Metropolitan Atlanta Municipalities: Manhole Inspection

<table>
<thead>
<tr>
<th>Project:</th>
<th>Manhole Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients:</td>
<td>DeKalb County, City of East Point, City of Atlanta, City of College Park</td>
</tr>
<tr>
<td>Location:</td>
<td>Throughout Metropolitan Atlanta</td>
</tr>
<tr>
<td>Completion:</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

In performing the manhole condition assessments, MME field inspection personnel are trained and certified to account for the following:

(a) General:
   i. Manhole identification as provided by East Point City maps
   ii. Address
   iii. Location (pavement or easement)
   iv. Size and condition of cover
   v. Condition of ring and frame,
   vi. Material
   vii. Size of manhole
   viii. Inlet and outlet pipe sizes.

(b) Structural
   i. Condition of steps, cone, riser, bench and channel.

(c) Hydraulic
   i. Inflow indicators
   ii. Evidence of surcharging
   iii. Clarity of flow
   iv. Flow comparisons with adjacent manholes
   v. Depth of flow
   vi. Evidence of vermin
   vii. Drop manhole (inlet/outlet).

To facilitate uniformity in the preparation of manhole condition assessment reports, MME utilizes either client mandated or other industry standardized inspection forms similar to the form attached.
The information obtained from the completed manhole condition assessment forms prepared in the field are reviewed for consistency and any missing or ambiguous information is revisited and updated based on field clarification. The data from completed and reviewed forms can be used to populate manhole modules within software either mandated by the client or other industry standard software such as InfoNet software. It should be noted that InfoNet is a widely used industry software for evaluating sewer system assets and is presently used by large metro Atlanta utilities.

The InfoNet software has the capability to process the severity of the defects and generate a ranking for each manhole asset, based on structural integrity. In addition, an estimate of I&I potential can also be computed for the manholes using InfoNet in conjunction with a database of Inflow &Infiltration (I&I) values developed from I&I estimates.

A professional engineering review of manhole inspection forms and the use of industry standard software in conjunction with the database of I&I values are tools used for analyzing the condition of manhole inspection data.
# MANHOLE CONDITION ASSESSMENT

## 1 - GENERAL INFORMATION

<table>
<thead>
<tr>
<th>District</th>
<th>Basis</th>
<th>Sewer Shed</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Point ID</th>
<th>DS Point ID</th>
<th>Map No.</th>
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<tbody>
<tr>
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</table>

**Type**
- AG - AnglePoint, CSS - CombStorm/Sanitary, CO - LIR - Lamphold, T-Tea - END of Line, MIH - STB - Sub, SMT - Summit, DO - Discharge/Open

**Surface Cover Type**
- A - MainRoadUrban, B - MainRoadRural, C - LightRoad
- D - FootPath/RoadShoulder, E - Field, F - Game, G - Woodland, X - DifficultAccess

**Surface Cover Material**
- A - Asphalt, BM - Bldg/orb/ Terres, BU - Bldg/Unsurf
- C - Concrete, CKC - CookCross, D - Dirt, EER - Elec/Road/Flag, EP - Elec/Pole, F - Fence, G - Grass, PA - Pipe/Abou/Ground, R - Gravel, S - Sand, T - Trees/Shrubs, U - Utility, W - Water, X - Other

**Location Comment**

**Surface Cover Material**

### 2 - CHARACTERISTICS

#### ITEM

<table>
<thead>
<tr>
<th>TYPE/SHAPE</th>
<th>LINER</th>
<th>DEPTH TO BOTTOM</th>
<th>SIZE</th>
<th>MISCELLANEOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>+ / - Grade: _____ inches</td>
<td>Inflow Disk: Yes / No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Number of Landings: _____</td>
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</tbody>
</table>

**Comments:**

#### MILL COVER TYPES:
- B-Shield, C-Concrete, E-Concealed Picklehole, Open Picklehole, Type A Lift Hole, L-Lockdown, S-Solid, V022-Exped 1 EA, V024-Exped 2 EA, V042, V043, V044, V122, V123, V124, V243, V244

