



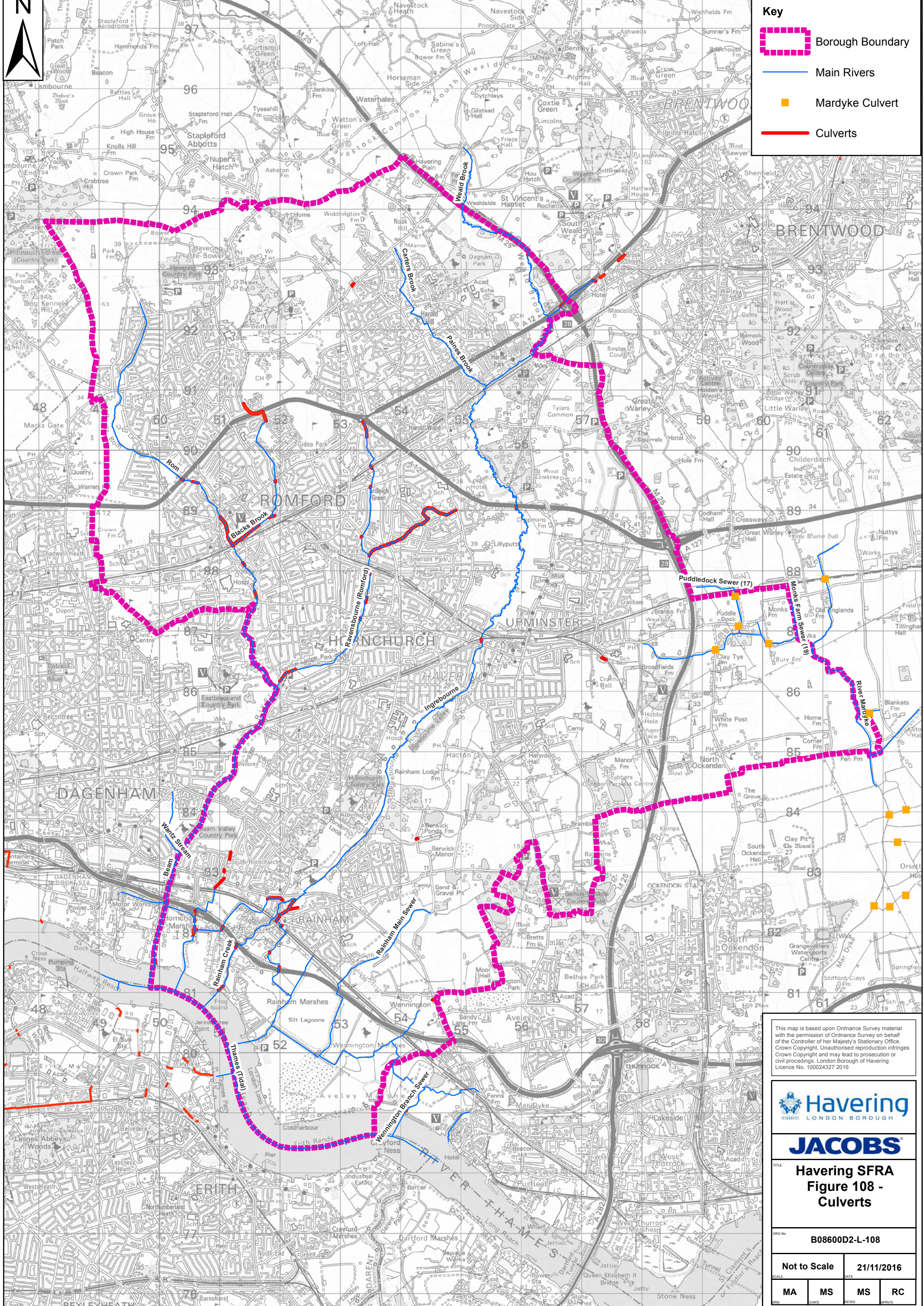




Key

-  Borough Boundary
-  Main Rivers
-  Mardyke Culvert
