INDUSTRY SOLUTIONS: WATER AND WASTEWATER TREATMENT
LESS IS MORE.

LESS DOWNTIME
Achieve less or no downtime with the superior transmission reliability of OCC cables, tested beyond industry standards used by other manufacturers. OCC’s Indoor/Outdoor cables transition splice-free from OSP to inside the building for fewer points of potential network failure.

LESS MAINTENANCE AND WORRY
Better reliability leads to fewer network problems, eliminating the time and cost of additional maintenance associated with loose-tube and ribbon cabling.

LESS TIME AND SPACE
By using small diameter cables and innovative products like our pre-terminated enclosures, cable assemblies, and kitting, we can help you design a customized high-density, space-saving system that reduces installation time by 25 percent.

LESS COST
The reliability advantages of OCC cables address the major points of the EPA’s Asset Management Guidelines: less likelihood of network failure, cabling problems, and emergency response costs. Bottom line? You can count on a lower total cost of ownership.

LESS CHALLENGE
We are harsh environment specialists who can provide solutions for your most challenging water and wastewater facility network needs. Our team of engineers are experts in custom building end-to-end solutions for your project. Whether you need to modernize your administrative office, expand your security monitoring plan, or update your entire legacy facility, we’re ready to assist you. Let OCC relieve your headache.

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At OCC, we’re well known for our expertise in developing innovative, reliable, harsh environment network solutions. In the 1980s, OCC designed and invented helically stranded, tight-bound, and tight-buffered cables; unlike loose-tube and ribbon-fiber cable, OCC’s cables are designed for the most extreme environmental situations.

The water and wastewater industries need that kind of reliability. That’s why we’ve expanded to include a broad portfolio of end-to-end harsh and controlled environment fiber, copper, and connectivity solutions to precisely serve every area of your network. In addition, you’ll see that many of our product innovations will save you plenty of time, labor, and maintenance costs.

So whether your project is a new greenfield or a legacy water or wastewater treatment plant, you’re empowered with the most reliable network solutions to keep your network, HMI, SCADA, PLCs, RTUs, and all control process locations running 24-7.

At OCC, we take reliability seriously—so much so that we independently test all of our products and new innovations well above industry body standards to ensure the highest transmission performance of your network.

That’s why instead of relying on OCC just for products, our customers count on our design-build expertise and broad portfolio of end-to-end cabling and connectivity solutions for the seamless integration and optimum reliability of the network.

NOT JUST PRODUCTS. ANSWERS.

We get it. The more challenging your network becomes, the more challenging it is to know which products to use, how to integrate them, budget them, and make sure they keep your network running with zero downtime. Like other industries, water and wastewater treatment plants must keep up with ever-growing high-bandwidth technology advancements, such as more sophisticated SCADA systems, smart device applications, IP transmission, HD video security, and emerging technologies.

That’s why instead of relying on OCC just for products, our customers count on our design-build expertise and broad portfolio of end-to-end cabling and connectivity solutions for the seamless integration and optimum reliability of the network.
It's a necessity. Water treatment plants provide life-sustaining clean water for our communities; as such, the most reliable products must be used to ensure zero downtime.

As technologies evolve, all processes of the facility—from the administrative buildings to the filtration tanks—need to run without a hitch.

OCC offers a full range of harsh environment and controlled environment products to suit every application of your facility. Whether you are updating the ever-important security system of the facility, future-proofing the PLCs, or directing the future migration path of your project, OCC has an answer for you. With our team of engineers and technical specialists, we will work with you to design an end-to-end solution for your water treatment plant.
EXAMPLE OF A COMPLETE END-TO-END SOLUTION: MASTER CONTROL CENTER (AREA 7)

1. WATER STORAGE TANKS/CONTROLS
   - Cables: BX series (BX002KWL5SOP + BX006K5L8APY)
     - Fiber Adapter Panel (6112MMDC)
     - Fiber Pigtail (66LC12-3M)
     - R-Jack (ECSK2201U00)
   - Enclosures: NEMA-4X Fiber Enclosures (OCO12NX or OCO12NXS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB6B)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

2. RECEIVING WELL
   - Cables: BX series (BX002KWL5SOP + BX006K5L8APY)
     - Fiber Adapter Panel (6112MMDC)
     - Fiber Pigtail (66LC12-3M)
     - R-Jack (ECSK2201U00)
   - Enclosures: NEMA-4X Fiber Enclosures (OCO12NX or OCO12NXS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB6B)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

3. SECURITY GATES/MONITORING AREAS
     - CX series (CX004K4***9K9)
   - Connectivity: L-JACK™ Fiber Optic Connector (RLRK121LC02B)
   - Enclosures: NEMA-4X Fiber Enclosures (OCO12NX or OCO12NXS)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

