

**The delays are at the junction: Hagley Park & Constant Spring Road continued from page 17**

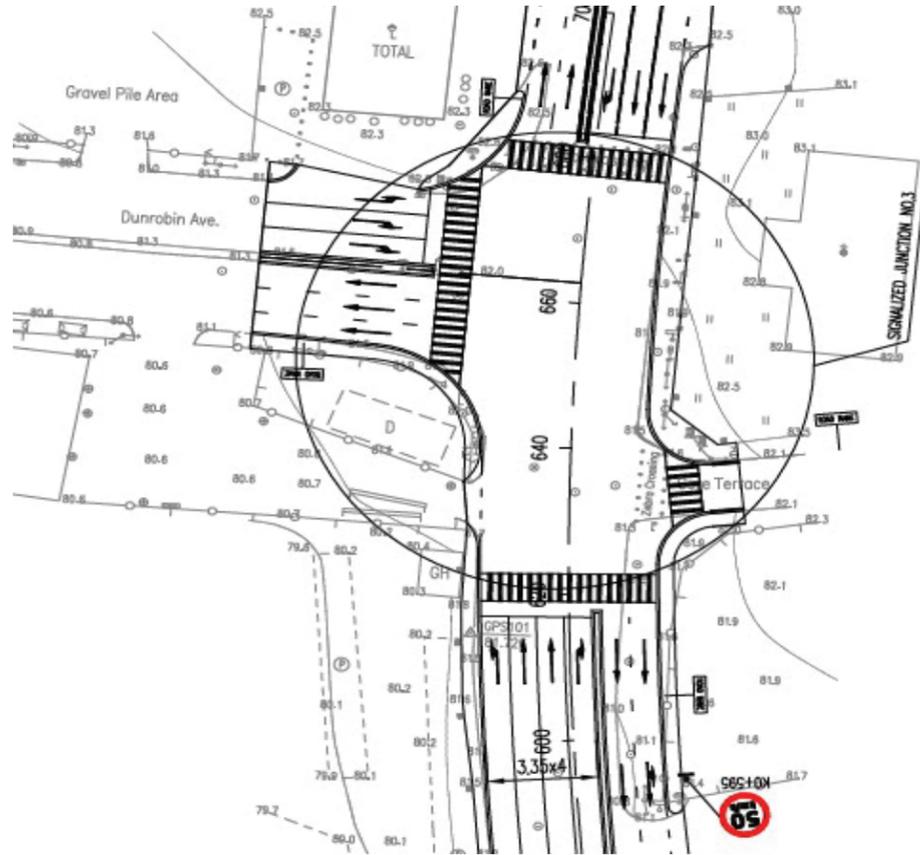
He suggests that the NWA may opt to go the route of acquiring property, clearing structures and widening Hope Road at the Half-Way-Tree/ Caledonia Road junction to create four lanes to improve capacity. Or we might simply convert Old Hope Road into a one-way permitting only the southerly flow of traffic down to the Caledonia intersection; making motorists who wish to travel north towards Oxford Road go along Caledonia Avenue and Tom Redcam Road.

You would therefore hardly find anyone disagreeing with the major improvements currently being made to Constant Spring or Hagley Park Roads including the addition of driving lanes. Even more worthwhile than this, however, is that the combined US\$78 million investment entails extensive intersection improvements. The geometry, width and turning radius of a minimum of twenty-one (21) intersections are to be upgraded across both major projects. The intersections will be signalized and outfitted with the very latest in signal equipment technology inclusive of CCTV and License Plate Recognition (LPR) Cameras. Following the completion of both projects next summer, a great deal would have been achieved towards the Agency's goal to improve the performance of the City's road network.

But the reality is, despite the number of mega road work projects we successfully implement or the intersections we improve, fully optimizing the Corporate Area road network will continue to pose a challenge. This is because the configuration of the existing road network is not the most efficient as it is. The most optimal of road networks are actually grids where there are equal number of north/south and east/west roads crisscrossing each other to create four-way intersections and not T-junctions like we mostly have now. The Downtown Kingston area is a perfect example of this.

Where major roadways meet in a City like Kingston, movement ought to be possible in all four directions which aid efficient traffic management. But instead, what we have is just one major east/west corridor- Old Hope Road transitioning into Hope Road, Hagley Park Road and Marcus Garvey Drive - for the five primary north/south corridors.

Their efforts are being supported with an increase in budgetary allocation year-on-year in the recent past. The department has been able to expand its activities in relation to the laying of fibre optic cables, and the installation of new traffic signals and CCTVs. Following their break from the massive undertaking of readying Kingston for the redistribution of Three Miles traffic in September, the team now shifts its focus to completing improvements to the NWA's five-year old Traffic Management Centre. Their target, over the next six months, is to connect the remaining traffic signals to the Centre so they can be monitored and operated remotely.



The engineer's design of the proposed improvements to be done at the Dunrobin Avenue/Constant Spring intersection to include a dedicated right turning lane and an additional through lane for southbound traffic and a dedicated right turning lane and an additional receiving lane for northbound traffic.

