strip was excavated with varying depths along the eastern end wall of the nave. In addition, the northern half of

30 The six-week campaign ran from 7.8.2023 to 16.9.2023. Participants: S. Feist, M. Heinzelmann, N. Zimmermann (directors), E. Borgia (director of finds processing), H. Boes, A. Schröder (coordination, organization, excavation techniques), C. Avenarius, M. Berger, K. Göttsch, J. Knechtel, L. van der Schüür (trench supervisors), B. Bartz, V. Battaglia, R. Beck, M. Beermann, F. Becker, J. Chowanietz, S. Fontana, L. Freuen, K. Gering, O. Heldt, S. Kinsey, L. Kubalatara-Arachchige, I. Matschoke, S. Meister, J. Neyer, A. Packham, R. Pagliari, M. Paolucci, R. Rosini, D. Schnalke, F. Trevisan, D. Zubko (excavation), M. Elefante, A. Troiani, F. Russo (pottery analysis), D. Heinzelmann (architectural drawings), F. Capriuoli (laser scanning). – The excavation proceeded according to the guidelines of the Parco Archeologico di Ostia Antica under the Italian system of *unità stratigrafica* using an adapted version of the databank system iDAI.field 3.0 <https://field.idai.world>, developed by the German Archaeological Insitute. On the history and functionality of the iDAI.field, see most recently Hohl et al. 2023. At the end of the excavation, alongside traditional documentation methods, a comprehensive digital record of the site was created using Structure from Motion and laser scanning. For reasons of conservation, upon completion of the work the whole excavation site was protected with breathable geotextile and finally completely covered again with soil; cf. the first preliminary excavation report in Feist et al. 2023. – To confirm the precise location of the church, the geomagnetic survey was repeated. In this way it was possible to reproduce the findings from the previous survey, which facilitated an accurate localisation of the basilica. A local measuring grid was built, to provide a physical frame of reference for further research into the basilica, and this was additionally connected to the coordination system RDN2008 (UTM-Zone 33N-E) via stationary GPS calibration. Using a survey point from the previous excavation project, it was possible to re-establish its height system. This means that the depths of the old sondages can be directly correlated with those of the excavations in 2023.

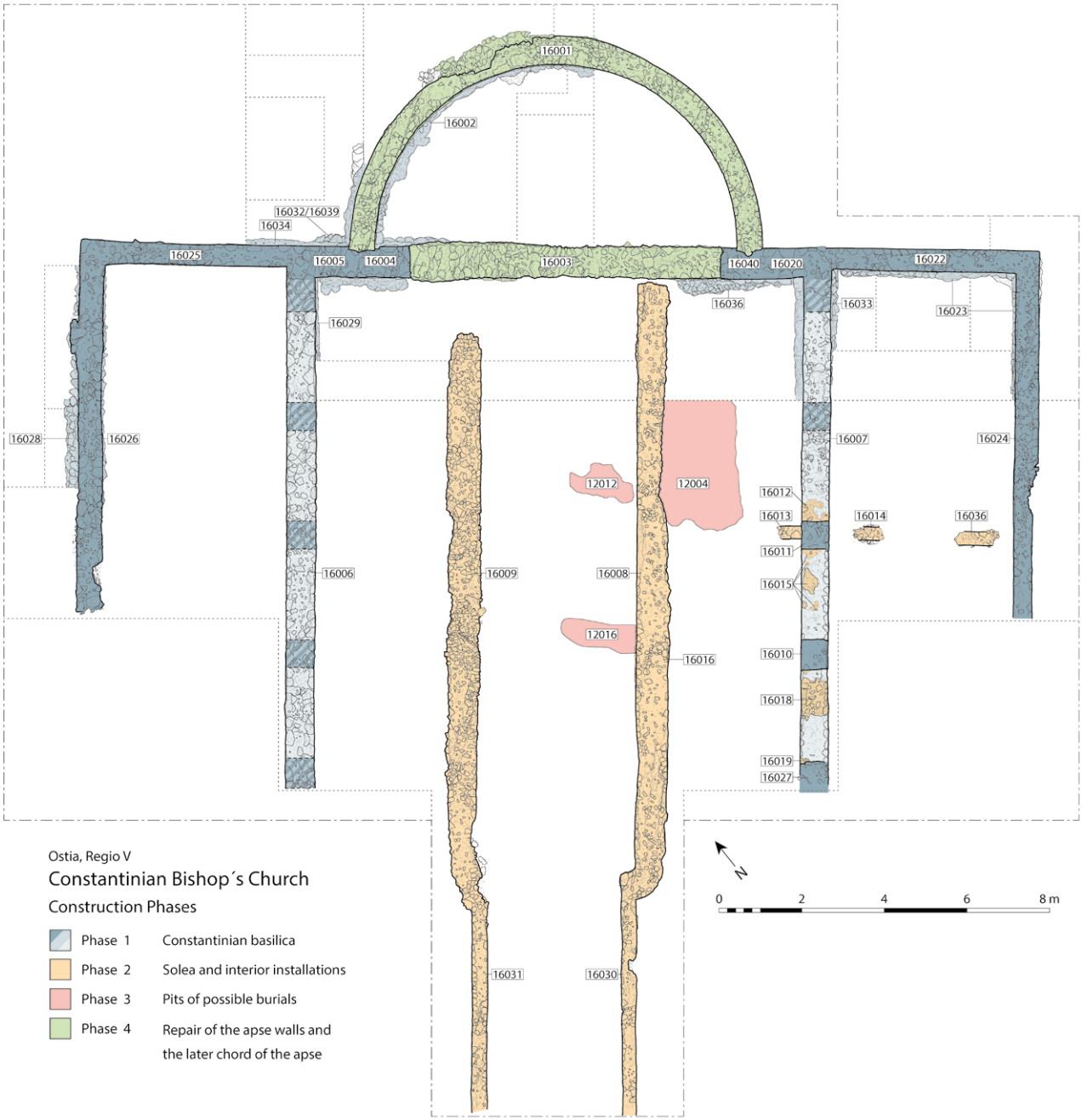
31 Due to time constraints, three corner areas measuring 24–30 m² were omitted from these investigations. In response to subsequent questions, the excavation area in the central section of the nave was extended by 8 m to the west, at a width of 6.2 m. The removal of the upper layer of humus was completed with the aid of an excavator, and the lower layer of humus down to the upper edges of the remaining wall stumps was removed by hand. To avoid contamination, the next step was to completely remove the two old sondages remaining in the excavation site (sondage 1 in the apse, and sondage 2 at the south-eastern corner). Traces of deep ploughing remained visible across the entire surface, even after the removal of the humus. For this reason, the areas containing the apse, nave and southern aisle were further excavated and deepened by ca. 15 cm to the lower edge of the layers disturbed by digging. The poorly preserved northern aisle was omitted from further investigation, also due to time constraints. The 3D-model of the excavation is accessible here (https://publications.dainst.org/journals/rm/article/view/4611).

