The new bridge at Al Hidd
His Royal Highness 
Prince Khalifa bin Salman Al Khalifa 
The Prime Minister of the Kingdom of Bahrain

His Majesty 
King Hamad bin Isa Al Khalifa 
The King of the Kingdom of Bahrain

His Royal Highness 
Prince Salman bin Hamad Al Khalifa 
The Crown Prince and Deputy Supreme Commander of the Kingdom of Bahrain
Contents
Bahrain’s Infrastructure: 2010 Strong Performance

It is with great pride that I report significant progress has been made in infrastructure projects across Bahrain and I am delighted to update you with this Annual Report on our strong performance in 2010. Achievements continue the trends set in earlier years. The Ministry of Works (MOW) forged ahead with developments in road, sanitary networks and strategic construction projects. The Reef Island Access Road Bridge was opened for traffic on 31st March 2010. The replacement of the Sitra Bridges and the Um al Hassam Interchange was completed, culminating in the opening of the Um al Hassam underpass on 30th October 2010 by HRH Prime Minister Prince Khalifa Bin Salman Al Khalifa.
The Isa Town Gate Interchange project made good progress during the year; the whole project was completed in September 2011. The North Manama Causeway project with a contract cost of BD 98 million started in July 2010 and is due for completion by the end of 2012. The final report on the National Plan for Sanitary Engineering Services was submitted in 2010. Reclamation works for the new Muharraq Sewage Treatment Plant (STP), a major privatisation (PPP) project and part of the policy to decentralise sewage treatment, was completed in March 2010. The contract to develop the plant and a 15 kilometre conveyance system was awarded in February 2011. In April 2010, the King Hamad University Hospital Project was completed and transferred to the BDF.

The Ministry’s project budget amounted to BD 214 million for the year 2010 and the Ministry managed projects for client ministries worth BD 133 million. The Ministry finalised 440 contracts valued at BD 51.3 million, issued tenders on 72 projects worth BD 151.7 million and started work on 980 projects with a total value of BD 200.8 million.

The Ministry of Works is the construction arm of the Government and as a professional organisation it plays a prominent leading role in supporting the Bahrain Economic Vision 2030. The Ministry as a service ministry exhorts every effort in cooperating with its partners in public and private sectors with the aim of providing the people of Bahrain with high-quality services, better living standards and improved quality of life. Achievements are attributable to the highest international standards applied in MOW projects and to the generous allocation of funds to infrastructure projects -- all of which reflect the Government’s commitment to the Bahrain Economic Vision 2030.

The performance of MOW has improved remarkably over the past six years since the introduction of strategy management (implemented according to the Balanced Scorecard performance measurement methodology) and project management based on Project Management Institute (PMI) best practices. MOW adhered to its road map, measuring progress along the way and learning and adapting in order to continue serving society. A recent internal survey, which had an excellent response rate of 71.9%, yielded the following information:
The Ministry’s overall Employee Engagement Index was 71%, indicating that MOW employees strongly agree that they are committed to the organisation and that their work aligns with organisational goals. This is tangible evidence that our change management initiatives have made a positive impact on the organisation. One measure in the survey revealed a 93.3% positive response with regards to employees understanding how their role contributes to the delivery of MOW’s strategic goals. In particular, this reveals the success of implementing strategy management and quality management at the Ministry.

Here is the right place and opportunity to pay a big compliment to my predecessor H.E. Eng. Fahmi Bin Ali Al Jowder whose vision and hard work has brought the Ministry to where it is today. I quote from the book More With Less by Bernard W. Marr and James Creelman to describe His Excellency’s contribution: “[He is] one public sector leader who recognises that objectives and their supporting metrics are about learning and improvement and not control”. Developing and executing strategy with stretching targets and performance improvement towards those targets is what MOW has been trying to do for the past six years with considerable success.

We are one of a select few Government entities with International Organisation for Standardisation (ISO) Certification, and one of a very few with an overall strategic plan that dovetails with the Kingdom’s overall 2030 Economic Vision. Our core service sectors all have strategic plans aligned with Vision 2030, such as the Road Master Plan 2021, the National Master Plan for Sanitary Services 2030 and the Strategic Construction sector’s project-specific alignment to Vision 2030.

We can all speak about our successes – but real recognition comes from others. Over the past few years, in addition to ISO Certification, we have won the international Palladium Balanced Scorecard Hall of Fame Award for our Strategy Execution. Our e-service delivery earned us the Best e-Government Project as well. Our website won recognition through the Pan Arab Web Award in a competition organised by the Arab Administrative Development Organisation (ARADO). Different areas of the Ministry also received recognition. For example, the Human Resources Directorate was awarded by the Asian Council for Human Resources Development for our HR initiatives and management practices. In the area of communications, our PR Consultants, Hill & Knowlton, won in the Government Communications Category at the Middle East Public Relations Association Awards for their work with the Ministry. Finally, our Strategic Projects Directorate won the MEED award for best project with the Khalifa bin Salman Port project in Hidd.

But we are not sitting on our laurels – you will be seeing developments as we move forward that not only contribute to the economy of Bahrain, but improve living standards and facilitate business.

The MOW vision mandates us not only to be professional but to also be socially responsible.
Our customer-focused approach has led us to have more e-services than any other organisation available to the public, saving time and reducing carbon footprints – and we are constantly developing and launching more. It is fair to say that our main areas of responsibility can be outlined under the following six headings:

1. Roads planning, development and maintenance
2. Planning, development, operation and maintenance of the sanitary network, treatment plants and rainwater networks
3. Development and maintenance of public buildings – such as schools and hospitals
4. Project management of strategic projects such as transportation hubs, sports facilities and all government reclamation works
5. Testing and approving building and related materials for quality management and assurance purposes
6. Coordination of operational planning between all infrastructure-related bodies to ensure accountability

In addition to these responsibilities, the Ministry is also in charge of sectoral planning and the implementation of future infrastructure requirements. This is accomplished by developing roads and sanitary master plans, based on a continually updated Traffic Model and in-depth research.

We in MOW show our love for Bahrain by doing our utmost in our respective positions and jobs. We all support His Majesty the King’s firm resolve to continue on the path of reforms and our work aims to support the work of the Government led by HRH Prime Minister Prince Khalifa Bin Salman Al Khalifa, and we are grateful for the guidance and support of HRH Prince Salman Bin Hamad Al Khalifa, the Crown Prince, in our work. We congratulate His Majesty and their Royal Highnesses on the success of the National Dialogue. It is a national achievement and a new phase in the Kingdom’s continuous reform and development.

The main outlook for 2011 is again positive, despite the impact of the global economic crisis in the region, and we are sure to see an improvement in economic conditions. The Government defined infrastructure development as a priority and has furnished the Ministry of Works with a large budget. The Mina Salman Interchange, the opening of roads in new areas, the continuation
of the village road and sanitary networks improvement programme, the North Manama Causeway and the upgrade of the King Faisal Highway are major new road project priorities. At the same time, MOW will start developing the ALBA/Nuwardat roundabout as a multi-level interchange connecting Estiglal Highway to the Bahrain Qatar Causeway (BQCway) approach roads. The BQCway will land at Bahrain to the north of Asfar at Ras Abu Jaruj. Another highway upgrade will stretch from Asfar through Estiglal Highway – upgrading Al Alam Roundabout – to the Sheikh Isa Bin Salman Highway and to the Saudi Causeway. When completed, Bahrain will have two major road arteries with uninterrupted traffic flow: from the Saudi Causeway entry point to Hidd industrial area and from the BQCway entry point to the Saudi Causeway, connecting two major economies in the region through Bahrain. With the Mina Salman Interchange and the upgrade of King Faisal and North Manama Causeway, the ring road around Manama will see major improvements in capacity, traffic flow and congestion.

A major priority plan of the Ministry is to develop the Tubli STP from its current capacity of 200,000 m3 per day to a capacity of 400,000 m3. On a daily basis, inflow to the Tubli STP is currently up to 300,000 m3. That means that the Tubli station cannot handle all of Bahrain’s sewage any more. To address this problem, a main policy priority of the Ministry is to decentralise sewage treatment and build more stations serving the citizens of all five governorates. The Ministry is building a new STP Muharraq and will develop one station each in the new North Town and in the Southern Governorate to ensure the network is not overloaded by the large population increase of the last decade. The Government has ordered that the Tubli STP be developed in its capacity to reuse water as Treated Sewage Effluent (TSE) for agriculture and to address the environmental problems in Tubli Bay. The Ministry aims to bring up the capacity and standard of the Tubli STP in the next four years. Moreover, there are a number of projects that aim to enhance the performance of Tubli STP and solve the environmental problems in Tubli Bay.

On the organisational front, the Ministry will continue to re-evaluate its strategy in order to improve the responsiveness and flexibility of its operations. We aim to strengthen managing talent in the organisation through the introduction of career planning and training and development. Through transparency and communication, we aim to enhance stakeholder support and confidence. Commitment and determination is the only formula for success – there are no short cuts. In order to achieve more economic growth it is imperative for Bahrain to have world-class infrastructure with modern, fully equipped ports, airport, roads and sanitary networks. The Ministry of Works aims to do its part in achieving these goals.
Ministry of Works
Annual Report

Senior Management & Directors
Strategic Direction & Values
Our Vision is Strategically Aligned With Bahrain’s Economic Vision 2030
The Ministry of Works is:

• A leading professional and socially responsible organisation

The Ministry of Works is ISO certified for the quality of its services. Its core competencies are policy management, sectoral planning, project management and monitoring, control and evaluation of service delivery by the private sector.

• A leading customer-focused organisation

The Ministry is a leading organisation in promoting public interest, equity and reach of services, transparency, sustainability and conservation of the environment.

• A key contributor to the development of the Kingdom of Bahrain

The Ministry is a key contributor to the development of the Kingdom of Bahrain through master planning, rationalisation of the use of valuable resources, management of advanced technology data network, spatial databases, MIS, online nation-wide utility coordination, services provision, and promotion of the engineering profession.

• A structure that is flat, fully networked online, internally and with stakeholders

The Ministry’s structure allows it to be agile with flexible and empowered work teams and task forces, and with all transactions performed on the network.

• A high quality performance and knowledge management culture

The Ministry espouses a culture of high quality performance and knowledge management supported by efficient, highly integrated and coordinated processes geared towards achieving optimal outcomes. All layers of management are continuously seeking improvements on all processes, systems procedures, practices, services and cost effectiveness.
Core Values

Excellence
Applying state-of-the-art practices
Ensuring value for money
Protecting the environment
Creative and innovative

Effective Communication
Responsive
The right information at the right time
Openness and transparency

Ethics
Integrity
Being honest and impartial
Being fair and just
Upholding public interest

Team Spirit
Working together in harmony
Mutually supporting and respecting
Synergy

Professionalism
Commitment and reliability
Distinct business conduct
Problem solving
Excel in area of speciality
Acknowledging work of others

MISSION
Provide public works services to enhance the quality of life.

VISION
Be a leading professional organisation providing quality services to the people of Bahrain.
The projects undertaken by the Ministry of Works are diverse and complex, covering everything from the quality of cement in the pavement, to the maintenance of school buildings, to the bridges and ports connecting the country to the outside world. Despite the wide breadth of the Ministry’s work, there are key concepts that unify each sector’s work: Integration, International Connections, Responsibility, Leadership, Innovation, Environmental Protection and Building for the Future. These concepts reveal the character of the Ministry as well as its priorities and its aspirations for the future of the Kingdom.
Integration

From the international container ships that call to Khalifa Bin Salman Port to the trucks that cross over the Saudi Causeway, Bahrain represents a country that is not only interconnected, but also linked to the region.

