

Data Collection and Condition Evaluation of Roads & Infrastructure Assets in Al Ain Region

Guidelines for Right-of-Way Assets Condition Assessment

Prepared for

DEPARTMENT OF MUNICIPALITIES & TRANSPORT
AL AIN CITY MUNICAPILITY (AACM)

Prepared by

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Asset Inventory Condition Rating Guideline

1. Overview

With reference to the TOR, Volume III part 2, section 4.4.7- page # 32/52, the condition rating for the Right-of-Way (ROW) Assets is categorized into five distinct categories, i.e., "Very Good," "Good," "Fair," "Poor," and "Very Poor."

In alignment with the TOR & AACM's Asset Management Software "Osool", Applus+VELOSI has meticulously developed this document, incorporating a five-point scale condition rating system based on the physical appearance and existing condition of each asset. Applus+VELOSI further classify the rating parameters with more detail to evaluate the condition rating of an asset by generating a tabular format for every asset. The following format shows the information to be gathered and reported subsequently to assess the asset condition rating.

ROW Asset	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies
Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good /Good ...)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost

This document consists of the condition rating scale that is designed to objectively assess and classify the overall condition of ROW assets, considering their visual appearance, structural integrity, and safety concern by recording every evident sign of wear or damage. The rating system provides a standardized approach for evaluating the condition of assets, facilitating consistent and reliable assessment outcomes. By adhering to this comprehensive document, Applus+VELOSI aims to ensure that all right of way (ROW) assets is meticulously evaluated and accurately rated based on the specified criteria.

By using this document, Applus+VELOSI strives to provide accurate and informative evaluations of ROW assets, contributing to efficient decision-making for maintenance and rehabilitation efforts. This data-driven strategy facilitates optimized resource allocation and enables the implementation of tailored treatment strategies based on the specific condition of each asset.

The information obtained through this condition rating process will enable informed decision-making and prioritization of maintenance and rehabilitation efforts for the right of way (ROW) assets.

Upon receiving approval from the AACM, the procedure described in this document for asset condition rating will be promptly implemented for the project.

2. Classification of Roads

Referring to TOR section 4.4.15 on page 37 of 52, the Al Ain region road network encompasses an extensive coverage of thousands of lane kilometers. The road network in the Al Ain region has been meticulously classified into three distinct categories, as follows:

- a. Highway
- b. Major Arterial (Urban)
- c. Sub Arterial (Urban)
- d. Collector (Communities)
- e. Street Segment (Communities)

2.1 Classification Types

2.1.1 Highway – AL AIN ~ DUBAI RD – E66

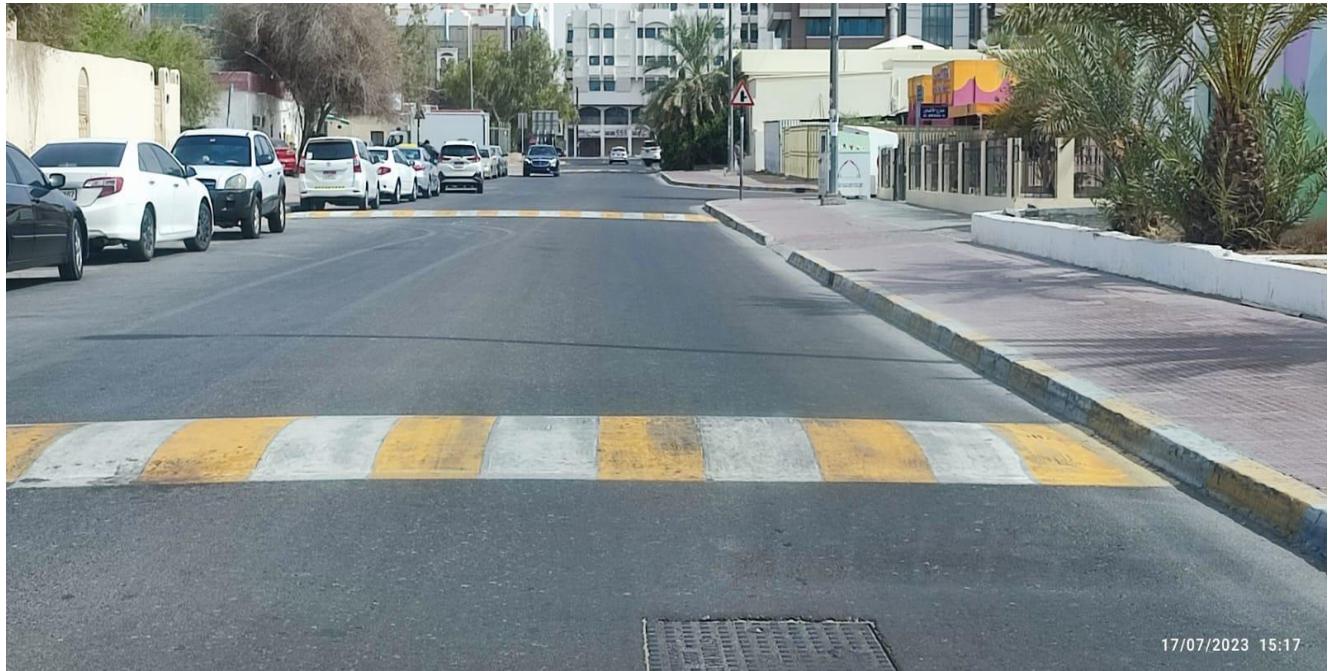


2.1.2 Major Arterial (Urban) - SHAKBOOT BIN SULTAN - 131**2.1.3 Sub Arterial (Urban) - SALAHUDDIN AL AY YUBI - 116**

2.1.4 Collector (Communities) – AL TUHAF St



2.1.5 Street Segment (Communities) – HAI AL HUMAIRA



2.2 Original Scope of work for Right of Way 'ROW' Assets

Referring to Table 10 of TOR, page 37 of 52, approximate Quantities of ROW assets to be conducted under different classified road are as follows:

Original Scope as per TOR		
Sr. No	Roads Classification	ROW - Lane Kilometers
1	Highway Road	959
2	Urban Road (Major & Sub Arterials)	249
3	Communities (collector & street)	6,564
Total Lane Kms		7,772

Table 2-1: LiDAR - Original Scope of Work

2.3 Revised Scope of work for Right of Way 'ROW' Assets

Al Ain City Municipality (AACM) provided a revised scope of work under the letter No. AAM/IA/OUT/2023/4220, dated June 13, 2023. Revised scope consists of the following lane kilometers for the LiDAR.

Revised Scope		
Sr. No	Roads Classification	ROW - Lane Kilometers
1	Highway Road	959
2	Urban Road (Major & Sub Arterials)	483
3	Communities (collector & street)	6,725
Total Lane Kms		8,167

Table 2-2: LiDAR - Revised Scope of Work

3. Road Extensions

Scope of work includes different extensions. The evaluation will be based on the pavement condition by using AACM Guidelines for Survey and Evaluation of Infrastructure Assets. For pavement condition "PCI", please refer to the relevant PCI reports.

Following are the common road extensions that will be included in the PCI rating.

- i. Acceleration/ Deceleration
- ii. Parking Lane
- iii. Parking Lot
- iv. Service Road
- v. Slip Road
- vi. U Turn At IP/ Storage Lane
- vii. U Turn Between IP's

4. Pavement Surfaces

Al Ain Road network have different types of pavement surfaces. Every pavement surface has various types of surface treatments, each designed to meet specific requirements based on traffic volume, climate conditions, and budget considerations. Following are the commonly available surface types.

- ⊕ Bituminous Pavement "Black Top"
- ⊕ Paving Block "Interlock Tiles"
- ⊕ Rigid Pavement

5. Condition Rating

This document includes the significant procedure which shall ensure objective condition assignment. In this document, Applus+VELOSI elaborate on the condition rating criteria for road assets, which utilizes a quantitative approach to assess the overall condition of the assets. The condition rating criteria serve as a systematic and objective method to evaluate various aspects of road assets, ensuring a consistent and standardized assessment across the entire road network.

6. Features Class Data

Applus+VELOSI added features class data of every asset in its respective table. Data includes a detailed description of every asset and its geometry type either, Point, Line or Polygon. The rest of the street furniture data dictionary will be used in GIS schema for routine submission.

Important notes:

- ⊕ With reference to TOR, section 4.4.7. Condition rating of assets are divided into 5 categories (Very Good, Good, Fair, Poor, Very Poor).

- ⊕ The Condition Score value will be used as a number and will always be equal to or greater than one "1" and less than or equal to hundred "5".
- ⊕ The Proposed Maintenance Strategies suggested by Applus+VELOSI that is mentioned for every asset in its relevant table to be discussed and finalized with AACM.
- ⊕ Pavement evaluation of Road Extensions is out of scope of this document. Please refer to the related documents/ PCI reports.
- ⊕ Number to be rounded DOWN in case of decimal figures equal to or less than 0.50. Number should be rounded-UP in case of decimal figures more than 0.50. (*This applied to overall condition score for all the Right-of-Way Assets*).

7. ROW Asset Inventory Features

Referring to TOR, Table 11:1 - Road Asset Classification (page 44 to 46, volume III part 2), different types of road assets are covered in the table referred above. Applus+VELOSI covered the entire assets listed in the referred table by capturing every asset picture within Al Ain and have been included in this document. The detail of all the assets with relevant pictures are as follows.

ASSET CONDITION OBSERVATIONS & PROPOSED MAINTENANCE STRATEGIES WITH CONDITION BASED PICTURES

ROW ASSET CONDITION RATING CRITERIA

1. BARRIER

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost		
1. BARRIER is a modular concrete employed to separate lanes of traffic. It is designed to minimize vehicle damage in cases of incidental contact while still preventing vehicle crossovers resulting in a likely head-on collision.	i. U-Frame ii. New Jersey iii. Bridge Parapet v. Bridge Balustrade Decorative vi. Asset Protection Geometry Type: Line	i. Concrete ii. Steel	Barrier is in perfect condition, no visible damage		5	Very Good	Do Nothing.	Minimum rating value will be assigned by Osool System (1 to 5)									
			Concrete - Thermal/ superficial cracks in the barrier		4	Good	Apply protective coating to prevent further enhancement										
			Concrete - Protective coating peeled off				Clean the Surface and repaint/ recoat.										
			Concrete - Minor damage observed		3	Fair	Repair & refix the damage area same as existing										
			Steel - Tilted Bended (Safety Concern)				Straightened the Pole & refix.										
			Steel - Misaligned due to traffic accident etc.				Realign the barrier and repaint if needed.										
			Steel - Rusted "Minor"				Clean the rusted area and repaint as per specifications.										
			Concrete - Damaged Broken		2	Poor	Remove & repair deteriorated concrete and apply the protective coating as per specifications.										
			Steel - Reinforcement Exposed.														
			Concrete - Major cracks, shifting, instability				Make the necessary arrangements to fix reflective tape/ reflectors for night visibility										
			Barrier reflective tape is slightly tilted and/or minor damages which does not affect its main purpose.														
			Concrete - Severely damaged, potential collapse		1	Very Poor	Install new barrier.										

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Concrete - Fully deteriorated New barrier required at pedestrian crossing or for an asset safety Barrier is not functional Missing barrier Barrier having settled Damaged foundation				Investigate further the cause of the settlement. Remove the barrier, take out the settled material up to full depth, refill in layers with approved material, Place concrete bedding for approved thickness and put back the barrier in place.								

