



STORM & SANITARY SEWERS
CCTV INSPECTION REPORT

Report: HYD-23153

Completion date: May 26th 2023

Sewer use: Storm & Sanitary

Project: Tower 3, Orleans- ON

PO Box 49
Hawkesbury, ON
K6A 2R8

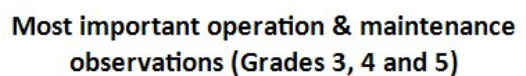
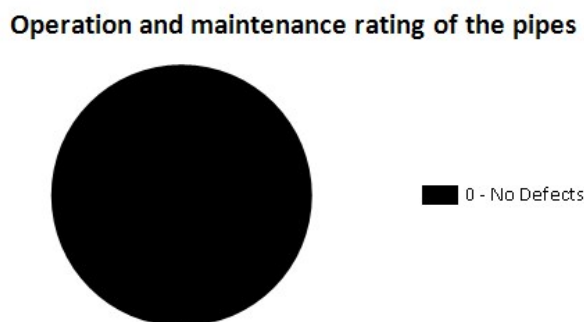
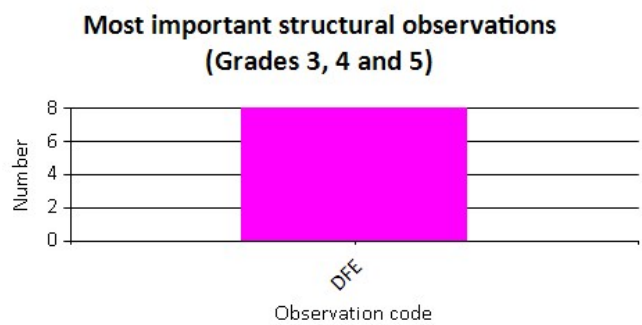
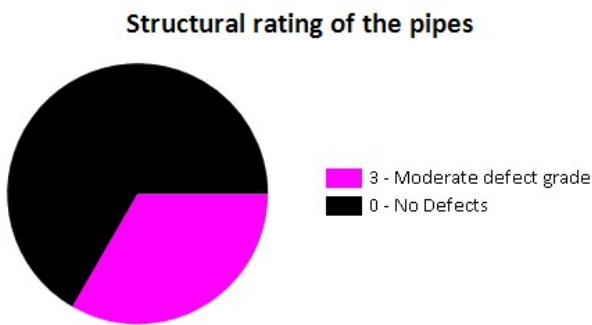
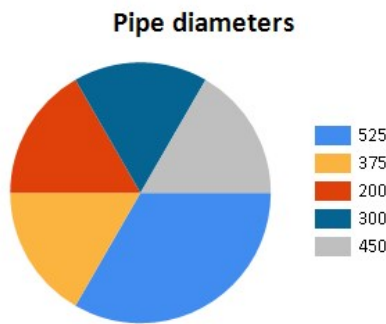
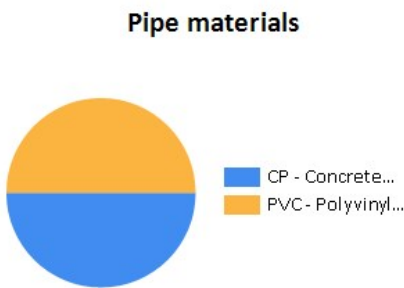
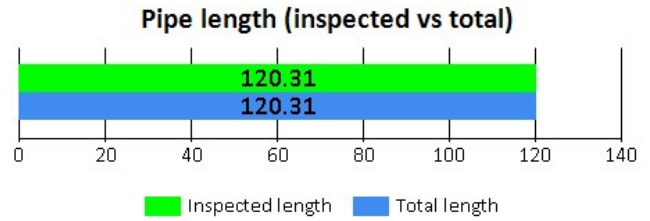
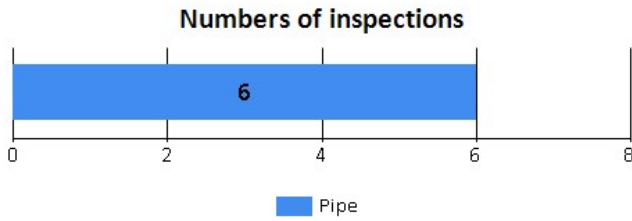
Tel: 613-317-6641
Fax: 613-632-2932

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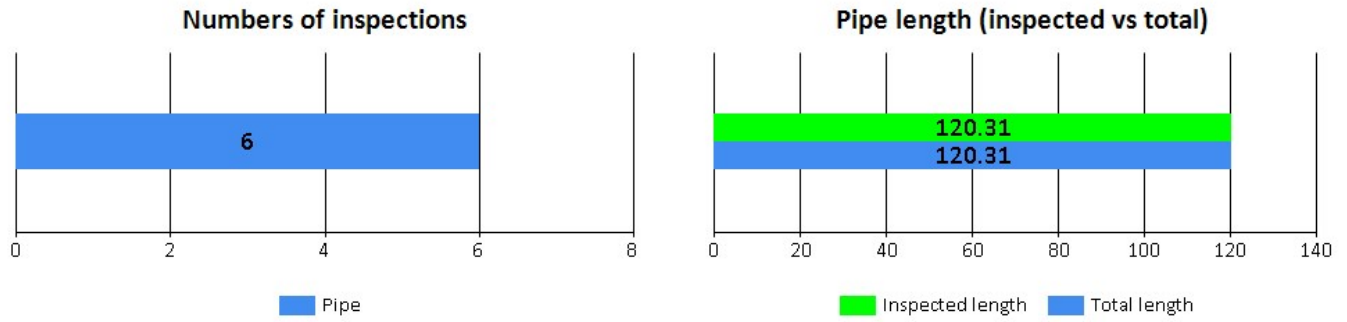
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1. Graphical summary of the report



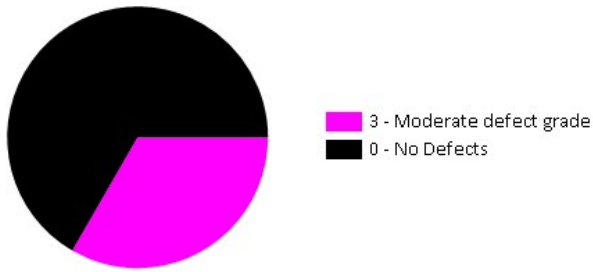
2. Index of pipes



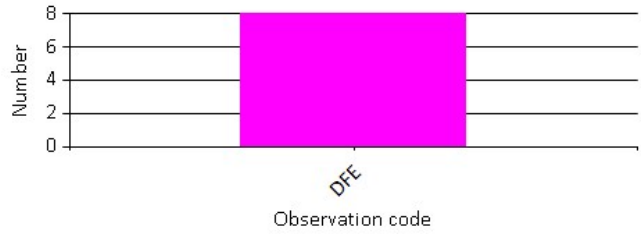
Pipe	Start/End	Direction	Road	Date	Inspected	Total	Inspection Status	Page
OUTLET STM MH 205	OUTLET --> STM MH 205	Direction of flow	BACK LOT	26/05/2023, 8:42 AM	1.89	1.89	Complete Inspection	7
SAN MH 101 EX SAN	SAN MH 101 --> EX SAN	Direction of flow	PARKING	26/05/2023, 9:45 AM	24.63	24.63	Complete Inspection	9
STM CAP STM MH 201	STM MH 201 --> STM CAP	Against flow	PARKING	26/05/2023, 9:53 AM	12.3	12.3	Complete Inspection	11
STM MH 201 EX STM MH	STM MH 201 --> EX STM MH	Direction of flow	PARKING	26/05/2023, 10:14 AM	29.33	29.33	Complete Inspection	13
STM MH 204 STM MH 78309	STM MH 204 --> STM MH 78309	Direction of flow	BACK LOT	26/05/2023, 8:52 AM	6.73	6.73	Complete Inspection	17
STM MH 205 STM MH 204	STM MH 205 --> STM MH 204	Direction of flow	BACK LOT	26/05/2023, 8:44 AM	45.43	45.43	Complete Inspection	19