Bahrain’s road network is a pivotal element of national and regional integration. The Roads sector is working to create an uninterrupted traffic corridor from Saudi Arabia to the Khalifa Bin Salman Port through widening existing highways, revising junctions and layouts and adding new and essential roads. In Bahrain, where there is an astonishing 7-9% growth in car ownership per individual, an efficient road network is vital for relieving traffic congestion. The Roads sector’s reconstruction and upgrade of the King Faisal Highway, the completion of the Map of Bahrain Interchange, the Sitra Causeway and the Um al Hassam Interchange, and the beginning of the Isa Town Gate Interchange are all projects that sought to smooth traffic flow in 2010.

Other projects are also underway that will facilitate Bahrain’s role as a centre of transport and trade. In 2010, the Strategic Projects Directorate oversaw the first phase of dredging for Bahrain’s Approach Channel. By allowing larger ships to call to the Khalifa Bin Salman Port, the dredging project will maximise the utility of the port through which 90% of Bahrain’s imports and exports are already channelled.

International Connections

The Ministry of Works strives to be recognised on the international scene as a global contender in professional urban development. To achieve the highest standards in 2010, the Ministry sought new international partnerships – one with the U.S. Army Corps of Engineers and another with the German Water Partnership Organisation.

As the U.S. Army Corps of Engineers comprises 30,000 engineers, the Ministry will be able to draw on the Corps’ broad range of expertise in geotechnical, hydraulic and structural engineering, specifically for the planned Northern Link Road that will connect North Bahrain New Town and Northern Muharraq.

The internationally renowned German Water Partnership Organisation recommends consultants, contractors and suppliers for sanitary engineering solutions. Since partnering with the organisation, the Ministry has signed 15 contracts worth a total of BD 42 million with German companies. Other international connections in the sanitation field came about after the Ministry of Works and the Ministry of Electricity and Water hosted the first annual Underground Infrastructure Middle East Conference in January 2010. National and international experts came together to discuss Bahrain’s National Master Plan for Sanitary Engineering as well as the latest developments, strategies and techniques in the field.
International connections abound in other sectors of the Ministry as well. As Bahrain aims to integrate a public transportation system into the Kingdom, the Roads Projects and Design Directorate received bids from consultants in Korea, Canada, Japan, the EU and Russia to conduct feasibility studies on adding bus lines. In addition, the Special Projects Office launched a multi-million dollar initiative to build a National Theatre, which will be completed in time for Manama’s designation as the Arab Capital of Culture in 2012.

Responsibility

As the governmental agency tasked with the planning, design, development, construction, project management and maintenance of all infrastructure in the Kingdom, the Ministry has the responsibility to maintain a high quality of life for the people of Bahrain. This includes ensuring safe roads, efficient sewage systems and state-of-the-art schools, amongst other responsibilities.

One primary project of the Ministry in 2010 was the improvement, decentralisation and privatisation of pumping stations, sewage treatment plants, sanitary networks and surface water drainage systems across the Kingdom. The privatisation of sanitation will allow the government to move away from being a service provider to becoming a quality assurance regulator, while simultaneously freeing up government capital and encouraging foreign investment in the Kingdom.

Although an impressive 92% of Bahrain’s population is connected to the sewerage network, the country’s continuous growth requires that the network’s capacity be increased. In the near future, the Ministry will embark on one of its most ambitious sanitary projects yet when it installs a deep gravity sewerage system in Muharraq and then Manama, replacing a system reliant on pumping stations and an ageing subsurface network.

The safety of the roads in Bahrain is a paramount responsibility of the Ministry. In addition to revising junctions and roundabouts, the Roads Construction Section is adding pedestrian crosswalks, new street lighting and better signage across the country. In line with the Ministry’s Road Safety Strategy, the section is working to reduce accidents by 30% over seven years.

Providing and maintaining public buildings also fall under the Ministry’s purview. In 2010, the Construction Projects Directorate worked on three schools in various stages of development, constructed a post office in Hamad Town and built a Haematology Unit in the Salmaniya Medical Centre. The Building Maintenance Directorate spent the summer of 2010 improving forty schools across the Kingdom and repairing water tanks and pumps at another 205 schools to ensure that the country’s educational facilities match its aspirations of a world class educational system.

Leadership

Bahrain has been considered a pioneer in the Gulf region in many ways, and the Ministry of Works is often at the forefront. Besides garnering several awards in 2010, the Ministry continues to raise the bar for itself as an organisation.

In 2010, the Ministry signed an agreement with Bahrain-based consultants ACK Solutions to monitor the success of the Ministry’s change management initiatives. One survey question revealed that over 93% of employees understand how their role fits into the big picture. Other survey questions revealed employee concerns such as a lack of knowledge sharing and a feeling of slow career advancement. The Human Resources
Directorate is tackling both concerns with training and career development programmes as well as the Employee Performance Management System, which measures employee’s individual contributions with respect to their responsibilities. Issues are identified and addressed, and achievement in implementing positive change is recognised.

Sectors of the Ministry have received international recognition for their leading roles in bringing the Ministry into the future. Engineer Raja Al Zayani, chief of the Strategic Planning and Quality Management section, became the world’s first woman to be certified as a strategy practitioner in June 2011. This award demonstrates Al Zayani’s outstanding leadership at the Ministry in the field of strategy management, a programme that began several years ago and which builds on the inclusion of the Ministry in the Hall of Fame of the Palladium Group, the global strategy management specialists.

Other awards include ISO Certification for the Ministry’s unique Quality Management System; a second award from the International Asian Human Resources Congress; and the e-Government Excellence Award for best e-Service, amongst others.

**Innovation**

Innovation is often the driving force behind successful organisations. The Ministry is dedicated to incorporating new innovations in its projects and its methods so that it continues to be a leader in urban development.

The Sanitary Engineering Planning and Projects Directorate employed the latest technology available to conduct urgent rehabilitation work on the ageing sanitary piping on Zubara Avenue. Using the trenchless method to line the pipes, the need for excavation was removed, which lessened the disruption to residents and businesses in the area. This technology and others will be used in updating the sanitation network across the Kingdom.

Elsewhere in the Ministry, the Roads Projects and Design Directorate is moving towards implementing an Intelligent Transport System that will monitor and analyse traffic movement to provide motorists with instant travel advice. Traffic conditions are expected to improve as the latest technologies of CCTV cameras, speed radars and variable message signs are implemented.

The Information Technology Directorate updated the Ministry’s use of technology in 2010 by launching the e-Services Portal and Mobile Portal. One of the seven new e-Services allows motorists to submit traffic signal services requests that will go directly to the responsible party. The Ministry’s e-Services portals aim to decrease the communication gap between residents and the Ministry so that pressing concerns can be addressed.
The recent establishment of the Public Relations and Media Directorate is an additional innovative step of the Ministry towards increasing communication. The Directorate keeps the public informed of the work being accomplished and invites community feedback on Ministry projects. One major event held by the Directorate was the release of the 2009 Annual Report, a gesture to all stakeholders and to the public that transparency is an important value of the Ministry.

Environmental Protection

Urban development can wreak havoc on natural ecosystems, but effective urban planning can protect and even rehabilitate marine and wildlife environments.

In 2010, short-term urgent measures were implemented at the Tubli Sewage Treatment Plant to address both the deterioration of the final treated effluent used for agriculture and the ecological conditions in Tubli Bay. Long-term measures will be implemented to enhance the Tubli Plant’s performance and ability to handle future flows. Upgrading the plant will be instrumental in maintaining the surrounding environment and ecosystem.

Other environmentally friendly initiatives of the Ministry include applying green buildings specifications to schools currently under construction. The Construction Projects Directorate has already used environmentally friendly materials in air channels and air conditioners as well as making lighting and air conditioning systems easy to adjust so that users can conserve energy. The Ministry’s commitment to green buildings specifications will increase in the coming years as the country looks to conserve water and electricity resources. The Materials Engineering Directorate encourages its contractors to use locally procured materials to lessen the carbon-footprint of construction by minimising the long-haul transport of materials.

Building for the Future

Building for the future is the paramount objective of the Ministry of Works and Bahrain’s Economic Vision, outlook 2030.

As a small island nation, Bahrain must use its resources wisely and in a sustainable way to solidify the country’s reputation as the financial hub of the Middle East and a leader in tourism, healthcare and education. In offering world-class infrastructure, a sophisticated business environment and a safe, high quality standard of living, the Ministry of Works is playing a major role in building the Kingdom’s future.

"Environmentally friendly initiatives of the Ministry include applying green buildings specifications to schools currently under construction"

Tubli Bay
The Roads Sector
The Roads Sector enhances the quality of life for all road users by its work to develop and maintain a safe, efficient and convenient road network across the Kingdom. It achieves this goal through the Roads Planning & Design Directorate (RPDD) and the Roads Projects & Maintenance Directorate (RPMD) in association with public and private partners to optimise resources and achieve the vision of being a core road and traffic management organisation. The Roads sector adheres to the Ministry’s commitment to becoming a project management organisation.
The fundamental objectives of the road strategy are to achieve a significant improvement in the performance of the road network, create the potential for future expansion, ease traffic congestion, increase safety for all road users, facilitate access to all parts of the Kingdom and create opportunities for investment.

The Directorates made significant contributions to the infrastructure development and thereby to the national economy during 2010, despite the slow-down in 2009. RPDD undertook design and planning works for forty-eight major projects in 2010 amounting to nearly BD 75 million. The traffic planning and engineering sections of RPDD completed the traffic engineering and management plans for over 200 schemes across the Kingdom, as compared to just 36 schemes in 2009.

RPMD’s major achievements in 2010 include opening the Sitra Causeway and the Reef Island Access Road Bridge and breaking ground on the BD 98 million North Manama Causeway project that will be integral to Bahrain’s highway system and economic growth by 2013.

2010 Roads Budget: BD 152,481,235
2010 Total Expenditure: BD 66,918,570
Roads Strategic Projects Plan

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* Initial Dates
The Roads Planning & Design Directorate (RPDD)

RPDD oversees the planning, design, development and expansion of the road network and the management of traffic by constructing new roads and highways, improving intersections, installing traffic signals, and providing parking spaces and traffic safety features, such as road signs and markings, and traffic and pedestrian barriers. The Directorate also provides related services to the public such as providing road levels (values) for developers, undertaking grading works for utilities, processing building permits, and providing a variety of consulting services.

The Directorate has reviewed and monitored a number of traffic impact studies that aim to make the road network more efficient and safer by minimising negative impacts and ensuring high quality performance. Working with the Ministry of Municipalities Affairs & Urban Planning, RPDD reviews Traffic Impact Assessment (TIA) applications for new developments.

**TRAFFIC AND TRANSPORTATION STUDIES OF THE DIRECTORATE INCLUDE:**

**Integrated Transport Strategy:** Aims to promote alternative modes of transport to reduce congestion on the national road network. RPDD is currently waiting for budget approval to hire consultants who will conduct feasibility studies for the public transport system. Immediate focus will be on improving the existing bus routes and services in coordination with the Ministry of Transportation. Phase 1 of the strategy involves implementation of about 24 kilometres of transit lines followed by Phase 2 and 3 which will include implementation of the remaining 160 kilometres of transit lines with supporting feeder bus services. In addition to the current short-list of consultants, RPDD is floating the project amongst consultants, developers and system operators around the world in Korea, Canada, Japan, the EU nations and Russia.

