

# Municipal Corporation of Gurugram (MCG)

Monsoon Preparedness & Flood Hotspot Management

## WARD-WISE FLOOD HOTSPOT REPORT

For Use by Junior Engineers (JEs) at Ward Level

### Ward Summary

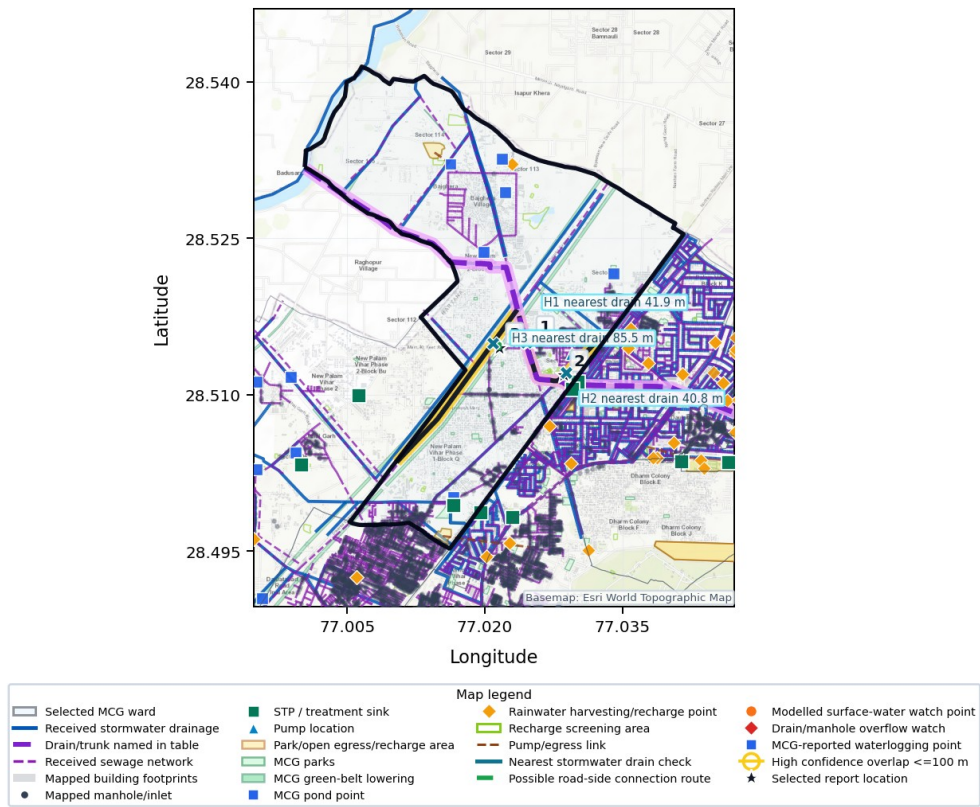
| WARD NUMBER                  | MCG IDENTIFIED LOCATIONS                                                                                                                                                                                                | MODEL IDENTIFIED LOCATIONS |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 5                            | 1                                                                                                                                                                                                                       | 3                          |
| Ward Name / Area Covered     | Bajghera Village; New Palam Vihar Phase 1; New Palam Vihar Phase 2; New Palam Vihar Phase 3; Nihal Colony; Sarai Alawardi Village; Sector 110; Sector 110 A; Sector 111; Sector 112; Sector 113; Sector 114; Sector 115 |                            |
| Zone                         | Zone III                                                                                                                                                                                                                |                            |
| Division                     | Zone III                                                                                                                                                                                                                |                            |
| Assigned JE                  | Ram Karan 7355848489                                                                                                                                                                                                    |                            |
| Report Date                  | 29 July 2026                                                                                                                                                                                                            |                            |
| Approved FloodAstra baseline | Approved June 5 current-assets baseline                                                                                                                                                                                 |                            |
| Utility assets               | MCG/GMDA utility assets supplied up to 5 June 2026                                                                                                                                                                      |                            |
| Rainfall used                | July 2025 reported event, 133 mm / 12 h                                                                                                                                                                                 |                            |
| Hydraulic model              | Apple MLX GPU; continuous city surface; roads, buildings, storm drains, sewers, manholes and recharge structures coupled dynamically                                                                                    |                            |
| Published depth range        | 0 to 1.50 m from field-reportable cells only                                                                                                                                                                            |                            |
| Desilting / work status      | 14 mapped MCG work-status segments overlap this ward; 5 marked completed; 9 marked in progress. Confirm current completion with MCG field records.                                                                      |                            |
| Priority action              | Inspect drain/manhole overflow watch points, inlet condition, desilting status and downstream flow continuity                                                                                                           |                            |

# Official Ward Contact Roster

| Role                    | Supplied MCG contact               |
|-------------------------|------------------------------------|
| Councillor              | Shri Ram Avtar Rana JJP 9873404960 |
| Executive Engineer (EE) | Sh. Sunder Sheoran, EE, 9466427222 |
| Assistant Engineer (AE) | Sh. Pawan, AE, 8448534777          |
| JE Development          | Ram Karan 7355848489               |
| JE Enforcement          | Milan Yadav 8860367476             |
| JE Horticulture         | Akhlaq 9821395227                  |
| JE Electrical           | Rahul Sharma 8077405619            |

## Ward Action Map

Ward 5: drainage, sewage and hotspot action map



Blue lines are received stormwater drains. Purple dashed lines are received sewage lines. Green areas are MCG parks/green-belt lowering assets; blue squares are MCG pond points; amber diamonds are rainwater-harvesting/recharge points. Gray building footprints are used only to avoid suggesting routes through buildings. Cyan lines show the hotspot-to-stormwater-drain check. Green dashed lines show a possible road-side route where one was found.