2

Fig. 2: Ostia antica, area of the 2023 excavation. Eastern end of the Constantinian basilica

the apse was excavated and a 5.80 × 2.80 m wide sondage was made on its northern exterior, in order to clarify how this area was used prior to the construction of the church. Finally, a small sondage along the exterior northern wall served to reveal the state and placement of the foundations there.

19 Across the whole excavation area, the layers undisturbed by the ancient or modern looting of stones and by plough furrows from agricultural usage, all lay completely beneath the floor level, that is, at the level of the foundation of the Constantinian basilica. There were nonetheless extensive new findings, as already indicated above. The most important of these are presented below in chronological order, based on the current preliminary evaluation of the features discovered and materials found there (Fig. 3).



3

Fig. 3: Ostia antica, Constantinian basilica. Stone structures in the area of the 2023 excavation, showing construction phases

2.1. Pre-Constantinian Phase: Agricultural Usage

20 The first important discovery of the excavation in 2023 concerned the area around the apse, prior to the building of the church, where evidence for the regular planting of crops was found.

21 In the large-scale excavated eastern section of the basilica, including the apse, presbytery and an area beyond the apse, it was possible to generally confirm the results of the geophysical analysis: the walls here, in contrast to the western section of the basilica, were at no point founded on older remains, nor were any remains of older walls discovered within that section (Fig. 4). Rather, in this area around the apse, there is proof that the apse and eastern part of the basilica had been erected in an empty field, without needing to grade the landscape. This field, at least in the area northeast of the apse, was characterised by parallel planting furrows ca. 30 cm deep and wide, and spaced 80 cm apart (Fig. 5. 6). This cultivated land covered an area of at least 12 × 12 m

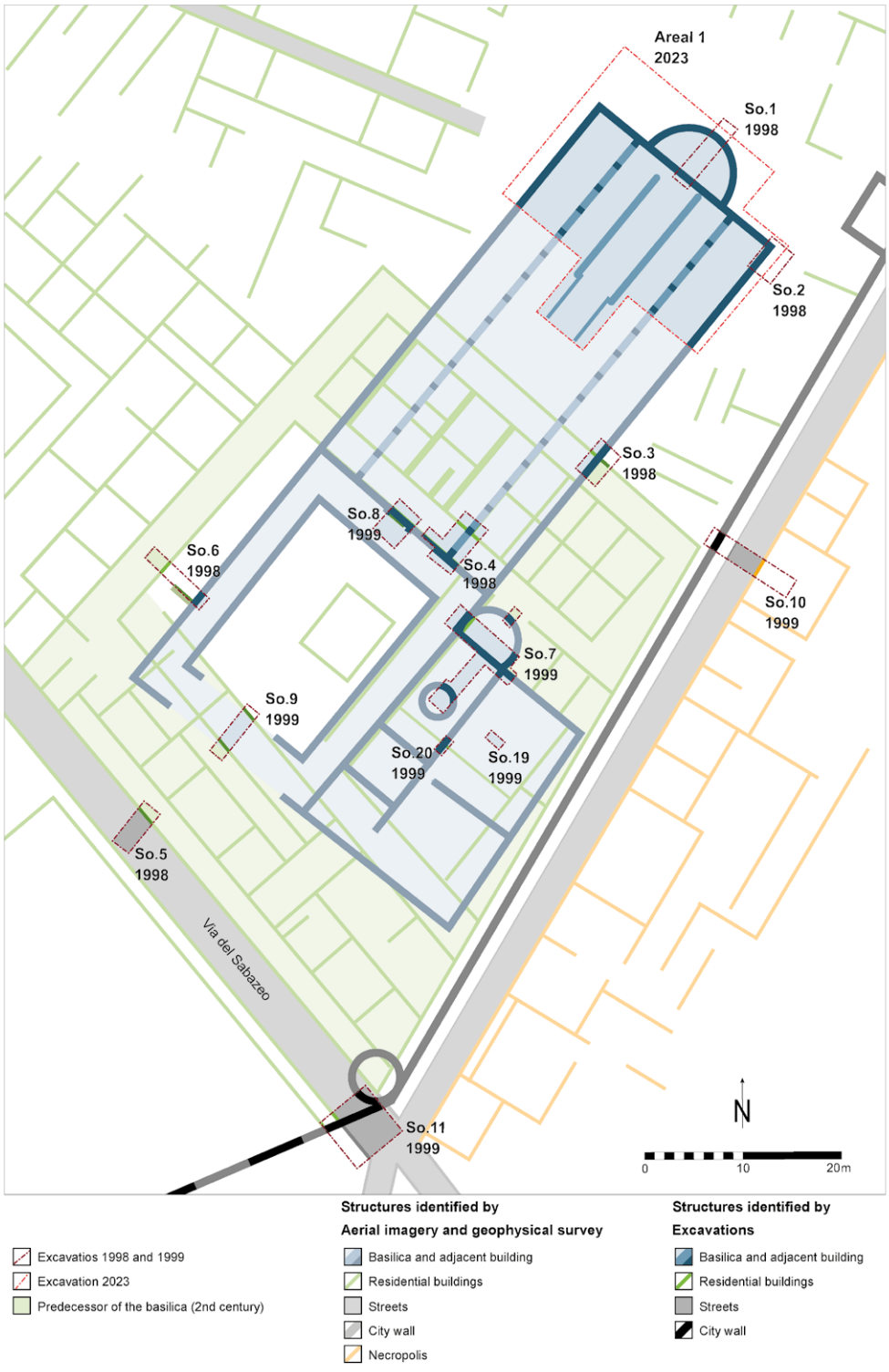


Fig. 4: Ostia antica, Constantinian basilica. Reconstructed plan based on aerial image analysis and geophysical analysis, as well as the results of the 1997/98 and 2023 excavations