**PIPE SHAPE CODES:**
- N - Non-Circular, R - Rectangle, S - Square

**MATERIAL CODES:**
- AK - Alkali, AC - Arches/Concrete, BB - Brick, C - Cast Iron, S - Scrap, S - Steel, CD - Conduit/Segmen, C - Concrete, NZ - No Knowns

**SHAPE CODES:**
- CL - Clay, C - Concrete, P - Plastic, BS - Brick, RS - Rock, S - Steel

**ASSESSMENT:**
1. Depth to Bottom and Entry Depth are measured in feet to the nearest hundredth of a foot.
2. Error is measured in feet to the nearest hundredth of a foot.

### 3 - PIPE DATA

<table>
<thead>
<tr>
<th>NO</th>
<th>OUT</th>
<th>SIZE</th>
<th>SHAPE</th>
<th>MATL</th>
<th>ENTRY DEPTH</th>
<th>ENTRY CLOCK</th>
<th>LINER</th>
<th>CMDS/TESTS (Also indicate whether CCTV should be performed on pipe for locating crossing utilities)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

### 4 - MANHOLE SKETCH

[Manhole Sketch Diagram]

Mag North

Manhole Condition Assessment

Point GISD
### 4 - INSPECTION DATA

<table>
<thead>
<tr>
<th>Inspector</th>
<th>Date</th>
<th>Time</th>
<th>Finish valve: Yes</th>
<th>No</th>
<th>Weather:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1-Dry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4-Showers</td>
</tr>
</tbody>
</table>

|-------------------|---------|-------------|------------------|-------------|---|--------------------------------|----------------|-------------------|--------|-----|

<table>
<thead>
<tr>
<th>Surface Photo No.</th>
<th>Plan Photo No.</th>
<th>Surcharge Evidence:</th>
<th>ft</th>
<th>Groundwater:</th>
<th>ft</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pudding: Yes</th>
<th>No</th>
<th>Pond Area:</th>
<th>ft</th>
<th>Debris:</th>
<th>inches</th>
<th>Debris Type:</th>
<th>Silt</th>
<th>Gravel</th>
<th>B-Dirt</th>
</tr>
</thead>
</table>

### 5 - POINT DEFECTS

<table>
<thead>
<tr>
<th>MTH/Fضر</th>
<th>DEFT</th>
<th>POSITION</th>
<th>ASPECT</th>
<th>fläche</th>
<th>COMMON</th>
<th>PHOTO</th>
</tr>
</thead>
</table>

**NOTE:** Position * has two components - 1) a range of clock positions using North as 12 O’Clock, and 2) distances measured in feet to the nearest hundredth of a foot. Measure from lowest point on top inside edge of frame to top and bottom of the defect being measured.

**Condition Grade (CG):**
1. 1- No Defects
2. 2- Circumferential Cracks
3. 3- Multiple Cracks
4. 4- Multiple Fractures
5. 5- Collapse/Sewer breaks

**Infiltration:**
- 1S- Sapper
- 2D- Dripper
- 3R- Runner
- 4G- Ginger
- 5T- None

**Rest:**
- RF- Fissure
- KCl- Mass
- KT- Tap

### 6 - REHABILITATION INFORMATION

**Manhole Accessibility To Cover** — Good/Poor

**Manhole Accessibility From Cover to Pipes** — Good/Poor

**Space for Rehabilitation and Staging:**

1. **Choose those applicable**
   - Intersection/Street
   - Number of lanes: ______
   - 1-Way/2-Way
   - Medium/Shoulder/Sidewalk
   - Commercial/Residential

2. **Description of Surrounding Area**

3. **Area Available for Equipment Setup**

4. **Overhead Obstruction**

5. **Other**

**Manhole Condition Assessment**

**Point GIS ID:**