This ward map shows 4,389 stormwater line segments, 11,345 sewage line segments, 2,601 manhole/inlet points, 10 STP/treatment points, 222 MCG park polygons, 13 pond points, 60 green-belt lowering areas and 107 rainwater-harvesting/recharge points from the approved GIS packet.

## Field Action Summary

| #  | Location                              | Expected water                                                                                   | Mapped drain option                                                                                                                                         | First field action                                                              |
|----|---------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| H1 | Palam Vihar D Block near Mother dairy | maximum modelled depth 0.54 m; average within 50 m 0.40 m; water remains above 15 cm for 9.0 h.  | map label 710 (storm) near Palam Vihar D Block near Mother dairy is 41.9 m away. The mapped roadside option is 50.8 m long and is not yet field-approved.   | Check water backing up at the manhole; verify trunk drain level before pumping. |
| H2 | Palam Vihar D Block near Mother dairy | maximum modelled depth 0.63 m; average within 50 m 0.30 m; water remains above 15 cm for 11.0 h. | mapped stormwater drain near Palam Vihar D Block near Mother dairy is 40.8 m away. The mapped roadside option is 40.9 m long and is not yet field-approved. | Check water backing up at the manhole; verify trunk drain level before pumping. |
| H3 | Palam Vihar D Block near Mother dairy | maximum modelled depth 0.36 m; average within 50 m 0.30 m; water remains above 15 cm for 9.6 h.  | map label 569 (storm) near Palam Vihar D Block near Mother dairy is 85.5 m away. The mapped roadside option is 115 m long and is not yet field-approved.    | Check water backing up at the manhole; verify trunk drain level before pumping. |

## Complete Ward Location Register

| No.  | Source         | Location                              | Lat      | Lon      | Expected water                 | How to use this point    |
|------|----------------|---------------------------------------|----------|----------|--------------------------------|--------------------------|
| R0 1 | MCG            | Bajhgera Firni                        | 28.53213 | 77.01625 | 0.12 m; above 15 cm for 1.8 h  | Confirm at this location |
| M0 1 | Overflow watch | Palam Vihar D Block near Mother dairy | 28.51512 | 77.02490 | 0.54 m; above 15 cm for 9.0 h  | Confirm at this location |
| M0 2 | Overflow watch | Palam Vihar D Block near Mother dairy | 28.51186 | 77.02859 | 0.63 m; above 15 cm for 11.0 h | Confirm at this location |
| M0 3 | Overflow watch | Palam Vihar D Block near Mother dairy | 28.51447 | 77.02157 | 0.36 m; above 15 cm for 9.6 h  | Confirm at this location |

## Hotspot-wise Details

### HOTSPOT 1

#### 1. Hotspot Identification

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Hotspot Name         | Palam Vihar D Block near Mother dairy                 |
| Latitude / Longitude | 28.51512, 77.02490                                    |
| Open location        | Use the link below to open this point on Google Maps. |

#### Google Map Links for Hotspot and Assets

Use these links for the field pin, nearby drainage/sewage assets and mapped support assets used in this report.

[H1: hotspot pin](#)

[H1: mapped receiving stormwater drain - map label 710 \(41.9 m\)](#)

[H1: nearest mapped stormwater line - map label 710 \(41.9 m\)](#)

[H1: mapped action drain \(41.9 m\)](#)

[H1: mapped main stormwater drain \(41.9 m\)](#)

[H1: nearest mapped sewage line \(0.10 m\)](#)

[H1: possible roadside connection route](#)

[H1: mapped pump - Bank Wali Gali Dundaheera; capacity 15.0 L/s \(466 m\)](#)

[H1: open/green receptor or park - Major Vinod Rana Park; storage 1,340 m<sup>3</sup> \(398 m\)](#)

[H1: MCG park - New Palam Vihar Phase 3; ward 05 \(168 m\)](#)

[H1: MCG pond - Bajghera Pond Nr.Shiv Mandir \(1,073 m\)](#)

[H1: MCG green-belt lowering area - Proposed \(201 m\)](#)

[H1: rainwater-harvesting/recharge point - Near D-1939, D-Block, Palam Vihar, Gurugram \(recorded as functional\) \(923 m\)](#)

[H1: groundwater recharge screening area - Netaji Subhash Chandra Bose Park; field-check \(167 m\)](#)

[H1: nearest STP/treatment point - MICRO\\_STP\\_PARK\\_PALAM\\_VIHAR\\_D-BLOCK; capacity 50.0 KLD \(672 m\)](#)

[H1: nearest manhole/inlet \(2.80 m\)](#)

Scan QR code to open this hotspot on phone maps.