**Micro Simulation Studies:** Aims to improve traffic conditions by reviewing the performance of road networks and major junctions using the latest software technologies namely PTV Vision Suite, SIDRA and SYNCHRO. Studies conducted by RPDD in 2010 led them to recommend optimising signal-timing at roundabouts and intersections, widening lanes in high-flow areas, replacing congested roundabouts with traffic signal junctions and signalising existing roundabouts to increase the safety of road users and facilitate smooth traffic flow. Key areas of focus were traffic management in Bab Al Bahrain, Juffair and Diplomatic areas.
Traffic Management: Aims to minimise traffic congestion on the existing road network, reduce traffic conflicts and provide more parking spaces with one-way schemes, traffic circulation improvement, junction designs and parking facilities. In 2010, RPDD successfully completed the traffic engineering and management plans for over 200 schemes across the Kingdom, as compared to just 36 schemes in 2009.

National Road Safety Strategy (NRSS): Aims to reduce fatal accidents by 30% by 2018 by auditing road safety, investigating fatal accidents, studying black spots, receiving requests for improvements such as traffic mirrors and speed humps, and researching pedestrian safety options, such as pedestrian fences and pelican crossings. The Traffic Safety Group has been carrying out these duties, as budget constraints have stalled the creation of the Strategic Road Safety Unit.

Intelligent Transport System: Aims to improve traffic conditions by using the latest technologies such as CCTV cameras, speed radars and variable message signs. To enhance the reliability of the communication between the Traffic Management Centre and the traffic signals at site, digital technology is being tested and evaluated in coordination with the major telecommunication companies in the Kingdom. Recently, thirty-one eligible contractors bid for Bahrain ITS and a panel is evaluating and finalising the list.

2010 By the Numbers

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2010 Budget Achievements

RPDD undertook design and planning work for forty-eight major projects in 2010 amounting to BD 74,904,300, allocated as follows:

- 10 Opening of Roads Projects costing BD 7,754,500
- 12 Village Roads Improvement Projects costing BD 26,490,100
- 26 Road Improvement Projects costing BD 40,659,700
- 34 Road Projects successfully designed and handed over for implementation, covering about 37.75 km of road length and creating approximately 300 new parking spaces
Ministry of Works
Annual Report

KEY GOALS FOR 2011

To build on RPDD’s success in 2010, the Directorate aims to increase its budget to cope with the high demand for new roads and to train new staff, to appoint a retained consultant for planning and design services for roads and a reputed international consultant for conducting feasibility studies for transit lines, to establish the Strategic Safety Unit and the Traffic Monitoring Centre, to play a major role in the National Safety Council and to progress in developing the Roads Design Manual.

The Roads Projects and Maintenance Directorate (RPMD)

RPMD supervises the construction and maintenance of the Kingdom’s roads, bridges and associated structures through approved contractors. It evaluates network capacity and is responsible for ensuring compliance with safety standards through a regular service and maintenance programme. RPMD works to realise the national objective of using transportation as an instrument for economic development. To that end, particular attention is given to routes that link major developments and investments to other parts of the Kingdom and to upgrading the strategic approach roads to neighbouring countries.

RPMD is comprised of three sections: the Special Projects and Bridge Maintenance Section (RSPS), the Roads Maintenance Section (RMS) and the Roads Construction Section (RCS).

RSPS undertakes major strategic projects involving bridges, flyovers and underpasses, as well as major highways and complex junctions. Most of RSPS’s projects are designed and supervised by consultants although there exists capabilities within the section to provide adhoc design and supervision services.

RSPS’s MAJOR ACHIEVEMENTS IN 2010 include the following projects:

- **The Reef Island Access Road Bridge** – a project contracted at BD 5.8 million – was opened to traffic in March 2010, increasing accessibility to the Reef Island developments from the major roads in the Kingdom.
- **The Sitra Causeway** was fully opened to traffic in October 2010, significantly decreasing congestion. Ninety-eight percent of this BD 100 million project has been completed.
• The Isa Town Gate Interchange Project made good progress in 2010 after RSPS appointed a new contractor who commenced works at site in May 2010. The previous contract (awarded in 2007) was discontinued due to the contractor’s financial insolvency. The Sheikh Salman Highway underpass and the twin flyover between Estiglal and Sheikh Salman Highways are in progress although behind schedule at 61% completion. The opening of the western flyover and the underpass of this BD 41 million project are expected to occur in late 2011.

• The Amwaj Access Road Dualling Project was completed in August 2010, two weeks ahead of schedule, at the cost of BD 1 million. A two-lane southbound carriageway was added to the western edge of the existing carriageway. This project significantly improved safety on the highway leading to Amwaj Islands and Galali as both carriageways were fitted with a 3 meter-wide hard shoulder and a 1 meter-wide hard strip, streetlights and traffic safety barriers. The existing carriageway was resurfaced with new wearing course.

• King Faisal Highway Widening Project consisted of widening the Salmaniya-bound west carriageway from two lanes to three and updating the highway with new streetlights, a pedestrian fence and landscaping. The project, completed in December 2010, significantly increased traffic capacity and cost BD 260,000.

• The North Manama Causeway Project – contracted at BD 98 million – was started in July 2010 and reached 20% completion by December 2010. In the short-term, this project aims to reduce traffic congestion along Al Fateh Highway by constructing an elevated flyover that will serve as the north-south route to the North Manama Causeway and Bahrain Bay. In the long-term, this project will act as an integral part of the planned highway network connecting Al Fateh Highway with the fourth crossing between Manama and Busaiteen to be completed by the end of 2012.

• The Map of Bahrain Interchange was linked to the Sitra Causeway project by adding 400 meters of 3-lane dual carriageway to the Interchange. The project was completed at the cost of BD 700,000 and was opened to traffic in October 2010.

The Bridge and Flyover Maintenance Group (BFG)

As part of RSPS, maintains 46 major structures such as bridges, flyovers and underpasses and about 300 minor structures such as culverts and signal gantries. In 2010, BFG inspected 44 major structures and 80 minor structures, of which 18 major structures and 30 minor structures were found to need repair. By the end of 2010, all 18 major structures and 13 of the minor structures were repaired.
The Roads Maintenance Section (RMS)

RMS undertakes maintenance of roads and improves them for pedestrian safety and road surface quality. RMS comprises a Wayleave Unit, Damage Prevention and Control Unit, Assessment and Inventory Unit, a Direct Labour Organisation Unit and an Area Maintenance Group.

The Wayleave Unit deals primarily with organising, processing and obtaining approval from various statutory utility authorities for all roads projects. Permission is obtained in the format of a General Service Notification (GSN) covering minor jobs and wayleaves for medium and large projects. This unit also provides advice on emergency excavations.

In 2010, the Wayleave Unit processed 541 wayleaves, 86 GSNs and 519 emergency notifications. The unit also processes permission applications from utilities companies for their projects, which in 2010 amounted to 7979 wayleaves, 6270 GSNs, 782 Ministerial/Undersecretary approvals and 7263 emergency notifications.

The Damage Prevention and Control Unit primarily supervises and monitors trenching and reinstatement works of trench excavations by various services authorities to ensure that trenches are reinstated properly and satisfy the Code of Practice for Services Installations. The main goal is to reduce the detrimental effects of trenching, which can include the reduction of road design-life, ride-ability and safety. In 2010, this unit inspected 6635 excavation sites on surfaced and unsurfaced roads and the reinstatement of 275 kilometres of trenching works.

The Direct Labour Organisation Unit completed 1030 kilometres of grading works in a newly developed area in 2010.

The Roads Construction Section (RCS)

RCS is responsible for road improvements and construction of new roads (Road Improvement Group) as well as for ensuring road connectivity to villages (Village Roads and Opening of Roads Group).

In constructing new roads, RCS ensures that each meets the most current technical and environmental standards and traffic safety requirements.
RCS Improvements to Roads:
- Revision of junction layouts and the addition of roundabouts
- Addition of new street lighting
- Installation of major storm water drainage systems.
- Construction of new or rearranged car park areas
- Addition of pedestrian safety features, such as foot crossings and safety fences
- Construction of block-paved footpaths
- Addition of bus lay-bys
- Improvement of road marking and signing
- Addition of traffic calming features, such as speed tables

### Roads Constructed in 2010

<table>
<thead>
<tr>
<th>Project</th>
<th>Contractor</th>
<th>Lane Km</th>
<th>Cost (BD)</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galali</td>
<td>Habib Ali Awachi &amp; Sons</td>
<td>27.9</td>
<td>2,497,000</td>
<td><img src="image1.png" alt="Galali" /></td>
</tr>
<tr>
<td>Construction of Block 255 &amp; all interior roads north of Avenue 58, Phases 1 &amp; 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Janabiya</td>
<td>Al Thadamun Contracting</td>
<td>3.3</td>
<td>114,920</td>
<td><img src="image2.png" alt="Janabiya" /></td>
</tr>
<tr>
<td>Construction of Block 575 – Road 7537 &amp; Environs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuwaidrat</td>
<td>Al Door Excavation &amp; Building Contracting</td>
<td>2.7</td>
<td>270,952</td>
<td><img src="image3.png" alt="Nuwaidrat" /></td>
</tr>
<tr>
<td>Construction of Blocks 643 &amp; 646, Roads 4366 &amp; 4618</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muharraq</td>
<td>Eastern Asphalt &amp; Mixed Concrete</td>
<td>8.9</td>
<td>1,124,000</td>
<td><img src="image4.png" alt="Muharraq" /></td>
</tr>
<tr>
<td>Improvement of Hidd Avenue, Blocks 101, 102, 103, 104, 105, 106</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>Contractor</td>
<td>Lane Km</td>
<td>Cost (BD)</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>---------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>A’ali Improvement and dualling of Avenue 71, Blocks 734, 738, 740 &amp; 742</td>
<td>Eastern Asphalt &amp; Mixed Concrete</td>
<td>14.8</td>
<td>2,218,600</td>
<td></td>
</tr>
<tr>
<td>Jaww to Al Dur Improvement of Hawar Highway</td>
<td>Zinj Transport</td>
<td>9.4</td>
<td>882,553</td>
<td></td>
</tr>
<tr>
<td>Hidd Improvement of Ahmed Bin Majed Avenue, Blocks 104, 106, 108 &amp; 110</td>
<td>Down Town Construction Company W.L.L</td>
<td>5.1</td>
<td>2,223,000</td>
<td></td>
</tr>
<tr>
<td>Busaiteen Improvement of Avenue 5, Blocks 222, 223 &amp; 227</td>
<td>Bahrain Pipeline Company, W.L.L</td>
<td>3.7</td>
<td>968,950</td>
<td></td>
</tr>
<tr>
<td>Improvement of Zaid Bin Omera Highway from its junction with Avenue 21 to its junction with Avenue 36, Phases 3 &amp; 4</td>
<td>Eastern Asphalt &amp; Mixed Concrete</td>
<td>13.1</td>
<td>3,597,295</td>
<td></td>
</tr>
<tr>
<td>Riffa Improvement and dualling of Mashtan Avenue to Riffa, Blocks 913, 914, 915 &amp; 916</td>
<td>Al Door Excavation &amp; Building Contracting</td>
<td>11.4</td>
<td>1,624,495</td>
<td></td>
</tr>
</tbody>
</table>
### ON GOING PROJECTS IN 2010