3. Structural rating

Structural rating of the pipes



Most important structural observations
(Grades 3, 4 and 5)



6 items

3 - Moderate defect grade (2 of 6 items)

Score	Quick	Index	Pipe	Start/End	Direction	Road	Page
41	3A24	2.7	STM MH 201 EX STM MH	STM MH 201 --> EX STM MH	Direction of flow	PARKING	13
9	3300	3	STM CAP STM MH 201	STM MH 201 --> STM CAP	Against flow	PARKING	11

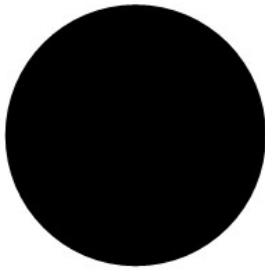
0 - No Defects (4 of 6 items)

Score	Quick	Index	Pipe	Start/End	Direction	Road	Page
0	0000	0	OUTLET STM MH 205	OUTLET --> STM MH 205	Direction of flow	BACK LOT	7
0	0000	0	SAN MH 101 EX SAN	SAN MH 101 --> EX SAN	Direction of flow	PARKING	9
0	0000	0	STM MH 204 STM MH 78309	STM MH 204 --> STM MH 78309	Direction of flow	BACK LOT	17
0	0000	0	STM MH 205 STM MH 204	STM MH 205 --> STM MH 204	Direction of flow	BACK LOT	19

4. O&M rating

Operation and maintenance rating of the pipes

Most important operation & maintenance observations (Grades 3, 4 and 5)



0 - No Defects

6 items

0 - No Defects (6 of 6 items)

Score	Quick	Index	Structural	Pipe	Start/End	Direction	Road	Page
0	0000	0	0	OUTLET STM MH 205	OUTLET --> STM MH 205	Direction of flow	BACK LOT	7
0	0000	0	0	SAN MH 101 EX SAN	SAN MH 101 --> EX SAN	Direction of flow	PARKING	9
0	0000	0	3	STM CAP STM MH 201	STM MH 201 --> STM CAP	Against flow	PARKING	11
0	0000	0	3	STM MH 201 EX STM MH	STM MH 201 --> EX STM MH	Direction of flow	PARKING	13
0	0000	0	0	STM MH 204 STM MH 78309	STM MH 204 --> STM MH 78309	Direction of flow	BACK LOT	17
0	0000	0	0	STM MH 205 STM MH 204	STM MH 205 --> STM MH 204	Direction of flow	BACK LOT	19

5. Pipe summary and condition details

Pipe identification

Pipe: OUTLET STM MH 205	Direction of inspection: OUTLET --> STM MH 205
Direction of flow: OUTLET --> STM MH 205	Direction: Direction of flow

Pipe location

Road: BACK LOT	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Easting (X):	Easting (X):
Drainage Area:	Northing (Y):	Northing (Y):
City: ORLEANS	Elevation (Z):	Elevation (Z):
Location:	GPS Accuracy:	
Location details:	Corrdinate System:	
Owner:	Vertical Datum:	
Road segment:		

Pipe characteristics

Pipe Use: Stormwater Pipe	Surveyed Length: 1.89
Height: 450	Total length: 1.89
Width:	Joint length:
Shape: Circular	Rim/Inv.:
Material: Concrete Pipe (non-reinforced)	Grade/Inv.:
Lining:	Rim/Grade:
Coating Method:	Rim/Inv.:
Year Constructed:	Grade/Inv.:
Year renewed:	Rim/Grade:

Additional details

Inspection standard: PACP 7.0	Surveyed by: Jonathan Bourbonnais
Inspection Status: Complete Inspection	Certificate Number: U-122-C1747
Date: 26/05/2023, 8:42 AM	Reviewed By:
Project:	Reviewer Certificate:
Customer: HYD-23153	Pre-Cleaning: Heavy Cleaning
PO number:	Date cleaned:
Work Order:	Media Label:
Purpose:	Unit of measurement: Metric
Weather: Dry	Sheet Number:
Flow control: Not Controlled	Additional information:
Used Technology:	