## Hotspot Action Card

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Go to                      | 28.51512, 77.02490                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Water concern              | maximum modelled depth 0.54 m; average within 50 m 0.40 m; water remains above 15 cm for 9.0 h.                                                                                                                                                                                                                                                                                                                                                                            |
| Nearest stormwater drain   | map label 710 (storm) near Palam Vihar D Block near Mother dairy is 41.9 m away. The mapped roadside option is 50.8 m long and is not yet field-approved.                                                                                                                                                                                                                                                                                                                  |
| Roadside connection checks | Mapped roadside option: approximately 50.8 m from this point to the receiving stormwater drain. The map follows roads and avoids mapped buildings. The route starts and ends at the nearest road points, about 14.1 m and 19.3 m from the mapped locations. Before approval, survey the level at both ends, confirm continuous fall toward the drain, mark every utility crossing and check that the receiving drain can accept flow. Do not construct if any check fails. |
| Nearby MCG sewage line     | MCG sewage line is at this point. Check the nearest manhole for rising water. Do not discharge stormwater into this line.                                                                                                                                                                                                                                                                                                                                                  |
| First action at site       | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                                                                                                                                                            |
| Before monsoon             | Inspect and desilt map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m) if silt/choking is seen.                                                                                                                                                                                                                                                                                                                                                      |
| Escalate if                | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                                                                                                                                                 |

## 2. Source

|                                     |                                                          |
|-------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> MCG record | <input checked="" type="checkbox"/> Model-selected point |
|-------------------------------------|----------------------------------------------------------|

## 3. Field Priority Level

|                              |                                 |                               |                                               |
|------------------------------|---------------------------------|-------------------------------|-----------------------------------------------|
| <input type="checkbox"/> LOW | <input type="checkbox"/> MEDIUM | <input type="checkbox"/> HIGH | <input checked="" type="checkbox"/> VERY HIGH |
|------------------------------|---------------------------------|-------------------------------|-----------------------------------------------|

## 4. Flood Timing and Depth

**At H1, record observed water depth, time, inlet condition and receiving-drain level. Compare these with the model estimate before work begins.**

| Field measure                          | Unit  | Model estimate | Selected rainfall |
|----------------------------------------|-------|----------------|-------------------|
| Ponded water within 50 m               | m³    | 1,876 m³       | July 2025 rain    |
| Time water remains above 15 cm         | hours | 9.0            | July 2025 rain    |
| Time to exceed 15 cm after rain starts | hours | 4.3            | July 2025 rain    |
| Maximum depth at this point            | m     | 0.54 m         | July 2025 rain    |
| Average depth within 50 m              | m     | 0.40 m         | July 2025 rain    |
| Maximum modelled flow speed            | m/s   | 0.00 m/s       | July 2025 rain    |

H1: record observed water depth and time, then photograph the inlet and receiving-drain level before work starts.

## 5. Recommendations

### a. Drainage and Sewage Checks

Stormwater check: map label 710 (storm) near Palam Vihar D Block near Mother dairy is about 41.9 m away and the mapped roadside option is about 50.8 m long. Open the inlet and receiving-drain access point, then use a clean-water flow test or observe the next rainfall to confirm that water reaches the drain without backing up. Sewage check: an MCG sewage line is at this point. Inspect the nearest manhole for rising water, but never use the sewage line as a stormwater or pump outlet.

### b. Possible New Stormwater Connection

Mapped option: approximately 50.8 m of roadside connection to map label 710 (storm) near Palam Vihar D Block near Mother dairy, which is 41.9 m away directly. Before sanctioning work, measure the source and receiving-drain levels, confirm continuous fall toward the drain, mark utility crossings and check that the receiving drain can accept the added flow. Do not construct if any one of these checks fails.

### c. When to Desilt

Inspect the inlet, first upstream access point and first downstream access point leading to map label 710 (storm) near Palam Vihar D Block near Mother dairy. Record silt depth and the free opening at each point. Desilt only where silt narrows the waterway or a clean-water flow test shows restriction; clear the full restricted reach and take before/after photographs.

### d. Temporary Pump Decision

| S.No. | Pump Location                                                                              | Discharge Point                                                                                                                                                                                  | Pump Capacity / Type                                                                                                             |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1     | H1 / local low point                                                                       | Nearest mapped pump: Bank Wali Gali Dundaheera; capacity 15.0 L/s; likely discharge: Leg 1.                                                                                                      | Confirm at site                                                                                                                  |
| 2     | Alternate discharge check for H1                                                           | Do not discharge to the nearby sewage line (0.10 m from H1); check safe storm drain/open area after checking route to map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m). | Use only if site access and discharge permission are clear for H1.                                                               |
| 3     | Gravity route to map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m) | Use gravity only if water from H1 can visibly enter map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m) after inlet and drain-level check.                                 | No pump needed only if flow into map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m) is confirmed at site. |

### e. New Drain or Inlet Decision

For H1, nearest main stormwater drain is 42 m away; check road inlet level, drain level and downstream discharge before routing or pumping. Map screening used depth/persistence/drain return, 50 m local flood-volume estimate, screened park/open receptors, storm-drain proximity, sewer proximity caution, and site visit constraints. H1: survey the mapped 50.8 m roadside option to map label 710 (storm) near Palam Vihar D Block near Mother dairy, which is 41.9 m away directly. Measure levels at the source and receiving drain, confirm continuous fall, mark utilities and verify that the drain has capacity. Approve construction only when all four checks pass.