<table>
<thead>
<tr>
<th>Project</th>
<th>Contractor</th>
<th>Lane Km</th>
<th>Cost (BD)</th>
<th>% Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jablat Habshi</td>
<td>Mohsin Haji Ali</td>
<td>1.7</td>
<td>88,000</td>
<td>99%</td>
</tr>
<tr>
<td>Construction of New Roads, Block 435 – Avenue 35 &amp; Environs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budaiya</td>
<td>Afaaq Al Khalij Building &amp; Excavation</td>
<td>1.1</td>
<td>138,105</td>
<td>95%</td>
</tr>
<tr>
<td>Construction of Block 552 - Road 5246 &amp; Environs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jurdab</td>
<td>Al Thadamun Excavation</td>
<td>1</td>
<td>195,000</td>
<td>95%</td>
</tr>
<tr>
<td>Construction of New Roads, Block 729 – Road 2933 &amp; Environs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Busaiteen</td>
<td>Habib Ali Awachi / A.A. Nass Group / Al Door Excavation Contracting / Afaaq Al Kalij Excavation / Zinj Transport / A.E. Almoosa Co.</td>
<td>6.2</td>
<td>905,000</td>
<td>88%</td>
</tr>
<tr>
<td>Improvement of Avenue 6 &amp; 7 – Blocks 223, 224 226 &amp; 227</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maqsha</td>
<td>National Excavating Establishment</td>
<td>2.3</td>
<td>105,000</td>
<td>85%</td>
</tr>
<tr>
<td>Construction of New Roads, Block 450 – Road 5008 &amp; Environs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reconstruction of Sheikh Isa Bin Salman Highway Between Bahrain Map &amp; Sitra Causeway Project Limits</td>
<td>S.K. Al Durazi &amp; Sons</td>
<td>3.7</td>
<td>653,000</td>
<td>80%</td>
</tr>
<tr>
<td>Jidhafs</td>
<td>National Excavation</td>
<td>3.2</td>
<td>270,000</td>
<td>70%</td>
</tr>
<tr>
<td>Reconstruction of Avenue 21 – Phase 1 (Access to Maternity Hospital)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riffa</td>
<td>Alwardi Construction Company</td>
<td>4</td>
<td>338,000</td>
<td>58%</td>
</tr>
<tr>
<td>Construction of New Roads, Block 937-Avenue 39 &amp; Environs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>Contractor</td>
<td>Lane Km</td>
<td>Cost (BD)</td>
<td>% Completed</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------------------------</td>
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<td>-------------</td>
</tr>
<tr>
<td>Al Ghaus</td>
<td>Al Door Excavation &amp; Building Contracting</td>
<td>3.7</td>
<td>496,000</td>
<td>40%</td>
</tr>
<tr>
<td>Construction of Access Road to King Hamad University Hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muharraq</td>
<td>A.K. Al Jaromi Construction</td>
<td>2.9</td>
<td>644,000</td>
<td>33%</td>
</tr>
<tr>
<td>Reconstruction and improvement of Wali Al Ahed, Sheikh Daij Bin Ahmed &amp; Municipality Avenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jaww</td>
<td>Al Door Excavation &amp; Building Contracting</td>
<td>3.9</td>
<td>391,000</td>
<td>15%</td>
</tr>
<tr>
<td>Construction of Access Road from King Hamad Highway to Hawar Highway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buquwah</td>
<td>Atlas Trans, Contracting &amp; Mech Services</td>
<td>9.8</td>
<td>1,221,000</td>
<td>11%</td>
</tr>
<tr>
<td>Reconstruction and Improvement of Buquwah Village Roads, Blocks 447, 445 &amp; 457</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galali</td>
<td>Al Door Excavation &amp; Building Contracting</td>
<td>5.5</td>
<td>1,713,000</td>
<td>8%</td>
</tr>
<tr>
<td>Reconstruction and improvement of Galali Village Roads, Blocks 252 &amp; 253</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>Contractor</td>
<td>Lane Km</td>
<td>Cost (BD)</td>
<td>% Completed</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------</td>
<td>---------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Karbabad Improvement of Karbabad Village Roads, Blocks 432 &amp; 434</td>
<td>Bahrain Pipeline Construction Company</td>
<td>4.8</td>
<td>872,000</td>
<td>6%</td>
</tr>
<tr>
<td>Selah Reconstruction and Improvement of Selah Village Roads, Block 439</td>
<td>Down Town Construction</td>
<td>10.4</td>
<td>1,394,000</td>
<td>5%</td>
</tr>
<tr>
<td>Juffair Construction of New Roads, Block 324, Road 2408 &amp; Environs</td>
<td>Bahrain Motors Company</td>
<td>12.9</td>
<td>854,000</td>
<td>1%</td>
</tr>
</tbody>
</table>
Sanitary Sector
The **SANITARY ENGINEERING SECTOR** is responsible for planning, implementing and managing all public sanitary engineering services in the Kingdom of Bahrain in accordance with the National Strategic Master Plan, Outlook 2030.

In fulfilling its role in the Ministry’s mission and vision, the Sanitary Engineering sector is working towards providing world-class sanitary engineering services across the country through its Sanitary Engineering Planning & Projects (SEPPD) and Sanitary Engineering Operations and Maintenance (SEOMD) Directorates.
To achieve this goal during a period of unprecedented urban growth in the Kingdom, the Sanitary Engineering sector has begun implementing two strategic plans: the National Master Plan for Sanitary Engineering Services and the Privatisation Strategy and Implementation Plan for Sanitary Engineering Services. These plans comply with the requirements of the National Planning Development Strategies.


The first stage of this project is to develop an overall National Master Plan for the sanitary engineering services, addressing major topics such as:

- Sewerage system
- Surface water drainage system
- Wastewater treatment
- Reuse of Treated Sewage Effluent (TSE) and sludge

As of December 2010, the first stage of developing the National Master Plan was 99% completed.

**Privatisation Strategy and Implementation Plan for the Sanitary Engineering Services:**

This plan will serve as a privatisation roadmap for sanitary engineering in the Kingdom. Its primary focus will be the privatisation of Muharraq Sewage Treatment Plant (STP), Tubli STP and other STP and sewerage networks. Muharraq STP, the pilot privatisation project, is currently under construction and has an expected completion date of August 2013. As contracted, the plant will initially serve a population of 300,000 residents and can be expanded in the future.

**The Sanitary Engineering Planning & Projects Directorate (SEPPD)**

SEPPD plans, designs and constructs the sanitary water network across the Kingdom and is responsible for the rehabilitation and upgrade of old networks and sewage treatment systems. Its work encompasses treatment stations, the rainwater drainage network and agriculture water drains.

SEPPD functions as a regulatory body which governs technical specifications related to sanitary works, amends relevant regulations and oversees work by advisory companies and contractors to ensure compliance to specifications. It also coordinates planning permits and licenses and conducts studies to ensure that sanitary networks and systems will meet the Kingdom’s future needs. This work includes studies related to sewerage and surface water collection and transport, as well as treatment and recycling systems.

In 2010, SEPPD received 16,200 applications for technical consultation and advisory services from citizens, government agencies and the private sector. In January 2010, the Sanitary Sector started to process building permit applications through the Ministry of Municipalities Affairs & Agriculture’s e-service, which
reduced the number of applications received manually through the House Connection Unit by 92%.

Major sanitary projects continue to be implemented in many areas, including East Riffa, A’Ali, Al Ma’ameer, Al Eker and Hidd. Storm water drainage projects across the country were also completed. As a result of on-going efforts, 92% of the total population is connected to the sanitary network, further solidifying Bahrain’s leadership in sanitary connectivity in the GCC.

The allocated budget for SEPPD projects in 2010 was BD 20.8 million.

**SEPPD Activity in 2010**

- 41 tenders worth BD 106 million were prepared
- 43 contracts worth BD 95 million were initiated
- 8 contracts worth BD 9.5 million were completed
- 18 contracts worth BD 61 million were in progress

**Main Achievements in 2010**

- Stage 1 of the expansion and upgrade of the Tubli Water Pollution Control Centre (WPCC) was completed by the consultant P2M Berlin. Stage 2 of construction, operation and maintenance of Tubli WPCC is scheduled to start under the privatisation programme in 2011.

- A number of urgent short-term measures were completed at Tubli WPCC, all of which aim to upgrade the plant, improve the quality of treated water and enhance the ecological conditions of Tubli Bay.

- Urgent rehabilitation work for Network A on Zubara Avenue was completed in 2010 – a BD 641,000 project – replacing and upgrading existing pipe work to reduce overflow and groundwater infiltration.

- Another urgent rehabilitation tender in Manama was awarded in 2010, aimed at reducing groundwater infiltration and preventing the collapse of any parts of the network by using trenchless techniques.

- The BD 7.5 million project to develop and upgrade the North Sitra STP and increase capacity from an existing average flow of 8000 m3 per day to 16,500 m3 per day has been completed to the benefit of the existing and new developments in the Sitra area and Nabih Saleh Island.

- The project to upgrade and improve the ALBA STP underwent a re-tendering stage for consultancy services after the termination of the previous contractor and consultant. The construction budget is BD 3.6 million.

The Al Ma’ameer and North Industrial Area STP is currently under construction with a budget of BD 6.4 million. It is expected to be completed by May 2012.

**SEOMD** is responsible for the collection, distribution and treatment of sewage in the Kingdom of Bahrain through three areas of activity: networks, treatment, and treated sewage water. It is responsible for ensuring the safe, efficient operation and maintenance of all sanitary facilities, including sewage networks, major and subsidiary pumping stations, treatment plants and treated sewage effluent networks. It ensures that collection, treatment and distribution processes meet environmental standards.

The Directorate also receives, investigates and responds to all complaints concerning sanitation facilities and rainwater networks, which amounted to 13,948 complaints in 2010.

SEOMD continued delivering sanitary services in 2010 by managing and supervising the operation and
maintenance of more than 566 pumping stations, 11 treatment plants, 18 treated sewage effluent reservoirs and more than 2,000 kilometres of pipe network.

The 2010 budget for completing projects related to the operation and maintenance of sewage treatment plants, the rehabilitation of pumping stations and the transfer and distribution of tertiary treated water increased by 74% from 2009 to BD 6,469,000 in 2010.

The division of expenditures for 2010 are listed in the below table:

<table>
<thead>
<tr>
<th>Division</th>
<th>Amount (BD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanitary Engineering Networks Operation &amp; Maintenance</td>
<td>2,676,919</td>
</tr>
<tr>
<td>Treatment Plants</td>
<td>2,834,907</td>
</tr>
<tr>
<td>Tertiary Sewage Effluent (TSE)</td>
<td>846,602</td>
</tr>
<tr>
<td>Quality Control &amp; Monitoring Group</td>
<td>110,572</td>
</tr>
<tr>
<td>Total</td>
<td>6,469,000</td>
</tr>
</tbody>
</table>

Privatisation Project

In 2010, both sanitary Directorates worked towards the Ministry’s Privatisation of the Sanitary Engineering Services plan. Activities such as the following have already been outsourced to the private sector: jetting cleaning of sewers and the storm water system, Planned Preventive Maintenance (PPM) for pumping stations, gully cleaning, cleaning of inlet screens for major pumping stations and emergency tankering.
Design for the now complete Um al Hassam Interchange
Strategic & Construction Projects Sector
The Strategic & Construction Projects Sector consists of:

• The Strategic Projects Directorate
• The Construction Projects Directorate
• The Building Maintenance Directorate
The Strategic Projects Directorate (SPD)

SPD is responsible for managing large, complex, multi-sectoral projects from inception to client handover and through the maintenance period. Projects include dredging and reclamation, coastal engineering, airports, seaports, hospitals, sport complexes, stadiums and mosques and other important buildings.

SPD engages and manages consultants to carry out design and supervision of construction works. It also oversees the application of state-of-the-art designs, the latest international codes and standards, value engineering practices, effective project management techniques and quality management principles.