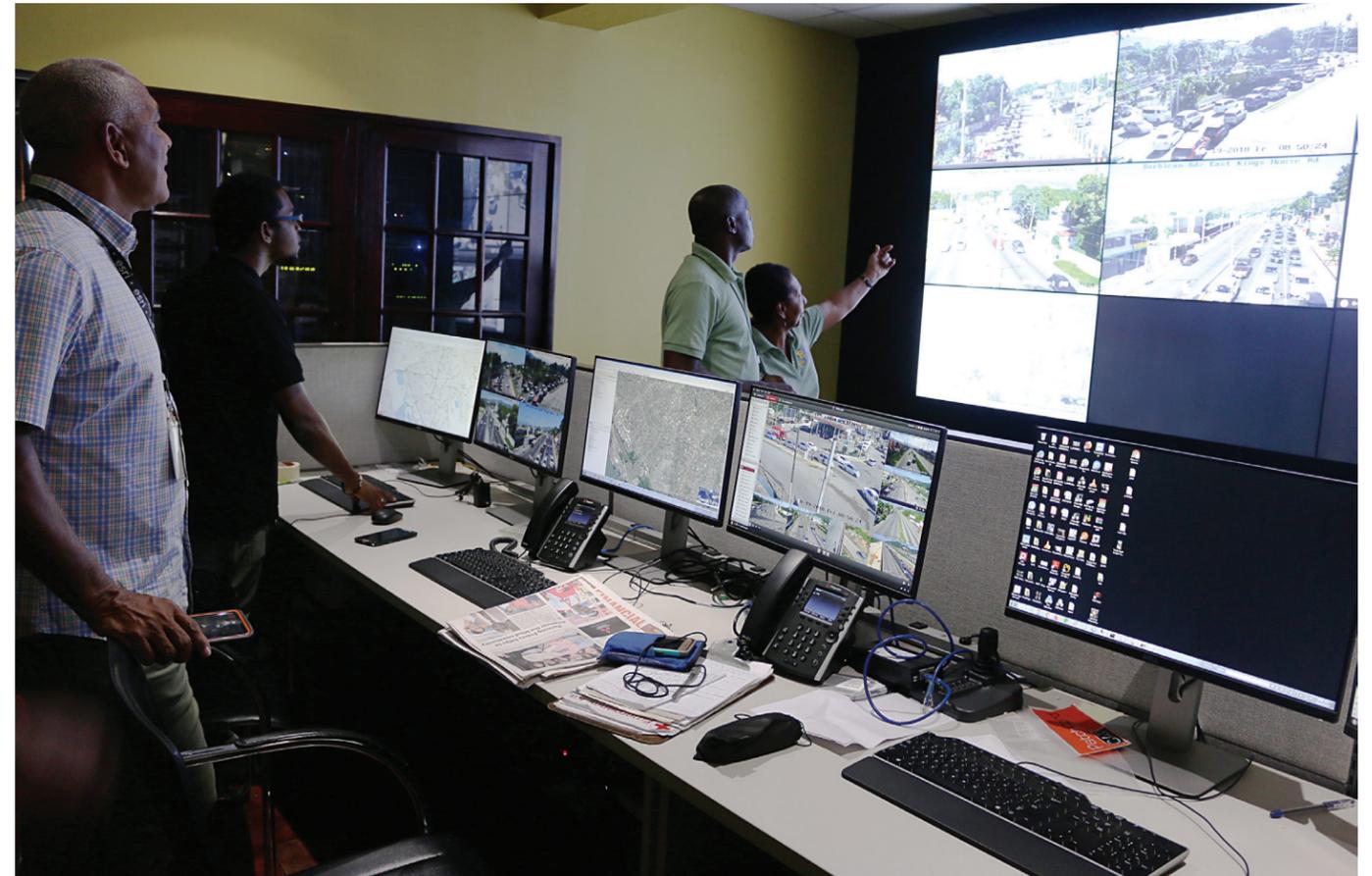
# ROADSTER

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*"Paving the Way"*

## GRIDLOCK AVOIDED: How we kept Half Way Tree working during Three Miles' closure



Several key persons, including the Minister of National Security, Dr. Horace Chang and Police Commissioner Major General Antony Anderson have dropped by the National Works Agency's Traffic Management Centre in recent times to view traffic movement along the Corporate Area road network. In the photograph we see (L-R) Michael Saunderson, Operations Manager, Khalil Myers, ITS Communication Technician, Stephen Shaw, Communication & Customer Services Manager accompanying Lorna Brown-Bell, RJR FM Roving Reporter on her discovery of the TMC from where she reported live on morning radio, sharing her superior vantage point on morning peak traffic. Sure beats driving around in a van!

[See related story on pages 5](#)

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## Media Bus Tour - Learning the Detour Routes

Ahead of the implementation of the National Works Agency's traffic management plan in relation to the redistribution of traffic from the Three Miles interchange to facilitate continuing bridge construction works, the Agency invited the media on a tour of the major detour routes on Wednesday, August 29, 2018.



The journalists rode along with members of the NWA's technical, planning and communication teams visiting one of the main Spanish Town Road detour routes, Bay Farm and Penwood Road, exiting on to the principal roadway at Seprod (left). Earlier they would have experienced how the one-way arrangements would work along Chisholm Avenue and Oakland Road (centre) and would later travel to Marcus Garvey Drive (right) from where they drove the northbound one-way of East Avenue up to Spanish Town Road.



The tour also covered the existing one-way detour route of Development and Ashenheim Roads (left). The touring party made a stop at the Spanish Town Road/Maxfield Avenue/East Avenue intersection where the media had a quick chat with NWA's Communication and Customer Services Manager, Stephen Shaw (centre) on the impact the intersection's major upgrade and realignment is expected to have as the principal detour route for morning peak traffic travelling from Portmore to Half Way Tree (right).



During the first few days of the traffic changes being implemented, the NWA's team of traffic engineers and planners along with our stakeholders including the Head of the JCF's Public Safety and Traffic Enforcement Branch, SSP Calvin Allen met regularly at the NWA's Traffic Management Centre, monitored the traffic flow incessantly to identify and address the kinks (left/centre). The NWA's communication team also met with various groups that were likely to be impacted by the traffic changes and road works, including this enthusiastic bunch from the Queens School located along Constant Spring Road (right).

## Creating Spanish Town Road's new 'bypass'

On September 17, 2018 the Government of Jamaica signed a contract with China Harbour Engineering Company (CHEC) to construct a roadway parallel to Spanish Town Road as part of its overall plan for the expansion and optimizing of the Corporate Area road network. The road runs from the end of Chesterfield Drive, the access road to the Seaview Gardens community off Spanish Town Road, to Marcus Garvey Drive in the vicinity of the Tinson Pen aerodrome.



At the contract signing at Jamaica House, Prime Minister Andrew Holness, explained that the 1.4km \$1M US dollar project is not being undertaken as a short term fix for the City's current traffic management needs, but will serve as a critical link in the government's plan for the development of the Caymanas Special Economic Zone. A meeting was held with members of the Seaview Gardens community to share the scope and expected impact of the project.



Sub-base works completed with base layer works in progress to form the two-lane 1.4km stretch of new road between Chesterfield and Marcus Garvey Drives. The project also involves the overlay of 700 metres of Chesterfield Drive, in the Seaview Community, which will have 1.5 metre-wide sidewalks on both sides. The approach to the Chesterfield Drive/Spanish Town Road intersection will also be widened to accommodate three lanes.



Labourers on the Chesterfield Drive 'Bypass' project filling gabion baskets with rocks as part of the protective works being undertaken in relation to a couple of waterways over which the road will pass (left). Two temporary Bailey bridges were installed closer to the Marcus Garvey Drive intersection to allow vehicular access over a major gully (centre) while a labourer shelters from the rain, which has hampered the pace of the project, in a concrete culvert (right).

## The NWA responds to flood damage in the West...

### \$150 MILLION LOCAL REHABILITATION AND DRAINAGE IMPROVEMENT PROGRAMME FOR WESTERN PARISHES

Roadways across the Western Region have over time suffered significant damage due to flood rains. This is evident in heavily scoured road sections and compromised drainage infrastructure. It is against this background that the Government of Jamaica allocated \$1.35 billion to the Local Rehabilitation and Drainage Improvement Programme, some \$150 million of which is dedicated to addressing some of the worst affected roadways across the Western Region.