## f. Rainwater Harvesting Check

Nearby open/receptor area: Major Vinod Rana Park; distance 398 m; possible temporary storage 1,340 m<sup>3</sup>; class site visit. Use only after checking groundwater, water quality and ownership.

## g. Temporary Diversion to Park or Pond

Possible receiving area: Major Vinod Rana Park; possible storage 1,340 m<sup>3</sup>; Check slope, access, permission and overflow route.

## 6. Site Visit Checklist for H1

| Site check                          | Yes                      | No                       | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waterlogging seen at this pin       | <input type="checkbox"/> | <input type="checkbox"/> | H1: 28.51512, 77.02490                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Nearest drain/trunk visible         | <input type="checkbox"/> | <input type="checkbox"/> | map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m)                                                                                                                                                                                                                                                                                                                                                                                                  |
| Roadside connection route surveyed  | <input type="checkbox"/> | <input type="checkbox"/> | Mapped roadside option: approximately 50.8 m from this point to the receiving stormwater drain. The map follows roads and avoids mapped buildings. The route starts and ends at the nearest road points, about 14.1 m and 19.3 m from the mapped locations. Before approval, survey the level at both ends, confirm continuous fall toward the drain, mark every utility crossing and check that the receiving drain can accept flow. Do not construct if any check fails. |
| Levels at both ends measured        | <input type="checkbox"/> | <input type="checkbox"/> | Record source and receiving-drain levels; confirm continuous fall and a lower downstream water level.                                                                                                                                                                                                                                                                                                                                                                      |
| Inlet/manhole blockage checked      | <input type="checkbox"/> | <input type="checkbox"/> | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                                                                                                                                                            |
| Silt visible in drain               | <input type="checkbox"/> | <input type="checkbox"/> | Check map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m).                                                                                                                                                                                                                                                                                                                                                                                           |
| Sewage manhole overflow checked     | <input type="checkbox"/> | <input type="checkbox"/> | MCG sewage line is at this point. Check the nearest manhole for rising water. Do not discharge stormwater into this line.                                                                                                                                                                                                                                                                                                                                                  |
| Safe pump discharge route available | <input type="checkbox"/> | <input type="checkbox"/> | Keep pump ready only after checking manhole/trunk level; pump capacity to be checked at site.                                                                                                                                                                                                                                                                                                                                                                              |
| Road/access safety checked          | <input type="checkbox"/> | <input type="checkbox"/> | 23 m from Bajghera Road (secondary)                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Photos taken and attached           | <input type="checkbox"/> | <input type="checkbox"/> | Photo label should include H1.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Needs escalation to senior engineer | <input type="checkbox"/> | <input type="checkbox"/> | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                                                                                                                                                 |

## 7. Field Decision Box for H1

| Decision                         | Select                   | Field note                                                                                                                                                                                                                                                                                                                              |
|----------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clean inlet/blockage immediately | <input type="checkbox"/> | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                         |
| Inspect/desilt stormwater drain  | <input type="checkbox"/> | Inspect and desilt map label 710 (storm) near Palam Vihar D Block near Mother dairy (41.9 m) if silt/choking is seen.                                                                                                                                                                                                                   |
| Survey a new roadside connection | <input type="checkbox"/> | H1: survey the mapped 50.8 m roadside option to map label 710 (storm) near Palam Vihar D Block near Mother dairy, which is 41.9 m away directly. Measure levels at the source and receiving drain, confirm continuous fall, mark utilities and verify that the drain has capacity. Approve construction only when all four checks pass. |
| Use a temporary pump             | <input type="checkbox"/> | Keep pump ready only after checking manhole/trunk level; pump capacity to be checked at site.                                                                                                                                                                                                                                           |
| Escalate or restrict access      | <input type="checkbox"/> | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                              |

## HOTSPOT 2

### 1. Hotspot Identification

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Hotspot Name         | Palam Vihar D Block near Mother dairy                 |
| Latitude / Longitude | 28.51186, 77.02859                                    |
| Open location        | Use the link below to open this point on Google Maps. |

### Google Map Links for Hotspot and Assets

Use these links for the field pin, nearby drainage/sewage assets and mapped support assets used in this report.

[H2: hotspot pin](#)

[H2: mapped receiving stormwater drain \(40.8 m\)](#)

[H2: nearest mapped stormwater line \(0.70 m\)](#)

[H2: mapped action drain - map label SWD-LINE-975 \(0.70 m\)](#)

[H2: mapped main stormwater drain \(73.0 m\)](#)

[H2: nearest mapped sewage line \(0.70 m\)](#)

[H2: possible roadside connection route](#)

[H2: mapped pump - D-block behind Red Rose Public School; capacity 11.7 L/s \(161 m\)](#)

[H2: open/green receptor or park - Major Vinod Rana Park; storage 1,340 m<sup>3</sup> \(91.7 m\)](#)

[H2: MCG park - New Palam Vihar Phase 3; ward 05 \(131 m\)](#)

[H2: MCG pond - Choma Vilage Pond \(1,210 m\)](#)

[H2: MCG green-belt lowering area - Proposed \(111 m\)](#)

[H2: rainwater-harvesting/recharge point - Near D-1939, D-Block, Palam Vihar, Gurugram \(recorded as functional\) \(561 m\)](#)

[H2: groundwater recharge screening area \(74.2 m\)](#)

[H2: nearest STP/treatment point - MICRO STP PARK PALAM VIHAR D-BLOCK; capacity 50.0 KLD \(170 m\)](#)

[H2: nearest manhole/inlet \(164 m\)](#)

Scan QR code to open this hotspot on phone maps.