-  Culverts



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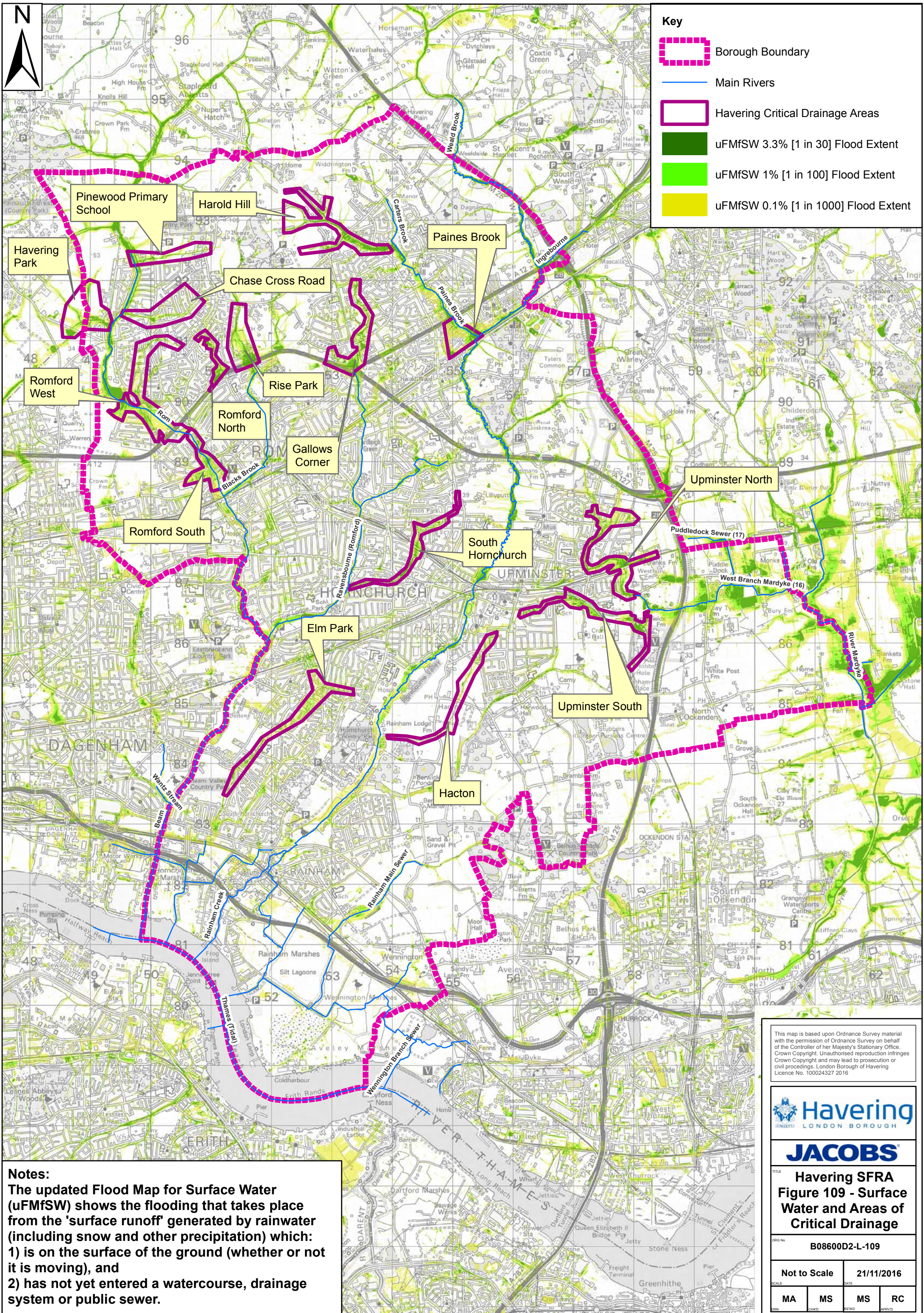