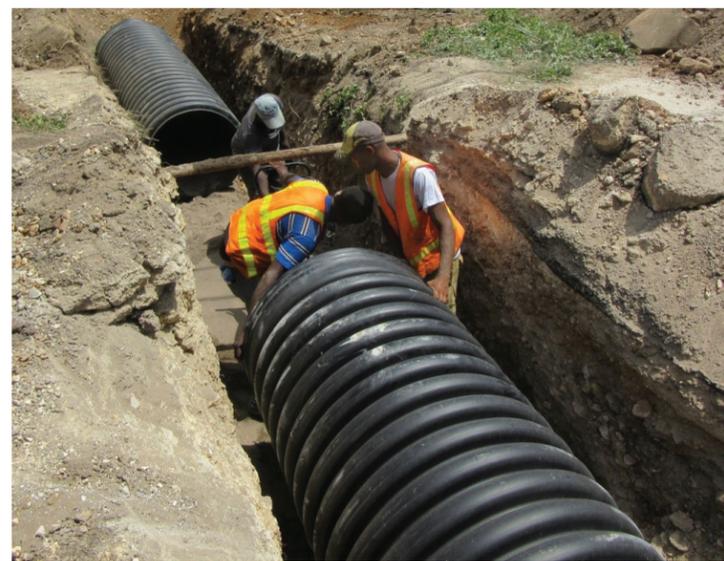


Resurfacing works - Bluehole, St. James

Several roadways have received attention under the programme. These include the Wakefield and Troy roadways in Trelawny; the Bluehole and Washfoot Gully roadways in St. James; the Cascade and Mackfield roadways in Hanover and the Hatfield and Struie roadways in Westmoreland.

The projects which have varying commencement dates, involve drain cleaning; the improvement of drainage systems through the construction of additional drainage features and the resurfacing of heavily pitted roadways.

To date, much ground has been covered as several projects have been completed, while others are now at an advanced stage of completion. In the parish of Trelawny, the Salt Marsh project was undertaken, where a culvert was installed and the roadway reinstated. Additionally similar projects have been completed in Wakefield, Troy and Jackson Town in the parish.



Salt Marsh, Trelawny

A view of a section of the Salt Marsh roadway in Trelawny, where culverts were recently installed, under the Local Rehabilitation and Drainage Improvement Programme.

## MIDP II Nearing Completion in the West

The second phase of the local component of the Government of Jamaica's (GOJ) Major Infrastructure Development Programme (MIDP), is now in the final stages of completion in the West. Approximately \$722 million has been allocated to this effort which involves improvements to 15 roadways across the parishes of St. James, Hanover, Westmoreland and Trelawny.

This latest effort by the GOJ to improve the road and drainage infrastructure across the Western region has been well received by residents and stakeholders who are praising the projects which have already begun to positively impact the lives of a wide cross section of the population.

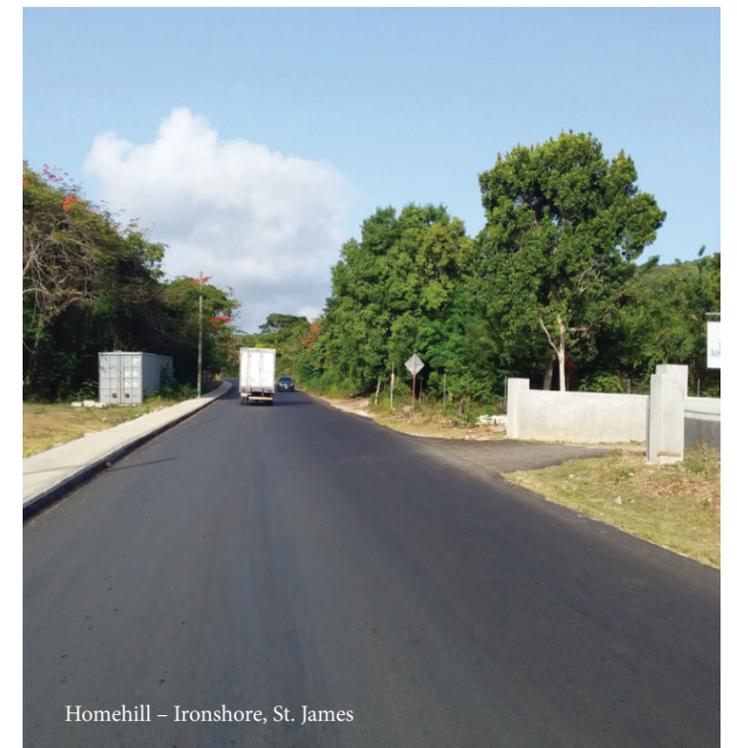
One of the positives of the programme is that priority was not only given to main roads, as several parochial roadways have also been upgraded. Many of these roads had been in a state of disrepair for some time, and the intervention, though viewed as long in coming by many, is having an overwhelmingly positive impact.

Among the roadways that were targeted are the Point to Garlands roadway and Valencia Drive in St. James; the Smithfield roadway in Hanover; the Grange Hill to Little London main road in Westmoreland; and the 11 km stretch of roadway between Comfort Hall and Highgate Hall in Southern Trelawny. The Comfort Hall project augments extensive work which was done under the first phase of the programme where the 15 km stretch from Wirefence to Highgate Hall was rehabilitated.

To date, 8 of the 15 projects are complete, while 4 projects are listed as substantially completed. The remaining 4 are at various stages of completion. Among the roadways which have been completed are Valencia Drive and the Felicity roadway in St. James and the Smithfield Road in Hanover. Work continues in earnest, with a view to completing the remaining projects by the end of November 2018.



Flowerhill - Torado Heights, St. James roadway



Homehill - Ironshore, St. James

## Rain, Rain Won't Go Away even while Santa Cruz gets New Drains

Last quarter was the quarter of torrential rainfall. Heavy rains in August and May hardly spared any parish and disrupted road construction projects across the island. Following the widespread flooding of the township of May Pen on Monday, October 1, the need to improve the capacity of the drainage infrastructure of major towns was placed squarely on the agenda once again.

Flood waters left motorists stranded along several roadways including the problematic Fernleigh Avenue, during the unusually heavy downpour.

May Pen's major drains, which were only recently cleaned, under the second tranche of the NWA's flood mitigation summer programme, were simply overwhelmed by the sheer volume of rain which doused the capital in just three hours.

The National Works Agency's current \$1.35 billion 'Capital A' Drainage Rehabilitation and Improvement programme and elements of the \$5.3 billion Major Infrastructure Development (MIDP) Local Component are aimed at correcting some of the deficiencies of the island's drainage network. But as you will learn in stories on pages 4, 8, 14, 15 and 18 rain continues to affect the progress of works on many of these projects.

Until very recently only drivers of large vehicles and those with local knowledge risked using the Santa Cruz Bypass after heavy rain. However motorists and pedestrians who use the busy, major corridor had reason to be pleased during the heavy rains of September 2018. Usually for up to ten minutes following a typical downpour the roadway would become inundated and soon after littered with stalled motor vehicles. Now, minutes after the showers cease, traffic can flow with relative ease and pedestrians, treading cautiously, can go about their normal business.

