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TECHNICIAN TRAINING FOR THE CONSERVATION OF MOSAICS

PART 2
THE CONSERVATION OF DETACHED MOSAICS

Mosaics detached and relaid in situ on
reinforced concrete:
their reinstallation in situ and documentation



Livia Alberti, Ermanno Carbonara, Thomas Roby



The various types of conservation treatments for detached mosaics relaid on reinforced concrete panels

In situ maintenance treatments

- Stabilization by removing areas of tessellatum using protective facing
- Stabilization by removing individual tesserae using a “work aid” photograph

Removing and reinstalling panels on site on layers of mortar

Intervention phases:

1. Detachment of mosaic panels
2. Preparation of reinstallation area for the mosaic sections
3. Removal of old support of mosaic panels
4. Reinstallation and presentation of the mosaic

1. Detachment of mosaic panels

• Cleaning and Stabilization

- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Cleaning of deposits of dirt and debris without water.

Cleaning of micro-organisms with water.

Resetting of detached tesserae using a weak mortar.

Filling lacunae with a weak mortar.

1. Detachment of mosaic panels

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1. Detachment of mosaic panels

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- Inversion of panels and transport to the laboratory

Apply one or more layers of fabric to the surface of the mosaic using an adhesive.

1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Characteristics of the adhesive to be used:

Able to be removed without damaging the mosaic.

Compatible with the fabric.

Adequate adhesion.

Adequate vitreous transition temperature.

Appropriate for the mosaic's humidity conditions.

Characteristics of the fabric to be used:

Compatible with the adhesive.

More than one fabric with different weaves.

Adequate resistance.

1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
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- Separation and detachment of panels
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Types of adhesive:

Water-based:

vinyl, acrylic, starch, bone

Solvent-based:

acrylic resin

Types of fabric:

Natural fibers:

cotton, hemp, jute, linen

Synthetic fibers:

polyester, polyamide (nylon)

1. Detachment of mosaic panels

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1. Detachment of mosaic panels

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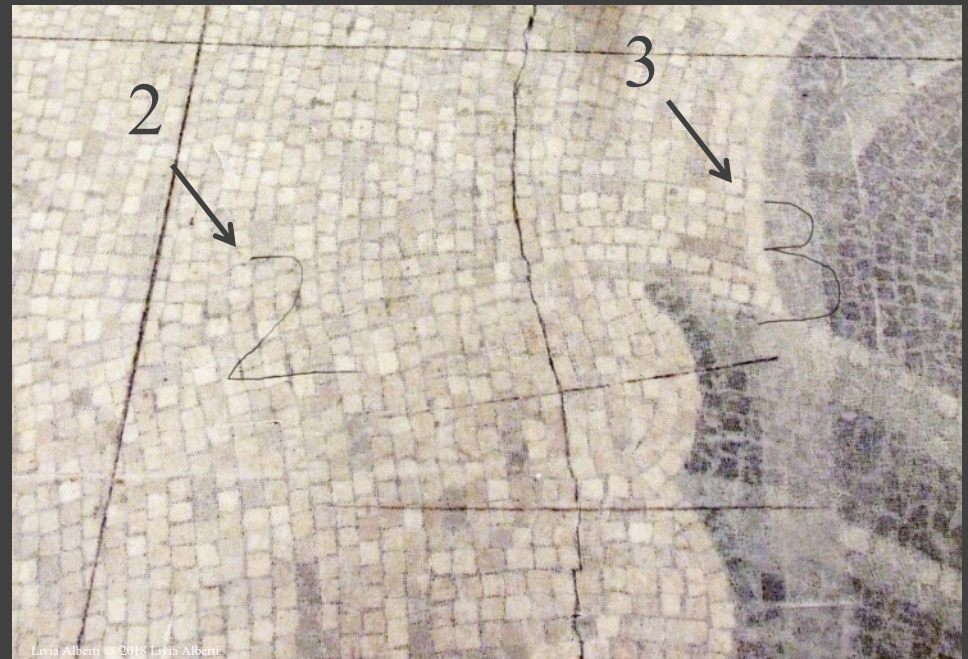
Mark and number the profiles of each section on a map and on each of the sections themselves.

Mark the reference lines between each of the sections.

Create a reference system separate from the mosaic.

1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
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1. Detachment of mosaic panels

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- Facing of the surface with one or more layers of fabric and adhesive
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Detach and lift the sections using long, flat bars and/or a lever.

Slide the sections onto rigid plywood panels.

1. Detachment of mosaic panels

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- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Place a plywood panel on the surface of the section.

Hold the two panels together using rigid braces.

Invert the mosaic section.

Secure the panels with the mosaic section, if necessary.

Transport the panels manually or by other means, depending on the weight.

1. Detachment of mosaic panels

- Cleaning and Stabilization
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Sebastiaan Godts 2010 © J. Paul Getty Trust



Sebastiaan Godts 2010 © J. Paul Getty Trust

1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory



Iwan Albert 2018 © J. Paul Getty Trust

2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer

Cleaning loose dirt and debris without water.

Cleaning compact dirt with water, if necessary.

Fill lacunae and cracks with lime putty or hydraulic lime-based mortar similar to the original layer to be stabilized.

2. Preparation of reinstatement area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer



2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer

Create mortar samples for the various preparatory layers to be integrated.

At the correct level, reconstruct the missing parts of each original preparatory layer, excluding the bedding layer for the tesserae.

Consider the slope for draining rain water from the room and determine the placement of a water drainage opening, if necessary.

2. Preparation of reinstatement area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer



2. Preparation of reinstatement area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer



3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Make close parallel cuts in the panel using a disc grinder.

Remove the concrete ridges left behind by the cuts, using a hammer and chisel.

Clean the back of the tesserae with micro-chisels, micro-engravers, scalpel, etc.

Attach again with an adhesive any detached tesserae to the fabric, if necessary.

3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections



3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Procedure to follow in the event of minimal panel deformation:

Verify the connection between the sections, correct their position and mark the new reference lines if errors are detected in the alignment from the previous positioning.

Create new section cuts in the mosaic, if necessary.

3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections



3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Procedure to follow in the event of significant panel deformation:

Apply a layer of clay to the back of the sections and invert them.