1.1 Barrier – Condition based pictures



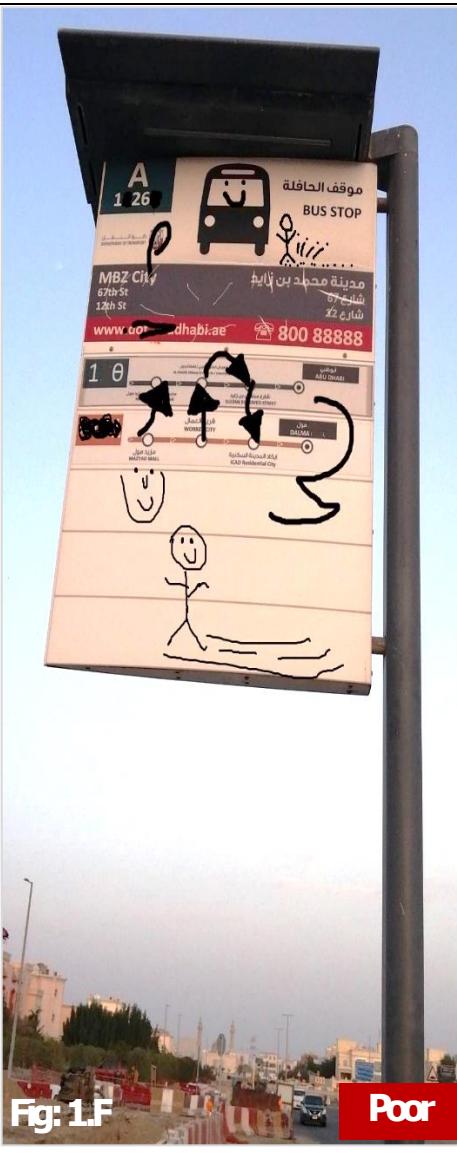
2. BUS / TAXI STOP SIGN

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
2. BUS / TAXI STOP SIGN Signs erected at the side of or above roads to give instructions or provide information to road users.	Refer to Asset # 28, TRAFFIC SIGN AND Asset # 25, "SHELTER"	Geometry Type: Point	Sign Face (Weightage 40%)	Sign Face - No Visible Damage		5	Very Good	Do Nothing							
				Sign Face - Reflective materials intact and effective		4	Good	Observation refers to the start of the deterioration, examine/ monitor and clean the surface periodically for clear visibility.							
				Sign Face - Slight fading, still easily readable		3	Fair	Examine the surface, make the necessary arrangements to improve visibility (as required)							
				Sign Face - Rare or minimal graffitiing/ vandalism		2	Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Noticeable fading, some reduced visibility		1	Very Poor	Provide and fix new mountings/ strings same as existing in size and shape.							
				Sign Face - Reflective materials partially missing		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Significant fading, poor visibility		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Reflective materials mostly missing		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Information significantly outdated Graffiti on sign face (Moderate)		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Corrosion or rust compromising integrity (Moderate Severity).		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Almost illegible due to extreme fading or rust- Major		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Severe graffiti/ vandalism obstructing view		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							
				Sign Face - Reflective materials completely missing or not visible at all		1	Very Poor	Replace the sign same as existing in size and shape as per standards and specification.							

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
Signpost (Weightage 40%)	Signpost - No physical damage		Sign Face - Missing Traffic Sign or Fallen				Reinstall, supply and install new sign as per the specification and requirements.	Minimum rating value will be assigned by Osool System (1 to 5)							
			Signpost - Minor cosmetic damage		5	Very Good	Do Nothing.								
			Signpost - Slightly off alignment but not obstructive		4	Good	clean and repaint if necessary								
			Signpost - Visible cosmetic damage		3	Fair	Realign the pole if necessary								
			Signpost - Moderate misalignment affecting visibility				Do necessary measures to avoid further loss to the surface								
			Signpost - Obvious damage affecting stability				Realign the pole								
			Signpost - Severe misalignment impacting visibility				Do necessary measures to avoid further loss to the surface								
			Traffic Signpost - Corrosion or rust compromising integrity (Moderate).		2	Poor	Realign the pole to avoid safety hazards								
			Signpost - Missing part (Nuts & Bolts)				Remove the rust, clean the area, apply protective coating and apply paint as per specification.								
			Signpost - Severely damaged, unstable				Provide and fix the missing parts with same to the existing in size and shape								
			Signpost - Vehicle collision damage				Provide and fix new pole same as existing								
			Signpost - Post significantly tilted or obstructive		1	Very Poor	Repair and refix the damaged part of the post.								
							Realign the pole to avoid safety hazards ASAP								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
Sign Foundation (Weightage 20%)			Signpost - Highly Paint Faded Invisible.				Clean the surface, apply protecting coating and paint as per specification.	Minimum rating value will be assigned by Osool System (1 to 5)							
			Signpost - Severe corrosion or rust compromising integrity				Replace the streetlight pole								
			Sign Foundation - No physical damage or shifting		5	Very Good	Do Nothing.								
			Sign Foundation - Minor cracks, no major shifting				Apply protective coatings to inhibit the thermal cracks								
			Sign Foundation - Occasional vegetation obstructing view		4	Good	Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose.								
			Sign Foundation - Visible cracks in the foundation				Refill the cracks with approved sealant.								
			Sign Foundation - Concrete deteriorated (Slightly)		3	Fair	Breakout the existing concrete and apply new same as existing level as per specification.								
			Sign Foundation - Major cracks, shifting, instability		2	Poor	Breakout the existing concrete and apply new same up to existing level as per specification.								
			Sign Foundation - Severely damaged, potential collapse				Remove the existing concrete and dispose off.								
			Sign Foundation - Concrete fully deteriorated				Provide and apply new concrete foundation same up to existing level as per specification								
			Sign Foundation - Settled Damaged foundation		1	Very Poor									

2.1 BUS / TAXI STOP SIGN



3. BOLLARD

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
3. BOLLARD <small>A short post used primarily for either teeing lines as along a wharf or to prevent vehicles from passing while allowing foot or bicycle traffic to pass.</small>	i. For an Asset Protection ii. For Pedestrian Safety iii. Decorative	i. Steel ii. Plastic iii. Concrete	Bollard has no Visible damage in the asset		5	Very Good	Do nothing	Minimum rating value will be assigned by Osool System (1 to 5)							
			Bollard having minor cosmetic blemishes		4	Good	Clean the surface and do minor repair upon need and repaint same as existing (as required)								
			Steel Plastic Concrete - Have slight wear from normal usage												
			Steel - Rusted Minor												
			Steel Plastic Concrete - minor damage observed in bollard		3	Fair	Repair & refix the damage area same as existing								
			Steel Plastic Concrete - has noticeable scratches or dents												
			Steel Plastic Concrete - reflective elements partially missing or faded in bollard				Examine the surface, make necessary arrangements to improve visibility (if necessary)								
			Steel Plastic Concrete - have obvious dents, cracks, or damage		2	Poor	Repair & refix the damage area same as existing. Provide missing parts same as existing.								
			Steel Concrete - missing parts i.e, Lamp, Decorative part etc.				Make necessary arrangements to improve visibility.								
			Steel Plastic Concrete - Significant wear affecting appearance and structural integrity				Provide and fix the reflective sheet with same to the existing in size and shape								
			Steel Plastic Concrete - Reflective elements mostly missing or non-functional												
			Steel Plastic Concrete - is severely damaged, potential collapse				Repair & refix the damage bollard as per specification								
			Steel - Tilted Bended (Safety Concern)				Realign the Bollard								
			Steel Plastic Plastic - Missing												
			Steel Plastic Concrete - is fully damaged, not functional				Provide new bollard as per need.								

3.1 Bollard – Condition based pictures



4. CAT EYES (ROAD STUDS)

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
4. CAT EYES (ROAD STUDS) <small>A device or material that is used on a road surface to convey official information; they are commonly placed with road marking machines (or road marking equipment, pavement marking equipment).</small>	i. Standard - Square ii. Road Stud - Circular iii. Solar	i. Steel ii. Ceramic iii. Plastic Coated	No visible damage in cateyes Steel Ceramic Plastic - Slight wear or minor wear observed in the cateye Steel Ceramic Plastic - Fine aggregates obstruct the reflectivity of cateye Steel Ceramic Plastic - Alignment of cateye with road markings slightly off Steel Ceramic Plastic - Evident signs of wear or superficial damage observed in cateye Steel Ceramic Plastic - Reflective features display moderate fading or wear in cateye Steel Ceramic Plastic - Alignment of the cateyes with road marking moderately askew Steel Ceramic Plastic - Apparent wear, notable cracks, or damage observed in cateye Steel Ceramic Plastic - Loose or Dislodged cateye Steel Ceramic Plastic - Reflective elements show substantial degradation in cateye Steel Ceramic Plastic - Alignment of cateye with road markings noticeably misaligned		5	Very Good	Do nothing	Minimum rating value will be assigned by Osool System (1 to 5)							
					4	Good	Examinee the cat eye periodically.								
							Clean the front reflective areas								
							Examinee the cat eye periodically and realign if necessary								
							Regular maintenance to prevent potential issues from escalating.								
							Provide the reflective strip if necessary								
							Realign the cateye for better guidance to the road users								
							Supply and fix new cateye if required.								
							Refix the loosened or dislodged cateyes.								
							Provide and fix the reflective sheet with same to the existing in size and shape								
							Realign the cateye for better guidance to the road users to avoid safety hazards.								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Steel Ceramic Plastic - Cateye have severe structural compromise or absence Steel Ceramic Plastic - Reflective components completely absent or non-operational in cateye Steel Ceramic Plastic - Misalignment to the point of posing hazards Steel Ceramic Plastic - Missing cat eye, road stud (in necessity areas)		1	Very Poor	Remove the existing cateye and replace with new same as existing Provide and fix the reflective sheet with same to the existing in size and shape Realign the cateye for better guidance to the road users to avoid safety hazards. Provide new cateye as per specification								

4.1 CAT EYES (ROAD STUDS)



5. CARRIAGEWAY

ROW Asset & Description	Type	Sub Type	Observation Inspection Result
5. CARRIAGEWAY A durable surface material laid down on an area intended to sustain vehicular or foot traffic, such as a road or walkway.	i. Service Road ii. Bridge iii. Underpass iv. Acceleration/ Deceleration v. Service Road vi. Parking Lane vii. U Turn At IP/ Storage Lane viii. U Turn Between IP ix. Cycle Track x. Slip Road xi. Parking Lot xii. Lay by/ Bus Stop xiii. Shoulder xiv. Free Right xv. Slope	i. Asphalt ii. Interlock iii. Concrete	Pavement evaluation of carriageways is out of scope of this document. Please refer to the related documents/ reports.