### Hotspot Action Card

|       |                    |
|-------|--------------------|
| Go to | 28.51186, 77.02859 |
|-------|--------------------|

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water concern              | maximum modelled depth 0.63 m; average within 50 m 0.30 m; water remains above 15 cm for 11.0 h.                                                                                                                                                                                                                                                                                                                                                                           |
| Nearest stormwater drain   | mapped stormwater drain near Palam Vihar D Block near Mother dairy is 40.8 m away. The mapped roadside option is 40.9 m long and is not yet field-approved.                                                                                                                                                                                                                                                                                                                |
| Roadside connection checks | Mapped roadside option: approximately 40.9 m from this point to the receiving stormwater drain. The map follows roads and avoids mapped buildings. The route starts and ends at the nearest road points, about 36.9 m and 4.00 m from the mapped locations. Before approval, survey the level at both ends, confirm continuous fall toward the drain, mark every utility crossing and check that the receiving drain can accept flow. Do not construct if any check fails. |
| Nearby MCG sewage line     | MCG sewage line is about 0.70 m away. Check the nearest manhole for rising water. Do not discharge stormwater into this line.                                                                                                                                                                                                                                                                                                                                              |
| First action at site       | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                                                                                                                                                            |
| Before monsoon             | Inspect and desilt mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m) if silt/choking is seen.                                                                                                                                                                                                                                                                                                                                                    |
| Escalate if                | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                                                                                                                                                 |

## 2. Source

|                                     |                                                          |
|-------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> MCG record | <input checked="" type="checkbox"/> Model-selected point |
|-------------------------------------|----------------------------------------------------------|

## 3. Field Priority Level

|                              |                                 |                               |                                               |
|------------------------------|---------------------------------|-------------------------------|-----------------------------------------------|
| <input type="checkbox"/> LOW | <input type="checkbox"/> MEDIUM | <input type="checkbox"/> HIGH | <input checked="" type="checkbox"/> VERY HIGH |
|------------------------------|---------------------------------|-------------------------------|-----------------------------------------------|

## 4. Flood Timing and Depth

**At H2, record observed water depth, time, inlet condition and receiving-drain level. Compare these with the model estimate before work begins.**

| Field measure                          | Unit           | Model estimate       | Selected rainfall |
|----------------------------------------|----------------|----------------------|-------------------|
| Ponded water within 50 m               | m <sup>3</sup> | 2,454 m <sup>3</sup> | July 2025 rain    |
| Time water remains above 15 cm         | hours          | 11.0                 | July 2025 rain    |
| Time to exceed 15 cm after rain starts | hours          | 8.2                  | July 2025 rain    |
| Maximum depth at this point            | m              | 0.63 m               | July 2025 rain    |
| Average depth within 50 m              | m              | 0.30 m               | July 2025 rain    |
| Maximum modelled flow speed            | m/s            | 0.01 m/s             | July 2025 rain    |

H2: record observed water depth and time, then photograph the inlet and receiving-drain level before work starts.

## 5. Recommendations

### a. Drainage and Sewage Checks

Stormwater check: mapped stormwater drain near Palam Vihar D Block near Mother dairy is about 40.8 m away and the mapped roadside option is about 40.9 m long. Open the inlet and receiving-drain access point, then use a clean-water flow test or observe the next rainfall to confirm that water reaches the drain without backing up. Sewage check: an MCG sewage line is about 0.70 m away. Inspect the nearest manhole for rising water, but never use the sewage line as a stormwater or pump outlet.

### b. Possible New Stormwater Connection

Mapped option: approximately 40.9 m of roadside connection to mapped stormwater drain near Palam Vihar D Block near Mother dairy, which is 40.8 m away directly. Before sanctioning work, measure the source and receiving-drain levels, confirm continuous fall toward the drain, mark utility crossings and check that the receiving drain can accept the added flow. Do not construct if any one of these checks fails.

### c. When to Desilt

Inspect the inlet, first upstream access point and first downstream access point leading to mapped stormwater drain near Palam Vihar D Block near Mother dairy. Record silt depth and the free opening at each point. Desilt only where silt narrows the waterway or a clean-water flow test shows restriction; clear the full restricted reach and take before/after photographs.

### d. Temporary Pump Decision

| S.No. | Pump Location                                                                                | Discharge Point                                                                                                                                                                                    | Pump Capacity / Type                                                                                                               |
|-------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 1     | H2 / local low point                                                                         | Nearest mapped pump: D-block behind Red Rose Public School; capacity 11.7 L/s; likely discharge: Leg 1.                                                                                            | Confirm at site                                                                                                                    |
| 2     | Alternate discharge check for H2                                                             | Do not discharge to the nearby sewage line (0.70 m from H2); check safe storm drain/open area after checking route to mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m). | Use only if site access and discharge permission are clear for H2.                                                                 |
| 3     | Gravity route to mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m) | Use gravity only if water from H2 can visibly enter mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m) after inlet and drain-level check.                                 | No pump needed only if flow into mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m) is confirmed at site. |

### e. New Drain or Inlet Decision

For H2, inspect the nearest stormwater drain, inlet blockage, silt and downstream continuity. Use a pump route only if flow into mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m) cannot be restored. H2: survey the mapped 40.9 m roadside option to mapped stormwater drain near Palam Vihar D Block near Mother dairy, which is 40.8 m away directly. Measure levels at the source and receiving drain, confirm continuous fall, mark utilities and verify that the drain has capacity. Approve construction only when all four checks pass.