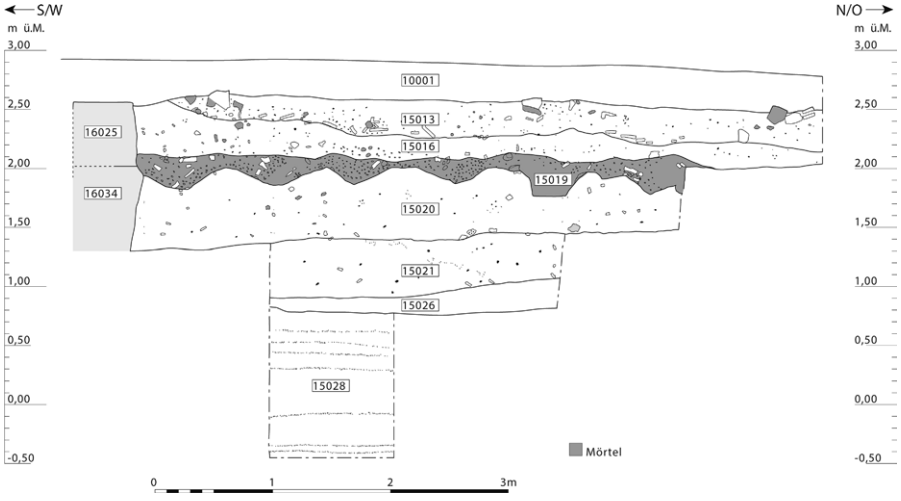
4

and lay approximately 2.2 m above sea level. This means that until the Constantinian period, either this whole area east of the Hadrianic *insula* was undeveloped and used for some kind of agriculture, or the excavated area belonged to a courtyard, within which an orderly garden of sorts was cultivated.

22 In any case, there can be no doubt that the rows of planting furrows in this field were simply filled in to produce a level plot on which the construction site of the Constantinian basilica was subsequently established. This is evidenced by the corresponding filling of the planting furrows and also by the mortar deposits found directly

5

Fig. 5: Ostia antica, Constantinian basilica. View of the northern profile of the partial sondage north of the apse, with the row of planting furrows. View from the south



6

Fig. 6: Ostia antica, Constantinian basilica. Illustration of the northern profile of the partial sondage north of the apse, with the row of planting furrows (cf. Fig. 5)

above this level, which are preserved in the vicinity of all the walls built at that time and are clearly the remains of masonry work (Fig. 7. 8)[32].

2.2. The Constantinian Basilica (Phase I)

2.2.1. The Layout and Foundations of the Eastern Part of the Basilica

23 Another important result is the discovery of the chronological progression of foundations constructed in the eastern part of the basilica. Although the outline was already known from the old sondages, now both the sequence of construction and the nature of that construction have been made more comprehensible, both confirming and furthering our earlier knowledge (Fig. 3).

32 The urban development of Regio V is the subject of a dissertation project by Arne Schröder (University of Cologne).

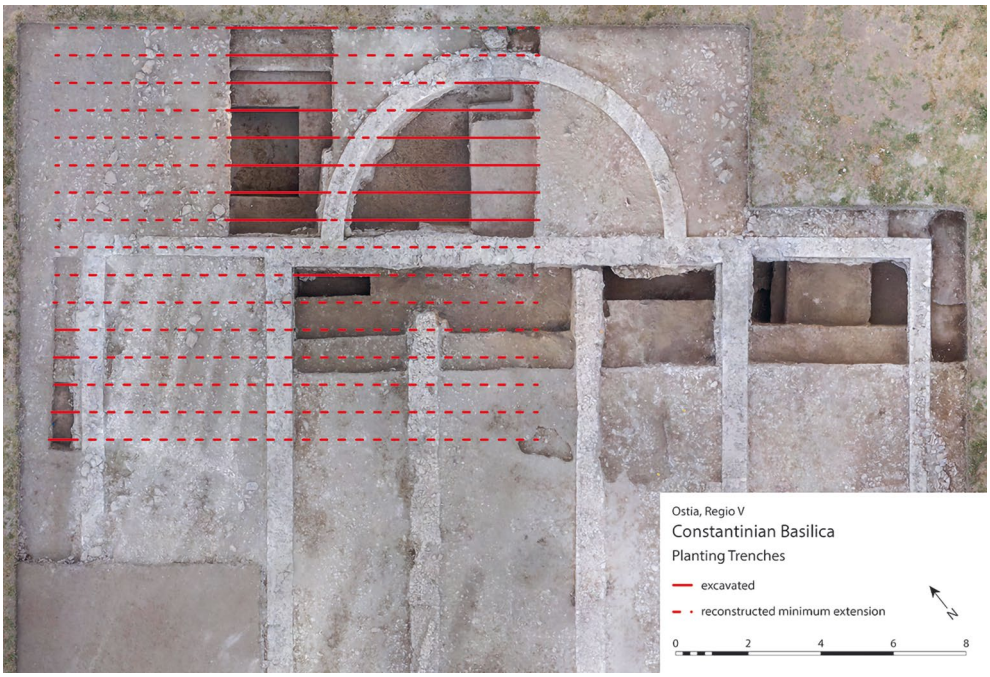


Fig. 7: Ostia antica, Constantinian basilica. Detail of Fig. 2 with reconstructed parallel lines of planting furrows

7

Fig. 8: Ostia antica, Constantinian basilica. Exterior of the apse, view from the northeast: to the left the filled in planting furrows seen in profile, above these the construction surface for the erection of the apse

8

24 As the old sondages showed, the elevation of the basalt flagstones from the Severan street level of the via del Sabazeo (3.2 m above sea level) was chosen as the intended ground floor of the basilica, and the partially re-used foundations of the Hadrianic *insula* in the western section had determined the orientation for the basilica's construction (see above, Fig. 4). However, since the floors of the *insula* as well as the agricultural area on its east were ca. 1 m lower, a complex planning of foundations and grading was necessary to achieve the envisaged level. Where possible, the walls of the *insula* were cut to a height of 1 m and used directly as foundations. In other areas, door openings were closed or at least the foundations of the *insula* were utilised for new walls. However, especially on the eastern, outer side of the *insula*, completely new structures for the foundation were necessary.

25 Once the foundations were completed, the entire interior of the church was systematically filled to achieve the desired floor level. Approximately 1000 cubic metres of grading material was deposited over the entire area of the church. The lower parts consist mainly of debris, probably from the *insula*, whereas the uppermost and final

9

Fig. 9: Ostia antica, Constantinian basilica. Southern side of the foundation of the southern nave wall, view from the south: in the lower portion, cast walls with moulding imprints, above the upper masonry part of the foundation of the lower wall zone. To the right, the adjoining, shallower and rougher cast foundation of the eastern wall abuts this

layer consists of relatively pure sand; the same approach of grading was adopted on the southern side of the church. By contrast, the deeper elevation of the surrounding landscape to the north and east of the church remained unchanged, so that here the foundations were still visible on the outer side and *de facto* formed a kind of lower wall (Fig. 8). This technique significantly reduced labour, since the grading necessary to achieve the desired elevation pre-determined by the via del Sabazeo was limited to the area of the actual church building and its southern side, while the eastern and northern areas adjacent to the church were left unchanged.