Tap the surface of the mosaic while the layer of clay is fresh to bring the sections together and correct the deformation of the mosaic, referring to the lines and motifs of the mosaic decoration itself.

Dissolve the facing adhesive with an appropriate solvent, depending on the type of adhesive used, and remove the fabric, verifying that the tesserae do not detach from the clay bedding layer.

Apply a new fabric layer (one or more) to the surface of the mosaic using an appropriate adhesive.

Mark and number the new sections on the map and on each of the sections themselves.

Mark the reference lines between sections and create a new reference system with the in situ structures.

Create new section cuts in the mosaic.

Invert the mosaic sections and remove the clay layer.

3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections



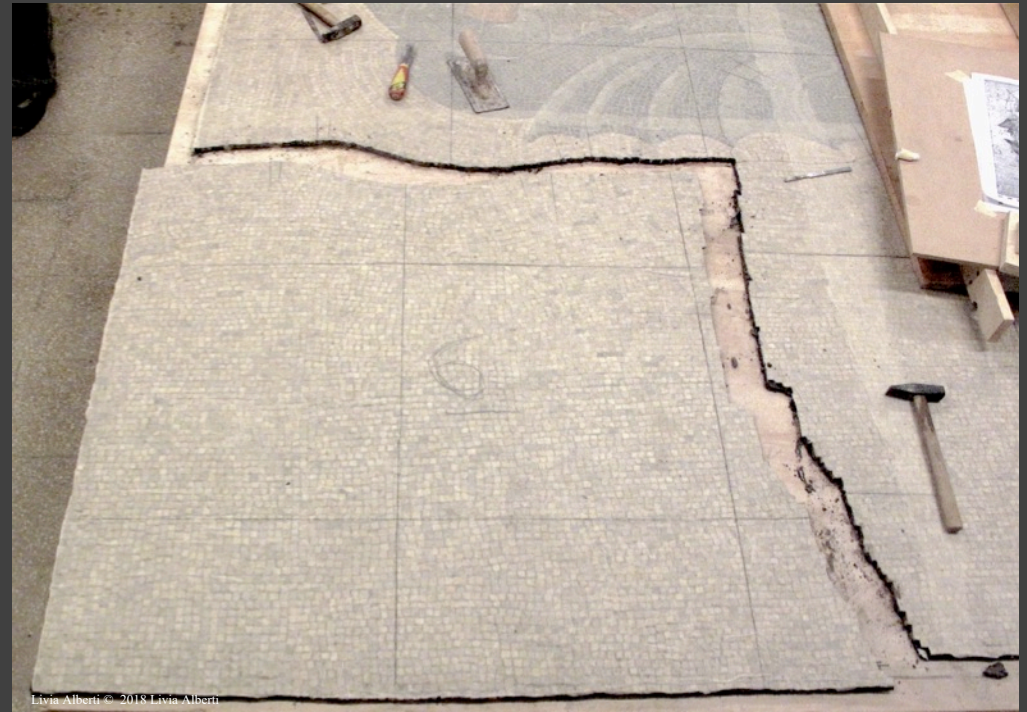
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections



3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections



3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Invert the mosaic sections on plywood panels.

Transport the sections on site.

3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections



Lucia Alberti 2018 © J. Paul Getty Trust

4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum

Apply the lime-based mortar on the tesserae and the section reinstallation area.

Reposition the sections one at a time by sliding them onto the mortar beds that are still freshly applied to the section reinstallation area.

Verify the position of the sections using the reference lines between the various sections and the reference systems previously set up around the mosaic.

Tap the surface of the mosaic while the mortar is still soft to bring the sections together and correct deformations, if necessary.

Apply weight to the surface of the mosaic while the mortar is setting.

4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum



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4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum



4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum

Dissolve the adhesive with an appropriate solvent, depending on the type of adhesive used.

Remove the fabric one small area at a time, verifying that the tesserae do not detach from the bedding layer.

Clean the adhesive off the mosaic surface with an appropriate solvent.

4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum



4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum

Remove the old mortar in the lacunae and fill them with appropriate mortar.

Fill the interstices between the tesserae where needed.

4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum



Documentation

for in situ reinstallation interventions for detached mosaics

DATA FORM NO. 2 – PREVIOUS INTERVENTIONS

STUDY PHASE

MOSAIC ID ____/____/____/____

PREVIOUS INTERVENTIONS ON THE MOSAIC

Mortar repairs

- Infilling of lacunae
- Edging repair
- Filling of interstices between tesserae
- Grouting of voids between preparatory layers

Reintegration of lacunae

- with tesserae
- with pieces of stone, brick or other material inserted into the mortar

Lifting and relaying on a new support

- Reinforced concrete/cement support
- Other type of support: _____

Surface treatment

- Chemical cleaning
- Mechanical abrasion
- Application of a surface product (resin, wax, etc.)
- Other: _____

Parts detached and stored elsewhere

- Reburial *(Draw a vertical section of the reburial; describe the fill materials and separation membranes used, provide the total thickness and the thickness of each layer)*

PREVIOUS INTERVENTIONS AROUND THE MOSAIC

- Drainage
- Open shelter
- Wall stabilization
- Removable cover
- Closed shelter
- Other: _____
- Access barrier: _____

DATES OF PREVIOUS INTERVENTIONS CARRIED OUT AND INFORMATION SOURCES

PREPARED BY

DATE

LEGEND – PREVIOUS INTERVENTIONS MAP

MOSAIC ID ____/____/____/____

Mortar repairs



Infilling of lacunae



Edging repair



Outline of each infilling or edging mortar



Overlapping between mortar layers (new) → old



Filling of interstices between tesserae



Reintegration of lacunae



Reintegration with tesserae



Reintegration with :

Detached mosaics



Outline of the support panels of a detached mosaic re-laid in situ



Location of the metal reinforcements of the support panels



Parts detached and stored elsewhere

Other types of interventions



Reburial outline



Drainage openings



PREPARED BY

DATE

DATA FORM NO. 3 – CONDITION ASSESSMENT

STUDY PHASE

MOSAIC ID ____/____/____/____

INSPECTION TYPE Initial inspection Maintenance cycle

PRESENT EXPOSURE CONDITIONS

- In open air Reburied Under an open shelter
- Walked on Under a removable cover Under a closed shelter
- Parts not excavated or inaccessible

During the initial inspection, check the boxes of all the deterioration phenomena that are present. During maintenance cycles, only indicate new deterioration phenomena that have occurred since the last inspection or last intervention.