## f. Rainwater Harvesting Check

Nearby open/receptor area: Major Vinod Rana Park; distance 91.7 m; possible temporary storage 1,340 m<sup>3</sup>; class site visit. Use only after checking groundwater, water quality and ownership.

## g. Temporary Diversion to Park or Pond

Possible receiving area: Major Vinod Rana Park; possible storage 1,340 m<sup>3</sup>; Check slope, access, permission and overflow route.

## 6. Site Visit Checklist for H2

| Site check                          | Yes                      | No                       | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waterlogging seen at this pin       | <input type="checkbox"/> | <input type="checkbox"/> | H2: 28.51186, 77.02859                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Nearest drain/trunk visible         | <input type="checkbox"/> | <input type="checkbox"/> | mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m)                                                                                                                                                                                                                                                                                                                                                                                                |
| Roadside connection route surveyed  | <input type="checkbox"/> | <input type="checkbox"/> | Mapped roadside option: approximately 40.9 m from this point to the receiving stormwater drain. The map follows roads and avoids mapped buildings. The route starts and ends at the nearest road points, about 36.9 m and 4.00 m from the mapped locations. Before approval, survey the level at both ends, confirm continuous fall toward the drain, mark every utility crossing and check that the receiving drain can accept flow. Do not construct if any check fails. |
| Levels at both ends measured        | <input type="checkbox"/> | <input type="checkbox"/> | Record source and receiving-drain levels; confirm continuous fall and a lower downstream water level.                                                                                                                                                                                                                                                                                                                                                                      |
| Inlet/manhole blockage checked      | <input type="checkbox"/> | <input type="checkbox"/> | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                                                                                                                                                            |
| Silt visible in drain               | <input type="checkbox"/> | <input type="checkbox"/> | Check mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m).                                                                                                                                                                                                                                                                                                                                                                                         |
| Sewage manhole overflow checked     | <input type="checkbox"/> | <input type="checkbox"/> | MCG sewage line is about 0.70 m away. Check the nearest manhole for rising water. Do not discharge stormwater into this line.                                                                                                                                                                                                                                                                                                                                              |
| Safe pump discharge route available | <input type="checkbox"/> | <input type="checkbox"/> | Keep pump ready only after checking manhole/trunk level; pump capacity to be checked at site.                                                                                                                                                                                                                                                                                                                                                                              |
| Road/access safety checked          | <input type="checkbox"/> | <input type="checkbox"/> | 280 m from Bajghera Road (secondary)                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Photos taken and attached           | <input type="checkbox"/> | <input type="checkbox"/> | Photo label should include H2.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Needs escalation to senior engineer | <input type="checkbox"/> | <input type="checkbox"/> | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                                                                                                                                                 |

## 7. Field Decision Box for H2

| Decision                         | Select                   | Field note                                                                                                                                                                                                                                                                                                                                |
|----------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clean inlet/blockage immediately | <input type="checkbox"/> | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                           |
| Inspect/desilt stormwater drain  | <input type="checkbox"/> | Inspect and desilt mapped stormwater drain near Palam Vihar D Block near Mother dairy (40.8 m) if silt/choking is seen.                                                                                                                                                                                                                   |
| Survey a new roadside connection | <input type="checkbox"/> | H2: survey the mapped 40.9 m roadside option to mapped stormwater drain near Palam Vihar D Block near Mother dairy, which is 40.8 m away directly. Measure levels at the source and receiving drain, confirm continuous fall, mark utilities and verify that the drain has capacity. Approve construction only when all four checks pass. |
| Use a temporary pump             | <input type="checkbox"/> | Keep pump ready only after checking manhole/trunk level; pump capacity to be checked at site.                                                                                                                                                                                                                                             |
| Escalate or restrict access      | <input type="checkbox"/> | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                |

## HOTSPOT 3

### 1. Hotspot Identification

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Hotspot Name         | Palam Vihar D Block near Mother dairy                 |
| Latitude / Longitude | 28.51447, 77.02157                                    |
| Open location        | Use the link below to open this point on Google Maps. |

### Google Map Links for Hotspot and Assets

Use these links for the field pin, nearby drainage/sewage assets and mapped support assets used in this report.