26 The construction of the actual foundations was undertaken in an equally economical manner since they adapt their dimensions and design to their respective task. In general, the foundations reveal a two-part construction process with a deeper concrete foundation[33] topped by a masonry wall 40 cm high (Fig. 9)[34]. The foundations of the nave walls required the greatest stability as bases for the arcades, the clerestory wall and the roof truss, as did the foundations supporting the eastern end with the apse, while the side aisle walls bore the least weight. Accordingly, the walls on both sides of the nave had the sturdiest foundations, measuring 2.5 m deep and 1 m thick (Fig. 9. 10), whereas those for the outer walls of the aisles were only 1.2 m deep and 80 cm thick. In addition, the foundations of the outer walls consisted solely of an *a-sacco* construction with coarse *caementicium*[35], whereas the deep foundations of the nave were constructed as timber-framed cast walls of much higher quality[36]. Because of their different techniques, these deep cast foundations are separated by joints: first, the cast foundations of the northern nave wall and the northern aisle (eastern and northern wall) were completed. Second, the foundations supporting the apse and both projecting walls, as well as the southern nave wall were completed and separated from the northern foundations by a joint. The foundations of the southern aisle (eastern and southern walls) were completed last and were also separated from the rest by a joint (Fig. 11).

33 E.g., SE 16002, 16023, 16032/16039.

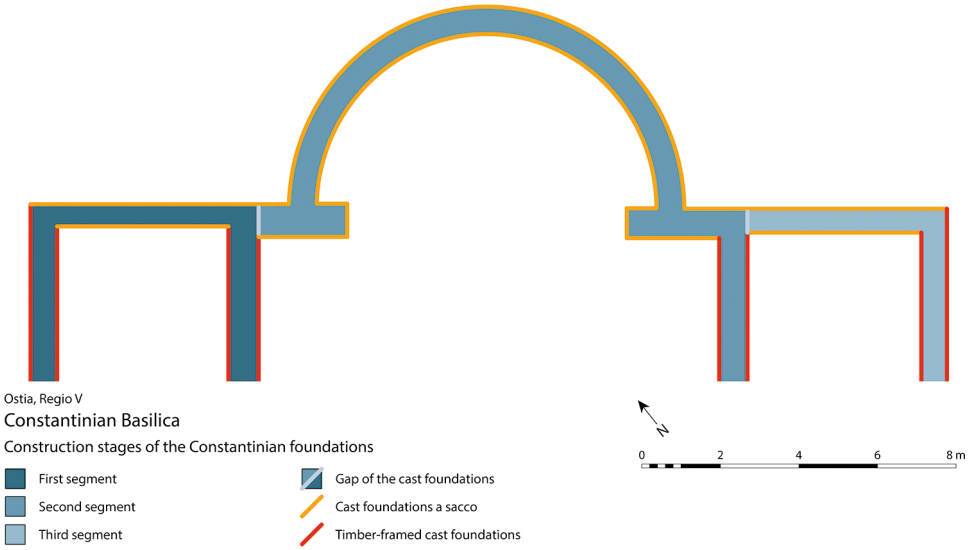
34 E.g., SE 16006, 16007, 16020, 16022/16024.

35 E.g., SE 16002, 16023.

36 SE 16029, 16033.

10

Fig. 10: Ostia antica, Constantinian basilica. Southern side of the foundation of the northern nave wall, view from the south: in the lower portion a refined cast foundation with moulding imprints, above the upper masonry part of the foundation; to the bottom right the deeper, rougher cast foundation of the east wall, while the upper part of the foundation was built in conjunction with the foundation of the northern nave wall



11

Fig. 11: Ostia antica, Constantinian basilica, building phase I. Outline of the deep foundations in the eastern section of the basilica in chronological order, from dark to light blue

27 In contrast to the deeper cast foundations, the upper area of the foundation utilized masonry and binds the foundation together everywhere (Fig. 9. 10. 12). However, various construction techniques were used here: e.g., the outer shell of the exterior southern wall consists of a somewhat roughly grouted but fairly regularly laid horizontal layer of tuff blocks[37], whereas their inner counterparts are placed vertically. In contrast to both, the foundations of the northern aisle[38], the frontal wall of the apse[39], and the nave walls[40] consist of irregular limestone chunks that vary greatly in size, were

37 SE 16022/24.
38 SE 16025, 16026.
39 SE 16020, 16034.
40 SE 16005, 16007.

12

Fig. 12: Ostia antica, Constantinian basilica. Southern side of the foundation of the northern nave wall, view from the southwest: eastern wall and its foundation abutting the cast foundation of the northern nave wall

often only roughly hewn at the front, and were laid in irregular rows using a large amount of mortar.

28 Overall, the selection of the site, the building plan, the construction of the foundation, and the material used (recycled materials in almost every step of the project) openly display an approach aimed at being both cost and time efficient. This approach, however, did come with a certain risk: the building's overall stability was compromised by the freely visible foundations that ranged out to the east, and this clearly created problems during later phases of the church (see below).

2.2.2. An Unusual Form for an Apse

29 Perhaps the most significant new insight gained during the excavation in 2023 was the form and design of the apse. As already indicated, the apse is not only recessed in relation to the width of the nave (exterior width of the apse: 10.10 m, width of the nave: 12.5 m) and forms a semicircle (exterior radius of the apse: 5.05 m), but in the foundation area a wall projects inwards by 80 cm along the line of the chord of the apse both to the north and south (Fig. 3. 13 a. b). These walls most likely functioned as a base for columns that framed the opening of the apse. The apsidal arch, which has to be reconstructed with a reduced width, could also rest upon those columns.

30 This discovery was found completely preserved on the north side of the apsidal opening (Fig. 13 a. b)[41]. There, between the south-ranging foundation line and the later chord of the apse, the construction joint clearly shows the interface between the Constantinian masonry and the chord of the apse that was most likely added during the late 6th or early 7th century (see below)[42]. During the Constantinian period there was still no continuous chord of the apse, as shown by the two-part foundation whose lower section extends a little inward towards the centre of the apse but then breaks off completely[43]. It is obvious that this structure served as a projecting wall, and respectively

41 SE 16004.

42 The diagonal marks on the top edge of the wall were caused by a modern deep ploughing machine that consistently scored the wall with relatively parallel gouges running diagonal to the church.