STRUCTURAL DETERIORATION

(Condition Assessment Map No. 1)

- Tessellatum lacunae Depressions
- Cracks Detachments between mosaic layers
- Bulges

SURFACE DETERIORATION

(Condition Assessment Map No. 2)

- Detached tesserae Stains
- Deteriorated tesserae Incrustations
- Deteriorated mortar between tesserae Efflorescence

PRESENCE OF BIO-DETERIORATION AGENTS

(Condition Assessment Map No. 3)

- Micro-organisms Tunnels or entrance holes made by insects and other animals
- Vegetation

DETERIORATION OF INTERVENTIONS

(Condition Assessment Map No. 4)

- Deteriorated lacunae fills or edging repairs
- Deteriorated mortar between tesserae
- Re-detached tesserae
- Deteriorated support panels
- Deteriorated support metal reinforcements

Reburial:

- Presence of vegetation
- Loss of fill materials
- Deteriorated separation membranes

DETERIORATION OF INTERVENTIONS AROUND THE MOSAIC

- Clogged drainage Deteriorated cover or shelter
- Stabilized walls with new deterioration Damaged access barrier
- Other: _____

OBSERVATIONS ON THE CONDITION ASSESSMENT

GENERAL CONDITION OF THE MOSAIC

Good Fair Bad

- Date recommended for next inspection: _____
(No intervention required)
- Date recommended for intervention: _____
(Intervention required)

PREPARED BY _____

DATE _____

LEGEND – CONDITION ASSESSMENT MAP NO. 4

DETERIORATION OF INTERVENTIONS

MOSAIC ID ____/____/____/____



Deteriorated lacunae fills or edging repairs



Deteriorated mortar between tesserae



Re-detached tesserae or detached tesserae of a re-laid mosaic



Deformed mosaic support panels



Bulging areas in support panels



Visible deterioration of metal reinforcements in support panels



Detachment between tessellatum and support panels



Cracks in mosaic support panels



Livia Alberti, Elsa Bourgaignon, Thomas Roby 2008, 2011, 2013 © J. Paul Getty Trust and Institut National du Patrimoine de Tunisie

Livia Alberti, Elsa Bourgaignon, Thomas Roby 2008, 2011, 2013 © J. Paul Getty Trust and Institut National du Patrimoine de Tunisie

DATA FORM NO. 5 - CURRENT INTERVENTIONS

INTERVENTION PHASE

MOSAIC ID _____ / _____ / _____ / _____

INTERVENTION TYPE

Initial intervention

Maintenance cycle

DATE OF PREVIOUS INTERVENTION

DATE OF PREVIOUS INSPECTION

DATE AND LENGTH OF CURRENT WORK

DATE RECOMMENDED FOR THE NEXT INSPECTION

TREATMENTS CARRIED OUT ON THE MOSAIC

- Vegetation removal
- Cleaning of the entire surface
- Cleaning of part of the surface
- Removal of modern repair mortars
- Resetting tesserae
- Filling interstices between tesserae
- Grouting voids between preparatory layers
- Infilling lacunae and/or edging repairs
- Removal and resetting tesserae with facing
- Removal of metal reinforcements in support panels
- Treatment of metal reinforcements in support panels
- Drainage
- Reburial *(Draw a vertical section of the reburial: describe the fill materials and separation membranes used, provide the total thickness and the thickness of each layer)*

INTERVENTIONS CARRIED OUT AROUND THE MOSAIC

- Wall stabilization
Notes:
- Other: _____
Notes:

NAMES OF THE TECHNICIANS WHO CARRIED OUT THE WORK

PREPARED BY

DATE

LEGEND - CURRENT INTERVENTIONS MAP

MOSAIC ID _____ / _____ / _____ / _____



Vegetation removal



Cleaning of part of the surface



Resetting tesserae
Mortar composition:



Filling interstices between tesserae
Mortar composition:



Grouting voids between preparatory layers
Mortar composition:



Infilling of lacunae and/or edging repair
Mortar composition:



Infilling of lacunae and/or edging repair
Mortar composition:



Infilling of lacunae and/or edging repair
Mortar composition:



Facing with adhesive:



Removal and resetting tesserae with facing



Removal of metal reinforcements in support panels



Treatment of metal reinforcements in support panels



Drainage openings



Reburial of a part of the surface

PREPARED BY

DATE

Use the additional sheet to create specific legends

LEGEND - MAP

ADDITIONAL SHEET

MOSAIC ID ____/____/____/____

PREPARED BY

DATE

Example of documentation

Hergla, Tunisia (2010)

House “of the two peristyles”
ID: HE/H2P/12



Identification

DATA FORM NO. 1 – IDENTIFICATION

STUDY PHASE
MOSAIC ID HE / H2P / 12 /

This form must be completed with the site manager. It should be supplemented by an overall photograph of the mosaic and a plan of the building indicating the location of the room.

SITE Hergla (HE)
BUILDING House “of the two peristyles” (H2P)
ROOM 12 (12)

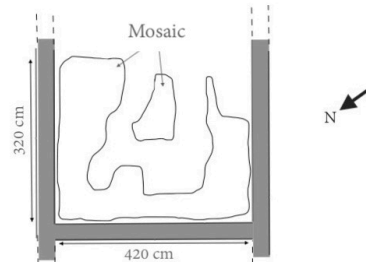
SECTIONS, FRAGMENTS OR LEVELS
(Use Arabic numerals for sections, letters for fragments, Roman numerals for levels)

MOSAIC ID HE / H2P / 12 /
(Abbreviation of the site / building / room / sections or fragments or levels)

EXISTING DOCUMENTATION ABOUT THE MOSAIC AND ITS CONSERVATION
(References of publications, plans, photographs, drawings and other documents)

DATE OF MOSAIC EXCAVATION:

DIMENSIONS AND NUMBERING OF FRAGMENTS, SECTIONS OR LEVELS
(Use an existing drawing or make a sketch of the mosaic indicating the north and the walls of the room)

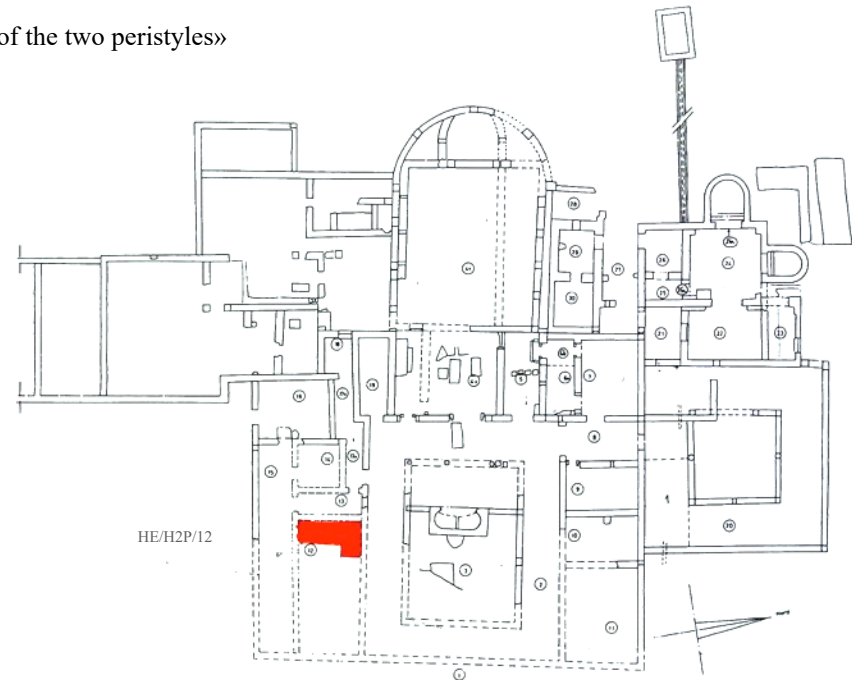


GENERAL OBSERVATIONS ON THE CONSTRUCTION TECHNIQUE
(Type of pavement, decoration, materials, colors, tesserae sizes, etc.)

PREPARED BY Ermanno Carbonara

DATE 05/2010

House «of the two peristyles»



Mongi Ennaifer and Nayla Ouertani © 2001 Cahiers d'archeologie romande



Ermanno Carbonara 2010 © J. Paul Getty Trust

HE-H2P-12_2010-05_11D_VueGénérale

Previous Interventions

DATA FORM NO. 2 – PREVIOUS INTERVENTIONS

MOSAIC ID HE, H2P, 12, / STUDY PHASE

PREVIOUS INTERVENTIONS ON THE MOSAIC

- Mortar repairs Infilling of lacunae
 Edging repair
 Filling of interstices between tesserae
 Grouting of voids between preparatory layers
- Reintegration of lacunae with tesserae
 with pieces of stone, brick or other material inserted into the mortar
- Lifting and relaying on a new support Reinforced concrete/cement support (1969)
 Other type of support: _____
- Surface treatment Chemical cleaning
 Mechanical abrasion
 Application of a surface product (resin, wax, etc.)
 Other: _____

Parts detached and stored elsewhere

LEGEND – PREVIOUS INTERVENTIONS MAP

MOSAIC ID HE, H2P, 12, /

Mortar repairs

- 1 ~~Infilling of lacunae~~ Reinforced concrete panel mortar visible on the surface (1969)
- Edging repair
- Outline of each infilling or edging mortar
- Overlapping between mortar layers (new → old)
- Filling of interstices between tesserae
- 2 Panel mortar in-filling. Yellow color (1969)
- 3 Cement mortar repair. Grey-yellow color
- 4 Cement mortar repair. Dark grey color
- Old mortar → New mortar

Reintegration of lacunae

- Reintegration with tesserae
- Reintegration with:

Detached mosaics

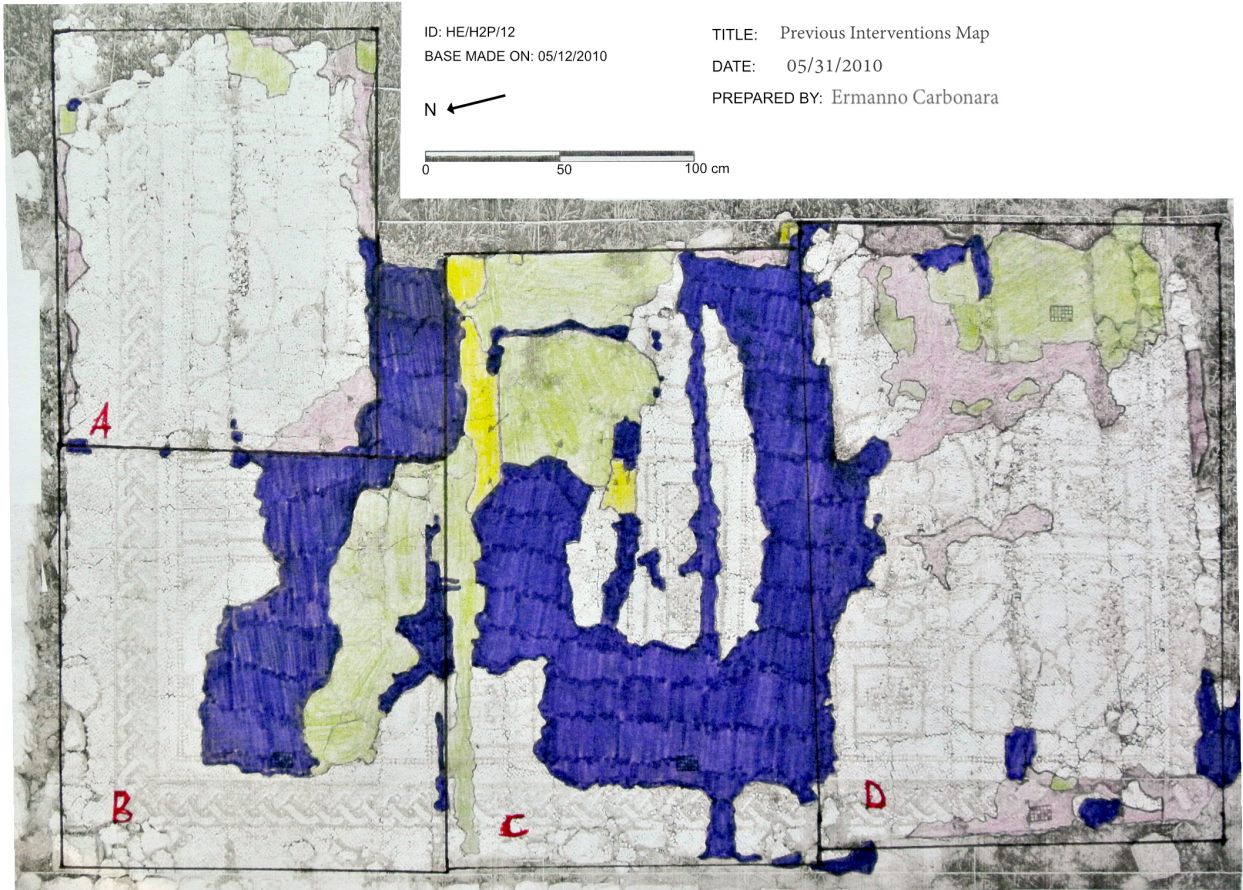
- Outline of the support panels of a detached mosaic re-laid in situ /panel designations A, B, C, D
- Location of the metal reinforcements of the support panels
- Parts detached and stored elsewhere