[H3: hotspot pin](#)

[H3: mapped receiving stormwater drain - map label 569 \(85.5 m\)](#)

[H3: nearest mapped stormwater line - map label 569 \(85.5 m\)](#)

[H3: mapped action drain \(85.5 m\)](#)

[H3: mapped main stormwater drain \(85.5 m\)](#)

[H3: nearest mapped sewage line \(0.10 m\)](#)

[H3: possible roadside connection route](#)

[H3: mapped pump - Bank Wali Gali Dundahera; capacity 15.0 L/s \(775 m\)](#)

[H3: open/green receptor or park - Major Vinod Rana Park; storage 1,340 m<sup>3</sup> \(526 m\)](#)

[H3: MCG park - New Palam Vihar , Near H.no-123, G-Block; ward 05 \(153 m\)](#)

[H3: MCG pond - Bajghera Pond Nr.Shiv Mandir \(1,037 m\)](#)

[H3: MCG green-belt lowering area - Proposed \(0.00 m\)](#)

[H3: rainwater-harvesting/recharge point - Near D-1939, D-Block, Palam Vihar, Gurugram \(recorded as functional\) \(984 m\)](#)

[H3: groundwater recharge screening area - Netaji Subhash Chandra Bose Park; field-check \(368 m\)](#)

[H3: nearest STP/treatment point - BEHIND RED ROSE PUBLIC SCHOOL \(891 m\)](#)

[H3: nearest manhole/inlet \(1.30 m\)](#)

Scan QR code to open this hotspot on phone maps.



### Hotspot Action Card

|               |                                                                                                 |
|---------------|-------------------------------------------------------------------------------------------------|
| Go to         | 28.51447, 77.02157                                                                              |
| Water concern | maximum modelled depth 0.36 m; average within 50 m 0.30 m; water remains above 15 cm for 9.6 h. |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nearest stormwater drain   | map label 569 (storm) near Palam Vihar D Block near Mother dairy is 85.5 m away. The mapped roadside option is 115 m long and is not yet field-approved.                                                                                                                                                                                                                                                                                                                  |
| Roadside connection checks | Mapped roadside option: approximately 115 m from this point to the receiving stormwater drain. The map follows roads and avoids mapped buildings. The route starts and ends at the nearest road points, about 1.20 m and 12.0 m from the mapped locations. Before approval, survey the level at both ends, confirm continuous fall toward the drain, mark every utility crossing and check that the receiving drain can accept flow. Do not construct if any check fails. |
| Nearby MCG sewage line     | MCG sewage line is at this point. Check the nearest manhole for rising water. Do not discharge stormwater into this line.                                                                                                                                                                                                                                                                                                                                                 |
| First action at site       | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                                                                                                                                                           |
| Before monsoon             | Inspect and desilt map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m) if silt/choking is seen.                                                                                                                                                                                                                                                                                                                                                     |
| Escalate if                | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                                                                                                                                                |

## 2. Source

|                                     |                                                          |
|-------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> MCG record | <input checked="" type="checkbox"/> Model-selected point |
|-------------------------------------|----------------------------------------------------------|

## 3. Field Priority Level

|                              |                                 |                               |                                               |
|------------------------------|---------------------------------|-------------------------------|-----------------------------------------------|
| <input type="checkbox"/> LOW | <input type="checkbox"/> MEDIUM | <input type="checkbox"/> HIGH | <input checked="" type="checkbox"/> VERY HIGH |
|------------------------------|---------------------------------|-------------------------------|-----------------------------------------------|

## 4. Flood Timing and Depth

**At H3, record observed water depth, time, inlet condition and receiving-drain level. Compare these with the model estimate before work begins.**

| Field measure                          | Unit    | Model estimate | Selected rainfall |
|----------------------------------------|---------|----------------|-------------------|
| Ponded water within 50 m               | m³      | 2,861 m³       | July 2025 rain    |
| Time water remains above 15 cm         | hours   | 9.6            | July 2025 rain    |
| Time to exceed 15 cm after rain starts | minutes | 89             | July 2025 rain    |
| Maximum depth at this point            | m       | 0.36 m         | July 2025 rain    |
| Average depth within 50 m              | m       | 0.30 m         | July 2025 rain    |
| Maximum modelled flow speed            | m/s     | 0.00 m/s       | July 2025 rain    |

H3: record observed water depth and time, then photograph the inlet and receiving-drain level before work starts.

## 5. Recommendations

### a. Drainage and Sewage Checks

Stormwater check: map label 569 (storm) near Palam Vihar D Block near Mother dairy is about 85.5 m away and the mapped roadside option is about 115 m long. Open the inlet and receiving-drain access point, then

use a clean-water flow test or observe the next rainfall to confirm that water reaches the drain without backing up. Sewage check: an MCG sewage line is at this point. Inspect the nearest manhole for rising water, but never use the sewage line as a stormwater or pump outlet.

## b. Possible New Stormwater Connection

Mapped option: approximately 115 m of roadside connection to map label 569 (storm) near Palam Vihar D Block near Mother dairy, which is 85.5 m away directly. Before sanctioning work, measure the source and receiving-drain levels, confirm continuous fall toward the drain, mark utility crossings and check that the receiving drain can accept the added flow. Do not construct if any one of these checks fails.

## c. When to Desilt

Inspect the inlet, first upstream access point and first downstream access point leading to map label 569 (storm) near Palam Vihar D Block near Mother dairy. Record silt depth and the free opening at each point. Desilt only where silt narrows the waterway or a clean-water flow test shows restriction; clear the full restricted reach and take before/after photographs.