43 The lower foundation, made from a rough *opus caementicium* (see above), extends around 1.40 m into the

Fig. 13: Ostia antica, Constantinian basilica. a) Foundation of the northern projecting wall of the apse, view from the east b) Foundation of the northern projecting wall of the apse, view from the west

13

as a support for a pedestal that could have borne a column. On the southern side of the apse opening, the findings show a later alteration: although the deep foundation of this projecting wall is well-conserved, the upper section of the foundation is only partially preserved. Here, the foundation of the projecting wall breaks off after ca. 30 cm and was clearly replaced later when the chord of the apse was inserted (Fig. 3. 14)[44]. The reason for these repairs is discussed further below (see 2.4.), but given the symmetrical layout

middle of the apse, while the upper one, built precisely in conjunction with the east wall of the basilica, extends only 80 cm.

44 SE 16040. Once again, the deeper, more disorderly part of the foundation is recessed by ca. 1.40 m; only ca. 40 cm of the altered upper part remains connected with the southern part of the east wall.

14

Fig. 14: Ostia antica, Constantinian basilica. Foundation of the southern projecting wall of the apse, view from the west

of the deeper foundation sections in the northern and southern sections, it can be assumed that there were two identical foundations for projecting walls that extended into the apse. As mentioned above, these would be most sensibly explained as foundations for pedestals, each supporting a single column. It is therefore probable that the apse opening of the Constantinian basilica was framed by side columns, upon which the apsidal arch also rested. Both altered the impression of the church's eastern part, since the narrowing of the apse would have accentuated it as a separate entity, tightened the apsidal arch and enlarged the surface of the apse's frontal wall.

31 This seemingly inconspicuous detail of the apse opening flanked by columns sheds a whole new light upon the question of apse design within the Constantinian church-building programme, since there has been no evidence of this form within early Roman examples from this period – the period when monumental ecclesiastical architecture was established. Instead, it has been much more widely assumed to be a more recent variant[45]. An overview of the forms of Constantinian apses in Rome, however, is necessarily limited due to their fragmentary preservation and the absence of excavation reports. The five-aisled Salvator basilica (today known as S. Giovanni in Laterano), erected by Constantine for the Roman bishop, is recognised as the very first official ecclesiastical building: its original apse, however, opened fully to the nave and was only slightly recessed[46]. In the second Roman church building, Old St Peter's Basilica, similarly five-aisled, a transept lay between the nave and the apse, offering space for St Peter's tomb as the actual cultic centre of the church[47]. Four of the six columns supporting the installation over the tomb certainly stand upon the chord of the apse,

45 Hannah Boes (University of Bonn) is currently preparing her dissertation on the origins and development of this architectural solution.

46 Most recently Bosman et al. 2020, 190–196, Fig. 9, 10 and 9, 12; on the archaeological situation of the apse, see especially Liverani 2021.

47 For a summary of the research discussion of the pre-Pelagian disposition, Arbeiter 1988, 181–184; de Blaauw 1994, 470–487; most recently Brandenburg 2017.

whereby two of them probably flanked the apse opening on the interior. It is nonetheless not really viable to compare the mounted, free-standing architecture of St Peter's tomb with the apse in Ostia, whose columns (or projecting walls) must have served as a direct support system for the apse walls. Likewise, the group of Constantinian ambulatory basilicas, all cemetery churches outside the Roman city walls and loosely linked to a martyr cult, also fail to provide a reasonable direct comparison, precisely due to the eponymous ambulatory located behind the apse. The form of the Constantinian apses in the episcopal churches of Albano and Capua remains unknown, both mentioned in the Liber Pontificalis[48]. Only Naples has a surviving example that might serve as a close comparison, namely S. Restituta, which is preserved within today's cathedral. Here, the apse wall of the Constantinian cathedral, which was also heavily remodelled, still rests on two columns flanking the original apse opening[49]. Nonetheless, distinct differences are also present. In Naples, the apse space was raised three steps above the nave. Based on the excavation findings, this is a design that can be definitively ruled out for the Bishop's Church at Ostia. In S. Restituta, the chord of the apse was identical to the top of the three steps on which the columns stood. At 1.4 m, the columns were also set at a greater distance from the apse wall, meaning that there was an independent, relatively wide view to the left and right of the apse opening. As the columns on both sides bear a horizontal entablature, the apse opening formed a motif known as a serliana or Syrian arch[50]. In Ostia the distance from the projecting walls, presuming a column base diameter of 70 cm, was markedly insufficient for such a motif; here the columns flanked the apse opening directly[51], as has been documented in certain churches in Ravenna and Naples from the 5th century onwards[52].

2.2.3. The Layout of the Nave

32 Another new discovery from the excavation in 2023 was the verification and clarification of the earlier investigations' findings with respect to the building's overall dimensions, the masonry techniques of its visible walls, and the layout of its nave. The latter was comprised of one wall pillar to the east, and one to the west; fourteen free standing columns between them, which therefore created fifteen intercolumns on each side of the nave. The nave shows a width of 23.35 m, a length of 46.16 m, in addition to the apse measuring 10.10 m. The atrium extends ca. 30 m[53]. The striking north-eastern orientation of the church is due to the use of pre-existing structures in the western area[54].

33 In 2023, the entire width of the eastern part of the church within the excavation area was documented to a length of ca. 26 m (Fig. 3). Scant remains of the upper masonry from the Constantinian phase were found preserved in the area examined. The southern outer wall running across the western part of the excavation area

48 Albano: Lib. Pont. I, 184_{23}–185_{17}; see most recently Gandolfo 2020, 11–31, and Pensabene 2024. Capua: Lib. Pont. I, 185_{18}–186_{9}; see also Episcopo 2013.

49 See the most recent summary in Ebanista 2013, 168–171, and Ebanista 2016, 131–146, especially on the apse 137–143.

50 Ebanista 2013, 170. Richard Krautheimer described the type of apse found in the Neapolitan S. Restituta as an African element, with its set columns and marble beams resting upon them, above which the apse wall as well as the apsidal arch lay. He dated it to the end of the 4th Century with reference to the basilica of Sabratha, cf. Krautheimer 1986, 223.

51 In Naples, for example, the apse of the basilica S. Gennaro *extra moenia* shows a similar disposition with two columns extending into the apse, however these sit directly on the chord of the apse without a space in between and support the apse arch. Furthermore, this building is dated later, from the 5th Century, cf. most recently Ebanista 2024, 801.