**Havering SFRA
Figure 108 -
Culverts**







DRG No. **B08600D2-L-108**

Not to Scale **21/11/2016**

MA	MS	MS	RC
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Key

-  Borough Boundary
-  Main Rivers
-  Havering Critical Drainage Areas
-  uFMfSW 3.3% [1 in 30] Flood Extent
-  uFMfSW 1% [1 in 100] Flood Extent
-  uFMfSW 0.1% [1 in 1000] Flood Extent

Pinewood Primary School

Harold Hill

Havering Park

Chase Cross Road

Paines Brook

Romford West

Rise Park

Romford North

Gallows Corner

Romford South

South Hornchurch

Upminster North

Elm Park

Upminster South

Hacton

Wentz Stream

Rainham Creek

Rainham Marshes

Wennington

Wennington Branch Sewer

Puddledock Sewer (17)

West Branch Mardyke (16)

River Mardyke

Notes:
 The updated Flood Map for Surface Water (uFMfSW) shows the flooding that takes place from the 'surface runoff' generated by rainwater (including snow and other precipitation) which:
 1) is on the surface of the ground (whether or not it is moving), and
 2) has not yet entered a watercourse, drainage system or public sewer.

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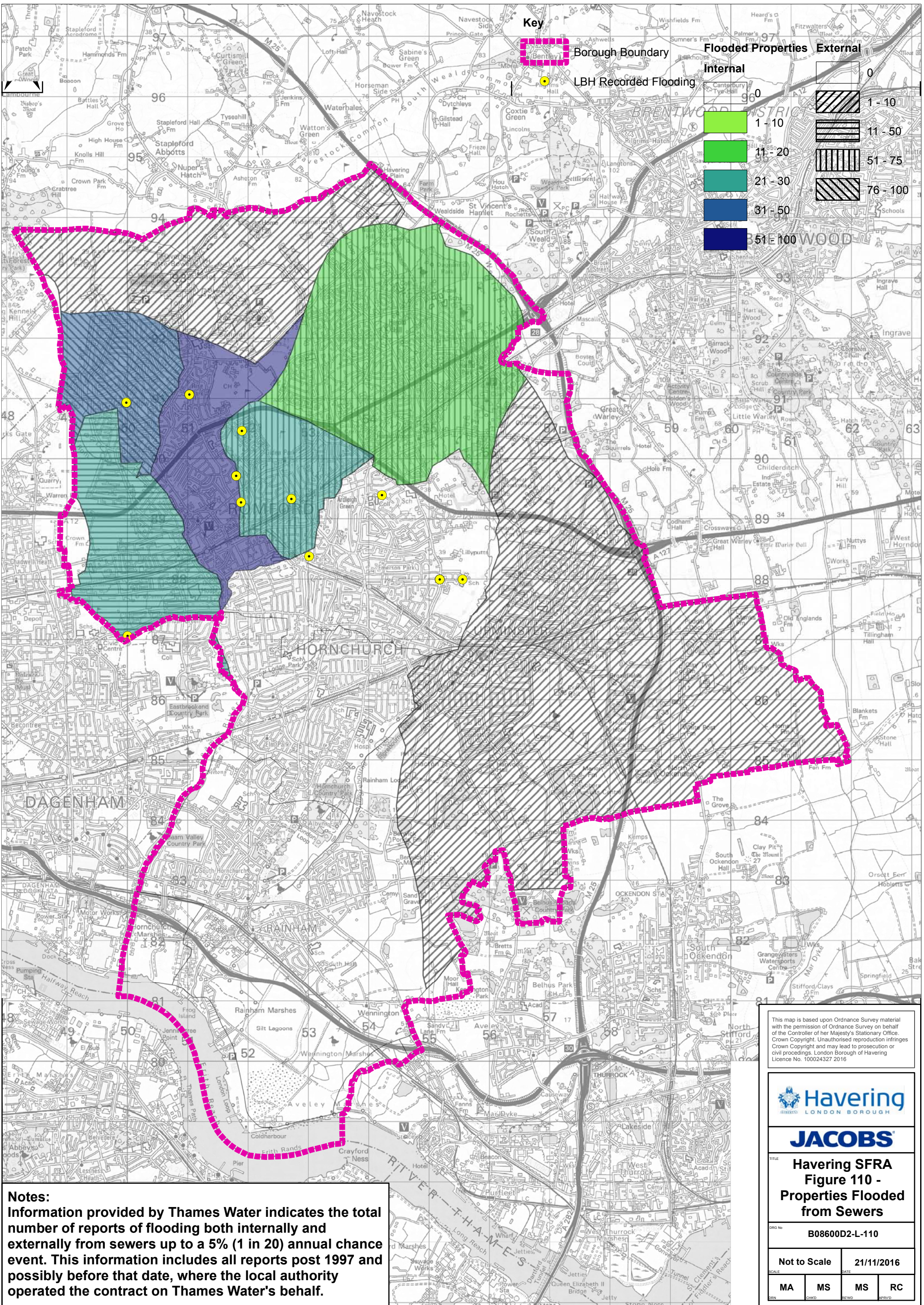