In addition to, and amongst its many other tasks, SPD reviews large complex project requests and coordinates with users to prepare project briefs and terms of reference for various studies and designs. It issues pre-qualification requests and invitations to consultants, analyses pre-qualifications and proposals and obtains Ministry of Finance approval for them. Furthermore, it undertakes any necessary environmental impact studies - particularly for marine projects - in order to ensure conformity with Bahrain’s land reclamation master plan.
SPD’s MAJOR ACHIEVEMENTS IN 2010 include the completion of Al Najma and Sitra Sports Clubs, the dredging of Bahrain Approach Channel and the reclamation of the Muharraq Sewage Treatment Plant (STP) site. The master plan and design concept for Bahrain Polytechnic have been finalised and the project is expected to yield a world-class institution in ten years through three stages of construction. Recognition for SPD’s past work came in the form of a MEED Quality Award in the Transport Category at the national level for the Khalifa Bin Salman Port Project.

Main Projects and Budget Details:

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>START DATE</th>
<th>FINISH DATE</th>
<th>% PROGRESS</th>
<th>APPROVED BUDGET/CONTRACT SUM (MILLION BD)</th>
<th>EXPENDITURE UP TO DEC 2010 (MILLION BD)</th>
<th>ANTICIPATED EXPENDITURE IN 2011 (MILLION BD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORT PROJECTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reclamation Works for Muharraq STP</td>
<td>Jun 2008</td>
<td>Apr 2010</td>
<td>100</td>
<td>100</td>
<td>12.850</td>
<td>12.500</td>
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<tr>
<td>Bahrain Approach Channel Dredging – Phase 1</td>
<td>Oct 2008</td>
<td>Mar 2010</td>
<td>100</td>
<td>100</td>
<td>12.469</td>
<td>12.469</td>
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<tr>
<td>South Hidd Infrastructure Development Project Feasibility Study</td>
<td>Feb 2010</td>
<td>Feb 2011</td>
<td>85</td>
<td>85</td>
<td>0.065</td>
<td>--</td>
</tr>
<tr>
<td>SPORTS FACILITIES PROJECTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaikh Khalifa Sports City at Isa Town – Additional Works</td>
<td>May 2010</td>
<td>Apr 2011</td>
<td>87</td>
<td>90</td>
<td>2.920</td>
<td>1.759</td>
</tr>
<tr>
<td>Sitra Sports Club – Phase 1</td>
<td>Oct 2007</td>
<td>Oct 2010</td>
<td>99.8</td>
<td>100</td>
<td>4.208</td>
<td>3.750</td>
</tr>
<tr>
<td>Al Najma Sports Club – Phase 1</td>
<td>Nov 2007</td>
<td>Oct 2010</td>
<td>99.8</td>
<td>100</td>
<td>6.386</td>
<td>5.918</td>
</tr>
<tr>
<td>OTHER PROJECTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahrain Polytechnic – Phase 1 (Master Plan &amp; Concept Design)</td>
<td>Sep 2008</td>
<td>Jul 2010</td>
<td>90</td>
<td>100</td>
<td>0.300</td>
<td>0.255</td>
</tr>
<tr>
<td>King Hamad University Hospital at Muharraq</td>
<td>Sep 2006</td>
<td>Apr 2011</td>
<td>Project Transferred to BDF</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Construction Projects Directorate (CPD)

CPD is responsible for the design, supervision of execution, project management, and quality control of public sector building projects in the Kingdom. It also offers consultancy and advisory services to other ministries and government bodies including conducting structural surveys of existing buildings to ensure their safety. It contributes to the preparation of cost estimates, bids and the awarding of contracts, and oversees their implementation.

IN 2010 CPD handled thirty-seven projects at various phases (i.e. schematic, design, tender, under-construction and closure phases). The approximate total cost of these projects was BD 90,153,235.
## Construction Projects in 2010

<table>
<thead>
<tr>
<th>Project</th>
<th>Client</th>
<th>Phase</th>
<th>Contract/ Budget (Thousands of BD)</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Works Building at Al Hoorah</td>
<td>Ministry of Works</td>
<td>Completed March 2010</td>
<td>5,759</td>
<td><img src="image1.png" alt="Image" /></td>
</tr>
<tr>
<td>Hamad Town Post Office</td>
<td>Ministry of Transportation</td>
<td>Completed July 2010</td>
<td>963</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>Development of Utilities and Infrastructure at B.T.I. (A.Block-1)</td>
<td>Bahrain Training Institute</td>
<td>Construction; To Be Completed August 2012</td>
<td>5,587</td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>Boys Primary School at Aker</td>
<td>Ministry of Education</td>
<td>Construction; To Be Completed January 2012</td>
<td>2,104</td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
<tr>
<td>Haematology Unit at Salmaniya Medical Centre</td>
<td>Ministry of Health</td>
<td>Construction; To Be Completed July 2012</td>
<td>2,430</td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
<tr>
<td>Project</td>
<td>Client</td>
<td>Phase</td>
<td>Contract/ Budget (Thousands of BD)</td>
<td>Image</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------</td>
<td>-----------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Development of Utilities and Infrastructure at B.T.I. (A.Block-2)</td>
<td>Bahrain Training Institute</td>
<td>Tender</td>
<td>2,900</td>
<td><img src="image1.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Girls Secondary School at Hamad Town</td>
<td>Ministry of Education</td>
<td>Tender</td>
<td>4,753</td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Community Facilities Centre (Health Centre)</td>
<td>Ministry of Health</td>
<td>Ministry of Health – Tender (Awarded to Kuwait Fund for Arab Economic Development)</td>
<td>8,100</td>
<td><img src="image3.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Community Facilities Centre (Shopping Centre)</td>
<td>Ministry of Works</td>
<td>Tender</td>
<td>13,000</td>
<td><img src="image4.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Headquarters for Bahrain Diabetes Society at A’ali</td>
<td>Bahrain Diabetes Society</td>
<td>Tender</td>
<td>2,288</td>
<td><img src="image5.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Project</td>
<td>Client</td>
<td>Phase</td>
<td>Contract/ Budget (Thousands of BD)</td>
<td>Image</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------------------------------</td>
<td>-------</td>
<td>------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Boys Intermediate School at East Riffa</td>
<td>Ministry of Education</td>
<td>Tender</td>
<td>5,640</td>
<td></td>
</tr>
<tr>
<td>Boys Secondary School at East Riffa</td>
<td>Ministry of Education</td>
<td>Tender</td>
<td>4,962</td>
<td></td>
</tr>
<tr>
<td>Institute of Public Administration Building at A’ali</td>
<td>Ministry of Cabinet Affairs</td>
<td>Design</td>
<td>9,633</td>
<td></td>
</tr>
<tr>
<td>Governorate Building Community Facilities Centre</td>
<td>Muharraq Governorate</td>
<td>Design</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td>Infrastructure and Facilities Revamp (Electricity Network) at B.T.I.</td>
<td>Bahrain Training Institute</td>
<td>Tender</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>Client</td>
<td>Phase</td>
<td>Contract/ Budget (Thousands of BD)</td>
<td>Image</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------------</td>
<td>-------</td>
<td>-----------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Laboratories for Treated Water Control</td>
<td>Ministry of Works</td>
<td>Design</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Administrative Building</td>
<td>Public Commission for the Protection of Marine Resources, Environment and Wildlife</td>
<td>Design</td>
<td>6,000</td>
<td></td>
</tr>
<tr>
<td>Administrative Building</td>
<td>Council of Representatives in Gudaibiya</td>
<td>Design</td>
<td>1,368</td>
<td></td>
</tr>
<tr>
<td>Girls Intermediate School in Busaiteen</td>
<td>Ministry of Education</td>
<td>Design</td>
<td>5,545</td>
<td></td>
</tr>
</tbody>
</table>

**The Building Maintenance Directorate (BMD)**

*BMD* is responsible for the maintenance, renovation and general repairs to all government-owned buildings in the Kingdom. It ensures that these buildings are in good working condition and have a regular maintenance programme to prevent any deterioration. It delivers this work through private contractors and strives to ensure the highest quality work by using state-of-the-art materials and technological innovation.

The Directorate carries out emergency repairs, restoration work and regular and unscheduled maintenance on buildings. It also takes a supervisory role, providing technical advice to other ministries regarding maintenance or refurbishment works on government-owned buildings both in Bahrain and overseas.
In 2010 BMD fully utilised its BD 3 million budget, a result of initiating lump sum contracts to execute civil, mechanical, electrical and painting works, in addition to carrying out preventive maintenance work to avoid the deterioration of government-owned buildings.

Major Projects in 2010:
- General repair and maintenance of 40 schools during the summer break including painting, electrical, civil and mechanical work such as structural repairs, flooring, plumbing and drainage. Mechanical works such as repair or replacement of pipelines, water heaters and pumps were also carried out.
- Electromechanical maintenance of 20 schools on a lump sum basis. This was a pilot project using a professional contractor to maintain the school in a timely and efficient manner and its success and effectiveness will be assessed for implementation into remaining schools.

Other Achievements:
- Replaced underground water pipelines at various schools
- Miscellaneous maintenance work at MOW premises
- Refurbishment of offices at the MOW headquarters in Manama
- External painting to United Nations headquarters in Hoora
- General repairs and painting of Bahrain Red

During 2010, BMD received 2015 maintenance work requests with 1826 work requests completed by Ministry staff. The minor works were assigned to in-house labour and the rest was assigned to qualified contractors through term contract orders.
Crescent Society headquarters
- General repairs and painting to Block No. 5 at Ministry of Education headquarters in Isa Town
- General maintenance works to National Mariculture Centre at Ras Hayan
- Replaced ceiling tiles in corridor and server room and provided interlock pavement around part of boundary wall at the Ministry of Labour headquarters in Isa Town
- Painting work to Block No. 1 and car park area at the Ministry of Justice and Islamic Affairs headquarters building in Manama
- Refurbishment of offices on the 1st, 2nd and 3rd floors of MOW Al Finteer Building
- Miscellaneous maintenance works at Roads Directorate Compound in Seef
- General maintenance work at Bahrain Contemporary Art Association in Juffair
- Electrical maintenance work to external light poles at scout camping centre in Sakheer
- Roof waterproofing work to Government buildings, including schools, in all Governorates
Human & Financial Resources Sector
The Human & Financial Resources Sector consists of:

- The Human Resources Directorate
- The Financial Resources Directorate
HRD plays a key role in supporting the Ministry’s strategic direction of becoming a leading professional organisation. As all of the Ministry of Works’ corporate objectives require highly motivated and performing staff, HRD’s efforts directly contribute to achieving these objectives, specifically through recruiting highly qualified professionals, implementing training and development, and providing efficient HR services.

HRD’s implementation of the Employee Performance Management System (EPMS) has helped the Ministry become a human resources pioneer in the Kingdom of Bahrain and throughout the Gulf countries. The EPMS measures employees’ strategic contributions and functional major tasks and objectives with respect to the employees’ key responsibilities and competencies. This serves as a tangible basis to reward employees, thus enabling employees to develop further and to achieve their full potential in driving organisational success. With the full implementation of the Employee Performance Management System, accompanied by numerous EPM trainings and workshops, the efficiency of performance management increased from 64.8% in 2008 to 82% in 2010.

HRD’s ACCOMPLISHMENTS IN 2010 INCLUDE adding high-quality engineers and professionals to the Ministry team through rigorous screening and painstaking recruitment of the best candidates. HRD also worked to streamline personnel transactions, assist restructuring and facilitate continuous training and development of existing employees.

HRD prioritised two of its projects in 2010. Firstly, the Directorate worked to implement a succession-planning framework focusing on leadership development. Secondly, the Directorate established competency-based profiles for functional competencies, and implemented career development plans for new comers – specifically engineers – by assessing and developing the identified competency gaps.