5.1 Carriageway



6. CROSS WALK (PEDESTRIAN CROSSING)

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
6. CROSS WALK (PEDESTRIAN CROSSING) Crossing (or crossing or crosswalk): A place designated for pedestrians to cross a road, street, or avenue. Pelican crosswalks are designed to keep pedestrians together where they can be seen by motorists, and where they can cross most safely across the flow of vehicular traffic.	Geometry Type: Polygon	(Weightage 100%)	i. Asphalt	Asphalt Interlock - Clear and visible pedestrian markings		5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5)						
			ii. Interlock	Asphalt Interlock - Lane marking slight fading, but still noticeable		4	Good	Regular cleaning to maintain appearance and prevent debris accumulation.							
				Asphalt Interlock - Mild wear on crosswalk lines, generally distinct				Prompt repair of any minor cracks or damage.							
				Asphalt Interlock - Tire marks "Minor"				Clean regularly to avoid fading							
			i. Raised	Asphalt Interlock - Moderate fading affecting visibility		3	Fair	Repaint (if necessary) to enhance visibility.							
			ii. Road levelled	Asphalt Interlock - Noticeable wear on crosswalk lines				Refix the minor damaged parts							
				Asphalt Interlock - Paint Faded Peeled off & Weathered "Low", but visible				Repaint the marking (if necessary) to enhance visibility.							
				Asphalt Interlock - Paint Faded Peeled off & Weathered "Medium"											
				Asphalt Interlock - Accidental Marks Major											
				Asphalt Interlock - Significant fading, impacting visibility											
				Asphalt Interlock - Crosswalk marking show substantial wear											
				Asphalt Interlock - Markings barely visible or absent		2	Poor	Repaint the marking (if necessary) to enhance visibility.							
				Asphalt Interlock - Severely worn or obliterated crosswalk lines		1	Very Poor	Repaint the marking ASAP to enhance visibility and to avoid safety hazard.							

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Asphalt Interlock - Inadequate contrast, jeopardizing visibility Asphalt Interlock - Crosswalk marking is severely Damaged/Deteriorated Asphalt Interlock - Cross Walk vanished or does not exist in the places needed												

6.1 Pedestrian Crossing – Condition based pictures



7. CONTROL CABINET

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
7. CONTROL CABINET It represents the dynamic Protective Device, which is an abstract class that includes circuit breakers, reclosers, and sectionalizers.	Electrical Geometry Type: Point	Cabinet Foundation (Weightage 30%)	Cabinet Foundation - No visible cracks or structural issues		5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5) (minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage)							
			Cabinet Foundation - Minor cosmetic imperfections, no structural impact		4	Good	Conduct routine inspections for wear and address minor issues and do routine maintenance if required.								
			Cabinet Foundation - Foundation stable with minimal wear		3	Fair	Repair & refix the damage area same as existing								
			Cabinet Foundation - Noticeable cosmetic wear, no structural concerns		2	Poor	Repair & refix the damage area same as existing								
			Cabinet Foundation - Minor shifting or settling, easily addressed		1	Very Poor	Breakout the existing concrete and apply new same as existing level as per specification.								
			Foundation – slightly tilted												
			Cabinet Foundation - Obvious cosmetic damage, minor impact on stability												
			Foundation – Moderate tilted												
			Cabinet Foundation - Visible cracks or signs of significant settling												
			Severe foundation damage, potential collapse risk												
			Cabinet Foundation - Settled Damage Foundation												
			Tilted foundation - Severely												

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
Cabinet (Weightage 70%)	Cabinet Foundation - Major cracks or instability								Minimum rating value will be assigned by Osool System (1 to 5)						
		Cabinet in pristine condition, no visible damage		5	Very Good	Do nothing									
		Cabinet having minor cosmetic blemishes, no functional impact		4	Good	Conduct routine inspections for wear and address minor issues and do routine maintenance if required.									
		Cabinet color is a bit faded due to expose to the sun		4	Good	Conduct routine inspections and do routine maintenance if required.									
		Cabinet - Protective Coating Peeled off "Minor"		3	Fair	Clean the surface and apply protective coating as per specification.									
		Cabinet - Rusted "Minor"		3	Fair	Clean the surface and apply protective coating as per specification.									
		Cabinet - Coating peeled off "Major"		2	Poor	Clean the surface and apply protective coating as per specification.									
		Cabinet - Rusted "Major"		2	Poor	Do necessary arrangement to cover the exposed cables.									
		Cabinet - Cables are visible		2	Poor	Provide missing lock to prevent hazards.									
		Cabinet - Door lock is missing		2	Poor										
		Cabinet - Severe cosmetic damage, functionality compromised		1	Very Poor	Fix the damaged component or provide new component same as existing in size and shape.		Minimum rating value will be assigned by Osool System (1 to 5)	Minimum rating value will be assigned by Osool System (1 to 5)						
		Cabinet - Earthing issue		1	Very Poor	Fix the earthing issue ASAP to prevent hazard									
		Cabinet - Concern of short-circuits is growing due to landscape irrigation water. (safety hazard)		1	Very Poor	Fix the soft landscape area water hose so that the water may not hit the control box.									
		Cabinet - Missing components		1	Very Poor	Provide missing components									

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Cabinet - Fully rusted				Clean the surface and apply protective coating as per specification.								

7.1 CONTROL CABINET



8. CURB RAMP

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
8. CURB RAMP <small>A sloped surface along a path whose grade is distinct from those before and after it along the path allowing traffic to pass over a change in elevation.</small>	i. Asphalt ii. Interlock iii. Concrete <u>Geometry Type:</u> Polygon	(Weightage 100%)	Asphalt Concrete Interlock - Smooth transition with no surface irregularities Asphalt Concrete Interlock - Slight surface wear, no significant hazards Asphalt, Concrete - Minor Surface Cracks in the curb ramp Asphalt Concrete Interlock - Noticeable surface wear, slight unevenness in the Curb Ramp Asphalt Concrete Interlock - Tactile indicators partially worn, visible but faded Asphalt Concrete Interlock - have some deteriorated area in the Curb Ramp Asphalt Concrete Interlock - Transition is somewhat rough but manageable in the Curb Ramp Asphalt Concrete Interlock - Obvious surface wear, visible rough patches Asphalt Concrete Interlock - Due to the deteriorated surface, some tripping hazards due to unevenness Asphalt Concrete Interlock - Tactile indicators noticeably worn, some missing		5 4 	Very Good Good 	Do nothing Examine the surface, do the necessary arrangements if required. Regular maintenance to prevent potential issues from escalating. Inspect the area, and fix the deteriorated surface Regular maintenance to prevent potential issues from escalating. Fix the deteriorated portion, make it same as existing Provide and fix the tactile surface if necessary		Minimum rating value will be assigned by Osool System (1 to 5)						

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Asphalt Concrete Interlock - Severe surface deterioration, numerous hazards Asphalt Concrete Interlock - Transition highly uneven, posing substantial risks Asphalt Concrete Interlock - Missing components Asphalt Concrete Interlock - Tactile indicators extensively worn and slippery or completely absent			1	Fix the deteriorated portion, make it same as existing Provide and fix the missing components same as existing or as per the requirements Provide and fix the tactile surface to avoid hazard.								

8.1 CURB RAMP



9. CURBSTONE

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
9. CURBSTONE A barrier not supported above the road surface; designed to keep vehicles from leaving a roadway.	i. Upstand Curb ii. Flush Curb iii. Drop Curb iv. Trief Curb v. Decorative Curb vi. Heel <u>Geometry Type:</u> Line	(Weightage 100%)	Are precisely aligned with the road edge, demonstrating impeccable geometric conformity		5	Very Good	Do Nothing.	Minimum rating value will be assigned by Osool System (1 to 5)	Very Good						
			No discernible signs of fissures, fractures, or structural degradation found in curbstones												
			Minimal wear accompanied by negligible surface imperfections, upholding functional integrity of curbstones		4	Good	Regular cleaning to remove debris and maintain aesthetics.								
			Superficial cracks or chips, devoid of implications on overall stability of curbstones				Periodic resealing of superficial cracks or chips to prevent further degradation.								
			Curbstones geometric alignment with the road edge remains perfect				Check the alignment during routine maintenance activities to ensure continued geometric conformity.								
			Slight wear and subtle undulations on the surface, paint faded or peeled off observed in curbstones		3	Fair	Implement minor resurfacing to address slight wear and surface undulations.								
			curbstones have incipient cracks or chips present, yet not indicative of severe deterioration				Apply suitable sealant to mitigate the effects of incipient cracks or chips.								
			Curbstones have no paint				Provide and apply the approved paint as required								
			Marginal misalignment observed at select locations		2	Poor	Address misalignment concerns through careful realignment efforts, adhering to established standard engineering practice.								
			Evident wear and surface irregularities, signalling potential usability concerns				Perform resurfacing and localized repairs to rectify wear and irregularities.								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Damage Broken Cracked Curbs.				Remove damaged Curbstone & replace with new same as per specification requirements.								
			Curbstones have moderate misalignment, loose, dislodged along specific stretches, necessitating rectification for optimal functionality				Initiate realignment efforts to correct moderate misalignment and ensure uniformity.								
			Curbstones paint fully faded or peeled off				Provide & fix missing curbstone same as exiting in size and shape as per the specification requirements.								
			Missing Curbstone				Provide new curbstone same in size and shape.								
			Pronounced wear and conspicuous surface damage in curbstones invoking immediate intervention.				Undertake extensive reconstruction or replacement to address severe wear and significant surface damage.								
			Cracks or chips manifesting substantial safety hazards within curbstones, mandating urgent remediation.				Execute urgent repairs to seal or reinforce cracks or chips threatening stability.								
			Severe misalignment severely compromising both stability and aesthetic coherence.				Prioritize immediate realignment to restore both stability and visual coherence.								

9.1 Curb Stone – Condition based pictures



10. CYCLE TRACK

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
10. CYCLE TRACK A paved, tiled, or otherwise hardened surface intended for cyclist access and use only.	i. Asphalt ii. Interlock Tile iii. Concrete <u>Geometry Type:</u> Polygon	(Weightage 100%)	Smooth and even surface of cycle track with no visible irregularities		5	Very Good	Do nothing	Minimum rating value will be assigned by Osool System (1 to 5)							
Asphalt Concrete Interlock - Slight wear, minimal surface imperfections observed in the cycle track		4	Good	Regular cleaning to remove debris and maintain aesthetics.											
Asphalt Concrete Interlock - Lane marking faded but still discernible				Periodically needs to be checks, supply and apply paint marking (if necessary).											
Asphalt Concrete Interlock - Noticeable wear, moderate surface unevenness in the cycle track		3	Fair	Implement minor resurfacing to address slight wear and surface undulations.											
Asphalt Concrete - Visible cracks or minor surface damage observed in the cycle track				Repair and refix the cracked/damaged pavement with approved material as per the specification.											
Asphalt Concrete Interlock - Faded Lane markings in the cycle track, still providing guidance				Repaint if required same as existing as per specification, implement periodic checks to ensure proper visibility.											
Asphalt Concrete Interlock - Minor surface damaged				Provide and fix same material and make the surface same as existing.											
Interlock - Medium severity Faulting, Heave, Edge Restrain in the tile surface in the interlock pavement of the cycle track		2	Poor	Remove the damaged/ missing tiles and replace with new same as existing following AACM specification.											
Interlock - Medium severity "missing tiles, damaged tiles, tile settlement"															

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Concrete Asphalt - have moderate cracks and minimal surface damage observed in cycle track		1	Very Poor	Seal the cracks with approved sealant and fix the deteriorated surface same as existing								
			Asphalt Concrete Interlock- Severe wear, and surface damage extensively				Remove & replace damaged material and replace same as existing, refix as per specification.								
			Asphalt Concrete Interlock - Pavement of cycle track damaged severely				Seal the cracks with approved sealant and fix the deteriorated surface same as existing								
			Asphalt Concrete - High severity cracks, chipping, or deep potholes observed in Cycle Track				Provide and apply lane marking for better guidance to the users and to avoid hazards.								
			Asphalt Concrete Interlock - Absent or barely visible lane markings in the cycle track cause safety hazard for users												