Structural rating

O&M rating

Overall rating

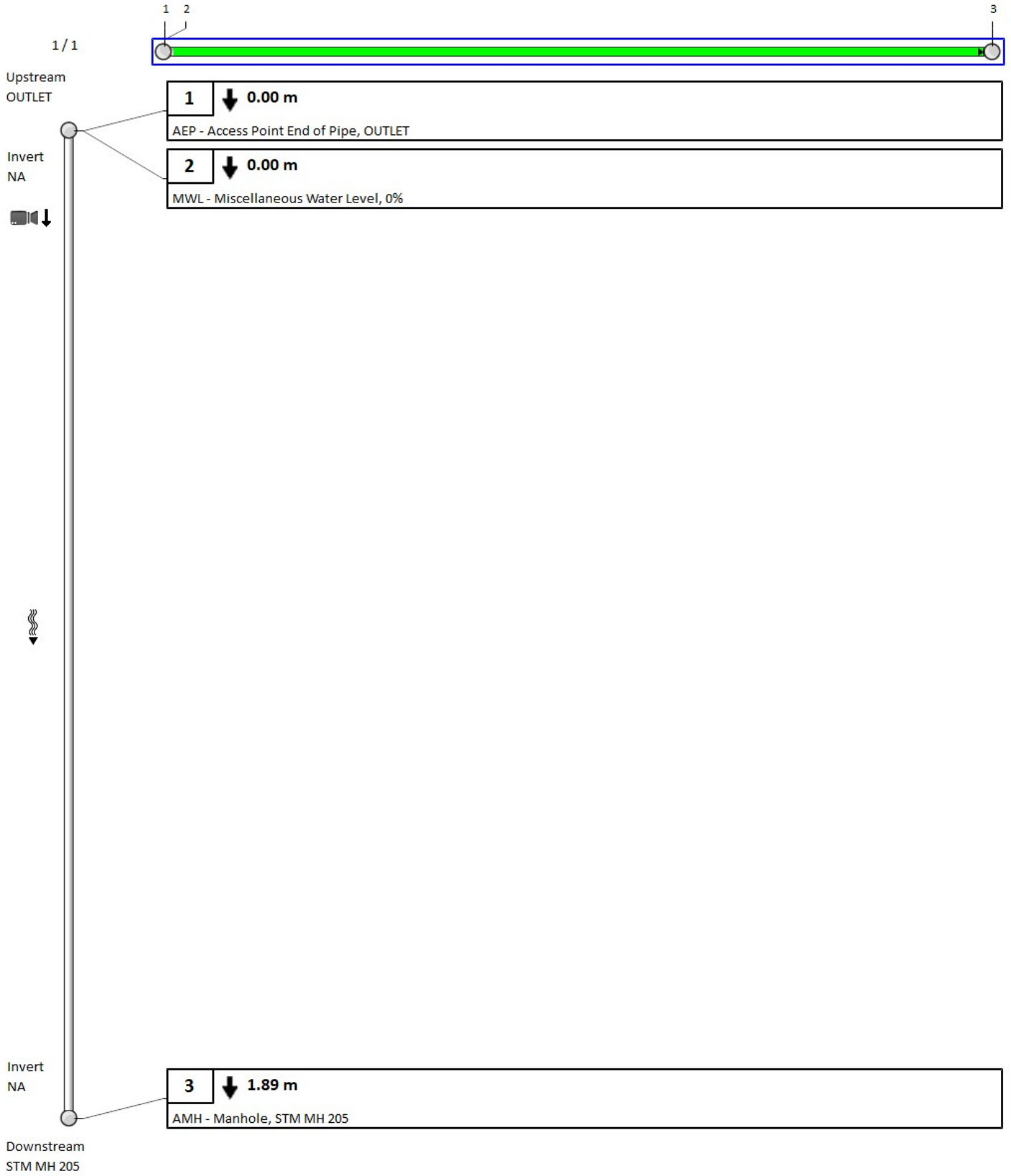
Failure

Peak: 0	Peak: 0	Peak: 0	Consequence:
Quick rating: 0000	Quick rating: 0000	Quick rating: 0000	Likelihood: 1
Score: 0	Score: 0	Score: 0	Risk:
Index: 0	Index: 0	Index: 0	

Other information

Information 1:	Information 6:
Information 2:	Information 7:
Information 3:	Information 8:
Information 4:	Information 9:
Information 5:	Information 10:

5. Pipe summary and condition details



5. Pipe summary and condition details

Pipe identification

Pipe: SAN MH 101 EX SAN	Direction of inspection: SAN MH 101 --> EX SAN
Direction of flow: SAN MH 101 --> EX SAN	Direction: Direction of flow

Pipe location

Road: PARKING	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Easting (X):	Easting (X):
Drainage Area:	Northing (Y):	Northing (Y):
City: ORLEANS	Elevation (Z):	Elevation (Z):
Location:	GPS Accuracy:	
Location details:	Coordinate System:	
Owner:	Vertical Datum:	
Road segment:		

Pipe characteristics

Pipe Use: Sanitary Sewage Pipe	Surveyed Length: 24.63
Height: 300	Total length: 24.63
Width:	Joint length:
Shape: Circular	Rim/Inv.:
Material: Polyvinyl Chloride	Grade/Inv.:
Lining:	Rim/Grade:
Coating Method:	Rim/Inv.:
Year Constructed:	Grade/Inv.:
Year renewed:	Rim/Grade:

Additional details

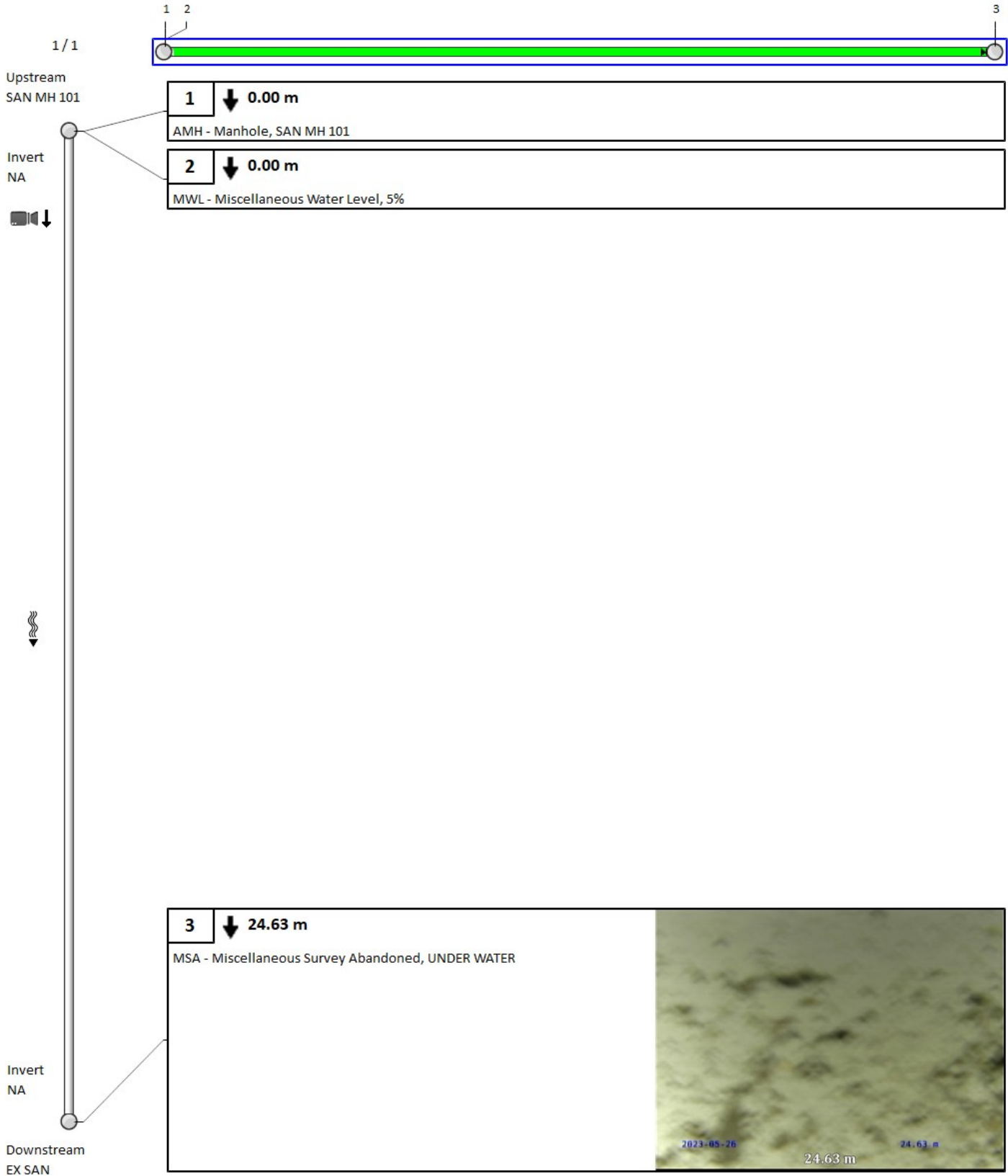
Inspection standard: PACP 7.0	Surveyed by: Jonathan Bourbonnais
Inspection Status: Complete Inspection	Certificate Number: U-122-C1747
Date: 26/05/2023, 9:45 AM	Reviewed By:
Project:	Reviewer Certificate:
Customer: HYD-23153	Pre-Cleaning: Not Known
PO number:	Date cleaned:
Work Order:	Media Label:
Purpose:	Unit of measurement: Metric
Weather: Dry	Sheet Number:
Flow control: Not Controlled	Additional information:
Used Technology:	