Other types of interventions

- Reburial outline
- Drainage openings
-
-

PREPARED BY Ermanno Carbonara

DATE 05/31/2010



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Condition Assessment

DATA FORM NO. 3 - CONDITION ASSESSMENT

STUDY PHASE

MOSAIC ID HE/H2P/12 /

INSPECTION TYPE Initial inspection Maintenance cycle

PRESENT EXPOSURE CONDITIONS

In open air Reburied Under an open shelter
 Walked on Under a removable cover Under a closed shelter
 Parts not excavated or inaccessible

During the initial inspection, check the boxes of all the deterioration phenomena that are present. During maintenance cycles, only indicate new deterioration phenomena that have occurred since the last inspection or last intervention.

STRUCTURAL DETERIORATION

(Condition Assessment Map No. 1)

Tessellatum lacunae Depressions
 Cracks Detachments between mosaic layers
 Bulges

SURFACE DETERIORATION

(Condition Assessment Map No. 2)

Detached tesserae Stains
 Deteriorated tesserae Incrustations
 Deteriorated mortar between tesserae Efflorescence







PRESENT AND PAST DETERIORATION AGENTS

(Condition Assessment Map No. 3)

LEGEND - CONDITION ASSESSMENT MAP NO. 2

SURFACE DETERIORATION

MOSAIC ID HE/H2P/12 /

-  Detached tesserae
-  Deteriorated tesserae
-  Deteriorated mortar between tesserae
-  Stains
-  Incrustations
-  Efflorescence

- 
- 
- 
- 

PREPARED BY Ermanno Carbonara

DATE 05/31/2010



ID: HE/H2P/12

BASE MADE ON: 05/12/2010

TITLE: Condition Assessment Map No.2 - Surface deterioration

DATE: 05/31/2010

PREPARED BY: Ermanno Carbonara

N

0 50 100 cm

Condition Assessment

DATA FORM NO. 3 - CONDITION ASSESSMENT

STUDY PHASE
MOSAIC ID HE,H2P,12 /

INSPECTION TYPE Initial inspection Maintenance cycle

PRESENT EXPOSURE CONDITIONS

In open air Reburied Under an open shelter
 Walked on Under a removable cover Under a closed shelter
 Parts not excavated or inaccessible

During the initial inspection, check the boxes of all the deterioration phenomena that are present. During maintenance cycles, only indicate new deterioration phenomena that have occurred since the last inspection or last intervention.

STRUCTURAL DETERIORATION

(Condition Assessment Map No. 1)

Tessellatum lacunae Depressions
 Cracks Detachments between mosaic layers
 Bulges

SURFACE DETERIORATION

(Condition Assessment Map No. 2)




Detached tesserae Stains
 Deteriorated tesserae Incrustations
 Deteriorated mortar between tesserae Efflorescence

PRESENCE OF BIO-DETERIORATION AGENTS

(Condition Assessment Map No. 3)

LEGEND - CONDITION ASSESSMENT MAP NO. 3 PRESENCE OF BIO-DETERIORATION AGENTS

MOSAIC ID HE,H2P,12 /

-  Micro-organisms
-  Vegetation
-  Tunnels or entrance holes made by insects and other animals

-
-
-
-
-
-

PREPARED BY Ermanno Carbonara

DATE 05/31/2010



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Condition Assessment

DATA FORM NO. 3 – CONDITION ASSESSMENT

STUDY PHASE

MOSAIC ID HE/H2P/12 /

INSPECTION TYPE Initial inspection Maintenance cycle

PRESENT EXPOSURE CONDITIONS

- In open air Reburied Under an open shelter
 Walked on Under a removable cover Under a closed shelter
 Parts not excavated or inaccessible

During the initial inspection, check the boxes of all the deterioration phenomena that are present. During maintenance cycles, only indicate new deterioration phenomena that have occurred since the last inspection or last intervention.