10.1 CYCLE TRACK



11. FENCE

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
11. FENCE A structure that encloses an area, typically outdoors, and is usually constructed from posts that are connected by boards, wire, rails or netting. A fence differs from a wall in not having a solid foundation along its whole length with the purpose of preventing passage of pedestrians and vehicles.	i. Chain Link Fence Geometry Type: Line	Fence Foundation (Weightage 30%)	Fence Foundation - No visible cracks or structural issues		5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5) (minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage)						
Fence Foundation - Minor cosmetic imperfections, no structural impact		4	Good	Conduct routine inspections for wear and address minor issues and do routine maintenance if required.											
Fence Foundation - is stable with minimal wear															
Fence Foundation - Noticeable cosmetic wear, no structural concerns		3	Fair	Repair & refix the damage area same as existing											
Fence Foundation - Minor shifting or settling, easily addressed															
Fence Foundation - Obvious cosmetic damage, minor impact on stability		2	Poor	Repair & refix the damage area same as existing											
Fence Foundation - Visible cracks or signs of significant settling															
Fence Foundation - Severe foundation damage, potential collapse risk		1	Very Poor	Breakout the existing concrete and apply new same as existing level as per specification.											
Fence Foundation - Settled Damage Foundation															
Fence Foundation - Major cracks or instability															
Fence (Weightage 70%)		Well intact, well-maintained, and show no visible signs of damage		5	Very Good	Do Nothing	Minimum rating value will be assigned by Osool System (1 to 5)	Minimum rating value will be assigned by Osool System (1 to 5)							

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Minimal wear with superficial blemishes in fence observed that do not compromise structural integrity.		4	Good	Clean the Surface and Repaint/ Recoat								
			Secure fastening and alignment contributing to overall stability				Straightened the Fence and refix								
			Noticeable wear and minor surface imperfections without affecting functionality.		3	Fair	Refix the minor damaged parts								
			Slight misalignment in certain segments, requiring minor adjustments.				Provide missing component								
			Adequate fastening with occasional adjustments needed for stability.				Fasten the wire mesh with appropriate material and realign the frame if necessary								
			Sections displaying moderate misalignment		2	Poor	Address misalignment concerns through careful realignment efforts, adhering to established standard engineering practice								
			Damage Broken (Moderate)				Remove damaged area and refix same as existing								
			Rusted areas				Remove rust from the area where exists, repaint same as existing								
			Missing major component of the fence		1	Very Poor	Provide and fix the missing component to same as existing								
			Severe wear and extensive damage, posing safety concerns.				Remove damaged area and refix same as existing								
			Structural integrity compromised with regards to safety concern				Remove damaged area and refix same as existing								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			<p>Severe misalignment compromising both aesthetics and safety, warranting urgent correction</p> <p>Missing fence</p>				<p>Straightened the Fence and refix</p> <p>Install new fence</p>								

11.1 Fence – Condition based pictures



11.2 Gate – Condition based pictures



12. FOOTPATH

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost		
12. FOOTPATH A paved, tilled, or otherwise hardened surface intended for pedestrians only.	i. Pedestrian Tiles Blocks Interlock	Interlock Tiles Types: i. Interlock Tiles ii. Concrete Tiles iii. Asphalt Tiles iv. Rubber Tiles v. Any other	Concrete Asphalt interlock or any other - surface is smooth and even surface with no visible irregularities		5	Very Good	Do Nothing	Minimum rating value will be assigned by Osool System (1 to 5)									
	ii. Concrete		Concrete Asphalt interlock - Slight wear, minimal surface imperfections observed in Footpath		4	Good	Regular cleaning to maintain appearance and prevent debris accumulation.										
	iii. Asphalt		Concrete Asphalt interlock - Minimal marking line faded but still discernible lane markings				Prompt repair of any minor cracks or damage.										
	iv. Rubber		Concrete Asphalt interlock - Noticeable wear, moderate surface unevenness observed in the Footpath		3	Fair	Implement minor resurfacing to address slight wear and surface undulations.										
	v. Any other		Asphalt Concrete - having visible cracks or minor surface damages				Repair and refix the cracked/ damaged footpath with approved material as per the specification.										
	Geometry Type: Polygon		Concrete Asphalt Interlock - Lane markings of Footpath is faded but still providing guidance				Repaint if required same as existing as per specification, periodic checks to be to ensure proper visibility.										
	i. Walkways / Paved		Asphalt Concrete or any other - surface damaged in Footpath				Provide and fix same material and make the surface same as existing.										
	ii. Jogging Track		Interlock - Medium severity Faulting, Heave, Edge Restrain in the tile surface of Footpath		2	Poor	Remove the damaged/ missing tiles and replace with new same as existing following AACM specification.										
	Weightage 100%		Interlock - Medium severity "missing tiles, damaged tiles, tile settlement" observed in the Footpath														

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Concrete Asphalt or any other - Absent or barely visible lane markings observed in the Footpath				Provide and lay lane marking as per specification.								
			Concrete Asphalt interlock or any other - has severe wear and surface damage extensively												
			Concrete Asphalt any other - pavement is severely damaged												
			Asphalt Concrete or any other - High severity cracks, chipping, or potholes observed in the Footpath			1	Very Poor								
			Missing Footpath in the area where it is essential												

12.1 Footpath – Condition based pictures



13. GANTRY

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
A traffic sign assembly in which signs are mounted or railway signals are supported on an overhead support. Gantry signs are usually built on high-traffic roads or routes with several lanes.	i. Simply Supported Gantry ii. Cantilever Gantry Geometry Type: Line Gantry Sign (Weightage 30%)	i. Simply Supported Gantry	Gantry Sign - No visible wear, damage, or signs of deterioration		5	Very Good	Do Nothing.	Minimum rating value will be assigned by Osool System (1 to 5) (minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)							
			Gantry Sign - Minimal wear with negligible surface imperfections		4	Good	Address minor imperfections through surface treatments.								
		ii. Cantilever Gantry	Gantry Sign - Structural elements exhibit slight signs of wear, no compromise				Conduct minor repairs on structural elements as needed.								
			Gantry Sign - Noticeable wear or surface irregularities		3	Fair	Regular maintenance to prevent potential issues from escalating.								
			Gantry Sign - Slight signs of rust or corrosion on exposed surfaces				Implement the necessary arrangements to make the asset back in Very Good condition.								
			Gantry Sign - Reflective materials partially missing				Maintain the asset by providing and applying missing component								
		Gantry Sign (Weightage 30%)	Gantry Sign - Significant fading, poor visibility		2	Poor	Examine the appearance, change the reflective sheet same as in size and shape (if necessary)								
			Gantry Sign - Reflective materials mostly missing, diminished lighting affecting sign legibility.				Provide and fix the reflective sheet with same to the existing in size and shape								
		Gantry Sign (Weightage 30%)	Gantry Sign - Almost illegible due to extreme fading		1	Very Poor	Provide and fix the reflective sheet with same to the existing in size and shape								
			Gantry Sign - Severe graffiti/vandalism obstructing view				Provide and fix the reflective sheet with same to the existing in size and shape								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
Gantry Pole (Weightage 50%)		Gantry Sign - Reflective materials completely missing or not visible at all						Minimum rating value will be assigned by Osool System (1 to 5)							
		Gantry Pole - No physical damage		5	Very Good	Do Nothing									
		Gantry Pole - Minor cosmetic damage		4	Good	clean and repaint if necessary									
		Gantry Pole - Slightly off alignment but not obstructive				Realign the pole if necessary									
		Gantry Pole - Minor signs of corrosion or rust		3	Fair	clean and repaint to prevent further enhancement									
		Gantry Pole - Visible cosmetic damage				Do necessary measures to avoid further loss to the surface and make the asset back to Very Good condition									
		Gantry Pole - Visible signs of minor corrosion or rust		2	Poor	Do necessary measures to avoid further loss to the surface	clean and repaint to prevent further enhancement	Minimum rating value will be assigned by Osool System (1 to 5)							
		Gantry Pole - Obvious damage affecting stability				clean and repaint to prevent further enhancement									
		Gantry Pole - Corrosion or rust affecting integrity		1	Very Poor	Provide and fix the missing parts with same to the existing in size and shape	Provide and fix new pole same as existing	Minimum rating value will be assigned by Osool System (1 to 5)							
		Gantry Pole - Highly coating Faded Invisible.				Repair and refix the damaged part of the post.									
		Gantry Pole - Missing part (Nuts & Bolts)		1	Very Poor	Straightened the tilted component.	Clean the surface and repaint ASAP	Minimum rating value will be assigned by Osool System (1 to 5)							
		Gantry Pole - Severely damaged, unstable				Clean the surface and repaint ASAP									
		Gantry Pole - Vehicle collision damage		1	Very Poor	Repair and refix the damaged part of the post.	Provide and fix new pole same as existing	Minimum rating value will be assigned by Osool System (1 to 5)							
		Gantry Pole - Pole significantly tilted or obstructive				Straightened the tilted component.									
		Gantry Pole - Severe corrosion or rust compromising integrity				Clean the surface and repaint ASAP									

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost					
		Gantry Foundation (Weightage 20%)	Gantry Foundation - No physical damage or shifting		5	Very Good	Do Nothing	Minimum rating value will be assigned by Osool System (1 to 5)												
			Gantry Foundation - Minor cracks, no major shifting		4	Good	Apply protective coatings to inhibit the thermal cracks													
			Gantry Foundation - Occasional vegetation obstructing view				Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose													
			Gantry Foundation - Visible cracks in the foundation		3	Fair	Refill the cracks with approved sealant.													
			Gantry Foundation - Concrete deteriorated (Slightly)				Breakout the existing concrete and apply new same as existing level as per specification.													
			Gantry Foundation - Visible cracks, shifting, instability		2	Poor	Breakout the existing concrete and apply new same up to existing level as per specification													
			Gantry Foundation - Obvious cosmetic damage, minor stability impact.				Remove the existing concrete and dispose off. Provide and apply new concrete foundation same up to existing level as per specification													
			Gantry Foundation - Severely damaged, potential collapse																	
			Gantry Foundation - Missing part (Nuts & Bolts)																	
			Gantry Foundation - Concrete fully deteriorated		1	Very Poor														
			Gantry Foundation - Settled Damaged Foundation																	