Havering SFRA
Figure 109 - Surface Water and Areas of Critical Drainage

DRG No. **B08600D2-L-109**

Not to Scale **21/11/2016**

MA	MS	MS	RC
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Key

- Borough Boundary
- LBH Recorded Flooding

Flooded Properties

Internal

- 0
- 1 - 10
- 11 - 20
- 21 - 30
- 31 - 50
- 51 - 100

External

- 0
- 1 - 10
- 11 - 50
- 51 - 75
- 76 - 100

Notes:
 Information provided by Thames Water indicates the total number of reports of flooding both internally and externally from sewers up to a 5% (1 in 20) annual chance event. This information includes all reports post 1997 and possibly before that date, where the local authority operated the contract on Thames Water's behalf.

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TITLE
 Havering SFRA
 Figure 110 -
 Properties Flooded
 from Sewers

DRG No
 B08600D2-L-110

Not to Scale **21/11/2016**

MA	MS	MS	RC
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Key

- Borough Boundary
- Main Rivers

Groundwater Flooding Reports

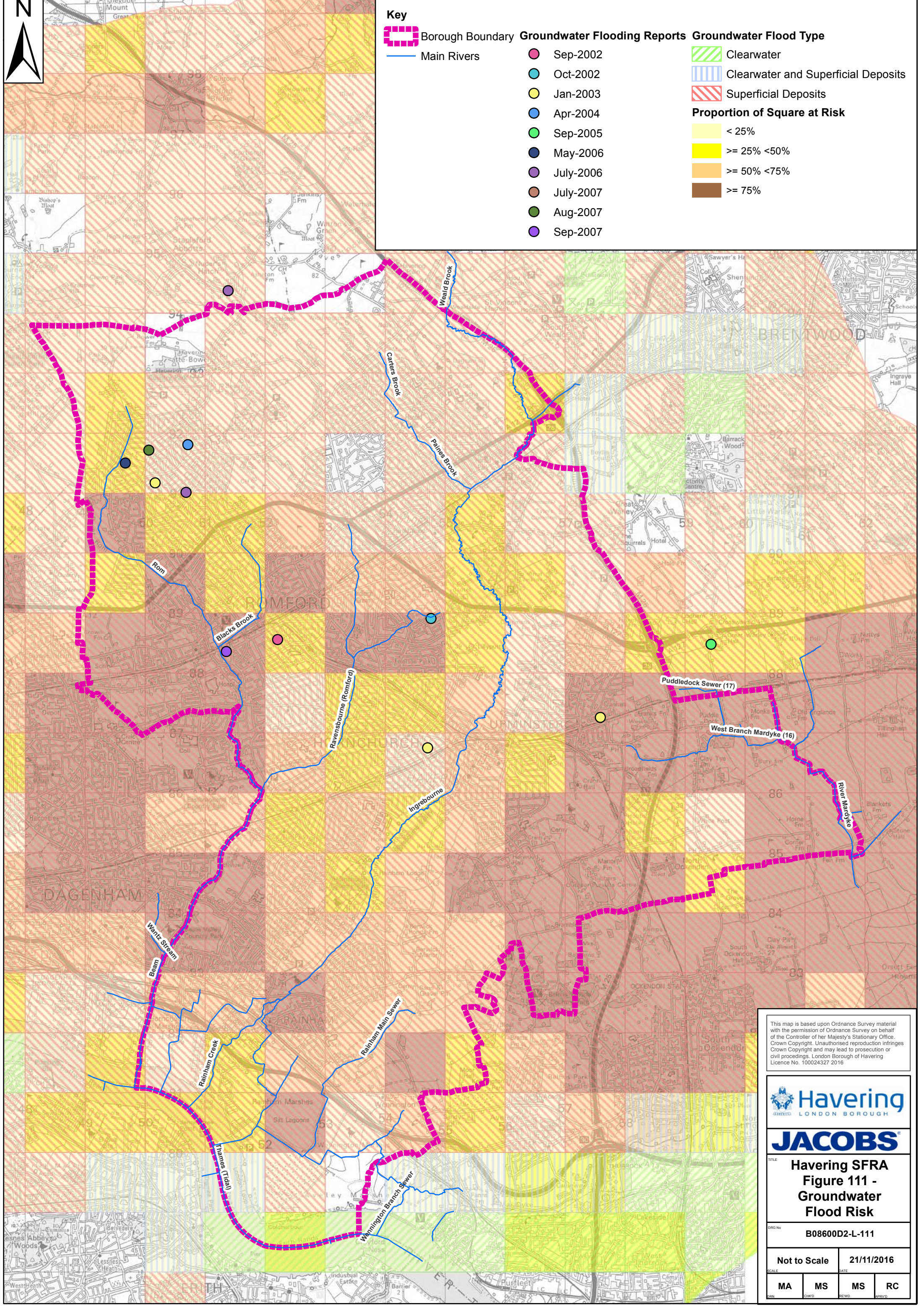
- Sep-2002
- Oct-2002
- Jan-2003
- Apr-2004
- Sep-2005
- May-2006
- July-2006
- July-2007
- Aug-2007
- Sep-2007

Groundwater Flood Type

- Clearwater
- Clearwater and Superficial Deposits
- Superficial Deposits

Proportion of Square at Risk

- < 25%
- >= 25% < 50%
- >= 50% < 75%
- >= 75%



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**Havering SFRA
Figure 111 -
Groundwater
Flood Risk**

ORG No **B08600D2-L-111**

Not to Scale **21/11/2016**

MA	MS	MS	RC
<small>DRN</small>	<small>CHKD</small>	<small>REWD</small>	<small>APRVD</small>