52 For Ravenna cf. for example San Giovanni Evangelista (Deichmann 1974, 93–124); for Naples cf. Miele 2009, 454–458 (Miele 2009 Falso on this phenomenon overall).

53 To date, only the aerial image of the northwestern corner can be used to examine the western end of the atrium.

54 Bauer 2020, 108.

had retained a layer of tuff blocks, laying directly over another section of foundation (<2.1 m above sea level). As can be seen from old sondage 3, the surviving part of the upper masonry rises up to 60 cm to the west and presents itself there as a relatively regular *opus listatum* built with recycled brick and tuff blocks[55]. However, the foundations of the outer walls as well as of the nave walls were uncovered. The total width of the three-aisled, transept-less basilica is confirmed to be 23.35 m. The width of the nave is 11.9 m, and the width of the side aisles is 4.4 m each. The aisles were separated from each other by two wall pillars and fourteen columns. Analogous to old sondage 4[56], the rectangular imprints or negative traces (ca. 70 × 66 cm) in the upper mortar surface were visible at regular intervals[57], and these are the plinth-like underpinnings for the column bases. From this, an average bay width of about 2.9 m can be calculated. The findings match the details offered in the Liber Pontificalis, which described the thirty lamps Constantine commissioned and thus allowed for a reconstruction of fifteen intercolumns on both sides of the nave[58].

34 The remains or negative traces of these plinth-like underpinnings revealed themselves in an even, smooth layer of mortar and this layer constituted the surface of the foundations, preserved up to the original upper edge of the foundation of the southern nave wall (Fig. 15)[59]. This mortar surface would have served as a support for flooring, revealed in old sondage 4 as a simple white mosaic[60] that may nonetheless have been more elaborately finished within the presbytery.

15

Fig. 15: Ostia antica, Constantinian basilica. Foundation of the southern nave wall with a smooth mortar surface and remains of a column setting. View to the east

2.3 Secondary Liturgical Features (Phase II)

2.3.1. Installation of a solea (5th–6th Century)

35 The next important new result, now within the post-Constantinian phase, was the discovery of the foundation of a solea within the nave, which had not been previously detected in either the geophysical analysis or the old sondages (Fig. 3). The installation of this liturgical element simultaneously defined a new, second building phase.

36 After the completion of the Constantinian church, but before the addition of the chord of the apse (see below), an elongated solea was installed in the centre of the nave – in terms of dating, the pending C14 analyses of the mortar samples taken may provide additional information. Its foundations[61] could be traced over a length of 20 m from the beginning of the apse to the western boundary of the excavation. Within the scope of this excavation, it was not possible to identify their original western end.

55 Heinzelmann 2020, 43–55 with Fig. 39. 40.

56 On this and the following discussion: Heinzelmann 2020, 56–68 with Fig. 60–65.

57 SE 16010, 16011, 16027.

58 Lib. Pont. I, 184_4; see also Bauer 2020, 109.

59 SE 16007.

60 Heinzelmann 2020, 56–69.

61 SE 16008, 16009, 16030, 16031.

The foundations, running parallel through the eastern section at 3.85 m distance from each other, were only slightly sunken into the original floor of the basilica. They are composed of a rough *opus caementicium* that was incorporated into the levelled surface of the Constantinian building using despoliated materials and are only preserved to a very shallow depth in the east (height ca. 28 cm). In the eastern section, the parallel foundations both have a width of 82 cm until they symmetrically dive inwards (each with rounded corners on the outer side) by ca. 25 cm from a point ca. 14.3 m west of the apse, and narrow to a breadth of approx. 35 cm as they progress further west. From the point of this inward 'dive' the width of the solea is reduced to 3.3 m. There is no doubt that the two differently shaped sections of foundation are contemporaneous and therefore belong to the same construction phase. The varying width of the two foundations supporting the solea may have been due to a different design of the original superstructure, which may have been wider and higher in the eastern section than in the western one[62].

37 In fact, from the late 5th or early 6th century onwards, similar structures with a wider section near the apse and a narrower section to the west are commonly found both in the immediate vicinity of Ostia and within Rome[63]. A comparable solea can be found in a group of churches in Rome recently compiled by Antonella Ballardini[64], dating to around the late 5th or early 6th century. An overall form similar to that documented in the Bishop's Church of Ostia, with a somewhat wider area near the apse and a narrower corridor-like area towards the facade, is documented in S. Marco and S. Clemente.

38 The solea at Ostia is unique, in that it led directly up to the chord of the apse. In all other known churches within Rome or its vicinity, the solea ends at a certain distance from the chord of the apse; the area between the solea and the chord of the apse was in some cases secondarily bordered by a wider rectangular screen. This is the case, for example, in Santi Nereo ed Achilleo and in S. Crisogono. The direct connection of the solea to the chord of the apse in Ostia means that the altar could only have been placed in the apse itself. It is possible that this arrangement, which as stated differentiates the cathedral at Ostia from all other local examples, bears witness to an earlier practice of placing the altar within the apse. Yet it is still unlikely that the altar would have previously stood in front of the chord of the apse – and thus in the area subsequently restricted and narrowed by the solea – and was then given a new placement following the installation of this new liturgical feature[65].

39 Later, when the chord of the apse[66] was added, the eastern end of both foundations of the solea were asymmetrically cut off (see below), so it is possible that from this point on the screen around the solea was either no longer in use or had at least been dismantled in the eastern section.

2.3.2. Secondary Division of the Church Interior

40 Just as interesting as the discovery of the solea, was the discovery of another subsequent division of the eastern part of the southern aisle and the southern part of the

62 Cf. the reconstruction of such a solea in the basilica of Portus, with varying designs in the eastern and western parts, Maiorano – Pairoli 2013, 163–165 and fig. 7.16–7.20.

63 Within the group of Constantinian churches, another such liturgical barrier is only known in S. Giovanni in Laterano, where it runs like a narrow corridor along the whole length of the nave from the church entrance likely to the *fastigium* bordering the nave in front of the apse; on this, most recently Bosman et al. 2020, 162–167.

64 Ballardini 2021, previously Guidobaldi 2001.

65 We would like to thank A. Ballardini, G. Bordi, O. Brandt, S. de Blaauw, and P. Liverani for their notes and discussion.

66 SE 16003.

nave, evidenced in the form of three north-south running foundations that very likely belonged to only one structure running from the solea to the southern outer wall (Fig. 3).