13.1 Gantry



14. GUARD RAIL

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost														
Guardrail Foundation (Weightage 20%)			Railing & Post - Vehicle collision damage				Install missing parts Provide and fix the missing component same as existing. Straightened the tilted component. Provide and paint the protective coating as per specification																						
			Railing & Post - Missing part (Nuts & Bolts) & Reflectors																										
			Railing & Post - Missing guardrail, railing or post																										
			Railing & Post - Sign significantly tilted or obstructive																										
			Railing & Post - Severe corrosion or rust compromising integrity																										
			Guardrail Foundation - No physical damage or shifting		5	Very Good	Do nothing	Minimum rating value will be assigned by Osool System (1 to 5)																					
			Guardrail Foundation - Minor cracks, no major shifting		4	Good	Apply protective coatings to inhibit the thermal cracks																						
			Guardrail Foundation - Occasional vegetation obstructing view				Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose.																						
			Guardrail Foundation - Visible cracks in the foundation		3	Fair	Refill the cracks with approved sealant, if necessary, breakout the existing concrete and apply new same as existing level as per specification.																						
			Guardrail Foundation - Concrete deteriorated (Slightly)																										
			Guardrail Foundation - Visible cracks, shifting, instability		2	Poor	Breakout the existing concrete and apply new same up to existing level as per specification.																						
			Guardrail Foundation - Concrete deteriorated (Moderate)																										
			Guardrail Foundation - Obvious cosmetic damage, minor stability impact.		1	Very Poor	Remove the existing concrete and dispose off. Provide and apply new concrete																						
			Guardrail Foundation - Severely damaged, potential collapse																										
			Guardrail Foundation - Concrete deteriorated (Severely)																										

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Guardrail Foundation - Concrete fully deteriorated				foundation same up to existing level as per specification								
			Guardrail Foundation - Settled Damaged Foundation												

14.1 GUARDRAIL – Condition based pictures



Fig: 1.A

Very Good



Fig: 1.B

Good



Fig: 1.C

Fair



Fig: 1.D

Poor



Fig: 1.E

Very Poor



Fig: 1.F

Very Poor

15. GULLY

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost				
15. GULLY <small>A roadside structure hat's designed to discharge surface water</small>	<u>Geometry Type:</u> Point	(Weightage 100%)	i. Curb Gully ii. Flush Gully	Gully is in perfect condition and in place	5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5)											
Minimal wear but no structural compromise in the gully	4	Good	Provide and apply the protective coating as per specification																
Curb & Flush Gully - Noticeable wear, slight surface irregularities have been observed in the gully	3	Fair	Align and fix the top cover for smooth transition and to avoid safety hazard																
Curb & Flush Gully - Minimal signs of rust observed in the gully			Remove the rust, clean the surface and apply lubricant to prevent rust.																
Curb & Flush Gully - Cover attached to the bracket having issue			Locate and fix the gully cover to the bracket for smooth transition																
Curb & Flush Gully - Gully having rust that affecting the integrity (Moderate)		2	Poor																
Curb & Flush Gully - Obvious damage affecting stability			Remove rust, clean the surface and apply protective coatings. Apply lubricant to prevent rust.																
Curb & Flush Gully - Misalignment/ unevenness surface of gully causing safety hazard			Align and fix the top cover for smooth transition and to avoid safety hazard																
Curb & Flush Gully - Some missing parts observed in the (bracket attachment) Moderate			Provide and fix the missing parts same as existing.																
Curb & Flush Gully - is severely damaged, unstable		1	Very Poor																
Curb & Flush Gully - having missing parts, cover, or bracket attachment etc.			Replace damaged component same as existing in size and shape.																
Choked gully or not functional (Drainage Issue)			Install missing parts																
Prepare emergency plan, make necessary arrangements to open the choked gully to ensure smooth flow																			

15.1 GULLY – Condition based pictures



16. HUMP

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost		
16. HUMP <small>Road Hump (or a road/traffic hump, or undulation, and speed ramp/control/cushion): A rounded traffic calming device used to reduce vehicle speed and thus sound volume on residential streets.</small>																	
	1. Flat Topped	Hump Marking (Weightage 40%)	Hump Marking - Paint markings are clear and vibrant, indicating the hump's presence		5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage)								
	2. Parabolic		Hump Marking - Having tire marks but paint markings are intact and visible, providing clear guidance		4	Good	Monitor the conditions for proactive maintenance.										
	3. Strip		Hump Marking - Paint markings are slightly faded peeled off but still discernible		3	Fair	Repaint (if necessary) to enhance visibility.										
	i. Asphalt		Hump Marking - Having tire marks but still visible up to some extent														
	ii. Concrete		Hump Marking - Markings are fading peeled off, having tire marks, become less visible to drivers		2	Poor	Urgently repaint or re-mark faded markings for advanced warning.										
	iii. Tiles & Paving Block		Hump Marking - Marking has been covered by tire marks, not visible at all		1	Very Poor	Immediately repaint or re-mark markings for advanced warning.										
	Geometry Type: Polygon		Hump Material - Road hump material is intact and undamaged			5	Very Good		Minimum rating value will be assigned by Osool								
			Hump Material - Road hump material shows slight wear but remains structurally sound		4	Good	Apply surface treatments to address minor wear										

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Hump Material - Noticeable wear on road hump material, impacting surface smoothness.		3	Fair	Resurface or repair the hump material to rectify wear and restore smoothness	System (1 to 5)							
			Hump Material - Obvious sign of accidental marks on surface on the hump material		2	Poor	Implement immediate repairs for hump material to ensure safety								
			Hump Material - Severe wear, substantial damage on the hump material affecting function either by accident or itself deterioration		1	Very Poor	Prioritize urgent repairs for hump material to prevent accidents								

16.1 HUMP – Condition based pictures



17. ISLAND

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
17. ISLAND															
A non-pedestrian island in the road surface, such as Centre Island, roundabout, etc. Normally contains grass, trees, flowers, or other plantations.															
Weightage 100%															
17. ISLAND															
A non-pedestrian island in the road surface, such as Centre Island, roundabout, etc. Normally contains grass, trees, flowers, or other plantations.															
Weightage 100%															
17. ISLAND															
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Weightage 100%															
17. ISLAND															
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Weightage 100%															
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Weightage 100%															
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A non-pedestrian island in the road surface, such as Centre Island, roundabout, etc. Normally contains grass, trees, flowers, or other plantations.															
Weightage 100%															
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A non-pedestrian island in the road surface, such as Centre Island, roundabout, etc. Normally contains grass, trees, flowers, or other plantations.															
Weightage 100%															
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Weightage 100%															
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Weightage 100%															
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Weightage 100%															
17. ISLAND															
A non-pedestrian island in the road surface, such as Centre Island, roundabout, etc. Normally contains grass, trees, flowers, or other plantations.															

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Concrete Interlock Landscape - Damaged severely island Concrete - High severity cracks, chipping, or potholes in the interlock pavement												

17.1 ISLAND – Condition based pictures



Very Good



Very Good



Fair



Fair



Poor

18. LANDSCAPE

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
18. LANDSCAPE An roadside area that is filled with trees, bushed, plant, decorative stones or left untreated.	Geometry Type: Polygon	i. At Median ii. At Edge Zone iii. Beside Shoulder iv. Verge (Weightage 100%)	i. Soft Landscaping	Features are well-maintained and vibrant in the landscaped area	5	Very Good	Do Nothing.	Minimum rating value will be assigned by Osool System (1 to 5)	Very Good / Good						
			ii. Hard Landscaping	Soft landscape - Plants are in well see conditions											
			iii. Soft and Hard Landscaping	Soft landscape - Adequate irrigation and drainage systems are functioning											
			iv. Earthen only	Hard & Sof Landscape - Slight signs of wear or minor aesthetic imperfections	4	Good	Corrective measures to address minor wear and imperfections.								
				Hard Landscape - Paved surfaces, walls, and structures are intact with minimal wear			Periodic repairs or resurfacing to maintain in perfect position.								
				Soft Landscape - Adequate irrigation and drainage systems, with occasional adjustments			Maintain and adjust irrigation systems for consistent hydration.								
				Hard & Sof Landscape - Noticeable wear, mild aesthetic degradation on landscaped elements	3	Fair	Arrange worker to re-arrange landscape boundary wall and material at its locations								
				Hard & Sof Landscape - Surface and arrangements having moderate signs of wear and tear			Provide and apply the new grass edging for decorative landscape areas in necessary								
				Soft Landscape - Irrigation and drainage systems may need adjustments since the sprinkler are hitting road surface instead of plants etc.			Adjust irrigation and drainage systems hoses to mitigate the issues.								
				Hard Landscape - Paved surfaces, walls, or structures exhibit visible damage or deterioration	2	Poor	Urgent repairs or replacement to address visible damage								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Hard & Soft Landscape - Obvious wear, significant aesthetic decline on landscape features				Comprehensive restoration of hardscape features for appearance and safety								
			Soft Landscape - Obvious wear, significant plant stress or disease				Comprehensive plant health restoration through expert care								
			Soft Landscape - Irrigation and drainage systems require repairs				Urgent repairs to irrigation and drainage systems for plant survival								
			Hard & Soft Landscape - Severe wear, extensive aesthetic deterioration on hardscape elements				Immediate hardscape reconstruction for safety and aesthetics								
			Hard Landscape - Paved surfaces, walls, or structures are compromised, posing hazards				Emergency repairs to prevent accidents and further deterioration								
			Soft Landscape - Severe wear, extensive plant stress or disease				Immediate action to salvage or replace severely stressed or diseased plants								
			Soft Landscape - Irrigation and drainage systems are non-functional.				Emergency repairs to irrigation and drainage systems to prevent plant loss								
			Soft Landscape - No Plantation				Provide and lay new plants as per the direction of Engineer								

18.1 LANDSCAPE – Condition based pictures



19. LAYBY

ROW Asset & Description	Type	Sub Type	Remarks
19. LAYBY An area at the side of a road where vehicles, buses, or taxes may pull off the road and stop.	i. Bus Layby Only ii. Taxi Layby Only iii. Bus & Taxi Layby Both iv. Police Layby v. Drop Off <u>Geometry Type:</u> Polygon	i. Asphalt ii. Interlock Tiles	Pavement evaluation of layby is out of scope of this document. Please refer to the related documents/ reports.

19.1 Layby



20. MANHOLE

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
20. MANHOLE A well type underground chamber constructed to pass stormwater, ducts or provide access for inspection and maintenance.	i. Circular-Solid ii. Square-Solid iii. Rectangular-Solid iv. Circular Grating v. Square Grating vi. Rectangular Grating	i. Metal ii. Concrete	Manhole is in perfect condition and in place		5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5)							
Metal - Minimal wear but no structural compromise and Concrete - Minimal paint faded observed in manhole		4	Good	Provide and apply the protective coating as per specification (if necessary)											
Concrete - Minimal protective coating faded observed in manhole		3	Fair	Remove rust, clean the surface and apply protective coatings. Apply lubricant to prevent rust.											
Metal - Noticeable wear, slight surface irregularities observed in manhole				Align and fix the top cover for smooth transition and to avoid safety hazard											
Metal - Minimal signs of rust				Remove the rust, clean the surface and apply lubricant to prevent rust.											
Metal - Cover laid over the manhole bracket having unevenness surface				Locate and fix the gully cover to the bracket for smooth transition											
Metal - Rust affecting integrity (Moderate)		2	Poor	Breakout the damaged concrete and apply same as existing in shape and apply protective coatings/ lubricant to prevent rust.											
Concrete - Obvious damage affecting stability				Align and fix the top cover for smooth transition and to avoid safety hazard											
Metal - Misalignment impacting safety hazard				Breakout the damaged concrete and apply new same as existing in shape and apply protective coatings											
Concrete - Severely damaged, unstable				Provide and fix the top cover to avoid safety hazard.											
Missing cover in the manhole				Provide and make arrangements to re-open the choked manhole.											
Concrete - Choked, not functional (Drainage Issue)															

20.1 MANHOLE – Condition based pictures



21. MEDIAN

ROW Asset & Description	Type	Sub Type	Remarks
21. MEDIAN A reserved area that separates opposing lanes of traffic on divided roadways, such as divided highways, dual carriageways, freeways, and motorways. The term also applies to divided roadways other than highways, such as some major streets in urban or suburban areas	i. Central Median ii. Side Medium iii. Transit Median iv. Edge Zone/ Verge <u>Geometry Type:</u> Polygon	-	Please refer to Asset # 18 Landscape and Asset # 9 Curbstone.