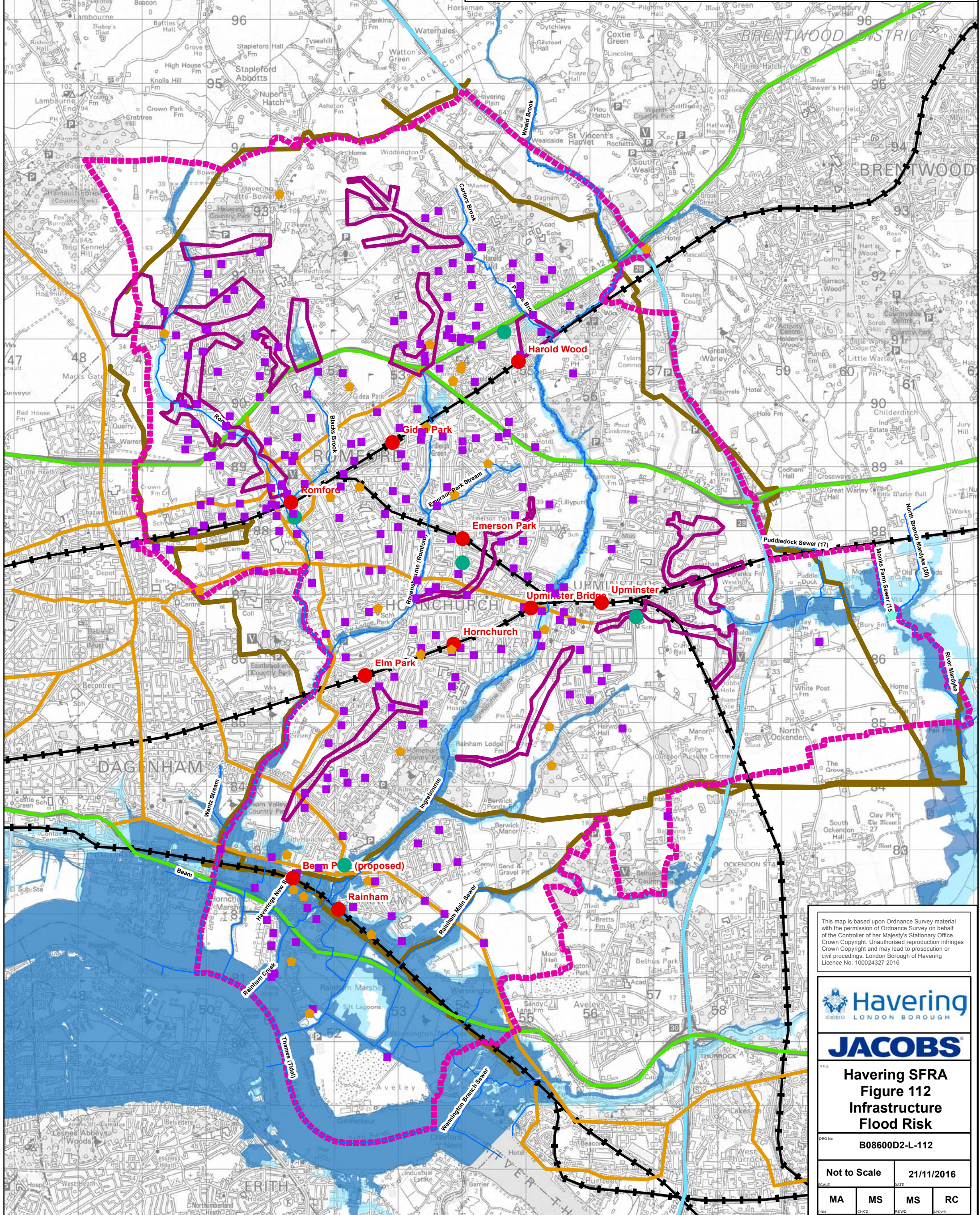
Key

- Borough Boundary
- Main Rivers
- Havering Critical Drainage Areas
- Flood Zone 3
- Flood Zone 2
- Railway Stations

Infrastructure

- Motorway
- Trunk Road
- A Road
- Railway

- Telephone Exchange
- Anglian Water Sites
- Thames Water Sites
- Electricity Sub Stations
- Gas Pipelines