The National Works Agency started construction on the drains which have apparently worked this magic back in May at a cost of nearly ten million dollars under the Capital 'A' flood damage programme. The construction of a U-drain and cross drain formed the major part of the works. The new drain now channels high volume runoff, rushing downhill from the Santa Cruz Mountains, through the town to the Upper Black River Morass and the Black River via an earth drain and a small stream leading to New River. Edison Hinds Jr., a businessman along the corridor, shared that previously

whenever it rained heavily in the afternoons his impulse was to close down his gas retailing operation for the rest of the day. Now he feels relaxed that he can maintain his working hours. The project is scheduled to be completed in October 2018.



Excavation for 900 x 900mm U-Drain in progress



Concrete being poured for invert of 900 x 900mm U-Drain



Construction of U-Drain nearing completion

## The delays are at the junction: Hagley Park & Constant Spring Road projects to improve critical intersections

As he is one to do, Mike Saunderson didn't spurn the opportunity to start a broader conversation about the importance of traffic management as a critical component of road improvement projects. The fourteen-year Operations Manager, of the NWA's Traffic Management Department, says there is a distinct difference between road improvement and traffic management, which thankfully more stakeholders are beginning to appreciate. He cautions against the counter-intuitive practice of merely widening stretches of roads with the intent of realising improvement in traffic flow. He explains that it is unreasonable to expect that a roadway will be improved by simply adding lanes. He suggests that the better approach, the proven approach, is to start with widening the intersections.

"The delays are at the junction," he preached. "The evidence of the delay is a cue between the intersections. If you widen the intersection and you can go through the intersection fast and you get to the next intersection and you go through fast, the piece of road between the two intersections doesn't make a difference." Conversely, he says, if the of roadway between the two intersections is widened and the intersections themselves are left unimproved without turning lanes, for example, motorists are bound to end up in a jam. The recommended approach when improving a City's road network therefore is to start with a programme of targeted intersection improvements. Every road and intersection in the grid is assessed to identify where the bottlenecks lie. Step one would be to widen the intersections and then, step two to widen the road in between.

Mike articulates a list of other traffic management interventions he's championing which he believes could really impact the network positively. Chief among them is unknitting the major bottleneck at Trafalgar and Waterloo Roads by putting in double right turn lanes on Hope Road to accommodate the 600 vehicles travelling from both Papine and Half-Way-Tree that wants to make the turn right during peak hour.

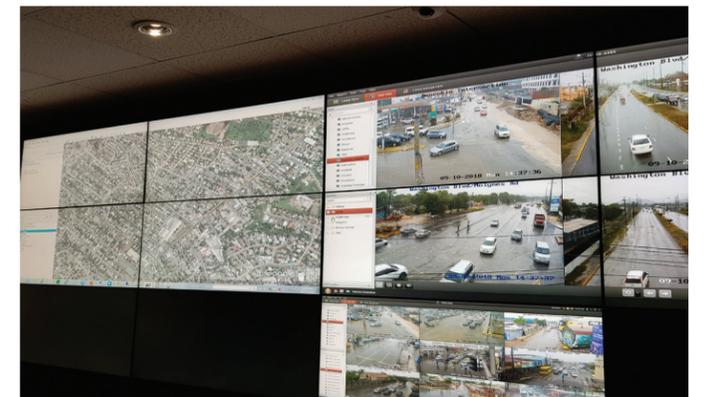
Once the sore intersection of Waterloo and Trafalgar is resolved, fixing the other junctions in either direction including Kingsway, South Avenue and East Kings House Road should have motorists moving in and out of New Kingston with relative ease right away. If he has it entirely his way, Mike would then move on to tackling Crossroad's traffic woes.



This still photograph of mid-afternoon traffic travelling through the East Kings House Road/Barbican Road intersection was grabbed from a live camera shot of the area in-house at the NWA's traffic management centre.



Identified as now the intersection to be targeted next in the City, this how the Trafalgar Road/Waterloo Road intersection typically looks on mid-afternoon weekday.



A shot of the video wall in the NWA's five-year old Traffic Management Centre as the team monitors the movement of traffic in the Corporate Area during a heavy downpour

Building Bridges continued from page 9



**JOHNSON RIVER BOX CULVERT, SEAFORTH, ST. THOMAS**

The practical completion of the Johnson River box culvert, in St. Thomas has seen the reopening of the Church Corner to Morant River Bridge roadway at Seaforth after a decade of being closed to vehicular traffic.

Up to late September only minimal pavement and slope protection needed to be done to complete the Box Culvert extension project valued at some \$23-million.

Improvement Project is arguably the NWA's most ambitious bridge works yet. Both structures will fly over Portia Simpson Miller Square at heights of 6 and 12 metres, spanning 480 and 592 metres of Spanish Town Road and Hagley Park Road/Marcus Garvey Drive respectively. The structures, when completed, will be duly adopted as part of the NWA's bridge population, which will only serve to add even more life to the existing inventory, up to 75-100 years each.

Smaller scale, but equally important bridge works are also underway in Castleton, St. Mary and Port Morant, St. Thomas where a Compact Modular 200 Driving Bridge and a Composite Reinforced Concrete slab and steel girder bridge are being constructed in the communities of Chesterfield and Ward River respectively. The two new structures are expected to add anywhere between 105 – 160 years of useful life to our inventory.

This makes Smith's next big target of 10 in 10, that is, a 10% reduction in the number of deficient bridges in the inventory over the next ten years, seems all the more possible. He reckons that in another ten years the deficient bridges will be down to about 4% of inventory if the current level of replacement takes place, since each time a bridge is replaced, the life of that bridge is now 30 years in the case of a Bailey Bridge and 75 years in the case of a permanent bridge.

All that is required from that point is to inspect the structures and effect repairs, if needed. Otherwise it's just routine maintenance that's required, which does not entail much once the bridge is brand new.



**WARD RIVER BRIDGE, PORT MORANT, ST. THOMAS**

Workmen completing the steelwork in anticipation of a concrete pour to finish the deck of the 17-metre reinforced concrete slab and steel girder bridge spanning the Ward River, in Port Morant, St. Thomas. The bridge, which was 85% complete as at the end of September, is replacing a defunct structure at the same location. The reinstatement of approach roads is the major outstanding item on the project. The \$57-million MIDP project is finally coming to an end after commencing in March 2016.

So that's why Roger Smith maintains that you really get value for money when a brand-new bridge is built. However, he readily admits that eventually reducing the number of deficient bridges to nil will require massive funding.