Structural rating	O&M rating	Overall rating	Failure
Peak: 0	Peak: 0	Peak: 0	Consequence:
Quick rating: 0000	Quick rating: 0000	Quick rating: 0000	Likelihood: 1
Score: 0	Score: 0	Score: 0	Risk:
Index: 0	Index: 0	Index: 0	

Other information

Information 1:	Information 6:
Information 2:	Information 7:
Information 3:	Information 8:
Information 4:	Information 9:
Information 5:	Information 10:

5. Pipe summary and condition details



5. Pipe summary and condition details

Pipe identification

Pipe: STM CAP STM MH 201	Direction of inspection: STM MH 201 --> STM CAP
Direction of flow: STM CAP --> STM MH 201	Direction: Against flow

Pipe location

Road: PARKING	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Easting (X):	Easting (X):
Drainage Area:	Northing (Y):	Northing (Y):
City: ORLEANS	Elevation (Z):	Elevation (Z):
Location:	GPS Accuracy:	
Location details:	Corrdinate System:	
Owner:	Vertical Datum:	
Road segment:		

Pipe characteristics

Pipe Use: Stormwater Pipe	Surveyed Length: 12.3
Height: 200	Total length: 12.3
Width:	Joint length:
Shape: Circular	Rim/Inv.:
Material: Polyvinyl Chloride	Grade/Inv.:
Lining:	Rim/Grade:
Coating Method:	Rim/Inv.:
Year Constructed:	Grade/Inv.:
Year renewed:	Rim/Grade:

Additional details

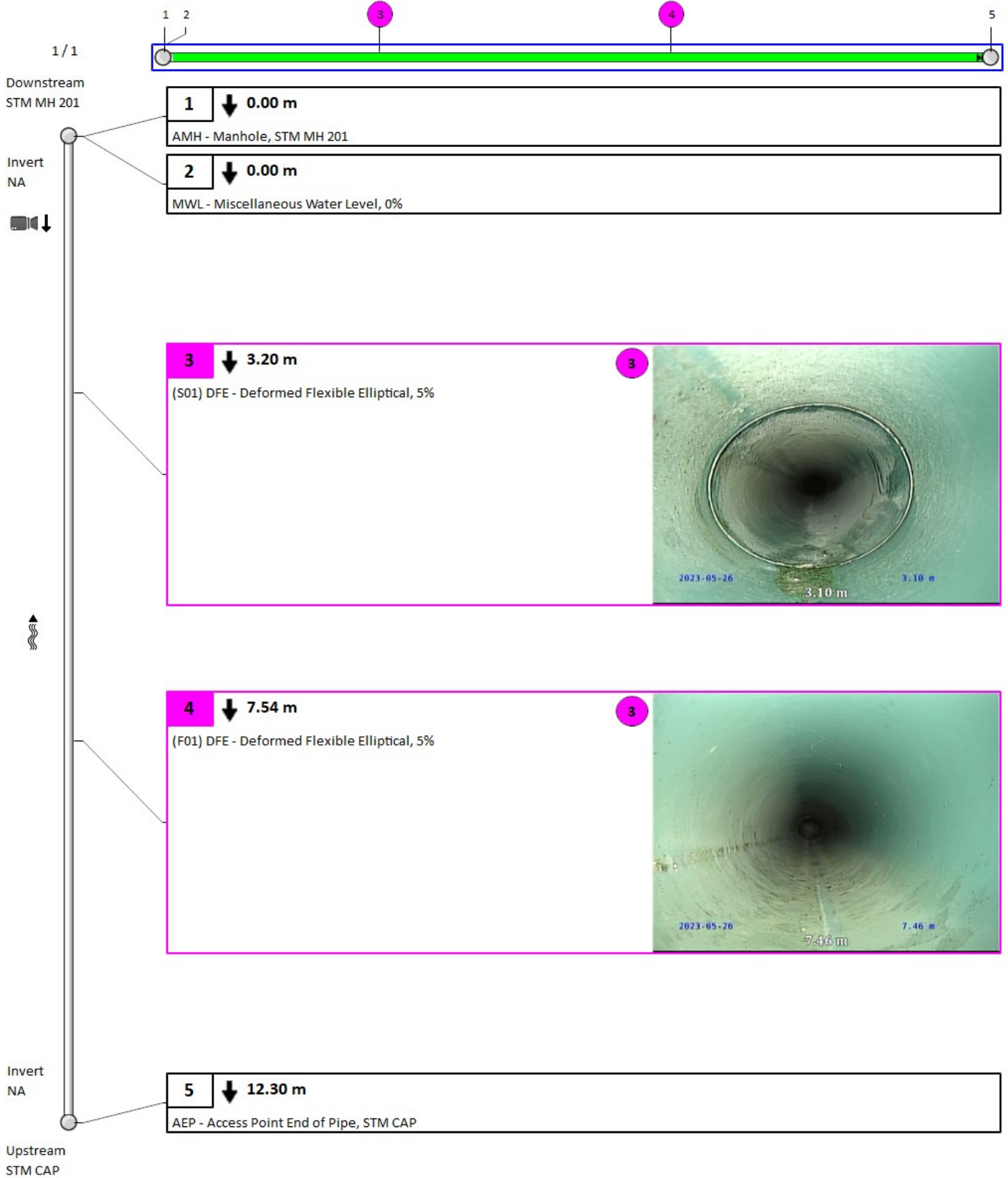
Inspection standard: PACP 7.0	Surveyed by: Jonathan Bourbonnais
Inspection Status: Complete Inspection	Certificate Number: U-122-C1747
Date: 26/05/2023, 9:53 AM	Reviewed By:
Project:	Reviewer Certificate:
Customer: HYD-23153	Pre-Cleaning: No Pre-Cleaning
PO number:	Date cleaned:
Work Order:	Media Label:
Purpose:	Unit of measurement: Metric
Weather: Dry	Sheet Number:
Flow control: Not Controlled	Additional information:
Used Technology:	

Structural rating	O&M rating	Overall rating	Failure
Peak: 3	Peak: 0	Peak: 3	Consequence:
Quick rating: 3300	Quick rating: 0000	Quick rating: 3300	Likelihood: 3.3
Score: 9	Score: 0	Score: 9	Risk:
Index: 3	Index: 0	Index: 3	

Other information

Information 1:	Information 6:
Information 2:	Information 7:
Information 3:	Information 8:
Information 4:	Information 9:
Information 5:	Information 10:

5. Pipe summary and condition details



5. Pipe summary and condition details

Pipe identification

Pipe: STM MH 201 EX STM MH	Direction of inspection: STM MH 201 --> EX STM MH
Direction of flow: STM MH 201 --> EX STM MH	Direction: Direction of flow