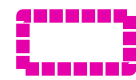



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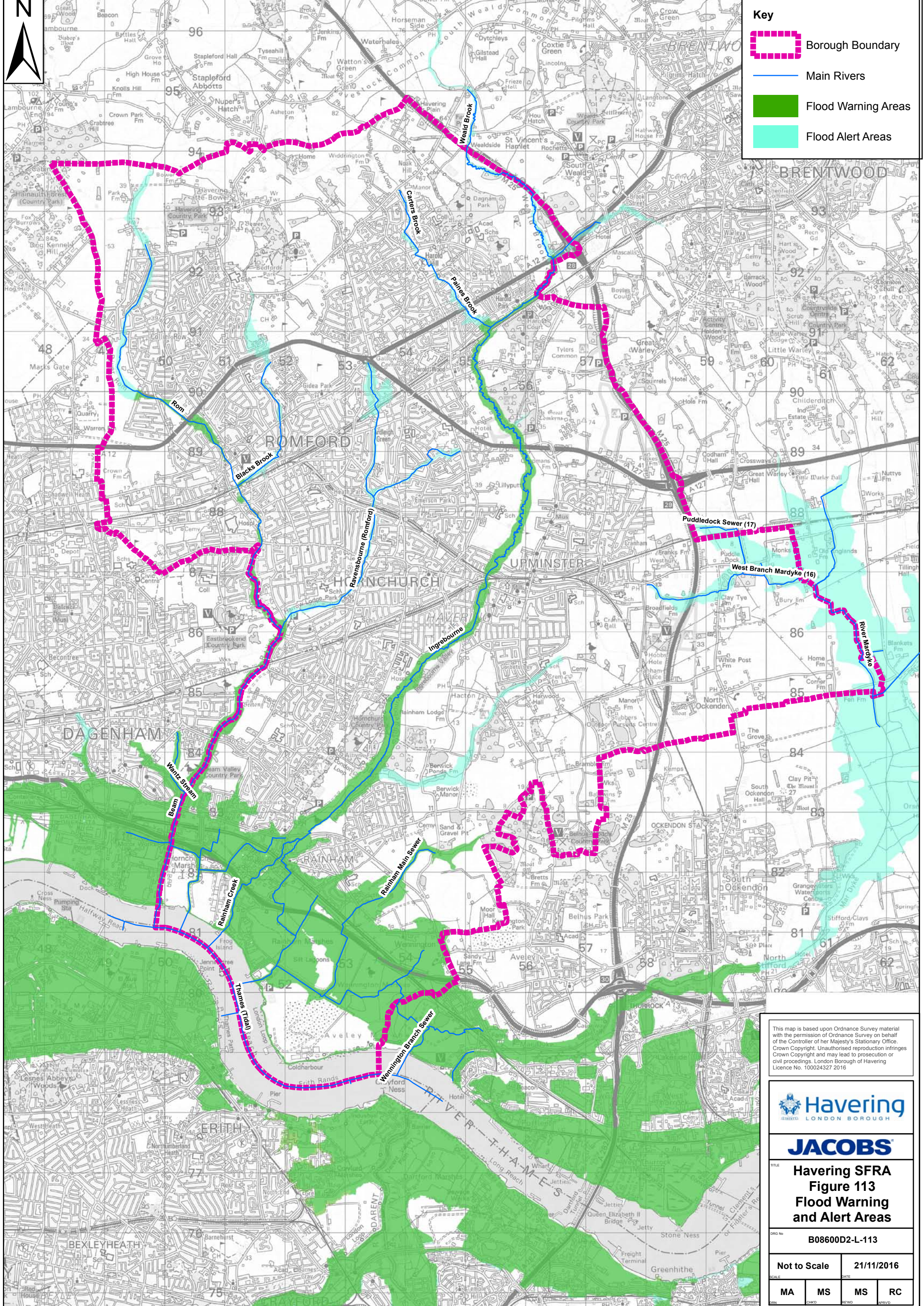


TITLE			
Havering SFRA Figure 112 Infrastructure Flood Risk			
DRG No			
B08600D2-L-112			
Not to Scale		21/11/2016	
SCALE	DATE		
MA	MS	MS	RC
DRN	CHKD	REWD	APRVD