Two bridge projects for which funding was identified recently and which are earmarked to commence in short order are the 50-foot Barracks River and the 300-foot Mahogany Vale Compact Modular 200 Driving Bridge projects, in St. Mary and St. Thomas

## The City didn't gridlock!

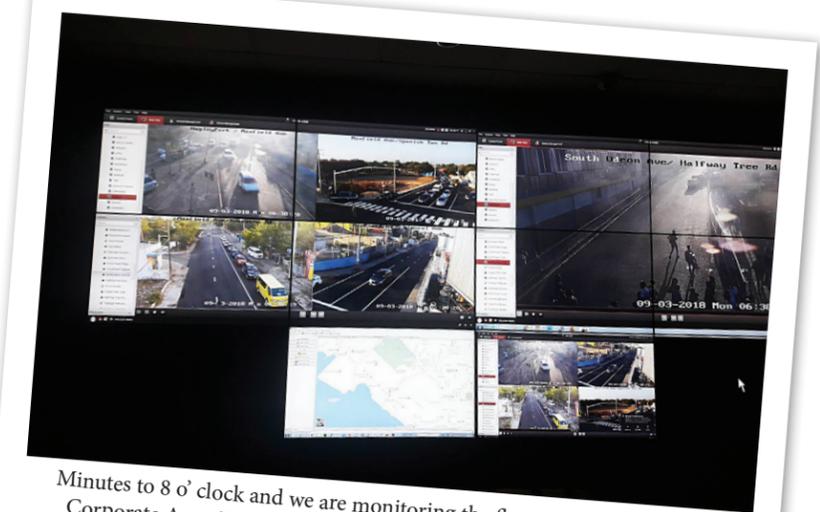
When Mike Saunderson and his team were presented with the task of preparing the City of Kingston's road network, to handle the 5,000 vehicles that had to be shifted to other parts of the grid during peak hours, to facilitate ongoing bridge construction works at Three Miles, they knew it was going to take some doing.

For each of the intersection's four approaches that would be taken out, ideally it would have required of an alternate route with similar alignment and comparative capacity to efficiently handle the added traffic. After which the traffic engineers would strongly recommend that the intersection be closed incrementally.

From the outset, they knew that it would have been challenging to identify a corridor capable of carrying Spanish Town Road's usual traffic. The roadway carried over one-half of the 70,000 vehicles from the Mandela Highway up to Three Miles, distributing primarily along the eastern section of Spanish Town Road or Marcus Garvey Drive onwards to Downtown.

But the obvious problem was there is no corridor in the City that parallels Spanish Town Road, between Six Miles and Three Miles, in terms of capacity and continuity. The near impossible task for the traffic engineers was therefore to replace a road that was carrying a fair bit of traffic with a road that does not exist.

There was, of course, Washington Boulevard which also



Minutes to 8 o'clock and we are monitoring the flow of traffic across the Corporate Area. Traffic is flowing smoothly along all major corridors. However motorists may encounter some delays along the Portmore Toll Road and sections of Constant Spring Road. (posted on the NWA's Facebook page on September 3, 2018)

branches off the Mandela Highway and runs eastward. But the challenge with using the Boulevard was that it was a most indirect route to Downtown Kingston which was the destination of the large majority of Spanish Town Road's displaced motorists. While it stood up as the most suitable alternative route in terms of comparative alignment and capacity, the NWA's traffic engineers knew all too well that motorists would not enjoy detouring that far off their primary route and would inevitably opt to use shortcuts.

Waltham Park Road therefore selected itself as the only other practical detour to Spanish Town Road. Though nobody's first pick because of its far reduced capacity, Waltham Park Road was not too distant from Spanish Town Road and it gets motorists back onto the route toward Downtown.

Good morning, make the most of the new traffic signals at Tom Cringle Drive and the Mandela Highway and respond to the green time. You'll find you'll get on to Spanish Town Road or Washington Boulevard in no time! (posted on the NWA's Facebook page on September 3, 2018)



The City didn't gridlock!, Continued from page 5



A view of the Spanish Town Road/Maxfield Avenue/East Avenue intersection from the corner of Maxfield Avenue; the intersection was realigned to create a smooth transition from East to Maxfield Avenue in preparation for the traffic changes in September. The experience of motorists using the intersection has improved significantly as a result of the works.

"Waltham Park Road however was never intended to replace the carrying capacity of Spanish Town Road, it couldn't," lamented Mike. "Its intersection with Hagley Park Road was much smaller than all Spanish Town Road's at the Three Miles intersection with all of three through-lanes."

It was anticipated that the intersection would have been particularly challenged as the bulk of the traffic seeking to get back on to Spanish Town Road would have to go through there. Not surprisingly therefore, coupled with the initial uncertainty of commuters, the route caused more than a few tempers to flare during the first few days of the change.

Working out Marcus Garvey Drive and Hagley Park Road's alternate routes, on the other hand, proved to be far less problematic. The traffic engineers knew that the closure of both approaches would mainly affect commuters travelling from Portmore to Half-Way-Tree.

But, thanks to the recently-completed major upgrade of the lower section of Marcus Garvey Drive under MIDP, carrying commuters to a suitable junction to travel north created no headaches. Making a continuous, improved capacity corridor of both East Avenue and Maxfield Avenues, from Marcus Garvey Drive, was where the bit of traffic management genius came in.

Both roadways were aligned at the Spanish Town Road junction and converted chiefly to a northbound one-

way. An extra lane was added along a section of Maxfield Avenue and access to the roadway restricted or temporarily signaled at critical points. Motorists were given the option of making their return journey via the southbound one-way of Chisholm Avenue and Oakland Road.

This bit of traffic change has been working more efficiently than predicted. Waltham Park Road has since settled down quite nicely. But Mike Saunderson says the one-way conversions are likely to be reversed following the re-opening of the Three Miles intersection next summer. People's driving behavior will no doubt change, he says and asks 'Why would I go down East Avenue to go up to Half-Way-Tree?'

'You are going to be able to fly over Three Miles, go on Hagley Park Road that is widened; you'll get to Half Way Tree much quicker,' he promised. The ROADSTER asked the Operations Manager for his overall assessment of how the suite of traffic changes around the major projects performed overall. He rated the effort 'GOOD' and qualified the mark based on the team being able to prevent complete gridlock.

'The city didn't gridlock,' Mike Saunderson pointed out. 'You are going to have localized gridlock. So you could be jammed up in traffic on Spanish Town Road and upset but you are not affecting Half Way Tree. It's a difference when nobody is moving. That was what we were trying to avoid, that was the whole key. Keep Half Way Tree working. If you define success as the City not gridlocking, then we were successful.'