41 The remains of these foundations are located ca. 6 m southwest of the apse and despite interruptions form an architectural line oriented at right angles to the nave. A short section of foundation[67] is located in the nave, where it corresponds to a reconstructed position of a column position on the southern nave wall (due to masonry remains of the plinth)[68]. Within the same alignment, there are two further but less well-preserved partial sections of these foundations in the southern aisle[69]. Like the foundation of the solea, these were sunk into the floor at a shallow depth and display a similar consistency, but a narrower breadth (ca. 32 cm). Their original function is uncertain. Given their shallow position and narrowness, they do not appear to be underpinnings for a larger structure. Most likely, they served as foundations for some kind of border used to retrospectively separate the eastern section of the southern aisle and the southern part of the nave from the rest of the church's interior.

2.3.3. Possible Burials within the Church's Interior

42 Finally, indications of potential burials within the interior of the church also belong to the new discoveries. They were encountered in the nave, both inside and outside the solea in the form of very narrow pits or as traces of larger graves, probably for the burial of sarcophagi (Fig. 3).

43 The old sondages had already shown that the basilica was subsequently used for burials, which could be verified both in the atrium and in the western section of the nave[70]. The excavation in 2023 has now revealed that the eastern section of the church also appears to have been used for burials, as is suggested by two human-sized pits and a larger pit in the nave, during a period of time that cannot be determined with certainty (Fig. 3)[71]. However, because of the generally poor state of preservation and the setting of the finds beneath the floor of the eastern area of the church, these pits were very shallow and, apart from a few individual bones, contained no burials preserved *in situ*, so they cannot be reliably identified individually as graves[72]. Nevertheless, there were numerous sarcophagus fragments and nails for timber coffins found in and around the pits, that make it likely they were used for burials. Two of these pits were found within the solea, and nails were found in their vicinity[73]. A markedly larger pit, thus possibly designed for two burials, is located south of the solea, and sarcophagus fragments were found in its vicinity[74]. None of the suspected graves appear to have been disturbed by the installation of the solea. Therefore, it is likely they were created after its addition and with regard for both the solea and the north-south running foundation of the secondary division of the church's eastern part. Even if no more real archaeological certainty can be gained here, based on their size and distribution, it seems reasonable to call these pits graves, namely clerical graves.

67 SE 16013.

68 SE 16011.

69 SE 16014, 16037.

70 Bauer 2020, 117–118.

71 SE 12005, 12013, 12014, 12017.

72 Certain burials, some with re-used sarcophagi, were already observed in the old sondages 4 and 8, i.e., in the entrance and atrium of the church (Heinzelmann 2020, 59 f. with Fig. 67–70, and 92–95 with Fig. 109–111).

73 SE 12012, 12016.

74 SE 12004.

2.4. Later Damage to and Repair of the Apse (Phase III)

2.4.1. Installation of the Chord of the Apse

44 The foundations of the semi-circular apse walls and the later chord of the apse, particularly in their southern section, held a further surprise, revealing clear traces of a late and extensive repair.

45 As already suggested, it appears that the apse was severely damaged at a later point during the active life of the church, perhaps by an earthquake. As a result, the Constantinian masonry had to be partially repaired. The level of damage can be clearly observed on the southernmost portion of the two symmetrical projecting walls flanking the opening of the apse[75]. While its northern counterpart[76] is still intact, only a short stump remains from the southern wall, measuring 83 cm in length (Fig. 13 a. b) and ending in an irregular, broken-off edge (Fig. 14) (see above). This damage was so grave that the original superstructure above must also have been destroyed during the same event, meaning that extensive structural damage in the apse should be assumed. As a localised repair measure, a chord of the apse[77] was inserted in the form of a massive *a sacco* foundation using *opus caementicium*, which extends from the preserved face of the northern projecting wall to the broken-off edge of its southern counterpart (Fig. 3). This chord reinforced and stabilised the apse opening.

2.4.2. Possible Repair of the Apse Wall

46 A final significant insight is the probably two-phase nature of the apse foundations. Contrary to earlier interpretations, only the lower *a sacco* foundation appears to have been part of the Constantinian church. The upper section composed of brick was likely the result of later construction during the late 6th or early 7th century (Fig. 3).

47 The lower part of the foundation of the apse is made of *caementicium* cast *a sacco*[78]. Its upper edge corresponds to the surrounding usage level. This lower section supports the second part of the structure, which is built above[79] using regular *opus testaceum* consisting entirely of recycled bricks (max. height 66 cm). The interior of the apse was intentionally filled, creating a level layer[80] that reaches the height of the original floor. In contrast, the usage level on the outside of the apse remained at the height of the foundation setback, leaving the brickwork visible. With regard to the excavation in 2023, there are now various arguments to suggest that only the deeper *a sacco* foundation belongs to the original Constantinian building phase, whereas the brick superstructure[81] may have originated from a later repair: the earlier observation from old sondage 1, which stated that the levelling layer within the apse should be dated to the late 6th or early 7th century, was confirmed on the basis of ceramic findings[82]. Although the marked differentiation in the types of walls had already been noticed in the previous excavation – until now the apse wall is the only confirmed brick wall of the entire structure – due to the small scope of the excavation, it was assumed that this difference could be explained by the particular static load placed on the apse and the vaulting, and that the apse wall was nevertheless part of the Constantinian phase. In terms of the interior levelling layer, it was assumed that this had been excavated and refilled as

75 SE 16040.
76 SE 16004.
77 SE 16003.
78 SE 16002.
79 SE 16001.
80 SE 11002, 11008, 11009.
81 SE 16001.
82 Cf. Sicilian lamps (late 6th–early 7th century), Amph. Carthage LRA 1 (5th–7th century.) from old SE 108 in Heinzelmann 2020, 33.

part of a subsequent remodelling of the floor based on the materials found there, which were dated to a later period[83]. The full exposure of the apse has now provided additional evidence that supports the view that the brick wall was constructed later. The wall is significantly narrower compared to the cast foundation, such that on both the interior and exterior an unusually wide and irregular foundation setback was created. It is, therefore, unlikely that it was constructed according to a single, unified concept. This discrepancy corresponds to a 5–10 cm wide vertical gap[84] in the masonry of the eastern side of the northern projecting wall, at the base of the brick section of wall (Fig. 16). The irregular break reaching deep into the masonry that can be observed here suggests that during the Constantinian phase a somewhat broader apse wall existed, that was tied into the outer shell of the projecting wall, removed later and replaced with a narrower brick wall. Although this is also well-connected to the eastern wall of the nave by a tight joint, it is not connected to the nave's masonry – in contrast to the deeper cast foundation – and has mortar with a slightly darker colour than the mortar used in the nave's foundations. Theoretically these inconsistencies could be explained by differing techniques and the execution of a separate process of construction within the same building phase; however, in conjunction with the levelling layer inside the apse (dated to a later period), it seems more likely that its outer wall was remodelled in this context. Since the southern projecting wall[85] at the base of the apse also evidences extensive damage, repaired by the subsequent insertion of a massive chord of the apse[86] (see above), the evidence points to an event that severely damaged the complex in the late 6th or early 7th century. Although the nature of the catastrophe cannot be determined, it compromised large parts of the apse, and extensive repairs were therefore necessary. This included the outer wall of the apse, but the Constantinian cast foundations were reused. Pending analyses of mortar samples may provide more certainty regarding the dating of the apse brick wall.