## d. Temporary Pump Decision

| S.No. | Pump Location                                                                              | Discharge Point                                                                                                                                                                                  | Pump Capacity / Type                                                                                                             |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1     | H3 / local low point                                                                       | Nearest mapped pump: Bank Wali Gali Dundaheera; capacity 15.0 L/s; likely discharge: Leg 1.                                                                                                      | Confirm at site                                                                                                                  |
| 2     | Alternate discharge check for H3                                                           | Do not discharge to the nearby sewage line (0.10 m from H3); check safe storm drain/open area after checking route to map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m). | Use only if site access and discharge permission are clear for H3.                                                               |
| 3     | Gravity route to map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m) | Use gravity only if water from H3 can visibly enter map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m) after inlet and drain-level check.                                 | No pump needed only if flow into map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m) is confirmed at site. |

## e. New Drain or Inlet Decision

For H3, no screened pump/open receptor or main-drain drainage relief route within 50 m; field team should check a safe pump route. Map screening used depth/persistence/drain return, 50 m local flood-volume estimate, screened park/open receptors, storm-drain proximity, sewer proximity caution, and site visit constraints. H3: survey the mapped 115 m roadside option to map label 569 (storm) near Palam Vihar D Block near Mother dairy, which is 85.5 m away directly. Measure levels at the source and receiving drain, confirm continuous fall, mark utilities and verify that the drain has capacity. Approve construction only when all four checks pass.

## f. Rainwater Harvesting Check

Nearby open/receptor area: Major Vinod Rana Park; distance 525 m; possible temporary storage 1,340 m<sup>3</sup>; class site visit. Use only after checking groundwater, water quality and ownership.

## g. Temporary Diversion to Park or Pond

Possible receiving area: Major Vinod Rana Park; possible storage 1,340 m<sup>3</sup>; Check slope, access, permission and overflow route.

## 6. Site Visit Checklist for H3

| Site check                          | Yes                      | No                       | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------|--------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waterlogging seen at this pin       | <input type="checkbox"/> | <input type="checkbox"/> | H3: 28.51447, 77.02157                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Nearest drain/trunk visible         | <input type="checkbox"/> | <input type="checkbox"/> | map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m)                                                                                                                                                                                                                                                                                                                                                                                                 |
| Roadside connection route surveyed  | <input type="checkbox"/> | <input type="checkbox"/> | Mapped roadside option: approximately 115 m from this point to the receiving stormwater drain. The map follows roads and avoids mapped buildings. The route starts and ends at the nearest road points, about 1.20 m and 12.0 m from the mapped locations. Before approval, survey the level at both ends, confirm continuous fall toward the drain, mark every utility crossing and check that the receiving drain can accept flow. Do not construct if any check fails. |
| Levels at both ends measured        | <input type="checkbox"/> | <input type="checkbox"/> | Record source and receiving-drain levels; confirm continuous fall and a lower downstream water level.                                                                                                                                                                                                                                                                                                                                                                     |
| Inlet/manhole blockage checked      | <input type="checkbox"/> | <input type="checkbox"/> | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                                                                                                                                                           |
| Silt visible in drain               | <input type="checkbox"/> | <input type="checkbox"/> | Check map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m).                                                                                                                                                                                                                                                                                                                                                                                          |
| Sewage manhole overflow checked     | <input type="checkbox"/> | <input type="checkbox"/> | MCG sewage line is at this point. Check the nearest manhole for rising water. Do not discharge stormwater into this line.                                                                                                                                                                                                                                                                                                                                                 |
| Safe pump discharge route available | <input type="checkbox"/> | <input type="checkbox"/> | Keep pump ready only after checking manhole/trunk level; pump capacity to be checked at site.                                                                                                                                                                                                                                                                                                                                                                             |
| Road/access safety checked          | <input type="checkbox"/> | <input type="checkbox"/> | 143 m from Dwarka Expressway (trunk)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Photos taken and attached           | <input type="checkbox"/> | <input type="checkbox"/> | Photo label should include H3.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Needs escalation to senior engineer | <input type="checkbox"/> | <input type="checkbox"/> | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                                                                                                                                                                |

## 7. Field Decision Box for H3

| Decision                         | Select                   | Field note                                                                                                                                                                                                                                                                                                                             |
|----------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clean inlet/blockage immediately | <input type="checkbox"/> | Check water backing up at the manhole; verify trunk drain level before pumping.                                                                                                                                                                                                                                                        |
| Inspect/desilt stormwater drain  | <input type="checkbox"/> | Inspect and desilt map label 569 (storm) near Palam Vihar D Block near Mother dairy (85.5 m) if silt/choking is seen.                                                                                                                                                                                                                  |
| Survey a new roadside connection | <input type="checkbox"/> | H3: survey the mapped 115 m roadside option to map label 569 (storm) near Palam Vihar D Block near Mother dairy, which is 85.5 m away directly. Measure levels at the source and receiving drain, confirm continuous fall, mark utilities and verify that the drain has capacity. Approve construction only when all four checks pass. |
| Use a temporary pump             | <input type="checkbox"/> | Keep pump ready only after checking manhole/trunk level; pump capacity to be checked at site.                                                                                                                                                                                                                                          |
| Escalate or restrict access      | <input type="checkbox"/> | Escalate if manhole overflow continues, trunk water level is high, or pumping has no safe discharge route.                                                                                                                                                                                                                             |