STRUCTURAL DETERIORATION

(Condition Assessment Map No. 1)

- Tessellatum lacunae Depressions
 Cracks Detachments between mosaic layers
 Bulges

SURFACE DETERIORATION

(Condition Assessment Map No. 2)

- Detached tesserae Stains
 Deteriorated tesserae Incrustations
 Deteriorated mortar between tesserae Efflorescence











PRESENCE OF DETERIORATION AGENTS

(Condition Assessment Map No. 3)

-

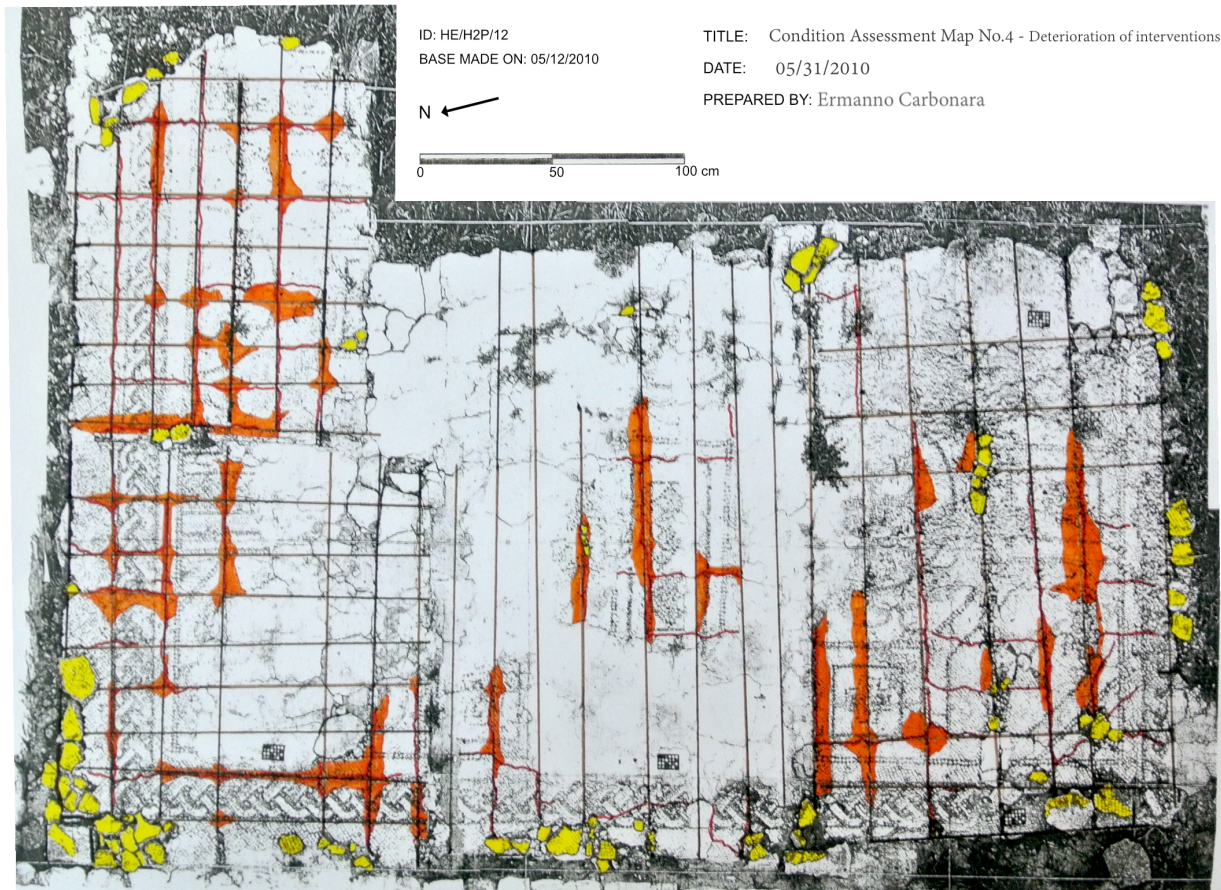
LEGEND – CONDITION ASSESSMENT MAP NO. 4 DETERIORATION OF INTERVENTIONS

MOSAIC ID HE/H2P/12 /

-  Deteriorated lacunae fills or edging repairs
-  Deteriorated mortar between tesserae
-  Re-detached tesserae or detached tesserae of a re-laid mosaic
-  Deformed mosaic support panels
-  Bulging areas in support panels
-  Visible deterioration of metal reinforcements in support panels
-  Detachment between tessellatum and support panels
-  Cracks in mosaic support panels
-  Detached fragments
- 

PREPARED BY Ermanno Carbonara

DATE 05/31/2010



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Current Interventions (Phase 1)

DATA FORM NO. 5—CURRENT INTERVENTIONS

INTERVENTION PHASE

MOSAIC ID HE/H2P/12 / /

INTERVENTION TYPE Initial intervention Maintenance cycle

DATE OF PREVIOUS INTERVENTION Construction of the panels 1969?

DATE OF PREVIOUS INSPECTION

DATE AND LENGTH OF CURRENT WORK 31 May – 12 June 2010




DATE RECOMMENDED FOR THE NEXT INSPECTION


TREATMENTS CARRIED OUT ON THE MOSAIC


- Vegetation removal
- Cleaning of the entire surface
- Cleaning of part of the surface
- Removal of modern repair mortars
- Resetting tesserae
- Filling interstices between tesserae


LEGEND—CURRENT INTERVENTIONS MAP

MOSAIC ID HE/H2P/12 / /


-  Vegetation removal
-  Cleaning of part of the surface
-  Resetting tesserae

Extra fine		Fine
1 NHL 6	or	1 NHL 6
1 white cement		1 white cement
1 sand.....0-0.5		2 sand.....0-1
1 stone powder0-0.5		1 stone powder.....0-1
-  Filling interstices between tesserae