Key

-  Borough Boundary
-  Main Rivers
-  Flood Warning Areas
-  Flood Alert Areas



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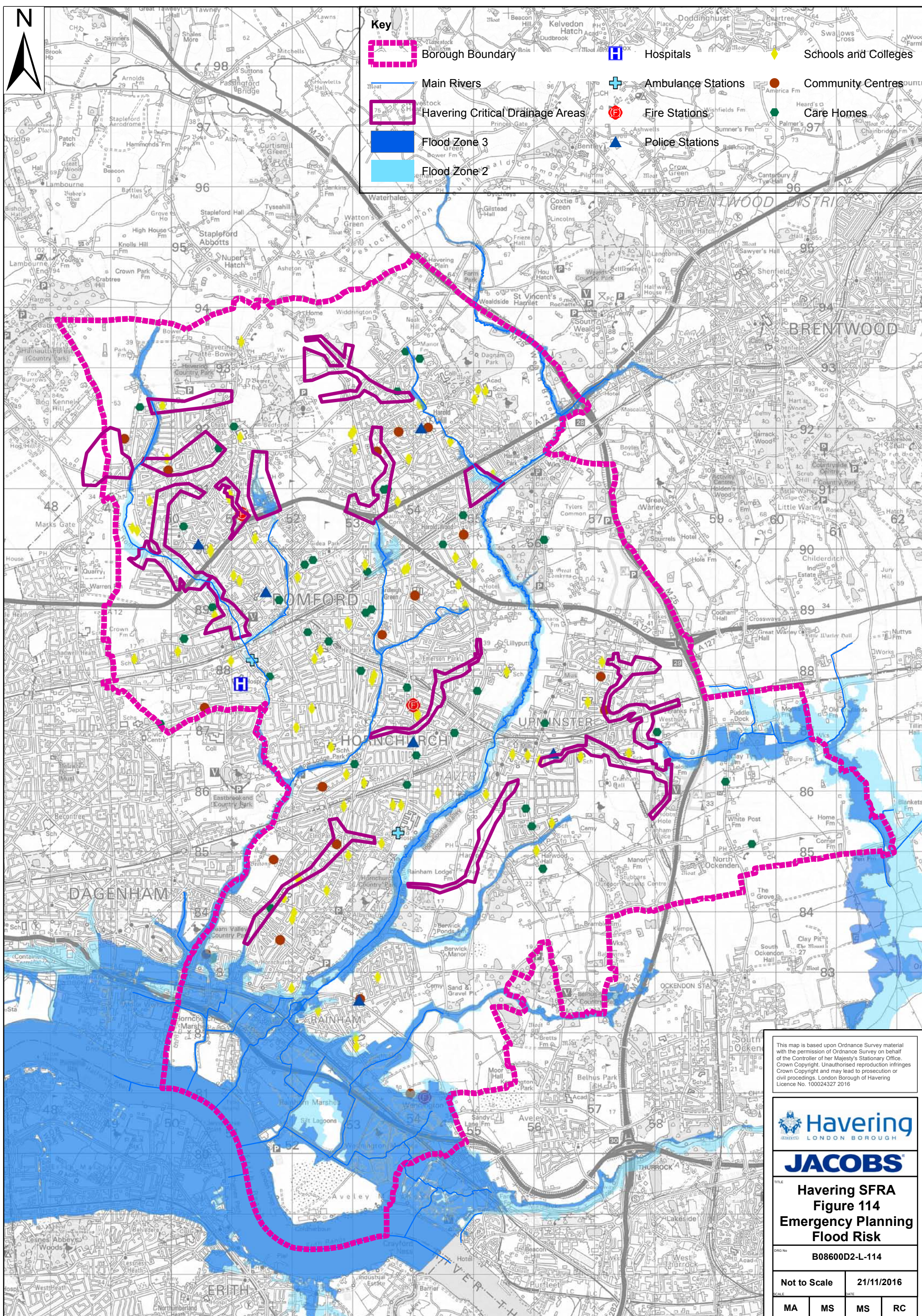


JACOBS

TITLE
**Havering SFRA
Figure 113
Flood Warning
and Alert Areas**

DRG No
B08600D2-L-113

Not to Scale	21/11/2016		
MA	MS	MS	RC



Key

- Borough Boundary
- Havering Critical Drainage Areas
- Flood Zone 3
- Flood Zone 2
- H Hospitals
- + Ambulance Stations
- F Fire Stations
- ▲ Police Stations
- ◆ Schools and Colleges
- Community Centres
- Care Homes

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**Havering SFRA
Figure 114
Emergency Planning
Flood Risk**

TITLE

ORG No **B08600D2-L-114**

Not to Scale	21/11/2016
SCALE	DATE

MA	MS	MS	RC
DRN	CHKD	REWD	APRVD