21.1 MEDIAN – Condition based pictures



22. ROADSIDE CAMERA

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)		Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
22. ROADSIDE CAMERA A device that capture the overspeed vehicle or record videos of surrounding.	i. Speed Camera ii. Surveillance Camera <u>Geometry Type:</u> Point Camera (Weightage 80%)		Camera - Speed cameras are clean, well-maintained, and fully operational		5	Very Good	Do Nothing.	Minimum rating value will be assigned by Osool System (1 to 5)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage)							
			Camera - Lenses and sensors are dusty, rest are in good condition		4	Good	Clean the lenses and sensors for better capturing									
			Camera - Slight signs of wear on lenses or sensors		3	Fair	Employ strategic repairs to restore an appealing appearance.									
			Camera - Evident wear, notable cosmetic damage		2	Poor	Undertake comprehensive repair work or opt for prudent replacement to rectify damage.									
			Camera - Visible signs of wear or impairment on lenses or sensors				Address compromised lenses and sensors promptly through meticulous repair or replacement.									
			Camera - Severe wear, extensive damage that profoundly affects functionality		1	Very Poor	Prioritize an immediate overhaul or complete replacement of speed cameras for restoring full functionality.									
			Camera - Missing components				Provide and fix the missing components									
			Camera - Not functional				Report it to the concern department for further investigation.									
			Camera - Significant harm sustained by lenses, sensors, or key structural components				Execute emergency repairs or replacement of damaged elements without delay.	Minimum rating value								
	Camera Foundation		Camera Foundation - No physical damage or shifting		5	Very Good	Do nothing									

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost								
		(Weightage 20%)	Camera Foundation - Minor cracks, no major shifting		4	Good	Apply protective coatings to inhibit the thermal cracks		will be assigned by Osool System (1 to 5)														
			Camera Foundation - Occasional vegetation obstructing view				Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose. Make sure the protective coating does exist on the foundation.																
			Camera Foundation - Visible cracks in the foundation		3	Fair	Refill the cracks with approved sealant.																
			Camera Foundation - Concrete deteriorated (Slightly)				Breakout the existing concrete and apply new same as existing level as per specification.																
			Camera Foundation - Visible cracks, shifting, instability		2	Poor	Breakout the existing concrete and apply new same up to existing level as per specification.																
			Camera Foundation - Obvious cosmetic damage, minor stability impact.				Remove the existing concrete and dispose off. Provide and apply new concrete foundation same up to existing level as per specification																
			Camera Foundation - Severely damaged, potential collapse		1	Very Poor																	
			Camera Foundation - Concrete fully deteriorated																				
			Camera Foundation - Settled Damaged Foundation																				

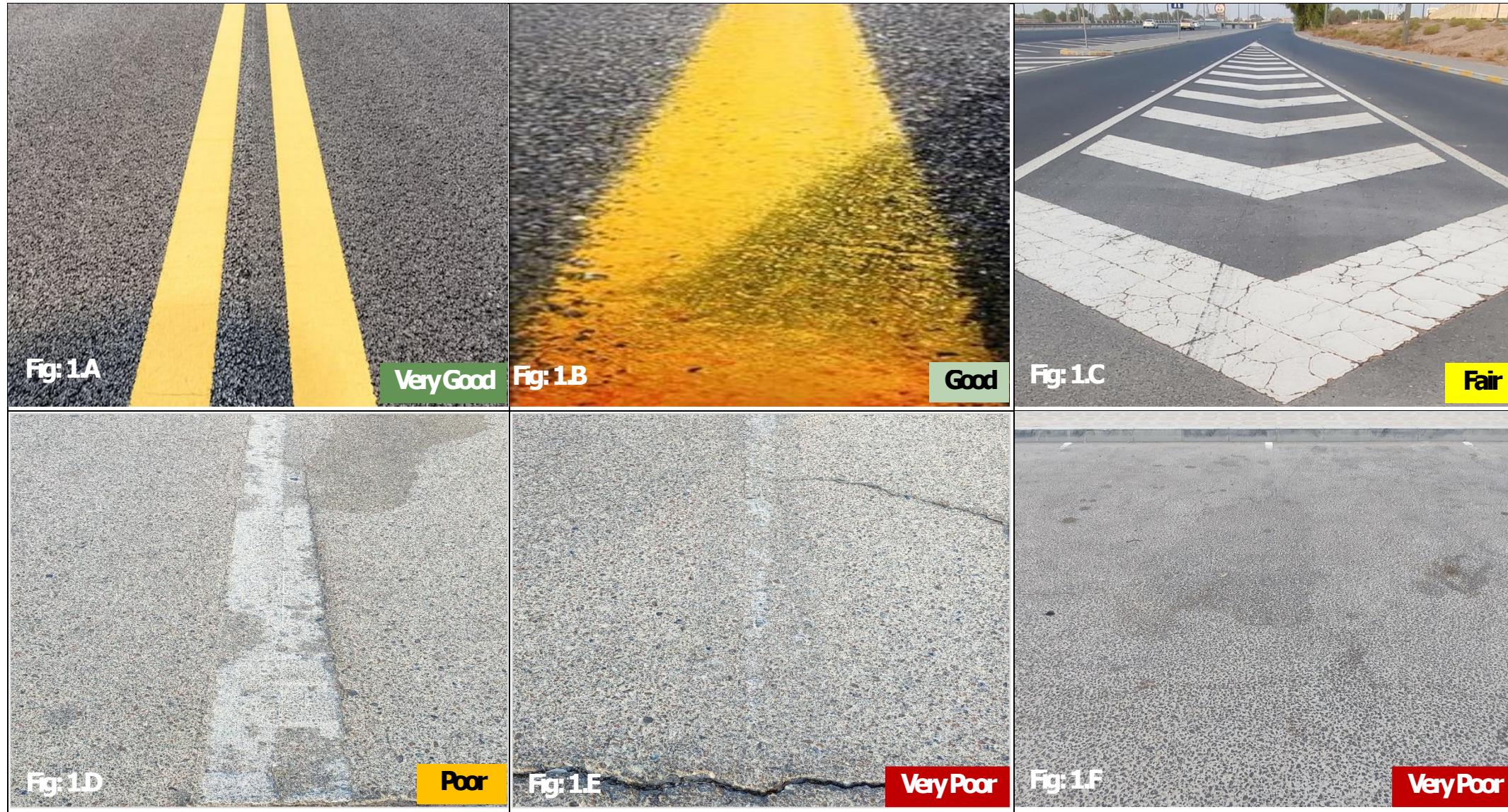
22.1 ROADSIDE CAMERA

23. ROAD MARKING

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
23. ROAD MARKING A linear marking, usually painted, demarcating different portions of a road surface.	i. Regulatory ii. Warning iii. Guidance	i. Road Marking Line ii. Road Marking Symbol	Road marker line or symbol - are clearly defined, with no fading or wear Road marker line or symbol - Slight wear with minimal fading on road markings Road marker line or symbol - Lines remain adequately visible and defined Road marker line or symbol - have tire marks but still in good condition Road marker line or symbol - are slightly faded peeled off but still discernible Road marker line or symbol – have noticeable wear, with moderate fading on road markings Road marker line or symbol - slightly less defined, but visibility is maintained Road marker line or symbol - are faded peeled off, having tire marks, become less visible to drivers Road marker line or symbol - are less visible, impacting lane guidance Road marker line or symbol - obvious wear, significant fading or degradation on road markings		5 4 3 2	Very Good Good Fair Poor	Do Nothing. Monitor the conditions for proactive maintenance. Repaint (if necessary) to enhance visibility. Urgently repaint or re-mark faded markings for advanced warning.	Minimum rating value will be assigned by Osool System (1 to 5)							

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost						
			Road marker line or symbol - Severe wear, extensive fading or complete absence of road markings		1	Very Poor	Urgent road marking restoration for safety.														
			Road marker line or symbol - are barely visible, posing safety risks				Immediate repainting for lane guidance and safety.														
			Road marker line or symbol - reflective properties are severely compromised or absent				Clean the area and provide new marking according to the standard/ requirements.														
			Road marker line or symbol – Non existent Barely Visible																		
			Road marker line or symbol have been vanished or does not exist in the places																		

23.1 ROAD MARKING – Condition based pictures



24. ROUNDABOUT

ROW Asset & Description	Type	Sub Type	Remarks
24. ROUNDABOUT A circular intersection where roads meet at junctions, primarily mapped for easy manipulation of roads data.	i. Roundabout without Right Turn ii. Roundabout with Right Turn (One or Two Sides) iii. Roundabout with Right Turn (All Sides) <u>Geometry Type:</u> Point	-	Please refer to Asset # 18 Landscape and Asset # 9 Curbstone.

24.1 ROUNDABOUT

25. SHELTER

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
25. SHELTER	At Bus Stop	Geometry Type: Point	An area at the side of a road where vehicles, busses, or taxies may take and drop road user and can wait for their vehicles.	i. Metal	Impeccably clean, well-maintained, and fully functional										
				ii. Glass	Glass - panels and structural elements are spotless and undamaged		5	Very Good	Do Nothing.						
				iii. Any other	Metal - Adequate seating, lighting, and signage are in Very Good condition										
					Metal Glass - Minimal wear with negligible appearance imperfections			4	Closely Examine the shelter and fix the stuff that effect appearance.						
					Glass - panels remain intact with no significant damage but have dirt and stain			Good	Regularly clean the glass panels and seat to prevent dirt buildup.						
					Metal - Dirty seats observed in the shelter										
					Metal Glass - Noticeable wear, moderate cosmetic degradation			3	Implement measures to enhance appearance and functionality.						
					Glass - Slight signs of wear or minor scratches on glass panels			Fair	Repair or replace scratched glass panels as needed.						
					Metal - Seating and lighting may exhibit slight wear				Restore seating, lighting, and signage to optimal condition.						
					Metal - Obvious wear, significant structure damage			2	Comprehensive repairs or replacements to address damage.						
					Glass - Visible cracks or damage on glass panels			Poor	Urgent repair or replacement of cracked glass panels.						
					Metal - Coating peeled off or paint faded severely				Supply and apply coating to prevent rust.						
					Metal - Seating and lighting show noticeable breakage				Restore seating, lighting, and signage systems for safety and convenience.						

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Metal Glass - Severe wear, extensive damage affecting functionality.			1	Immediate replacement or reconstruction to restore functionality.								
			Glass - panels are severely cracked or shattered.				Emergency replacement of shattered glass panels for safety.								
			Metal - Seating and lighting systems are non-functional.				Urgent repairs or replacements of non-functional systems.								
			No Shelter				Construct a new Shelter to facilitate road users.								