HRD Major Projects in 2010:

- Establish appointment and reassignment guidelines for senior level positions (Group Heads and below) to enforce a more transparent mechanism for filling critical positions, raise the level of competition between employees and achieve higher performance and excellence
- Establish the Strategic Business Unit (SBU) Manpower Requirements which provides a framework for making manpower decisions that are aligned with the strategic goals of the Ministry
- Improve coordination and communication with other directorates to establish higher awareness of HR policies and procedures
- Organise and facilitate general workshops on the Civil Service Laws and HRD guidelines to achieve higher awareness among MOW staff about all HR-related services and procedures
- Enhance MOW awards by incorporating a strategy-based reward covering strategy alignment, facilitation and documentation, formulation, execution, measure improvement, initiative management and progress, and strategic change and impact
- Enhance the Employee Performance Management (EPM) automated system by incorporating forms in Arabic, new functionalities and additional reporting features
- Implement development programmes based on the project manager (PM) career path, PM competency framework, as well as establish PM assessment in coordination with the Project Management Office (PMO)
- Implement consolidated individual development plans based on EPMS-recommended development priorities to effectively address the competency gaps and training needs of all employees, and specifically to continuously develop Bahraini employees
- Implement online system for employee leave, attendance variation and overtime requests

In 2011, HRD aims to renew its commitment to training and development by progressing its corporate development, leadership development, and training pool career development programmes.

Training

Human capital development is a critical function of HRD. Throughout 2010, HRD conducted numerous corporate training programmes related to business strategy, change management, leadership and managerial skills, enabling many employees and students to develop their knowledge and enhance their technical expertise. The below table summarises training-related activities for 2010:

<table>
<thead>
<tr>
<th>Description of Training</th>
<th>Total Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate training (PMP, CAPM, PM and Value Engineer certifications)</td>
<td>488</td>
</tr>
<tr>
<td>Local training</td>
<td>4084</td>
</tr>
<tr>
<td>MOW employees participating in overseas conferences and seminars</td>
<td>90</td>
</tr>
<tr>
<td>University students trained at MOW</td>
<td>57</td>
</tr>
</tbody>
</table>

Human Resources Strategy Map
The Financial Resources Directorate (FRD)

FRD is responsible for all financial activities of the Ministry of Works. It safeguards the Ministry’s assets by ensuring that funds allocated to the Ministry through capital and recurrent budgets are managed efficiently. In order to do so, FRD assumes the role of a central operation room for all financial transactions by working closely with all directorates and other organisational units to receive and process requirements. FRD also operates as a point of contact for all financial transactions with external parties such as the Ministry of Finance and various suppliers and contractors.

Moreover, the Directorate is responsible for issuing all financial statements and reports, ensuring adequate checks and balances and guaranteeing adherence to government financial standards. FRD behaves as a financial adviser to other directorates on managing contracts and payments, specifically by providing assistance in defining financial plans, policies, systems and procedures.

FRD is the only directorate in the Ministry to host its own book club, which aims to boost knowledge amongst its staff for the benefit of their personal and professional lives. In five consecutive sessions in 2010, the book club discussed Daniel Goleman’s international bestseller Working with Emotional Intelligence. Participants reported acquiring useful knowledge and enjoying the programme.

Summary of MOW Projects Budget (All amounts in BD)

<table>
<thead>
<tr>
<th>Project Title</th>
<th>CFS Budget</th>
<th>Encumbrance Amt.</th>
<th>Actual Amt.</th>
<th>Encumbrance + Actual</th>
<th>Funds Available</th>
<th>Total Project Exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
<td>%</td>
</tr>
<tr>
<td>Roads</td>
<td>152,481,235</td>
<td>61,616,275</td>
<td>66,918,570</td>
<td>44</td>
<td>128,534,845</td>
<td>84</td>
</tr>
<tr>
<td>Building Maintenance</td>
<td>3,160,000</td>
<td>1,472</td>
<td>3,159,983</td>
<td>100</td>
<td>3,161,455</td>
<td>100</td>
</tr>
<tr>
<td>Sanitary Engineering</td>
<td>47,061,861</td>
<td>8,720,896</td>
<td>33,433,814</td>
<td>71</td>
<td>42,154,710</td>
<td>90</td>
</tr>
<tr>
<td>Construction Projects</td>
<td>1,200,000</td>
<td>333,568</td>
<td>866,413</td>
<td>0</td>
<td>1,199,981</td>
<td>0</td>
</tr>
<tr>
<td>Strategic Projects</td>
<td>6,244,612</td>
<td>317,507</td>
<td>5</td>
<td>5,927,106</td>
<td>6,244,613</td>
<td>100</td>
</tr>
<tr>
<td>Intelligent Decision Support</td>
<td>62,673</td>
<td>14,270</td>
<td>0</td>
<td>48,026</td>
<td>62,296</td>
<td>0</td>
</tr>
<tr>
<td>Business Improvements</td>
<td>4,083,285</td>
<td>1,970,073</td>
<td>861,078</td>
<td>21</td>
<td>2,831,151</td>
<td>69</td>
</tr>
<tr>
<td>Total MOW</td>
<td>214,293,666</td>
<td>72,974,061</td>
<td>111,214,990</td>
<td>52</td>
<td>184,189,051</td>
<td>86</td>
</tr>
</tbody>
</table>
MOW Projects Budget Allocation (All amounts in BD)

Summary of Other Ministries’ Projects under MOW Supervision (All amounts in BD)

<table>
<thead>
<tr>
<th>Project Title</th>
<th>CFS Budget</th>
<th>Encumbrance</th>
<th>Actual</th>
<th>Encumb. + Actual</th>
<th>Funds Available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
<td>%</td>
<td>Amount</td>
</tr>
<tr>
<td>Building Maintenance Projects</td>
<td>141,803</td>
<td>9,964</td>
<td>7</td>
<td>0</td>
<td>131,839</td>
</tr>
<tr>
<td>Roads</td>
<td>10,018,137</td>
<td>5,645,520</td>
<td>56</td>
<td>0</td>
<td>4,372,617</td>
</tr>
<tr>
<td>Sanitary Engineering Projects</td>
<td>11,739,831</td>
<td>7,106,631</td>
<td>61</td>
<td>9,814,948</td>
<td>1,924,883</td>
</tr>
<tr>
<td>Special Projects</td>
<td>29,519,956</td>
<td>2,511,895</td>
<td>9</td>
<td>16,337,282</td>
<td>10,670,779</td>
</tr>
<tr>
<td>Construction Projects</td>
<td>4,924,216</td>
<td>1,715,672</td>
<td>35</td>
<td>3,628,166</td>
<td>1,296,050</td>
</tr>
<tr>
<td>Strategic Projects</td>
<td>77,096,252</td>
<td>25,468,843</td>
<td>33</td>
<td>43,060,058</td>
<td>34,036,194</td>
</tr>
<tr>
<td>Total other Ministries</td>
<td>133,440,195</td>
<td>42,458,525</td>
<td>32</td>
<td>81,007,833</td>
<td>52,432,362</td>
</tr>
</tbody>
</table>
### Recurrent Budget Allocation Per Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Org. Unit</th>
<th>Budget (BD)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Management</td>
<td>3</td>
<td>1,369,293</td>
<td>6%</td>
</tr>
<tr>
<td>Human &amp; Financial Resources</td>
<td>3</td>
<td>5,031,999</td>
<td>21%</td>
</tr>
<tr>
<td>Construction &amp; Maintenance</td>
<td>4</td>
<td>4,820,275</td>
<td>20%</td>
</tr>
<tr>
<td>Roads</td>
<td>3</td>
<td>3,787,050</td>
<td>16%</td>
</tr>
<tr>
<td>Sanitary</td>
<td>3</td>
<td>6,553,240</td>
<td>27%</td>
</tr>
<tr>
<td>Technical Services</td>
<td>4</td>
<td>2,860,143</td>
<td>12%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>24,422,000</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Works Undersecretary inspects a project
Recurrent Budget Allocation Per Sector

![Pie chart showing sector-wise budget allocation]

MOW Recurrent Budget (FY 2010)

![Pie chart showing sector-wise budget allocation for MOW]

FRD Glossary
- **CFS**: Central Financial System, the Ministry of Finance’s financial system, formally known as FMIS
- **Encumbrance Amount**: The amount of CFS budget committed, not actual
- **Encumbrance + Actual Amounts**: The utilised amount of the CFS budget
- **Funds Available**: The amount of the CFS budget that is not encumbered or actual
- **Total Project Expenditure**: The total actual amount on projects to date
Technical Services
The Technical Services Sector consists of:
- The Cost Engineering Directorate
- The Materials Engineering Directorate
- The Information Technology Directorate
### The Cost Engineering Directorate (CED)

CED is responsible for all issues pertaining to preparation and management of tender documents, and all tasks related to public works contracts during project implementation and maintenance. CED assesses and approves contractors and contracts and acts as an arbitrator in the event of disputes. In addition to managing the tender process, the Directorate handles the financial and legal aspects of tenders. CED ensures that all aspects of tendering and contracting are conducted at the highest level of integrity and that they follow tender law and implementation regulations.

### CED Achievements in 2010, By Business Sector (All amounts in BD)

<table>
<thead>
<tr>
<th></th>
<th>Estimates Given</th>
<th>Tenders Issued</th>
<th>Contracts Started</th>
<th>Contracts Finalised</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Value</td>
<td>No.</td>
<td>Value</td>
</tr>
<tr>
<td>Roads Projects</td>
<td>63</td>
<td>121.3 million</td>
<td>32</td>
<td>96.2 million</td>
</tr>
<tr>
<td>Sanitary Projects</td>
<td>41</td>
<td>50.1 million</td>
<td>29</td>
<td>42.7 million</td>
</tr>
<tr>
<td>Building Construction</td>
<td>28</td>
<td>114.3 million</td>
<td>5</td>
<td>7.1 million</td>
</tr>
<tr>
<td>Building Maintenance</td>
<td>6</td>
<td>941,000</td>
<td>6</td>
<td>5.95 million</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>138</td>
<td><strong>286,641,000</strong></td>
<td>72</td>
<td><strong>151,950,000</strong></td>
</tr>
</tbody>
</table>
**The Materials Engineering Directorate (MED)**

**MED** is responsible for the quality assurance of all materials used in government projects in the Kingdom including buildings, roads, sanitary and special/strategic projects. MED uses a range of testing criteria and quality assurance programmes to verify the suitability of construction materials in terms of quality, environmental safety and cost benefits, making sure to promote local materials as cost-effective. It also ensures that the longevity of materials is aligned with their intended use and the lifespan of each project.

The Directorate ensures that all materials used in new and existing government projects meet or exceed national specifications and standards. This includes updating, modifying and developing material specifications through research and development activities. MED also investigates reported construction materials problems and assesses the condition of existing structures.

MED uses four laboratories and a Research and Consultancy section to carry out its mission. The four labs consist of a building materials, road materials, chemical analysis and geotechnical engineering laboratory.

During 2010, MED continued to experience an increase in material approval requests as more suppliers became familiar with the role of the Directorate in material approval. Collaboration requests from credible private laboratories and a growing number of requests from Ministry of Work Directorates also contributed to the increase. As a result, MED monitored the quality of materials in more than 200 government projects – including strategic superstructures and sanitary and road projects – while more than 60,925 routine and specialised tests were conducted at MED laboratories to assure the quality and conformity of materials.

Specifically, MED has focused on investigations and special studies such as investigating asphalt and pavement in various locations and recommending needed surface improvement, as well as assessing the condition of existing structures and providing recommendations for repair.

The Directorate is in the process of expanding its services to offer a broader range of Quality Assurance and Quality Control Inspection services to the Government and to the private sector.

**Partnership in MOW Projects**

The Directorate contributes to the Ministry’s overall vision by being involved in the different phases of each project’s life cycle, including the initiation, design, construction and maintenance stages.