Pipe location

Road: PARKING	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Easting (X):	Easting (X):
Drainage Area:	Northing (Y):	Northing (Y):
City: ORLEANS	Elevation (Z):	Elevation (Z):
Location:	GPS Accuracy:	
Location details:	Coordinate System:	
Owner:	Vertical Datum:	
Road segment:		

Pipe characteristics

Pipe Use: Stormwater Pipe	Surveyed Length: 29.33
Height: 375	Total length: 29.33
Width:	Joint length:
Shape: Circular	Rim/Inv.:
Material: Polyvinyl Chloride	Grade/Inv.:
Lining:	Rim/Grade:
Coating Method:	Rim/Inv.:
Year Constructed:	Grade/Inv.:
Year renewed:	Rim/Grade:

Additional details

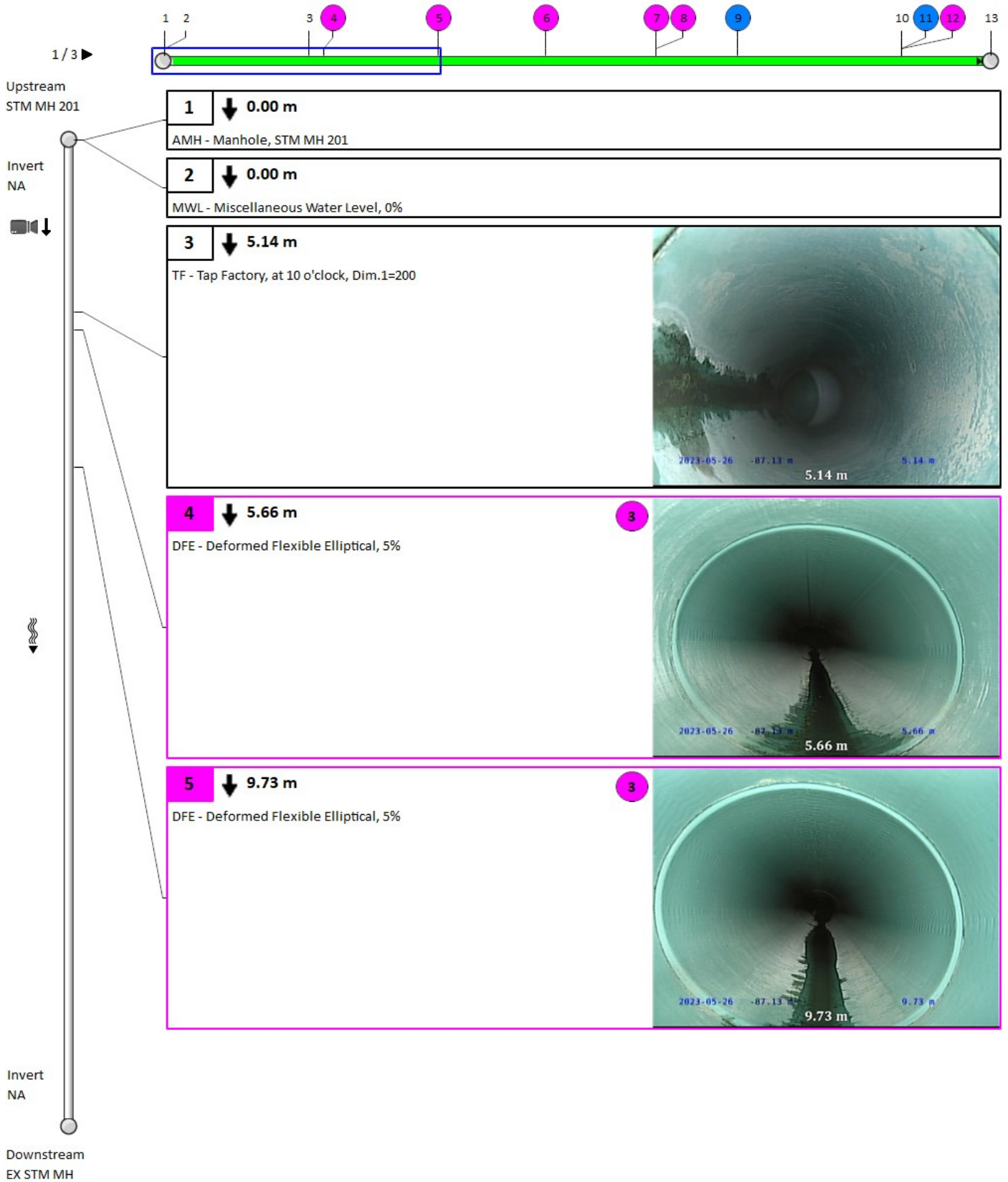
Inspection standard: PACP 7.0	Surveyed by: Jonathan Bourbonnais
Inspection Status: Complete Inspection	Certificate Number: U-122-C1747
Date: 26/05/2023, 10:14 AM	Reviewed By:
Project:	Reviewer Certificate:
Customer: HYD-23153	Pre-Cleaning: No Pre-Cleaning
PO number:	Date cleaned:
Work Order:	Media Label:
Purpose:	Unit of measurement: Metric
Weather: Dry	Sheet Number:
Flow control: Not Controlled	Additional information:
Used Technology:	

Structural rating	O&M rating	Overall rating	Failure
Peak: 3	Peak: 0	Peak: 3	Consequence:
Quick rating: 3A24	Quick rating: 0000	Quick rating: 3A24	Likelihood: 4
Score: 41	Score: 0	Score: 41	Risk:
Index: 2.7	Index: 0	Index: 2.7	