## Ward Avenue Drainage Improvement Project to have Major Impact

For years, every time it rains heavily in the cool town, Mandeville's busiest four-way intersection of Ward Avenue/Manchester Road/Perth Road and Caledonia Road is flooded, leaving motorists, pedestrians and business operators frustrated. The deleterious practice by developers, over the years, is to pave areas that were previously vegetated thereby contributing to the flooding of the area. According to the Councillor for the Mandeville division, Jones Oliphant, the problem is that the existing drain was just too small for the volume of run-off resulting in a large pool of water settling at the intersection's lowest point.

The National Works Agency collaborated with the Manchester Municipal Corporation to commence drainage improvement works along Ward Avenue in August. The works, for the most part, were restricted to one lane and alternative routes were outlined to commuters. This is a busy thoroughfare and to ensure minimal disruption to traffic flow and business operations, excavation and pipe laying works were undertaken at nights on weekends.

The drainage improvement works saw the laying of 900mm HDPE pipes which are intended to channel storm water from Brumalia Hardware to Smokey Street along the corridor. The works includes, but is not limited, to the demolition of existing concrete structures, rock excavation, the construction of retaining walls and catch basins, pothole repair and asphaltic concrete overlay and are valued at \$18 million dollars.

The project experienced some delays which has brought anxiety to especially the business community. However, the works entail the very critical bit of constructing two manholes and an inlet as stipulated by designs issued by the National Works Agency Technical Services Directorate. The manholes had to be specially design and excavated at great depth to provide enough load bearing support for the road section. As of October 4, 2018 the contractor were excavating to install the first inlet with sufficient steel fabrication, but it's the season, and the heavens opened up hampering progress.

Mandeville's Mayor Donovan Mitchell says the intent is to put in the inlet at Brumalia House, collect and channel the storm water from that point and take it across a few properties over



Excavation works to lay 900mm drains for storm water control

to the Manchester Gulf Club drains and once this is done then the road and drainage problem would be as good as solved. The project will be completed with the installation of the pipeline and the reinstatement of the roadway.



Work started to install 900mm pipe culvert along a section of Ward Avenue

## The TEF Partners with the NWA to repair Murray Hill, St. James Roadway

Residents of the Murray Hill community, in East Central St. James, and its environs, are about to receive an early Christmas gift as the National Works Agency (NWA) and the Tourism Enhancement Fund (TEF) have joined forces to repair the Murray Hill roadway. The project which got underway in mid-September is expected to be completed in two months.



A pig wallows in a water-filled pothole in the Murray Hill roadway prior to the commencement of the repair works

The Murray Hill roadway is a parochial road which is located just off the Sign to Virgin Valley main road in St. James. In addition to serving the residents of Murray Hill, the roadway is also used to access the neighbouring community of Moore Park. In fact, the roadway is one of the preferred routes for commuters, travelling from neighbouring communities such as Latium and Guilsbro, to the community of Adelphi, via the Moore Park roadway. This route is much shorter than alternative routes, however most commuters have abandoned this roadway altogether due to its deplorable state.



Murray Hill, St. James

Over time, repeated flood events have ravaged the roadway, resulting in great discomfort and anxiety for residents. David Campbell, a resident of Murray Hill, explained to the ROADSTER that the roadway has been in a poor state for decades and has only gotten worse, especially following flood rains. "A no normal water come off this hill, the water wash weh everything," Mr. Campbell explained. He went on to express his cautious optimism for the project, which he says is a very good effort, and one which he hopes will withstand future flood events.

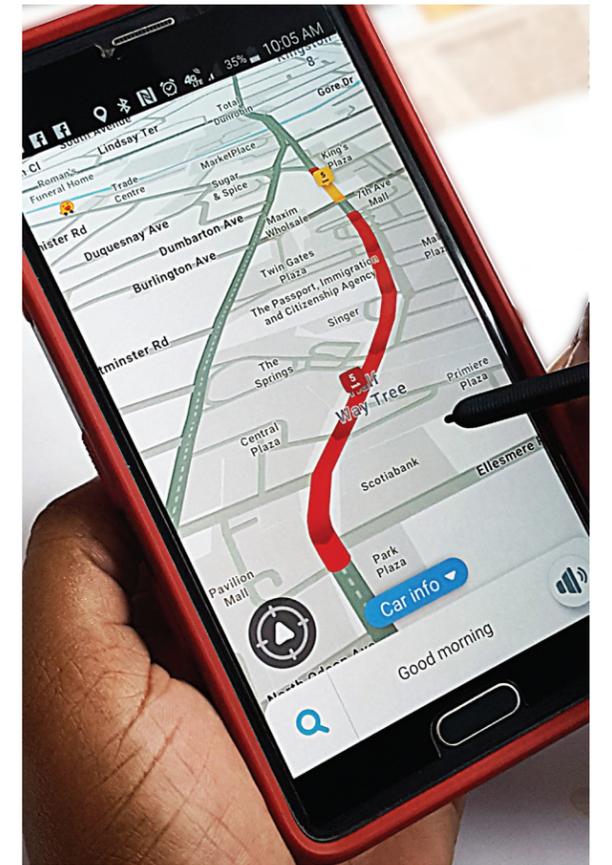


The excavation of a section of the roadway to facilitate the construction of drains

The project involves the complete rehabilitation of just under a kilometre of roadway. This includes the reshaping of the roadway; rock excavation; the installation and construction of drainage devices including culverts and concrete U and V drains. A retaining wall will also be constructed along a section of the roadway. The roadway is being repaired through a \$21 million dollar contract.

## WAZE and MEANS to Improve Traffic Congestion

As we continue to work on improving traffic management islandwide, the National Works Agency has officially partnered with Google, to bring more relevance and value to their social navigational platform WAZE locally. Using an interactive map, the App allows users to both see and input factors that are impacting the roadway and by extension traffic in real time. Google uses a colour code to indicate congested roadways and the colour changes as the road condition improves or worsens. Selecting from a preset menu, users are able to input points along a route where they observe a road closure, police or traffic build-up, for example, by simply pinpointing the location and tapping on the icon that applies.



As Google's official local partner, any information the NWA provides or verifies on this navigational map will be deemed authentic. Our traffic management unit also has access to the App's back end where they can use the software to review the performance of the road network over any given time period in aid of identifying recurrent congestion and devising practicable solutions for each case.

As many persons as possible are being encouraged to get the App, which can be downloaded online at Google Playstore. We are relying on motorists to act as our eyes and ears as they travel along the road network and tell WAZE and by extension, us what is happening. The more people download the software and use it, the more information we'll have to improve our experiences on our roads.

### MIDP Nearing Completion in the West, continued from page 3

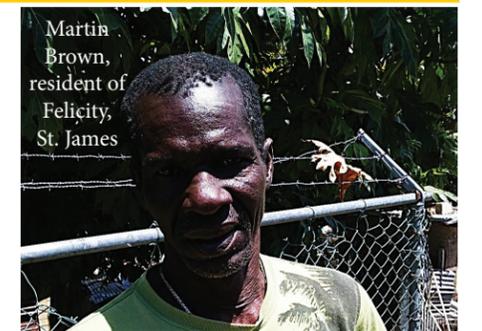
The projects involve significant drainage improvement works, the reshaping and asphaltting of roadways, the construction of retaining walls, road widening and improvement to pedestrian safety through the construction of sidewalks.