- **Initiation Phase**: Consultancy and input on materials selection during the project design phase
- **Design Phase**: Reviewing design details and advising on suitability of materials intended for use
- **Construction Phase**: Ensuring approved materials are used in construction
- **Maintenance Phase**: Monitoring the performance of completed works from materials’ perspective and implementing corrective measures needed when using the same materials in new projects through quality assurance programmes

**Quality Assurance**

In line with MOW strategy and Bahrain Vision 2030, a mandate has been given to MED to implement quality assurance in all Government projects. This mandate aims to ensure a high level of performance and cost-effectiveness with the main goal of achieving the greatest possible sustainability of projects.

Since 2009, MED supported the Ministry’s objective in achieving the ISO 9001 Certification, an internationally recognised standard for quality management, which was awarded in June 2010. The Directorate is currently preparing the MED testing laboratories to be audited for the ISO 17025 accreditation on laboratory technical competency.

As part of MED’s goal to establish a materials research centre of excellence, a total amount of BD 23,323 was spent in 2010 for the procurement of laboratory equipment. An additional amount of BD 36,000 has been proposed for 2011 in order to bring the testing facilities up to date with modern technology and current standard practices. Due to the restrained recurrent budget availability, the Directorate has to seek project funds for further facilities improvement. This includes the continuous effort to secure funds for the construction of an office building for MED in Juffair, which is currently in the final design stage.
MED focuses on quality management even outside of the Ministry, for example by encouraging concrete ready mix and asphalt suppliers to attain ISO Certification, thus ensuring that quality objectives are met at the most basic level of material supply. By the end of 2010, nearly all suppliers in the Kingdom had obtained their certifications.

The Information Technology Directorate (ITD)

ITD is responsible for providing technical expertise and advice on all information technology issues. It is a cornerstone of the Ministry’s mission to establish itself at the forefront of technology and technical expertise. Access to accurate, up-to-date information is critical in fulfilling the multiple needs of sectors and directorates. ITD draws up and implements strategic plans for the Ministry’s information systems based on the current and future requirements of the Ministry and in co-ordination with top management and relevant directorates.

The Directorate also works to ensure that the Ministry’s information systems, applications, databases and networks meet stringent local and global specifications, best practices and high standards.

ITD is composed of four major sections: Information Systems Security & Quality Assurance; Information Systems Development; Computer Technical Services; and User Support & Computer Maintenance. In 2010, ITD focused on three major projects: enhancing e-Services, implementing MOW’s Project Management Information System (PMIS) and implementing MOW’s Enterprise Asset Management System (EAMS).
E-Services in 2010

In 2010, ITD released the MOW e-Services Portal and the MOW e-Services Mobile Portal. The new portals were 100% developed in-house and were implemented in a record time of less than six months. The e-Services are aligned with the Bahrain e-Government programme, which aims to achieve a higher standard of living by providing the residents of Bahrain with easy access to government services and with comprehensive, accurate and timely information.

In October 2010, a new e-Service for reporting traffic signal service requests was implemented for the Roads Planning and Design Directorate. This e-Service allows citizens and authorities, such as the Traffic Police, to submit an electronic service request regarding traffic signals directly to RPDD. The applicant is allocated a tracking number that can be used to follow up on the status of the request. Other services addressed in the first stage of MOW’s e-Services development were sanitary complaints; building maintenance requests; sanitary connections applications; material testing results and contractor prequalification notifications.

In recognition of ITD’s work with the Sanitary Sector, the Ministry received the e-Government Excellence Award in 2010 for Best e-Service. ITD also contributed to the Ministry’s receipt of the Best Government Web Site Award (Infrastructure Category) in the Pan Arab e-Government Web Awards.

ITD was heavily involved with the e-Government Agency’s (eGA) National Enterprise Architecture Framework (NEAF) aimed at aligning IT to business across all government bodies in Bahrain. ITD staff members were in full support of the eGA initiative and attended workshops, such as the Bahrain International e-Government Forum in 2010, and training sessions. This contributed to the Ministry of Works being named the leading government organisation in NEAF compliance.

Project Management Information Service (PMIS)

The Ministry of Works has developed and implemented an enterprise-wide Project Management System (PMS) that is comprehensive, scalable, and aligned to MOW strategy. The PMS comprises a set of integrated processes, guidelines, templates, tools and techniques that are based on the best practices found in the Project Management Institute’s (PMI) PMBOK Guide. The Project Management Information System (PMIS) aims to IT-enable the PMS using state-of-the-art Oracle Projects Release 12 of Oracle’s e-Business Suite Application and MS-Project.

The PMIS aspect of MOW’s project management system will cover resource management; work-in-progress control; and performance monitoring and reporting. Consultant EACOM started implementing PMIS in 2009 with a contract value of BD 975,000.

Enterprise Asset Management System (EAMS)

The Ministry of Works Enterprise Asset Management System (EAMS) aims to establish continuous processes that guide the acquisition, use and disposal of public infrastructure assets to optimise service delivery and minimise costs over an asset’s entire lifecycle. The public infrastructure assets owned, operated and maintained by MOW in the Kingdom of Bahrain include all sanitation and roads assets and buildings maintained by the Ministry. EAMS focuses primarily on creating an integrated asset registry hosting all information related to all sanitation engineering, roads and building assets that are constructed, operated and maintained by MOW.

On 13th December 2010, the EAMS implementation contract, worth BD 1.87 million, was signed with United Technology Bahrain. EAMS will be implemented in a time frame of 16 calendar months followed by post implementation support of 12 calendar months.
Public Relations & Media Directorate
The PUBLIC RELATIONS AND MEDIA DIRECTORATE (PRMD) is placed at the heart of the Ministry, responsible for linking the Ministry and all media channels. Both the public relations and the media sections in the Directorate strive to inform the public of all achievements and services related to the Ministry of Works, in addition to enhancing the awareness of all staff about the Ministry’s mission, vision and strategic objectives. PRMD also works to enhance the Ministry’s reputation locally, regionally and internationally through corporate-level announcements, business partner networking and online and print communications.
PRMD plans, compiles and edits the Ministry’s internal and external publications, such as the following:

- A daily newsletter, which includes all news items related to the Ministry and is prepared and documented by the Community Service Group on a daily basis.
- Two bimonthly newsletters prepared by the Media Section: Tawasol, which is distributed internally and Building the Future, which is distributed externally.

**Media Section**

The Media Section at the Directorate handles the Ministry’s media relations, by being both proactive and responsive to news coverage. The Media Section writes and issues press releases, responds to media enquiries, organises media interviews and press conferences and advises the Ministry’s various departments and directorates on public relations issues, including media liaison and promotional initiatives.

In 2010, the Media Section issued 225 press releases, compared to 191 releases in 2009. The number of public announcements in 2010 (roads announcements) reached 32, while the Directorate participated in the organisation of 11 events and 34 interviews between Ministry officials and journalists. The total value of media coverage in 2010 reached BD 410,680, compared to BD 288,520 in 2009.

**Community Service Group**

The Community Service Group is responsible for responding to public feedback regarding Ministry services. The Group maintains an effective mechanism...
to enhance communication between citizens and residents and those responsible at the Ministry. Customers’ complaints are addressed in a timely fashion and the relevant Ministry directorate informed of the problem. Bahrain’s main newspapers have commended the Ministry and the Community Service Group for their quick and professional responses to current issues. During 2010, the Group received 1143 complaints, delivered on a daily basis through the phone, local newspapers or by direct visits to the staff at the Directorate.

**PRMD’s Achievements in 2010**

PRMD’s many achievements in 2010 included:

- Achieving a 75% increase in the number of publications and press releases issued
- Launching the Ministry of Works Twitter account for the purpose of communicating more effectively with citizens and residents
- Publishing news in English and Arabic
- Preparation and organisation for the Infrastructure Conference and Exhibition which was held under the patronage of the former Minister of Works, H.E. Eng. Fahmi Bin Ali Al Jowder
- Overseeing the opening of the new Ministry of Works building and the opening of the Sitra Causeway and Um Al Hassam Underpass on 30th October 2010
- Supporting the launching ceremony of the 2009 Annual Report, the celebration of Bahraini Women’s Day, the ‘Protect your Heart’ Campaign, and a number of other activities and events
- Printing press materials and promotional materials for conferences and exhibitions organised by the Ministry
Special Projects Office
The SPECIAL PROJECTS OFFICE’S (SPO) role is to manage projects from the initial request for assistance up to and beyond project completion. As a part of the process, consultants, quantity surveyors and contractors are engaged through the typical government procedures. In the past few years, SPO has been responsible for projects including government palaces, the tall flagpole in Riffa, fishing harbours, the high fountain in the Muharraq lagoon and various diplomatic projects in Paris, London and Riyadh.
SPO was formed thirty years ago in the Ministry of Housing to undertake projects requiring special skills and reporting directly to the minister. The office was transferred to the Ministry of Works after the separation of Housing and Works. Over time, the office became involved in more mainstream national projects and projects for other ministries in Bahrain. Typically these projects relate to buildings – in-house expertise includes engineering, architecture, interior design and cost control.

All projects are managed according to best practice and the laws and regulations of Bahrain or, in the case of overseas projects, the laws of the particular county. SPO’s intention is to arrive at a project that is in accordance with the government’s wishes, contributes to the development of Bahrain in the long-term and achieves value for money.

Projects under Special Projects’ management in 2010 included:

- The National Assembly building to be located off of the Al Fateh Highway and north of the Shaikh Isa Library. The first phase of the project, the creation of an island site costing BD 18.5 million, was about 85% complete by the end of year.

- The National Theatre, located next to the National Museum. Construction began in July and will be complete by July 2012. The cost will amount to more than BD 18 million including theatrical equipment, lights and sound systems.

- Isa Sports City, the development of the existing National Stadium site at Isa Town. The first phase comprising three large sports halls costing BD 23.5 million is due for completion in late 2011. Future phases are expected to be tendered in 2011.

- The Fishing Harbours project continued to Phase 2 with reclamation work that began on the Askar Fishing Harbour and design work completed for the Hawar Jetty.

- Small projects including an annexe to the courthouse in Manama for the Constitutional Court and an office building for the Shura Council.

- International projects include the extension and refurbishment of the Bahrain Embassy in Cairo; refurbishment of apartments for diplomats in London; renovation of the Ambassador’s residence in Riyadh; and refurbishment of the Embassy and Ambassador’s residence in Baghdad.

- Projects in the design stage are the Bahrain Students Club in Cairo, a specialist cardiac hospital, embassies in Kuwait and the United Arab Emirates and a shopping centre in Shaharakkan.

Special Projects continues to receive requests for assistance from other ministries, which are considered by H.E. the Minister of Works. Special Projects also assists the Royal Court on the implementation of nationally important projects.
Design for the reclaimed land of the National Assembly site
Corporate Units
The Corporate Units consist of:

- The Central Planning Office
- The Strategic Planning Section
- The Project Management Office
- The Internal Audit Section
The Central Planning Office (CPO)

CPO is responsible for the management and the coordination of the planning, design, implementation and protection of all public and private infrastructure in the Kingdom of Bahrain. CPO is part of the Office of H.E. the Minister of Works. CPO operates a business model to integrate and coordinate the development activity of over 70 individual infrastructure-related stakeholder organisations at all functional levels of strategic planning, network planning, project planning, project execution and security of existing national infrastructure assets.