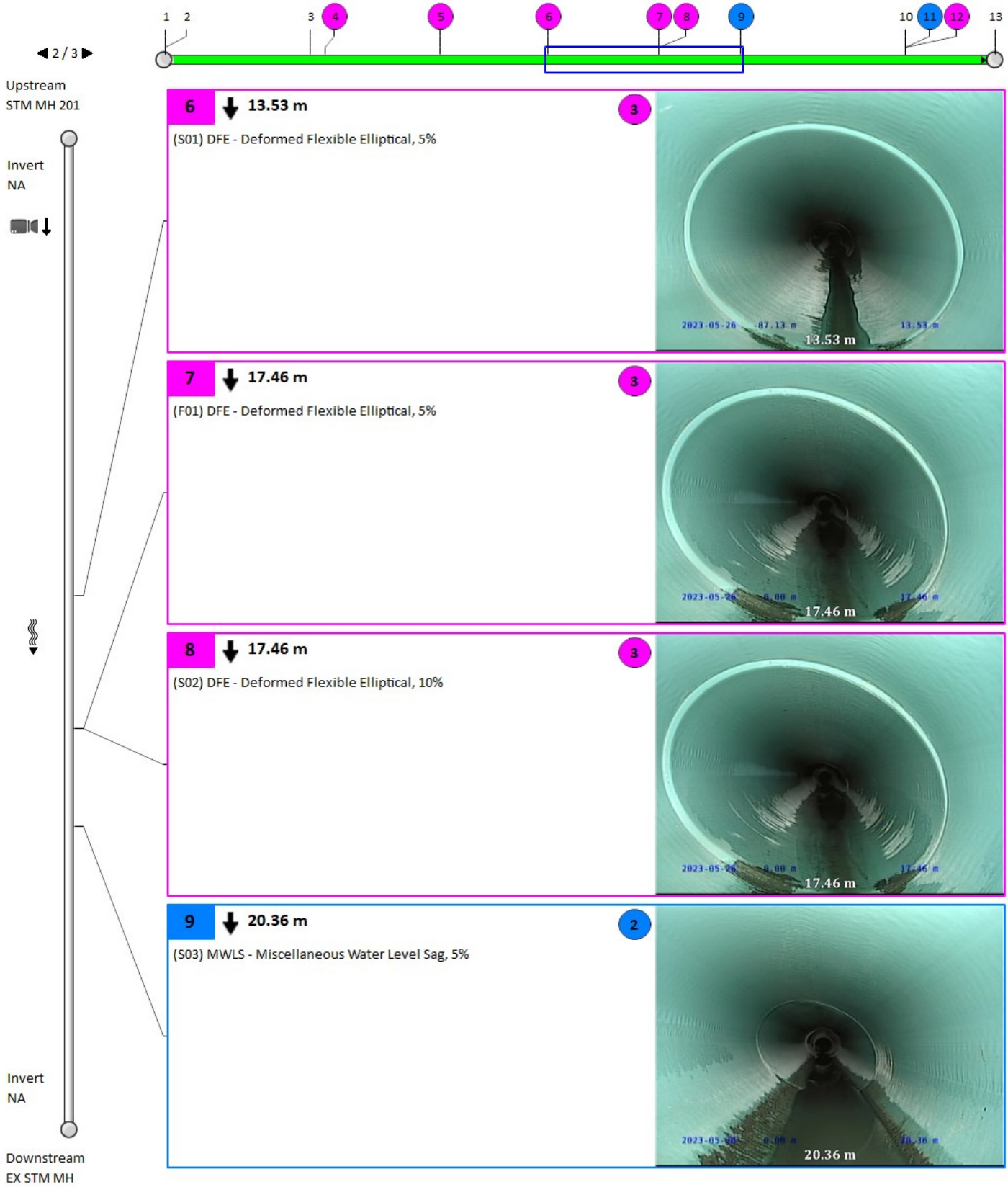
Other information

Information 1:	Information 6:
Information 2:	Information 7:
Information 3:	Information 8:
Information 4:	Information 9:
Information 5:	Information 10:

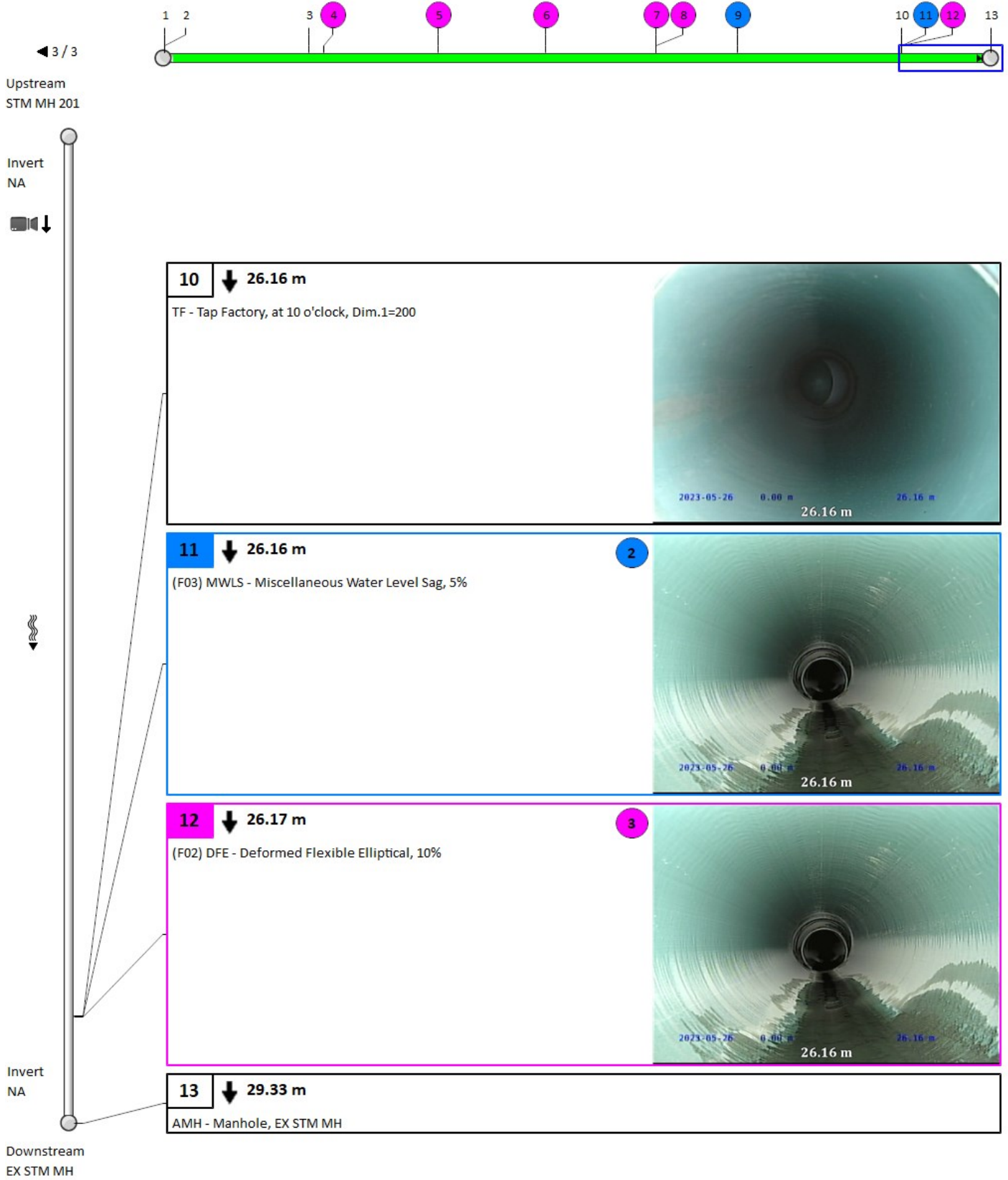
5. Pipe summary and condition details



5. Pipe summary and condition details



5. Pipe summary and condition details



5. Pipe summary and condition details

Pipe identification

Pipe: STM MH 204 STM MH 78309	Direction of inspection: STM MH 204 --> STM MH 78309
Direction of flow: STM MH 204 --> STM MH 78309	Direction: Direction of flow

Pipe location

Road: BACK LOT	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Easting (X):	Easting (X):
Drainage Area:	Northing (Y):	Northing (Y):
City: ORLEANS	Elevation (Z):	Elevation (Z):
Location:	GPS Accuracy:	
Location details:	Corrdinate System:	
Owner:	Vertical Datum:	
Road segment:		