Residents across the Western Region are now anxiously awaiting the completion of these projects as the roadways are vital to their lives and livelihood.

Martin Brown, of Felicity Road, in expressing his appreciation for the recent upgrade, says he feels much safer now that the roadway has been widened. According to Mr. Brown, the roadway was previously narrow and did not allow for two vehicles to use

the corridor at once. He added that the steep terrain, made the situation that much worse, resulting in several near misses and even recently, a fatal accident. Additionally, he says many persons were afraid to traverse the roadway at nights as it was difficult negotiating the rugged road surface. He says he feels much more comfortable now, especially for his family members who have to use the roadway at nights.

The Felicity roadway is a critical link road, which not only serves residents of the community, but also serves as an unofficial bypass for the busy city centre of Montego Bay, for motorists making the return trip from Montego Bay to Ironshore.



The MIDP is a programme of government that improves roadways across the island, providing greater ease of access and safety. This programme targets a mix of parochial and main roads. The projects which are expected to be completed by October 2018 are being undertaken by the China Harbour Engineering company under local contract.

## What a Stretch! The rehabilitation of the Palmers Cross to Guinep Tree roadway in Clarendon

The rehabilitation of the roadway from Palmers Cross to Guinep Street at the end of Main Street, May Pen, Clarendon has been years in the making. It is a road that is rich in history as it was once the main corridor from Manchester through May Pen into Old Harbour leading further east into capital city, Kingston. Today it still provides access to scores of small communities. It has seen a considerable increase in traffic with little or no maintenance over the years. The corridor is used by scores of taxis and pedestrians including school children and the elderly as it provides access to several schools, health facilities, residential and commercial operations in and around the town of May Pen.



Construction Of Sidewalk In Progress along a section of the project in Paisley

The National Works Agency started the rehabilitation of the Palmers Cross to Main Street road rehabilitation project in January of this year. This represents a major investment of over \$98 million under the Major Infrastructure Development Programme (MIDP). The scope of work includes bushing, earthworks and cleaning of side drains, earth drains and blocked culverts. There has been a focus on the construction of concrete U drains and V drains with concrete slabs across the drains to create access to properties. Pavement works such as milling, scarifying, grading, rolling, base formation, prime coating and asphaltic concrete overlay as well as the construction of retaining walls, sidewalks, kerb and channels along with road marking will complete the project.

The announcement of the project led to a proposal of collaboration with the National Water Commission (NWC) and the project was expanded to include pipe laying works. The NWC is laying pipes along the corridor and is now 91% complete. This had slowed the progress of the rehabilitation works coupled with some social nuances of the immediate communities. On Sunday, September 30 traffic was diverted between the May Pen Police Station and Guinep Tree to facilitate patching and overlay works. The objective was to complete about one-fifth of the pavement works. Luckily this was achieved in the nick of time, ahead of the heavy downpour later that day. The project was deemed then as being 45% complete with additional paving and ancillary work scheduled for the beginning of October.

Mr. Elvis Golaub, a vender in the May Pen Market and a resident of Bushy Park, stated that he had grown frustrated with sporadic demonstrations by taxi drivers over the poor road condition. He laments that he has lost his goods several times, which have been stolen from taxis as they waited for blocked roads to be cleared. He sees the total rehabilitation of this road as the dawn of a new era when traffic will move more briskly. The improved corridor will serve the communities of May Pen proper, Hazard, Chateau, Palmers Cross, Paisley and Mineral Heights.

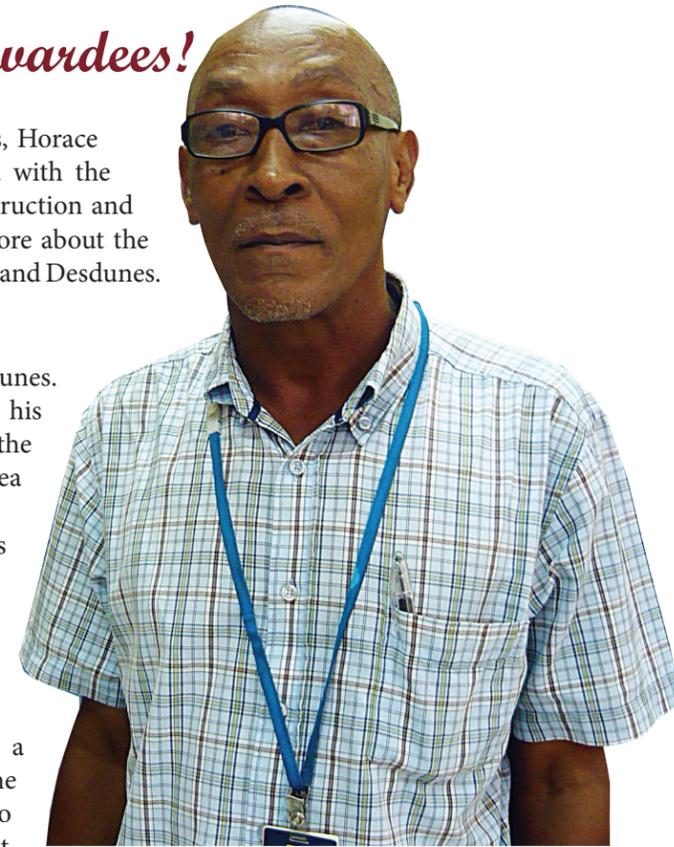
**He sees the total rehabilitation of this road as the dawn of a new era**

## Congrats to our 2018 National Awardees!

The Roadster congratulates our colleagues Messrs. Roland Desdunes, Horace Cotterell and Lincoln Vivian Simpson on being recently bestowed with the Badge of Honour for Meritorious Service in the field of Road Construction and Maintenance by Governor General, Sir Patrick Allen. Here's a bit more about the work and accomplishments of the structural engineer among them, Roland Desdunes.

### THE EARLY YEARS

Affable, unassuming and likeable are what best describes Roland Desdunes. He has been assigned to the Major Projects Directorate since his employment at the Public Works Department (PWD) and later at the National Works Agency (NWA), which he joined in April 2001. His area of expertise is in the fields of bridge and retaining wall construction. From an early age, the Allman Town native was encouraged by his parents to focus on his school work and so found little time for sports and other pursuits. "I was discouraged from participating in any form of sports and if I did I would get a good beating." So even now that he is an adult, he says, he has no real interest in sports. His hobbies are coin (numismatics) and stamp collecting (philately). Roland's interest in building construction came to the fore while a student at Kingston Technical High School from 1968-1972 where he came under the influence of Ms. Henry, his Mathematics teacher who recognized his flair for Mathematics and encouraged him along that path.