The role of CPO is now more recognised and defined, as the Office is the subject of one of the objectives contained in Bahrain’s Economic Vision 2030. CPO now has a specific mandate to:

- Coordinate the implementation of infrastructure projects in Bahrain
- Ensure close alignment between all parties involved in large-scale developments, including developers, contractors, and entities such as the Electricity and Water Authority, the Ministry of Works and the Ministry of Housing
- Hold all parties accountable for delivering against committed timelines and service levels
- Work in close cooperation with Urban Planning Affairs of the Ministry of Municipalities and Agriculture

In addition, CPO is a primary source of research and advice on planning and infrastructure for the Ministry of Works.

CPO Achievements in 2010

CPO is a key planning player in all major Ministry of Works infrastructure projects such as the Airport Expansion, the Qatar/Bahrain Causeway and the privatisation of the Muharraq Sewage Treatment Plant. CPO is fully involved in the Public Private Partnership (PPP) for the Deep Gravity Sewer and Sewage Treatment Plant in Muharraq. This has entailed a risk assessment on the construction methodology proposed by the preferred bidder. In addition, CPO has been given the important role of coordinating the Housing PPP Programme. Thus far CPO has prepared the outline construction programme and a separate programme for the consultancy services required for the several agencies involved.

The Manama Northshore Programme Management Team continues to coordinate the planning and implementation of infrastructure in the Manama Northshore Area, an area of intensive growth between Seef and Busaiteen. The team has played an important role in getting the North Manama Causeway and King Faisal Highway Phase 1 (Detour Road) through to construction, and continues to support these projects in
the construction phase. In addition, with the changing infrastructure priorities and the delay in King Faisal Highway Phase 2, the team is providing important input for projects including the Muharraq Trunk Sewer PPP, the management of the primary infrastructure for the Housing PPP and the construction of the Bahrain Northern Link Road. Due to the team’s important contributions, their contract has been extended for two years until 2012.

International Connections

On 17th August 2010, the Government of Bahrain, represented by the Ministry of Works, entered into an agreement with the United States Government, which was represented by the U.S. Army Corps of Engineers. The agreement will provide the Ministry of Works with engineering expertise in geotechnical, hydraulic, and structural engineering, as well as in other fields such as construction, sanitary engineering, and roadway engineering. One of the great advantages of this agreement is its flexibility. Unlike conventional consultancy agreements, the Ministry of Works will be able to select the type and level of expertise preferred from the Corps. U.S. Army Corps of Engineers comprises more than 30,000 engineers, and the Ministry of Works will be able to draw on the Corps’ broad range of expertise and human resources. Of key importance to the Ministry is the expertise in project and programme management for complex engineering schemes. The first task that will be assigned to the Corps is the engineering studies and concept design for the planned Northern Link Road connecting the North Bahrain New Town with Northern Muharraq.

The Intelligent Decision Support System (IDSS) is a software programme implemented by CPO that supports the integration and coordination of projects involving multiple participants and multiple engineering disciplines. One of the objectives of this initiative is to aid decision-making through the total integration of a project’s life cycle from concept, planning, design and construction to the operation and maintenance phases. Integration among infrastructure projects throughout the development lifecycle is seen as a key critical success factor in national development.
Total Consultations in 2010 to Authorities

Note: Each consultation entails an average of 7 technical decisions with a coordinated collective decision given by CPO.

Planning Permissions Issued in 2010 to Authorities

Note: Planning Permissions are collective decisions with a minimum of 10 consultations but an average of 15 consultations depending on the complexity of the project.
Total GSNs Issued in 2010 to Authorities

Note: Each General Service Notification (GSN) entails 7 technical decisions providing a collective permit.

Total Wayleaves Issued in 2010 to Authorities

Note: Each Wayleave entails 10 technical decisions providing a collective permit.
The Strategic Planning and Quality Management Section (SPQM)

SPQM is globally recognised as a centre of excellence for strategy management, in particular for its building and deploying of the Balanced Scorecard, which serves as the Ministry’s core strategy management framework.

Success by the Ministry and its business units in applying the scorecard framework and methodology led to MOW’s induction into the prestigious Balanced Scorecard Hall of Fame in 2009; an honour reserved for those organisations that demonstrate tangible leadership in strategy design and execution. The Ministry was subsequently ranked as being within the top 12% of organisations worldwide for the execution of strategy. In 2010, SPQM further developed both its own reputation and, consequently, that of the Ministry.

SPQM’s Main Achievements in 2010 include becoming a founder member of the Hall of Fame Middle East Club. Five organisations from the region were eligible for membership and the inaugural meeting was held on 11th January 2010. As the strategy/scorecard experts, SPQM represents the Ministry within this group. The Club has a dual purpose: as a forum for the exchange of best practices and insights and as a knowledge-sharing source for assisting other regional organisations in the development of their own strategy management and performance management capabilities.

In March 2010, SPQM presented the Ministry’s successful strategy management story at the Balanced Scorecard Middle East Forum in Dubai. This event attracted more than 250 senior executives and strategy management practitioners from across the region and was hosted by the Balanced Scorecard co-creators Harvard Business School Professor Robert Kaplan and Dr. David Norton. As proof that the Ministry’s reputation is being established on a truly global level, MOW hosted a delegation from the Uganda Revenue Authority in November, who chose to visit, and learn from, the Ministry because of the international reputation that accompanied MOW’s Hall of Fame induction.

The Ministry’s global reputation for strategy management was further enhanced by its appearance in the Balanced Scorecard Report (the world’s leading journal for Balanced Scorecard practitioners) as a best practice execution model. The Ministry’s approach to strategy management also appeared as a best practice case study within the book: More with Less: Maximizing Value in the Public Sector by Bernard Marr and James Creelman.

Moving from global to regional to national, during 2010 SPQM met several times with the Crown Prince Court to explain the Ministry’s approach to strategy management and execution and how it aligns with the aims and aspirations of Bahrain. In May, SPQM presented the Ministry’s experiences with strategy and quality management at the Annual Quality Gathering

SPQM’s Annual Governance Cycle

<table>
<thead>
<tr>
<th>Strategy Management Workshops Held in 2010</th>
<th>No. of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Sector Business Review (Four events Q1-Q4)</td>
<td>900</td>
</tr>
<tr>
<td>Sector Business Review (Four events Q1-Q4)</td>
<td>900</td>
</tr>
<tr>
<td>Corporate Business Review (Three events Q1-Q3)</td>
<td>180</td>
</tr>
<tr>
<td>Annual Cascaded Strategy Review</td>
<td>225</td>
</tr>
<tr>
<td>Corporate Business Units Sign-off</td>
<td>40</td>
</tr>
<tr>
<td>Integration Workshop</td>
<td>150</td>
</tr>
<tr>
<td>Strategy Awareness Workshop</td>
<td>200</td>
</tr>
<tr>
<td>Theme Team Readiness Workshop</td>
<td>45</td>
</tr>
<tr>
<td>Theme Team Integration Workshop</td>
<td>40</td>
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</tbody>
</table>

Compared to 2009, the number of workshops increased significantly, with the number of attendees increasing from 503 to 818. This reflects the increased focus on strategy management within the Ministry.
organised by the Civil Service Bureau. In 2010, SPQM also presented at the Bahrain Institute of Public Administration on the role of leadership in successful strategy management.

Within the Ministry itself, SPQM organised and conducted a Strategy Modification Session at the Medical Society Centre in November. This deepened the already well-established understanding of strategy within the Ministry and served as preparation for the 2011 business planning exercise.

During 2010, SPQM recruited a number of new specialists that expanded its strategy management capabilities and expertise. The dual focus areas of SPQM for 2011 will likely be further enhancing the Ministry’s reputation externally and the Ministry’s strategy management capabilities internally. A core SPQM focus for the year will be deepening the understanding – Ministry-wide – of how to build and deploy performance measures and the role of metrics in the overall strategy management framework.

Ministry of Works 2010 Strategy Map

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PMO is a centre of excellence in project management for the Ministry. It is staffed by project specialists with many years of experience in managing projects using world-class project management methodologies. It defines and maintains standards for project management and strives to standardise and introduce economies of repetition in the execution of projects. The PMO is the source of documentation, guidance and metrics on the practise of project management and execution. It disseminates knowledge and offers Project Management System (PMS) guidance and identifies areas for continuous process improvements.

By 2010, five staff members had been recruited into the PMO and their principle target for the year was to consolidate the PMS, coordinate the PMS with the developing Project Management Information System (PMIS), develop Ministry-wide PMS workshops on how to use the PMS in practice, and to establish the Office’s strategic business plan and supporting processes.

Progress achieved in 2009 was maintained during 2010 with the continuing development of the PMIS as a tailored management tool. In addition, progress was made with the successful integration of PMIS with the Enterprise Document Management System (EDMS); the Ministry’s other major project management tool. Training of around 500 Ministry staff in using the PMIS tool is scheduled to commence in 2011 with its full rollout and usage throughout the Ministry to follow.

Appointments on the Project Manager Career Path, a programme approved in 2008, were crucial in establishing project management throughout the Ministry. A total of 31 project manager positions were approved within the Roads, Sanitary and Construction sectors. The Human Resources Directorate has started to fill these positions with 14 of the posts occupied during 2010 across the sectors, including 12 transfers from within the Ministry and 2 new recruits. PMO established both an online project management assessment tool and a credential system with which to monitor project manager skills and to advise HRD on individual training needs.

Project Management Training and Development

In 2010, training featured heavily across several fronts with the continued expansion of the numbers of Project Management Institute (PMI) certified staff. Forty-six staff members are now qualified as Project Management Professionals (PMP), and 98 are now certified as Associated Value Specialists (AVS) under the Society for American Value Specialists International (SAVE International).

PMO also developed its own internal workshop materials in order to explain the PMS to Ministry staff. Three-day and 2-day PMS workshops started in October 2010 and these have now been approved by PMI so that participants can claim 15 and 10 PDUs, respectively, towards maintaining PMP certification. The approval of the workshop material is supported by PMO staff members who are currently being registered as approved PMI Instructors, which will enable the PMO to service the Ministry’s PMP training needs.

2010 also saw the issue of Ministerial Decision 21 and
the forming of the PMO Committee. The Committee is a formal extension of the same group that made up the PMS Steering Committee and is to provide advice to the PMO on the many tailored processes written into the PMS. An important authority delegated to the Committee is to develop a PM Community Group that will include all staff that have an interest and/or are working in project management for the Ministry. This group includes the Career Path Project Managers; anyone reporting project status using the PMS; all PMPs and other PM-qualified staff; the PMIS Expert User Group and their deputies; the AVS value engineers; and those strategy measure owners reporting on PM matters to business reviews. The Group is still in its infancy but is expected to grow and take up a significant position during 2011 to help with the successful implementation of the Project Management System.

**Internal Audit Section**

The Internal Audit Section was formed in January 2009 with the recruitment of the Head of Internal Audit who reports to the Audit Committee and to H.E. the Minister of Works.

The main objective of forming this high-level audit committee is to fortify the overall aspects of governance of the Ministry. Good governance is comprised of high-level processes that ensure an organisation achieves its intended objectives, conforms by complying with all relevant laws, codes and directions and meets the public’s expectations of accountability and transparency.

Between 2009 and 2010, the focus of the Internal Audit Section was to carry out a risk-based internal audit which was introduced for the first time in the Ministry. This required the team to review risk management processes in the Ministry and establish a framework for risk-based audit.

The internal audit has paved the way for setting up the Enterprise Wide Risk Management which, when integrated with MOW’s strategy management (based on the Balanced Scorecard) will measure and improve performance across the Ministry. Enterprise Wide Risk Management includes identifying risks and opportunities, assessing them in terms of likelihood and magnitude of impact, determining a response strategy and monitoring the progress of risk mitigation.

Between 2011 and 2012, the Internal Audit Section in coordination with Management will facilitate the establishment of Enterprise Wide Risk Management for effective risk management across the Ministry.