Mortar composition:
-  Grouting voids between preparatory layers








Mortar composition:
-  Infilling of lacunae and/or edging repair

Mortar composition: Medium size 1 NHL 6

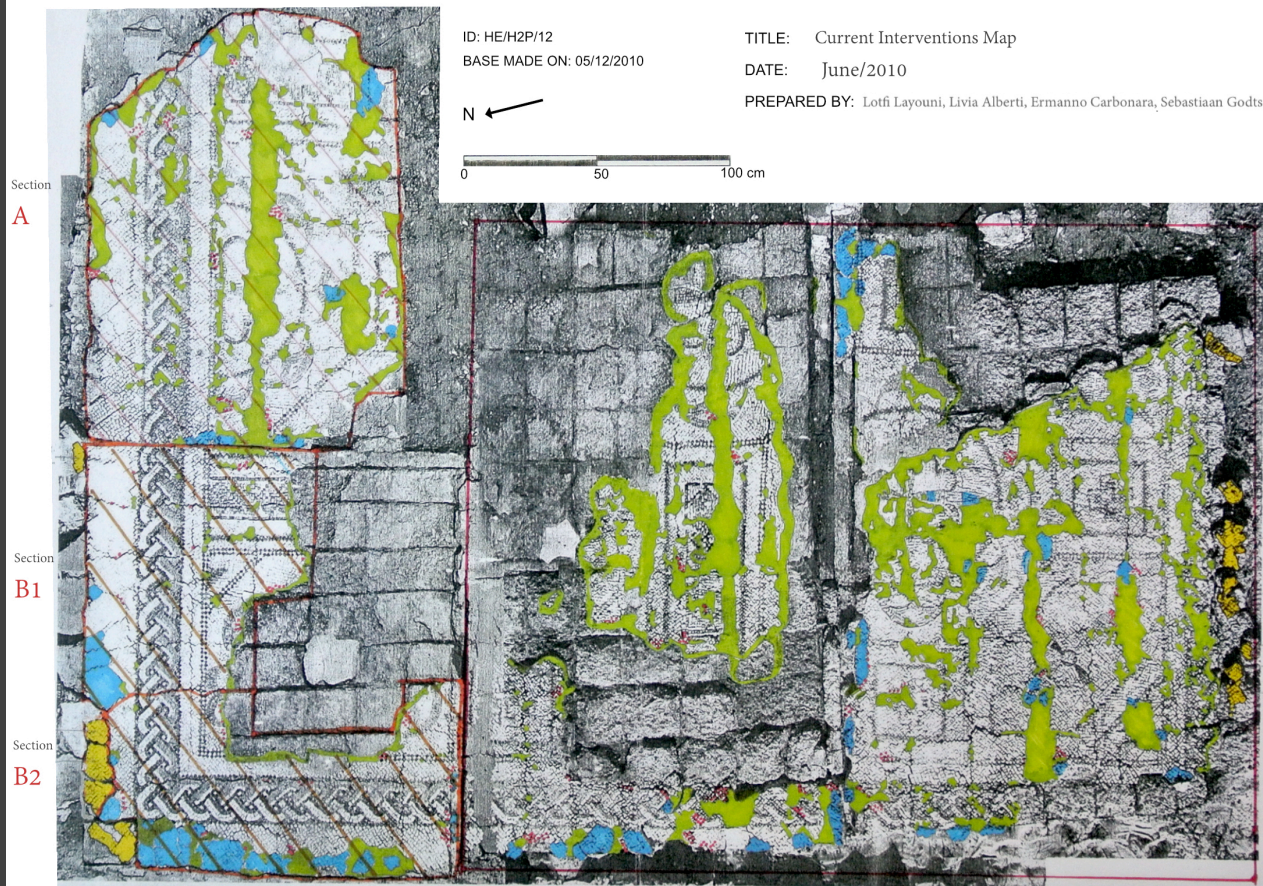
 - 1 white cement
 - 2 sand.....0-1
 - 1 El Jem gravel.....1-3 or 0-3
-  Infilling of lacunae and/or edging repair

Mortar composition: Large size 1 NHL 6

 - 1 white cement
 - 2 sand.....0-1
 - 1 El Jem gravel.....3-4
-  Infilling of lacunae and/or edging repair

Mortar composition:
-  Facing with adhesive: Vinyl adhesive "SILTOL 750"
-  Removal and resetting tesserae with facing
-  Temporary removal of mosaic sections with facing
-  Removal of metal reinforcements in support panels
-  Treatment of metal reinforcements in support panels
-  Drainage openings
-  Reburial of a part of the surface

PREPARED BY Ermanno Carbonara DATE June 2010



ID: HE/H2P/12
BASE MADE ON: 05/12/2010

TITLE: Current Interventions Map

DATE: June/2010

PREPARED BY: Lotfi Layouni, Livia Alberti, Ermanno Carbonara, Sebastiaan Godts

Current Interventions (Phase 2)

DATA FORM NO. 5—CURRENT INTERVENTIONS

INTERVENTION PHASE

MOSAIC ID HE/H2P/12 /

INTERVENTION TYPE Initial intervention Maintenance cycle

DATE OF PREVIOUS INTERVENTION

DATE OF PREVIOUS INSPECTION

DATE AND LENGTH OF CURRENT WORK 11-29 October 2010 and 16-22 November 2010

DATE RECOMMENDED FOR THE NEXT INSPECTION Before 2012











TREATMENTS CARRIED OUT ON THE MOSAIC

- Vegetation removal (with glyphosate around the southern part of the mosaic)
- Cleaning of the entire surface
- Cleaning of part of the surface
- Removal of modern repair mortars
- Resetting tesserae
- Filling interstices between tesserae