### THE JOURNEY TO STRUCTURAL ENGINEERING

After graduating high school Roland initially enrolled in the College of Arts Science and Technology (CAST) (now UTECH), as a part-time student and a year later, full time. He successfully completed his Diploma in Structural Engineering in 1976 and joined Howard Humphrey & Sons, Consulting Engineers straight out of college. He joined the PWD in March 1, 1977 as a site inspector for the arterial roads under the Major Projects Directorate. In 1983 he was promoted to Senior Works Overseer and was later transferred to the Rural Road Improvement Project (RRIP) where he worked until 1991 when he became the Chief Project Field Inspector on the Greater Portmore Urban Expansion Programme. He would again be promoted to Acting Senior Assistant Superintendent and continued working with the Ministry of Transport and Works until 1999.

### AN INTERESTING CAREER

Roland has, over the last 40 years, enjoyed what can be described as a truly diverse and interesting career. Some of the seminal road projects that he has been associated with are the Williamsfield and May Pen Bypass Roads in Clarendon and Manchester respectively, the Garland to Niagara Road in St. James and the Troja Road improvement project in St. Catherine. Over the last two decades or so his career focus has shifted to bridges. He has been assigned a number of pivotal bridge construction projects throughout this time and considers his major achievements in this field to be the management of the Boswell Bridge Project in St. Andrew and the Wakefield, Springfield and Salt Gully projects in St. Catherine.

### A WEALTH OF KNOWLEDGE AND EXPERIENCE

Roland describes both the PWD and the NWA as universities. He remains grateful to all those who assisted him on this 40-year yeoman journey, gaining invaluable expertise in a sundry of technical disciplines along the way. He has been duly recognized too and speaks proudly of his long service award medal which he received from Governor General, Sir Howard Cooke in 1989. On Monday, October 15, 2018, Heroes Day, his son, Orlando, received the Badge of Honour for Meritorious Service from the Governor General on his behalf at a service at Kings House.

# One Bay at a Time

Assembly of the double-lane Bailey Bridge illustrated in photographs below was completed in September under the supervision of forty-year veteran structural engineer, Roland Desdunes in preparation for the planned detour of westbound traffic at the Spanish Town Road/Washington Boulevard junction, on approaching the Mandela Highway. The detour was created to facilitate the installation of a box culvert over the Duhaney River as part of the Mandela Highway Realignment and Reconstruction Project.

The Bailey Bridge, which was assembled on site, consists of components to include panels, braces, frames, deck units and reinforcing cords and spans 50 feet or five Bays, measuring 10 feet each.

We got a hold of Roland Desdunes' log of the time it took and the work involved in assembling the structure. According to his records the whole process took about three and half weeks from August 21, 2018 when the bridge contractors,

China Harbour Engineering Company (CHEC) collected the bridge parts from the NWA's Tarrant stores to September 14, 2018 when the final pavement for the bridge's east and west approach roads was completed.

In between this, Mr. Desdunes made note of the moment work started on the bridge's assembly with the first bay being put together (**Photo 1**) after which the formwork was prepared, reinforcement assembled and concrete poured for the construction of the structure's bearing pads (**Photo 2**).

The construction of back walls (**Photo 3**) and Bay assembly continued during early October and by the end of first week in the month, the bridge's side panels, now completely assembled (**Photo 4**) was ready to be launched. Based on the log, the Bridge floor, which is made up of steel panels, took no more than a day to be installed (**Photo 5**) and a week later, voilà the newly paved approach roads were done! (**Photo 6**).



# Building Bridges



CHESTERFIELD BRIDGE, CASTLETON, ST. MARY

Works on the Castleton Driving Bridge in Chesterfield, St. Mary is now 15% advanced. In the photograph, concrete is being poured for one of two abutments which will support the superstructure, a Compact 200 Modular Driving bridge, at either ends. Works on constructing the center pier is now in progress. Work will continue on completing the \$59-million MIDP project over the next four months.

For every year of the last decade, the National Works Agency has managed to reduce the number of deficient bridges in its inventory by 1%. This has been purely by design. That's according to the Agency's Director of Technical Services, Roger Smith, who explains that the NWA's bridge replenishment programmes are data-driven, strategic and targeted. All bridges are planned for replacement at some point, he says.

The primary aim, in recent times, is that of reducing the weighted condition index, that is, the average measure of how deficient our bridges are overall, through the repair or replacement of defective structures in the NWA's 737-bridge inventory.

Stretching back to the previous ten years, the proportion of deficient bridges has been reduced from 25% to 14% of inventory. The aim is to continue to chip away at this number, one defective bridge at a time, until the index is 0%.

To follow through on this mandate, inspections are carried out on some 75 bridges, on average, each year across the island, which is used to update the in-house database and inform future bridge projects and programmes. The National Works Agency is currently busy putting up a number of new structures – of all kinds – across the island. Mr. Smith tells

the ROADSTER why, what types and how they are built. But, first we asked him the obvious, what is a bridge?

His definition was simple enough. A bridge, he explains, facilitates the continuation of a road over a natural barrier such as a gorge, a river or even over another road. So if an engineer is building a road and he/she comes up on a river, they hop over it with a bridge.

Most of our bridges have been put up for us by our antecedents and the task of the NWA now is to maintain them and replace those that are of an age and state that are beyond feasible maintenance. But even when a bridge's useful life has been achieved, its replacement is contingent on a second, sometimes more important factor, the availability of sufficient funds to undertake the works required.

The design of bridges differs in terms of span, type of foundation and suspending elements. Therefore, one will find that the look, capacity and positioning of bridges differ from one location to another. Various types of bridges are currently being built under different Programmes of Works by the NWA.

The construction of the double overpass bridges at Three Miles as part of the US\$56.4M Hagley Park Road



A close-up look at the T-beam fabrication which takes place offsite at China Harbour Engineering Company's (CHEC) site office.



The ground work: intricate steel fabrication for the piers and pile caps that will anchor the piers below ground.



Prefabricated steel for the T-beam which is transported to the bridge construction site soon to be lifted atop the piers.

## Pile Heads, T-beams, Abutments & Piers – The Progress of the Three Miles Overpasses in Photographs



An aerial view of the completed and uncompleted piers for the Hagley Park Road/Marcus Garvey Drive overpass bridge. Each pier consists of three reinforced columns and a pier head. The bridge will be supported by a total of 34 piers.



A bird's eye view of China Harbour Engineering Company's site office where the T-beams which will complete the top section of the piers are prefabricated.



After being cast, reinforced concrete piers are wrapped in a special type of plastic material to complete the curing process



Labourers working busily to complete one of the bridge's abutments along Marcus Garvey Drive.



Pier and pier head construction complete.