Pipe characteristics

Pipe Use: Stormwater Pipe	Surveyed Length: 6.73
Height: 525	Total length: 6.73
Width:	Joint length:
Shape: Circular	Rim/Inv.:
Material: Concrete Pipe (non-reinforced)	Grade/Inv.:
Lining:	Rim/Grade:
Coating Method:	Rim/Inv.:
Year Constructed:	Grade/Inv.:
Year renewed:	Rim/Grade:

Additional details

Inspection standard: PACP 7.0	Surveyed by: Jonathan Bourbonnais
Inspection Status: Complete Inspection	Certificate Number: U-122-C1747
Date: 26/05/2023, 8:52 AM	Reviewed By:
Project:	Reviewer Certificate:
Customer: HYD-23153	Pre-Cleaning: No Pre-Cleaning
PO number:	Date cleaned:
Work Order:	Media Label:
Purpose:	Unit of measurement: Metric
Weather: Dry	Sheet Number:
Flow control: Not Controlled	Additional information:
Used Technology:	

Structural rating

O&M rating

Overall rating

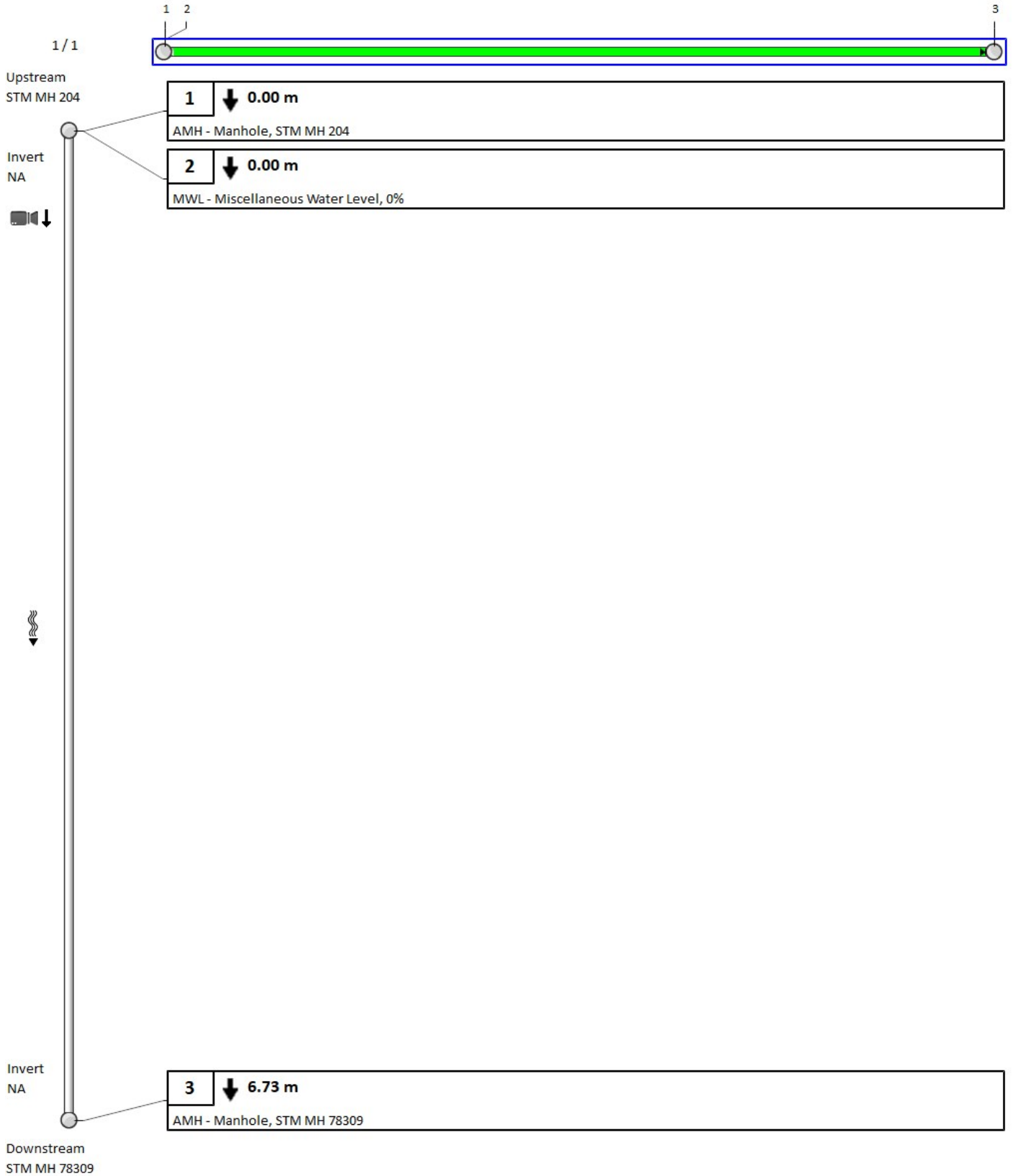
Failure

Peak: 0	Peak: 0	Peak: 0	Consequence:
Quick rating: 0000	Quick rating: 0000	Quick rating: 0000	Likelihood: 1
Score: 0	Score: 0	Score: 0	Risk:
Index: 0	Index: 0	Index: 0	

Other information

Information 1:	Information 6:
Information 2:	Information 7:
Information 3:	Information 8:
Information 4:	Information 9:
Information 5:	Information 10:

5. Pipe summary and condition details



5. Pipe summary and condition details

Pipe identification

Pipe: STM MH 205 STM MH 204	Direction of inspection: STM MH 205 --> STM MH 204
Direction of flow: STM MH 205 --> STM MH 204	Direction: Direction of flow

Pipe location

Road: BACK LOT	<u>UPSTREAM</u>	<u>DOWNSTREAM</u>
Crossroad:	Easting (X):	Easting (X):
Drainage Area:	Northing (Y):	Northing (Y):
City: ORLEANS	Elevation (Z):	Elevation (Z):
Location:	GPS Accuracy:	
Location details:	Corrdinate System:	
Owner:	Vertical Datum:	
Road segment:		

Pipe characteristics

Pipe Use: Stormwater Pipe	Surveyed Length: 45.43
Height: 525	Total length: 45.43
Width:	Joint length:
Shape: Circular	Rim/Inv.:
Material: Concrete Pipe (non-reinforced)	Grade/Inv.:
Lining:	Rim/Grade:
Coating Method:	Rim/Inv.:
Year Constructed:	Grade/Inv.:
Year renewed:	Rim/Grade:

Additional details

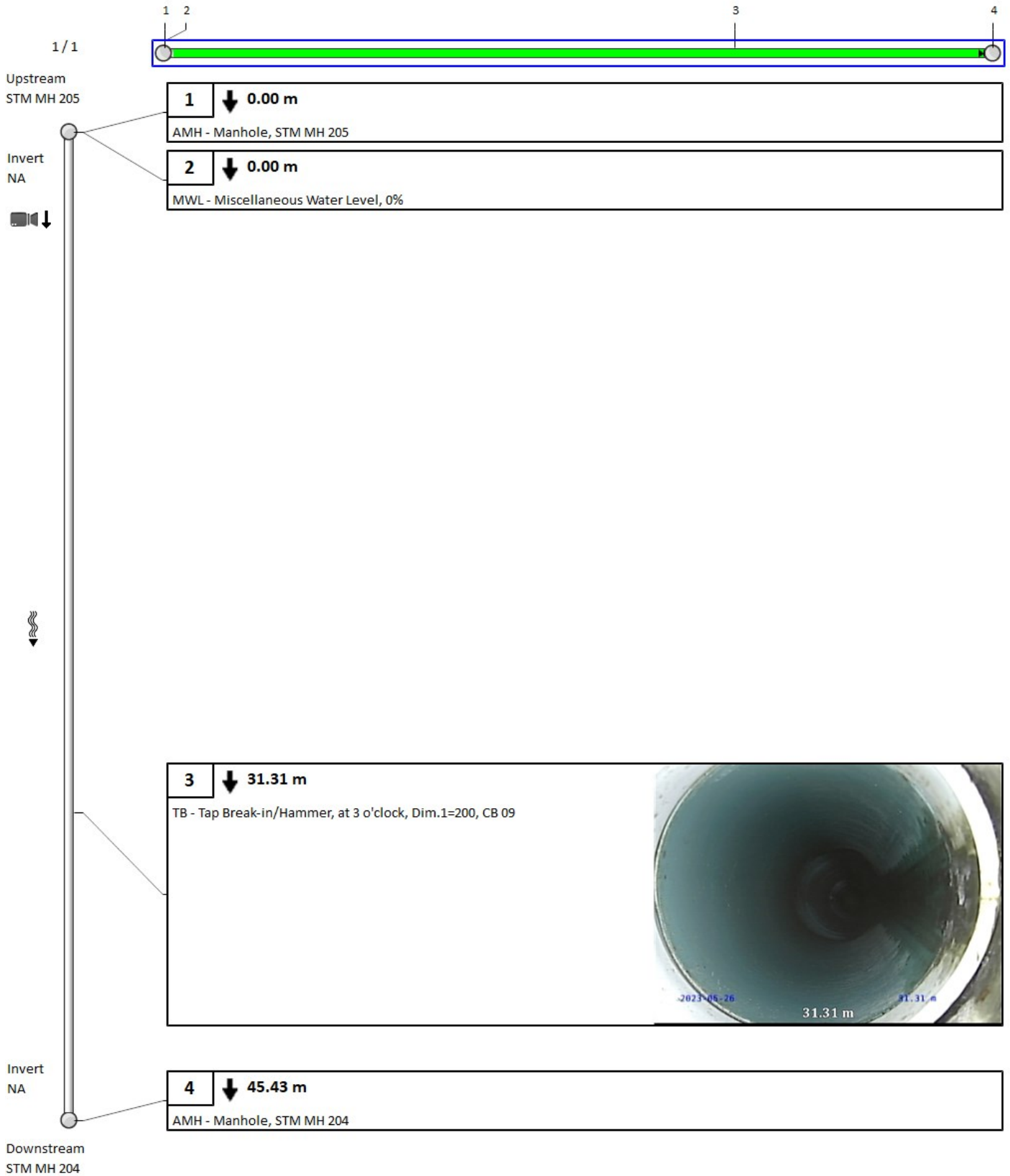
Inspection standard: PACP 7.0	Surveyed by: Jonathan Bourbonnais
Inspection Status: Complete Inspection	Certificate Number: U-122-C1747
Date: 26/05/2023, 8:44 AM	Reviewed By:
Project:	Reviewer Certificate:
Customer: HYD-23153	Pre-Cleaning: No Pre-Cleaning
PO number:	Date cleaned:
Work Order:	Media Label:
Purpose:	Unit of measurement: Metric
Weather: Dry	Sheet Number:
Flow control: Not Controlled	Additional information:
Used Technology:	

Structural rating		O&M rating		Overall rating		Failure	
Peak: 0	Quick rating: 0000	Peak: 0	Quick rating: 0000	Peak: 0	Quick rating: 0000	Consequence:	Likelihood: 1
Score: 0	Index: 0	Score: 0	Index: 0	Score: 0	Index: 0	Risk:	








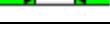









Other information

Information 1:	Information 6:
Information 2:	Information 7:
Information 3:	Information 8:
Information 4:	Information 9:
Information 5:	Information 10:

5. Pipe summary and condition details



Vision Report © Legend

	The numbers sequentially identify each observation. They allow you to find complete descriptions and related photos throughout the pages. Note that when the pipe contains too many observations, the Vision© report hides the least important observations to optimize the display*.
60	A number with neither a square nor circle indicates a general observation.
	A circled number indicates a structural anomaly. The color of the circle indicates the severity of the anomaly on a scale of 1 to 5, 5 being the most severe: green=1, blue=2, magenta=3, orange=4 and red=5.
	A number in a square indicates an operation and maintenance anomaly. The color of the square indicates the severity of the anomaly on a scale of 1 to 5, 5 being the most severe: green=1, blue=2, magenta=3, orange=4 and red=5.
◀ 3 / 31 ▶	Indicates the current page number of the inspection report.
	The blue square indicates a section of the pipe; this section is covered in detail on the current page of the report.
	The green line indicates the inspected part of the pipe. The remaining white line indicates the uninspected part of the pipe.
	Indicates the hold points on the camera during an inspection.
	Indicates the hold points on the camera during the reverse inspection.
	Indicates that a reverse inspection was carried out, however the camera did not reach the initial inspection hold point. (the hold point of the initial inspection)
	Indicates that a reverse inspection was carried out and that it has joined (has arrived at) the initial inspection hold point.
401-059B 	Identifies the start manhole number. Note that this manhole is not necessarily the upstream manhole of the pipe.
401-631 	Identifies the end manhole number. Note that this manhole is not necessarily the downstream manhole of the pipe.
 ou 	A downward arrow indicates that the inspection was carried out in the direction of the current, whereas an upward arrow indicates an inspection against the current. Note that the manhole located on the upper left of the page is always the start manhole, but not necessarily the upstream manhole of the pipe.
	This camera followed by a downward arrow is located on the upper left of the vertical pipe; it indicates that an inspection was done from this manhole.
	When the second camera appears on the bottom left page it means that a reverse inspection was carried out. Information about the reverse inspection is included in the report, thereby combining both inspections.
Invert 3.40	The measurement shown under the word <Invert> indicates the measurements between the frame and the pipe captured during the inspection. This measurement is available at the top left for the start manhole and the bottom left for the end manhole. If the invert was not measured during the inspection, an <NA> mark will be displayed.
 AMH - R	The downward bold arrow to the right of the observation number indicates that this observation was captured during the initial inspection.
 MSA - I	The blank arrow pointing upwards and located to the right of the observation number indicates that this observation was taken during the reverse inspection period, thereby confirming that this report combined both inspections.
18.40 m	Located to the right of the observation number is a number identifying the observation distance in relation to the start of the pipe.
SRV - Armature visible	A full description of the observation code according to the protocol used.

*Any hidden observations are readily accessible from the database as well as in other CTSpec report templates.

** CTSpec inc. reserves the right to modify, eliminate or add to the product features described in this pamphlet without notice.

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