25.1 SHELTER



Fig: 1A



Fig: 1.B



Fig: 1.C



Fig: 1.D

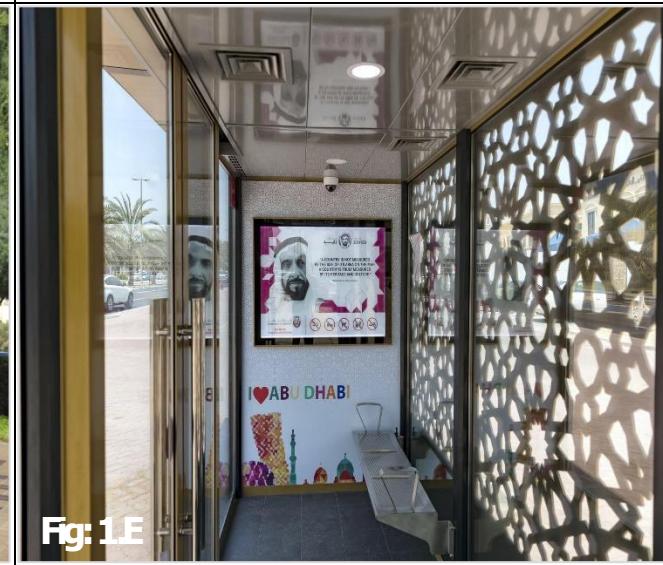


Fig: 1.E



Fig: 1.F

26. STORM WATER NETWORK

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
26. STORM WATER NETWORK A system to collect rainfall runoff from all across the city and discharge it slowly to the downstream river or natural water catchments.	i. Outfall	(Weightage 100%)	Storm water structure is well-maintained, clear of debris and obstructions		5	Very Good	Do Nothing	Minimum rating value will be assigned by Osool System (1 to 5)							
	ii. Soakaway		Slight signs of wear or minor obstructions observed		4	Good	Closely Examine and remove the obstruction								
	iii. Spillways		Protective coating damaged "Minor"				Repaint (if necessary) to enhance integrity								
	iv. Storm channel		Noticeable wear, moderate sediment buildup				Apply structural solutions like riprap or vegetation								
	v. Curb Gully		Minor damaged observed in the protection walls		3	Fair	Breakout damaged surface & repair as same as existing as per specifications								
	vi. Flush Gully		Signs of erosion or minor blockages are evident				Monitor erosion and undertake repairs promptly								
	vii. Manhole		Structural failure of drainage pipes or culverts due to spalling			2	Poor								
	viii. Culvert		Due to blockage of flow, reduced flow capacity, leading to potential flooding				Urgent replacement of damaged components. Conduct comprehensive inspections to assess extent of damage								
	ix. Any other		Severe bank erosion jeopardizing the structure				Immediate clearing of blockages to restore flow								
	Geometry Type: Point		Complete failure of drainage pipes, culvert spans/ cells etc., cause flooding		1	Very Poor	Immediate bank stabilization measures to repair								

26.1 STORM WATER NETWORK – Condition based pictures



27. STRUCTURE

ROW Asset & Description	Type	Elements	Remarks
27. STRUCTURE A structure that is built over a river / water canal, railway, road, or ravine to permit the flow of traffic (road, rail, canal, or pedestrian) or to carry a facility such as a pipeline.	i. Bridges/ Flyover ii. Road Tunnel iii. Pedestrian Bridge iv. Culvert v. Subway vi. Any other <u>Geometry Type:</u> Polygon	i. Pavement ii. Approach/ Embankment iii. Headwall iv. Wingwall v. Apron vi. Crown vii. Inlet viii. Outlet ix. Pier Column x. Pier Cap xi. Beams/ Girders xii. Deck Slab xiii. Diaphragm xiv. Share Key xv. Railing xvi. Bridge Expansion joint xvii. Sub Structure	Structure inspection and its condition rating is out of scope and all other assets components/elements i.e. Footpath, Guardrail, Barrier, Gully, Curbstone etc. related to these structures shall be surveyed and evaluated as per its type mentioned in this guideline.

27.1 STRUCTURE

**Fig: 1A****Fig: 1B****Fig: 1.C****Fig: 1.D****Fig: 1.E****Fig: 1.F**

28. STREETLIGHT

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)		Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost			
28. STREET LIGHT A raised source of light on the edge of a road or path.	Geometry Type: Point	Streetlight Pole (Weightage 35%)	i. High Mast		5	Very Good	Do nothing.	Minimum rating value will be assigned by Osool System (1 to 5) (minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)
			ii. Decorative				Clean the area, apply protective coatings to prevent rust.												
			iii. Standard Street Light				Remove the ads stickers from the pole and apply coating if required												
							Provide and label pole numbering												
							Closely monitor the extent of the defect												
							Tightened the loosened nuts & bolts												
							Clean the area and apply protective coating as per specification												
							Fix the deteriorated surface and clean the surface and apply coating to avoid rusting												
							Re-align and fix the pole												
							Provide and fix new door same as existing												
							Re-align the pole												

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
		Streetlight Pole - Corrosion or rust compromising integrity (Moderate Severity)					Remove the rust, clean the area, apply protective coating and apply paint as per specification.								
							Tightened the loosened nuts & bolts and provide and fix the missing ones same as existing.								
			Streetlight Pole - Severely damaged, unstable				Replace damaged component same as existing in size and shape.								
			Streetlight Pole - Vehicle collision damage				Provide and fix the missing component/ elements same as existing.								
			Streetlight Pole - Missing components (Nuts & Bolts) Major				Straightened the tilted component, if necessary, provide and fix new pole same as existing								
			Streetlight Pole - Pole significantly tilted or obstructive				Provide and fix the earthing issue.								
			Streetlight Pole - Earthing not in place				Replace the streetlight pole								
			Streetlight Pole - Severe corrosion or rust compromising integrity (High Severity)												
	Luminaire (Weightage 35%)	Luminaire - The whole along with bulbs/ LED are in Very Good condition		5	Very Good	do nothing		Minimum rating value will be assigned by Osool System (1 to 5)							
		Luminaire - Slight variation in illumination.					Regular inspections and cleaning.								
		Luminaire - Occasional flickering, but functional.					Timely bulb replacement.								
		Luminaire - Glass is sandy/ dirty					Clean the glass cover inside-out.								
		Luminaire - Minor color inconsistency.					Routine photocell calibration.								
		Luminaire - Noticeable uneven illumination.		3	Fair	More frequent inspections.									

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost					
Streetlight Foundation (Weightage 30%)	Streetlight Foundation	Luminaire - Flickering is occasional but noticeable.			2	Poor	Prompt bulb replacement.													
		Luminaire - Moderate color inconsistency.					Thorough wiring assessment and repairs.													
		Luminaire - Uneven illumination impacting visibility.					More frequent inspections.													
		Luminaire - Flickering constant, affecting light quality.					Provide new bulb.													
		Luminaire - Significant color inconsistency.					Thorough wiring assessment and repairs.													
		Luminaire - Glass is damaged/broken severely			1	Very Poor	Provide and fix new glass same as existing													
		Luminaire - Severe uneven illumination, safety risk.					Arrange emergency plan and apply necessary fixes.													
		Luminaire - Flickering/ non-functional.					Bulb replacement.													
		Luminaire - Drastic color inconsistency.					Extensive wiring repairs or replacements.													
		Streetlight Foundation - No physical damage or shifting		5		Good	Do nothing		Minimum rating value will be assigned by Osool System (1 to 5)											
		Streetlight Foundation - Minor cracks, no major shifting					Apply protective coatings to inhibit the thermal cracks													
		Streetlight Foundation - Protective coating peeled off/ Faded (Minor)					Supply and apply protective coating (if necessary)													
		Streetlight Foundation - Occasional vegetation obstructing view					Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose. Make sure the protective coating do exist on the foundation.													
		Streetlight Foundation - Visible cracks in the foundation		3			Refill the cracks with approved sealant, if necessary, breakout the													

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost								
			Streetlight Foundation - Noticeable concrete deterioration (Minor)				existing concrete and apply new same as existing level as per specification.																
			Streetlight Foundation - Protective coating peeled off/ Faded (Moderate)				Supply and apply protective coating as per the need.																
			Streetlight Foundation - Visible cracks and shifting				Breakout the existing concrete and apply new same up to existing level as per specification.																
			Streetlight Foundation - Obvious cosmetic damage, minor stability impact		2	Poor	Remove the existing concrete and dispose off.																
			Streetlight Foundation - Severely damaged, potential collapse																				
			Streetlight Foundation - Concrete fully deteriorated			Provide and apply new concrete foundation same up to existing level as per specification																	
			Streetlight Foundation - Settled Damaged Foundation																				

28.1 STREETLIGHT – Condition based pictures



**Fg: 1D****Poor**

17/08/20

**Fg: 1E****Poor****Fg: 1F****Very Poor**



Fig: 1.G



Fig: 1.H



Fig: 1.I

29. SIGNAGE

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
29. SIGNAGE (FACE & POST CONDITION) Signs erected at the side of or above roads to give instructions or provide information to road users.	i. Regulatory	<u>Geometry Type: Point</u> Traffic Sign Face (Weightage 50%)	Traffic Sign Face - No Visible Damage		5	Very Good	Do Nothing.	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage)	Minimum rating value will be assigned by Osool System (1 to 5)						
ii. Warning	Traffic Sign Face - Reflective materials intact and effective														
iii. Guide/Information	Traffic Sign Face - Slight fading, still easily readable			4	Good										
	Traffic Sign Face - Rare or minimal graffitiing/ vandalism														
	Traffic Sign Face - Noticeable fading, some reduced visibility			3	Fair										
	Traffic Sign Face - Reflective materials partially missing														
	Traffic Sign Face - Significant fading, poor visibility			2	Poor										
	Traffic Sign Face - Reflective materials mostly missing														
	Traffic Sign Face - Information significantly outdated														
	Traffic Sign Face - Corrosion or rust on the mounting strings compromising integrity (Moderate Severity)														
	Traffic Sign Face - Almost illegible due to extreme fading			1	Very Poor										
	Traffic Sign Face - Severe graffiti/vandalism obstructing view														
	Traffic Sign Face - Reflective materials completely missing or not visible at all														