2.5. Abandonment and Despoliation

48 The excavations in 2023 carried out in the apse area support the thesis that the basilica was abandoned within the Carolingian period[87]. This theory was also made during the earlier investigations based on forum-ware from the early 9th century, found in the relevant layers. While the almost complete absence of decorative and structural elements made with high-quality materials such as marble within the church is not surprising, the fact that hardly any building material from the actual masonry or the roofing was found in the backfilled layers suggests an intentional, systematic and complete demolition of the structure[88]. If the church had been left to slowly decay after its abandonment, the size and volume of the basilica means that a greater mass of rubble should have remained, similar to what is well-documented in numerous other sites in Ostia[89]. The paucity of notable finds in the basilica, on the other hand, can only be explained by the systematic despoliation of all building materials. This is also reflected in the notable absence of late antique Christian finds at the site. Despite the relatively large excavation area, the only 'Christian' object found was a tuff stone bearing an incised Christogram with a flanking alpha and omega. Unfortunately, this was a stray find[90].

83 Bauer 2020, 119; Heinzelmann 2020, 31–35.

84 SE 11013.

85 SE 16040.

86 SE 16003.

87 Referred to as Period F in Heinzelmann 2020, 31.

88 Only on the apse exterior were a few small, collapsed fragments of the apse wall found (SE 15001).

89 Cf., e.g., Heinzelmann 2020, 80–89.

90 Furthermore, this complete robbery of all stone is a characteristic not only in this part of the city, extending northwards along the road to the sea, but also for the southern part where the basilica of Pianabella is found (on Pianabella, see Nuzzo 2016).

Fig. 16: Ostia antica, Constantinian basilica. Northern projecting wall of the apse and apse foundation, view from the southeast: detail of the joining point

16

49 The systematic dismantling of the building and the removal of all building materials is remarkable in that the walls of the basilica were already largely made of recycled materials and therefore not particularly suitable for reuse, whereas numerous other ruins with significantly higher quality building materials were likely available in the vicinity. It can therefore be assumed that there were specific reasons for this targeted despoliation of the building. The work, which can be dated to the early 9th century thanks to the forum-ware, might indicate a connection with the new foundation of the settlement of Gregoriopolis, today's Borgo di Ostia, which was initiated by Pope

Gregory IV in 830[91]. Since the relocation of the episcopal seat probably also took place in that context, one could speculate that the material taken from the Constantinian Bishop's Church in Ostia was also preferentially used for a new building in the Borgo on the grounds of ownership and/or symbolism.

3. Conclusion and Outlook

50 The new investigations of the Bishop's Church at Ostia have, in terms of the chronology and basic design of the basilica, largely confirmed the older results from the excavations in 1998/1999, but also significantly expanded upon them. Numerous new insights were gained into the liturgical division and long-term development of the church. The new knowledge about the design of the Constantinian apse, with projecting walls and probable side columns, is of greater architectural-historical significance, while the laborious remodelling of the presbytery area through the installation of a large solea provides important evidence on the church's changing liturgical usage during the 5th and 6th centuries. The sequence of the phases of the construction of the apse can now also be presented in a new light: extensive repair measures were taken to reconstruct the apse at its original size, in response to severe damage resulting from an event in the late 6th or early 7th century. The complete dismantling of the church during the Carolingian period, previously simply assumed based on findings from the old sondages, has now been confirmed across the entire excavation area in 2023. Finally, the deep sondages provided interesting new insights into the use of this inner-city area before the church's construction, as no earlier structures were found across the entire excavation site in 2023. In fact, in contrast to the western part of the church, the eastern section was built on previously undeveloped land that had formerly been prepared for agricultural cultivation.

51 For the excavations planned in the coming years, the aim is to uncover the western side of the church, the eastern atrium ambulatory, the western side of the atrium and its connection to the via del Sabazeo, as well as the baptistry and the structure south of the church, along with the probable episcopal residence. The focus should remain on research into the Constantinian building and its furnishings, as well as its liturgical development via the additions and extensions discovered in 2023 (retrospective construction of the solea, dividing walls, baptistery, etc.). The ongoing aim of this work is to gain a better understanding of the relationship between the pre-existing structures and the erection of the church, and thereby garner more insights into the long-term urban development of this part of the city. For example, the relationship of this area to the via del Sabazeo and the city wall, or the transformation of this inner-city space as a place of burial, for which pre-Christian sarcophagi from the nearby suburban necropolis were reused. Finally, the abandonment and demolition of the church should continue to be investigated in the context of the further development of the whole of Regio V.

Acknowledgements

52 We are very greatful for the support of DFG, and to Alessandro D'Alessio, director of the Parco Archeologico di Ostia antica, and his staff, especially Claudia Tempesta, Cristina Genovese and Dario Daffara. We are also grateful to Dorothe Heinzelmann and Federico Capriuoli, for their help.

91 Lib. Pont. II, 8121–826. Cf. also Lib. Pont. II, 1648–13.

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METADATA
Titel/*Title*: New Insights into the Building Design and Construction Phases of the Constantinian Bishop's Church at Ostia. Results from the Initial Excavation, 2023
Band/*Issue*: 130
Bitte zitieren Sie diesen Beitrag folgenderweise/*Please cite the article as follows*: S. Feist – M. Heinzelmann – N. Zimmermann – E. Borgia – H. Boes – A. Schröder – M. Elefante – A. Troiani – F. Russo, New Insights into the Building Design and Construction Phases of the Constantinian Bishop's Church at Ostia. Results from the Initial Excavation, 2023, RM 130, 2024, 206–236, https://doi.org/10.34780/09x9b346

Online veröffentlicht am/*Online published on*: 31.12.2024
DOI: https://doi.org/10.34780/10.34780/09x9b346
Schlagwörter/*Keywords*: Ostia Antica, Christian Basilica, Constantinian Church, Cathedral, Bishop's Palace
Bibliographischer Datensatz/*Bibliographic reference*: https://zenon.dainst.org/Record/003079347