LEGEND - MAP Current Interventions

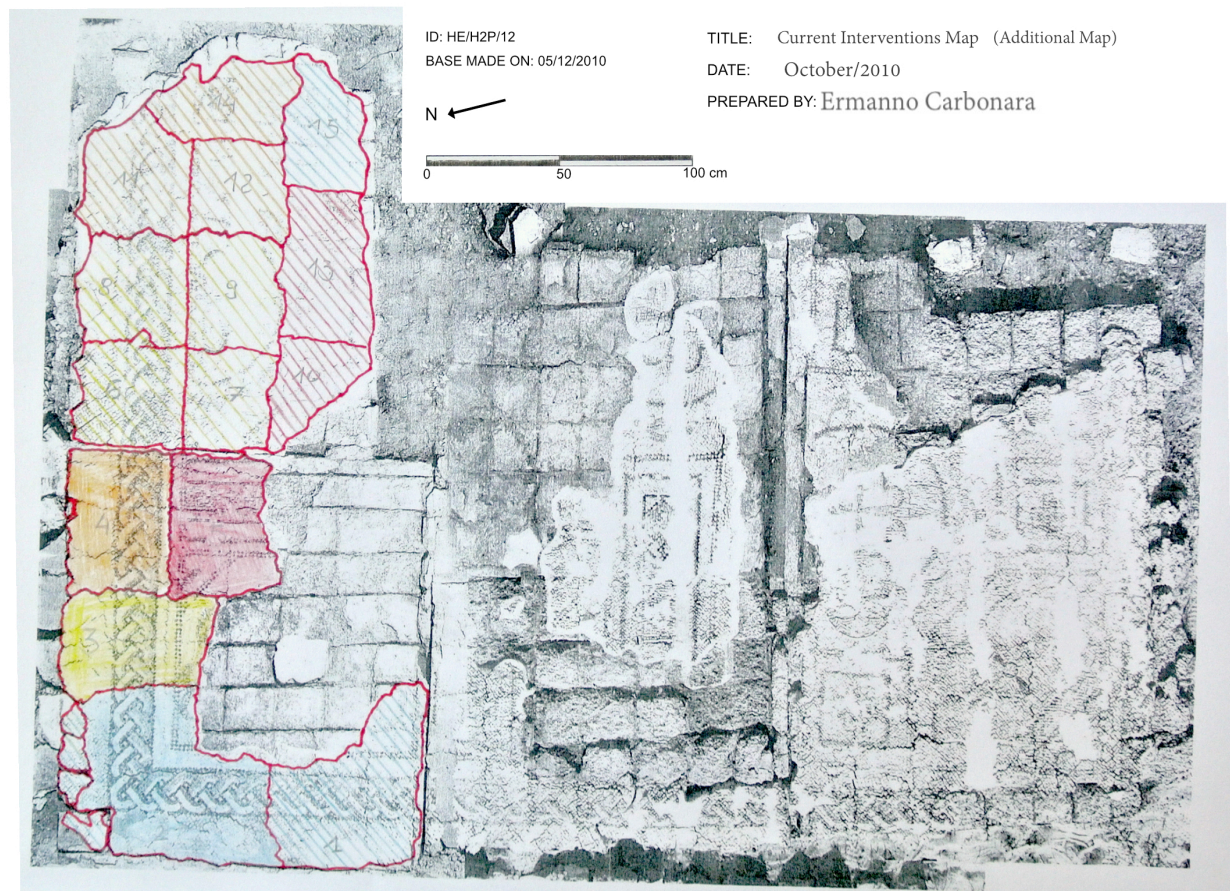
ADDITIONAL SHEET

MOSAIC ID HE/H2P/12 / North area

-  Reinstalled mosaic sections
-  Sections installed with bedding mortar set
 - Mortar composition:
 - 2 NHL 6
 - 1 white cement
 - 3 sand.....0-3
 - 1 limestone powder (tiff).....0-3
-  Sections installed with bedding mortar not set
-  Sections installed with bedding mortar set
 - Mortar composition:
 - 1 NHL 6
 - 1 sand.....0-3
 - 1 limestone powder (tiff).....0-3
-  Sections installed with bedding mortar not set
-  Sections installed with bedding mortar set
 - Mortar composition:
 - 2 NHL 6
 - 1 white cement
 - 2 sand.....0-3
 - 2 ceramic powder.....0-1
 - 2 limestone powder (tiff).....0-3
-  Sections installed with bedding mortar not set
-  Sections installed with bedding mortar set
 - Mortar composition:
 - 1 NHL 6
 - 2 lime putty
 - 2 sand.....0-3
 - 3 ceramic powder.....0-1
 - 1 limestone powder (tiff).....0-3
-  Sections installed with bedding mortar not set
- 

PREPARED BY Ermanno Carbonara

DATE October 2010



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Current Interventions (Phase 2)

DATA FORM NO. 5—CURRENT INTERVENTIONS

INTERVENTION PHASE

MOSAIC ID HE_H2P_12 /

INTERVENTION TYPE Initial intervention Maintenance cycle

DATE OF PREVIOUS INTERVENTION

DATE OF PREVIOUS INSPECTION

DATE AND LENGTH OF CURRENT WORK 11-29 October 2010 and 16-22 November 2010

DATE RECOMMENDED FOR THE NEXT INSPECTION Before 2012

TREATMENTS CARRIED OUT ON THE MOSAIC

Vegetation removal (with glyphosate around the southern part of the mosaic)

Cleaning of the entire surface

Cleaning of part of the surface

Removal of modern repair mortars

Resetting tesserae

Filling interstices between tesserae

Grouting voids between preparatory layers

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NAME

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LEGEND—CURRENT INTERVENTIONS MAP

MOSAIC ID HE_H2P_12 / North area

-  Vegetation removal
-  Cleaning of part of the surface
-  Resetting tesserae
Mortar composition: 1 NHL 6  1 white cement
1 sand.....0-0.5  1/2 sand.....0-0.5
1 stone powder.....0-0.5  1/2 stone powder....0-1
-  Filling interstices between tesserae
Mortar composition: 1 NHL 6
-  Grouting voids between preparatory layers
Mortar composition: 1 sand.....0-1
1 gravel.....0-1
-  Infilling of lacunae and/or edging repair
Mortar composition: 1 NHL 6
white cement
1 sand.....0-1
1 gravel.....0-1
-  Infilling of lacunae and/or edging repair
Mortar composition: 1 NHL 6
1 sand.....0-3
1 limestone powder (tuff)....0-1
1 grey gravel.....1-3
-  Infilling of lacunae and/or edging repair
Mortar composition:
-  Facing with adhesive:
-  Removal and resetting tesserae with facing
-  Removal of metal reinforcements in support panels
-  Treatment of metal reinforcements in support panels
-  Drainage openings
-  Reburial of a part of the surface

PREPARED BY Ermanno Carbonara

DATE 11/22/2010



0 50 100 cm

ID: HE/H2P/12 / North area

BASE MADE ON: 06/12/2010

N

TITLE: Current Interventions Map

DATE: 16-22 November, 2010

PREPARED BY: Ermanno Carbonara

Getty



MOSAIKON is a partnership of four institutions: the Getty Conservation Institute, the Getty Foundation, ICCROM, and ICCM. The aims of the project are to strengthen the network of professionals concerned with the conservation, restoration, maintenance, and management of mosaic heritage in the southern and eastern Mediterranean region; provide training to a variety of individuals involved in mosaics conservation and, more generally, with the management of archaeological sites and museums with mosaics; work with national and international bodies to provide a more favorable legislative, regulatory, and economic environment for the conservation of mosaics in the Mediterranean; and promote the dissemination and exchange of information.