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
Traffic Signpost (Weightage 30%)			Traffic Sign Face - Missing Traffic Sign or Fallen				Reinstall, supply, and install new sign as per the specification and requirements	Minimum rating value will be assigned by Osool System (1 to 5)							
			Traffic Sign Face - Severe corrosion or rust compromising integrity (High Severity)				Replace the traffic sign face								
			Traffic Signpost - No physical damage		5	Very Good	Do Nothing								
			Traffic Signpost - Minor cosmetic damage			Good	clean and repaint if necessary								
			Traffic Signpost - Slightly off alignment but not obstructive				Realign the pole if necessary								
			Traffic Signpost - Visible cosmetic damage			Fair	Do necessary measures to avoid further loss to the surface								
			Traffic Signpost - Moderate misalignment affecting visibility				Realign the pole								
			Traffic Signpost - Obvious damage affecting stability			Poor	Do necessary measures to avoid further loss to the surface								
			Traffic Signpost - Severe misalignment impacting visibility				Realign the pole to avoid safety hazards								
			Traffic Signpost - Corrosion or rust compromising integrity (Moderate).				Remove the rusted area, clean and repaint to prevent further enhancement								
			Traffic signpost - Several loosened or missing parts (Nuts & Bolts) (Moderate)				Tightened the loosened nuts & bolts and provide and fix the missing ones same as existing.								
			Traffic Signpost - Severely damaged, unstable			Very Poor	Provide and fix new pole same as existing								
			Traffic Signpost - Vehicle collision damage				Repair and refix the damaged part of the post.								
			Traffic Signpost - Post significantly tilted or obstructive				Realign the pole or replace with new one to avoid safety hazards ASAP								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
Traffic Sign Foundation (Weightage 20%)			Traffic Signpost - Highly Paint Faded Invisible.				Clean the surface, apply protective coating to prevent rust. Apply Paint same as existing or as per the direction of Engineer.	Minimum rating value will be assigned by Osool System (1 to 5)							
			Traffic Signpost - Severe corrosion or rust compromising integrity (High Severity)				Provide and fix new signpost same as existing in size and shape.								
			Traffic Sign Foundation - No physical damage or shifting		5	Very Good	Do Nothing								
			Traffic Sign Foundation - Minor cracks, no major shifting				Apply protective coatings to inhibit the thermal cracks								
			Traffic Sign Foundation - Occasional vegetation obstructing view		4	Good	Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose. Make sure the protective coating do exist on the foundation								
			Traffic Sign Foundation - Visible cracks in the foundation				Refill the cracks with approved sealant, if necessary, breakout the existing concrete and apply new same as existing level as per specification								
			Traffic Sign Foundation - Noticeable concrete deterioration (Minor)		3	Fair	Refill the cracks with approved sealant, if necessary, breakout the existing concrete and apply new same as existing level as per specification								
			Traffic Sign Foundation - Major cracks, shifting, instability		2	Poor	Breakout the existing concrete and apply new same up to existing level as per specification								
			Traffic Sign Foundation - Severely damaged, potential collapse				Remove the existing concrete and dispose off.								
			Traffic Sign Foundation - Concrete fully deteriorated				Provide and apply new concrete foundation same up to existing level as per specification.								
			Traffic Sign Foundation - Settled Damaged foundation												

29.1 Traffic Sign Face – Condition based pictures



29.2 Traffic Sign Pole - Condition base pictures



30. TRAFFIC SIGNAL "JUNCTION"

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
30. TRAFFIC SIGNAL "JUNCTION" An area where roads meet at junctions, primarily mapped for easy manipulation of roads data. Roads with comparatively few junctions, such as highways are also split where another feature crosses them, such as a road bridge or footbridge.	i. Vehicular Signal ii. Pedestrian Signal iii. Flasher Signal	Geometry Type: Polygon Signal Pole (Weightage 30%)	Traffic signals functioning perfectly		5	Very Good	Do Nothing	Minimum rating value will be assigned by Osool System (1 to 5) $\text{Minimum condition score of component 1} \times \text{weightage} + \text{minimum condition score of component 2} \times \text{weightage} + \text{minimum condition score of component 3} \times \text{weightage} + \text{minimum condition score of component 4} \times \text{weightage}$	(minimum condition score of component 1 x weightage) + (minimum condition score of component 2 x weightage) + (minimum condition score of component 3 x weightage) + (minimum condition score of component 4 x weightage)						
	Signal Pole - Minor signs of rust or corrosion				4	Good	Regularly inspect poles for minor rust and apply protective coatings								
	Signal Pole - Minor physical wear on the pole						Address minor dents or scratches promptly to prevent further deterioration								
	Signal Pole - Stable anchor points with minor adjustments				4	Good	Periodically reinforce anchor points and conduct minor adjustments								
	Signal Pole - Effective grounding						Maintain effective grounding systems to prevent electrical hazards								
	Signal Pole - Some rust or corrosion				3	Fair	Conduct frequent inspections for rust and address promptly								
	Signal Pole - Coating/ paint faded but still visible						Repair minor physical damage to prevent further degradation								
	Signal Pole - Visible physical damage requiring repairs						Implement regular adjustments to maintain anchor point stability								
	Signal Pole - Anchor points needing regular adjustments						Address grounding issues promptly to prevent electrical risks								
	Signal Pole - Grounding system showing signs of wear				2	Poor	Conduct immediate repairs to address rust and corrosion								
	Signal Pole - Noticeable rust or corrosion						Provide missing component								
	Signal Pole - Missing or Broken Components						Remove the obstruction for better visibility								
	Signal Pole - Visibility obstructed by trees etc						Straightened & refix								
	Signal Pole - Tilt or Bended - Minor														

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
		Signal Pole (Weightage 30%)	Signal Pole - Severe physical damage necessitating repairs		1	Very Poor	Implement repairs for severe physical damage to prevent further weakening								
			Signal Pole - Unstable anchor points requiring urgent attention				Reinforce anchor points and consider replacing weakened poles urgently								
			Signal Pole - Grounding system compromised				Address grounding issues promptly to prevent electrical hazards								
			Signal Pole - Severe rust or corrosion compromising structural integrity				Replace severely rusted or corroded poles urgently								
			Signal Pole - Pole severely damaged, posing imminent danger				Implement temporary supports for weakened poles until replacements can be installed.								
			Signal Pole - Anchor points Very Poorly weakened.				Replace weakened poles or cantilever arms urgently.								
			Signal Pole - Grounding system failure leading to electrical hazards				Ensure proper grounding to prevent electrical hazards.								
		Cantilever Arm (Weightage 30%)	Cantilever Arm - Structural integrity intact		5	Very Good	Do nothing		Minimum rating value will be assigned by Osool System (1 to 5)						
			Cantilever Arm - Minimal structural wear		4	Good	Conduct routine inspections for wear and address minor issues.								
			Cantilever Arm - Minor signs of rust or corrosion				Address minor rust or corrosion promptly with protective coatings.								
			Cantilever Arm - Adequate alignment for signal visibility				Regularly align cantilever arms to maximize signal visibility.								
			Cantilever Arm - Visible structural weaknesses		3	Fair	Frequent inspections to identify structural issues or deterioration.								
			Cantilever Arm - Some rust or corrosion present				Supply and apply minor rust or corrosion to prevent further damage.								

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost							
Signal Flusher (Weightage 20%)	Cantilever Arm	Cantilever Arm - Alignment requiring occasional adjustments			2	Poor	Conduct regular alignment adjustments for better signal visibility.	Minimum rating value will be assigned by Osool System (1 to 5)	Very Good	100	100	100	100	100								
		Cantilever Arm - Significant structural weaknesses					Implement immediate repairs to address structural weaknesses.															
		Cantilever Arm - Noticeable rust or corrosion compromising integrity					Address rust or corrosion promptly to prevent further degradation.															
		Cantilever Arm - Alignment issues affecting signal visibility					Conduct alignment adjustments for improved signal visibility.															
		Cantilever Arm - Severe structural weaknesses			1	Very Poor	Replace severely compromised cantilever arms urgently.															
		Cantilever Arm - Severe rust or corrosion affecting structural integrity					Temporarily reinforce weakened arms until replacements can be installed.															
		Cantilever Arm - Alignment severely compromising signal visibility					Address rust and corrosion issues to prevent further deterioration.															
	Signal Flusher	Signal Flusher - Flashers operate flawlessly			5	Very Good	Do nothing															
		Signal Flusher - Lenses are clean and unobstructed																				
		Signal Flusher - Electrical systems are reliable			4	Good	Routine testing, regular lens cleaning, electrical monitoring.															
		Signal Flusher - Lenses require periodic cleaning																				
		Signal Flusher - Flashers experience frequent issues			3	Fair	Frequent testing, frequent lens cleaning, electrical repairs.															
		Signal Flusher - Lenses require regular cleaning																				
		Signal Flusher - Flashers frequently malfunction																				

ROW Asset & Description	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Very Good / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost													
Signal Foundation (Weightage 20%)			Signal Flusher - Lenses often dirty or obstructed		1	Very Poor	Urgent replacement, immediate testing, lens cleaning, major electrical repairs.	Minimum rating value will be assigned by Osool System (1 to 5)																				
			Signal Flusher - Electrical failures are common																									
			Signal Flusher - Flashers malfunction severely																									
			Signal Flusher - Lenses consistently obstructed																									
			Signal Flusher - Frequent and major electrical failures																									
			Signal Foundation - Signal Foundation - No physical damage or shifting		5	Very Good	Do nothing			Minimum rating value will be assigned by Osool System (1 to 5)																		
			Signal Foundation - Minor cracks, no major shifting		4	Good	Recoat peeled area.																					
			Signal Foundation - Occasional vegetation obstructing view				Cut the grass around foundation to avoid view blockage and rust due to nearby irrigation hose. Make sure the protective coating does exist on the foundation.																					
			Signal Foundation - Visible cracks in the foundation		3	Fair	Refill the cracks with approved sealant.																					
			Signal Foundation - Concrete deteriorated (Slightly)				Breakout the existing concrete and apply new same as existing level as per specification.																					
			Signal Foundation - Major cracks, shifting, instability, concrete deteriorated up to some extent		2	Poor	Breakout the existing concrete and apply new same up to existing level as per specification.																					
			Signal Foundation - Severely damaged, potential collapse		1	Very Poor	Remove the existing concrete and dispose off. Provide and apply new concrete foundation same up to existing level as per specification																					
			Signal Foundation - Concrete fully deteriorated																									
			Signal Foundation - Settled Damaged foundation																									

30.1 TRAFFIC SIGNAL "JUNCTION"



30.2 TRAFFIC SIGNAL "JUNCTION"

31. TOURIST ATTRACTION

Asset Name	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Excellent / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
31. TOURIST ATTRACTION	(Weightage 100%)	i. At Roadside ii. At Roundabout iii. Other	i. Monument for Tourist Attraction ii. Decorative Asset Feature iii. Any Other	No physical damage or settlement observed	5 4 3 2	Very Good Good Fair Poor	Do nothing	Minimum rating value will be assigned by Osool System (1 to 5)							
				Minor cosmetic damage			Conduct routine inspections for wear and address minor issues and do routine maintenance as required.								
				Minimal sign of wear on surface			Cut the grass around the light for through lighting on the decorative asset								
				Color faded very slightly			Breakout the existing surface and apply new same as existing as per specification or as per the direction of Engineer.								
				Occasional vegetation obstructs the lighting arrangements			Remove the obstruction for better attraction/ visibility								
				Slightly deterioration observed in the decorative element			Repair & refix the damage area same as existing								
				Accidental damage effect the attraction			Refix the lights as per the requirement or as per the direction of Engineer								
				Noticeable wear, moderate surface unevenness			Remove damaged area and apply material same as existing as per the specification								
				Visibility obstructed by trees or billboard etc.											
				Obvious cosmetic damage, minor impact on stability											
				Visible cracks or signs of significant deterioration											
				Lighting arrangements are not in place											
				Damage Broken element (Moderate)											

Asset Name	Type	Sub Type	Observation Inspection Result	Visual Inspection (Yes / No)	Condition Score	Condition Rating	Proposed Maintenance Strategies	Overall Condition Score (Score: 1 - 5)	Overall Condition Rating (Excellent / Good)	Unit Rate	Quantities	Cost of each Observation	Total Cost	Recommended Maintenance Strategy	Final Cost
			Severe foundation settlement/damage, potential collapse risk Major cracks cause instability Missing decorative elements		1	Very Poor	Breakout the existing concrete and apply new same as existing level as per specification. Provide and fix the missing element same as existing in size and shape as per specification								

31.1 TOURIST ATTRACTION