4. MOTOR CONTROL CENTER/PUMPING STATIONS
   - Cables: BX series (BX002KWL5SOP + BX006K5L8APY)
     - DX series (DX012DWLST9KR)
   - Connectivity: R-Jack (ECSK2201U00)
   - Enclosures: NEMA-4X Fiber Enclosures (OCO12NX or OCO12NXS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB6B)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

5. FILTRATION TANKS
   - Cables: BX series (BX002KWL5SOP + BX006K5L8APY), DX series (DX006D5LS9KR12)
   - Connectivity: Fiber Adapter Panel (6112MMDC)
     - Fiber Pigtail (66LC12-3M)
     - R-Jack (ECSK2201U00)
   - Enclosures: NEMA-4X Fiber Enclosures (OCO12NX or OCO12NXS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB6B)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

6. ADMINISTRATION OFFICE
   - Cables: HC series (HC048DSLACKR)
     - GX series (GX048KSLA9YP + GX096W5LAPYP)
   - Connectivity: Category 6 Jack (KMJA6)
     - Patch Panel (DCC4888/110SIX)
     - Field Terminable Plug (OCCUFP6A)
   - Enclosures: Rack (CMR45)
     - Cabinet (CC3807)
     - RTS Fiber Enclosure (RTS1U-3APB/RTC1U-3APB)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)

7. MASTER CONTROL CENTER
   - Cables: HC series (HC048DSLACKR)
     - GX series (GX048KSLA9YP + GX096W5LAPYP)
   - Connectivity: Category 6 Jack (KMJA6)
     - Patch Panel (DCC4888/110SIX)
     - Field Terminable Plug (OCCUFP6A)
   - Enclosures: Rack (CMR45)
     - Cabinet (CC3807)
     - RTS Fiber Enclosure (RTS1U-3APB/RTC1U-3APB)
   - Assemblies: Cat 6 Patchcord (PCSIX03B06)

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CUSTOMER: TAMPA BAY WATER TREATMENT FACILITY

THE CHALLENGE

Upgrade a water treatment facility from copper to fiber optic cabling to help fend off lightning strikes, gnawing animals, environmental toxins, and other threats that can interrupt critical communications and control in remote locations.

THE OCC SOLUTION

Avoid electromagnetic interference by replacing the current copper network with OCC’s DX-Series Distribution Fiber Cable as well as rugged rack and wall mount enclosures, resulting in a dramatic decrease in the need for maintenance and upkeep.

CLIENT ASSESSMENT

“With the copper, I used to get service calls on a regular basis about that wellfield. Since the upgrade to fiber optic cabling, I have not yet had to return except to install more fiber.”

– Robb Olsen, Project Manager
BCI Integrated Solutions
Sludge and grit. Caustic chemicals. Stifling humidity. All of these elements can ravage the mission critical network of a water treatment facility plant. Every year, serious accidents occur at facilities around the world and are often attributable to a breakdown in the communications systems that monitor and control the flow of critical plant processes through various treatment stages and vessels.

Events such as overflows caused by motors or valves failing to actuate can result in flooding that spills potentially millions of gallons of untreated sewage into waterways and communities, threatening the ecosystem as well as the health of residents.

For these reasons, today’s efficient wastewater treatment plants (WWTPs) are basing their communications network infrastructures on ultra-reliable, high-speed fiber optic cabling, coupled with connection and control devices that are designed to withstand the harshest of environments. This approach not only protects against environmental accidents, but can also ensure optimum plant throughput, security, and compliance. At OCC, durability and ruggedness are in our DNA. We offer a broad range of harsh environment products as well as end-to-end solutions for more benign settings like administrative offices.
WASTEWATER SOLUTIONS

1. WATER STORAGE TANKS/CONTROLS
   - Cables:
     - BX Series (BX002KWLSOP + BX006KSLA9YP)
     - DX Series (DX006DALS9KR12)
   - Connectivity:
     - Fiber Adapter Panel (6112MMDDLAC)
     - R-Jack (ECSK2201U00)
   - Enclosures:
     - NEMA-4X Fiber Enclosures (OCO12NX or OCO12NKS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB66B)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

2. RETENTION POND
   - Cables:
     - BX Series (BX002KWLSOP + BX006KSLA9YP)
     - DX Series (DX006DALS9KR12)
   - Connectivity:
     - Fiber Adapter Panel (6112MMDDLAC)
     - R-Jack (ECSK2201U00)
   - Enclosures:
     - NEMA-4X Fiber Enclosures (OCO12NX or OCO12NKS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB66B)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

3. SECURITY GATES/MONITORING AREAS
   - Cables:
     - DX Series (DX006DALS9KR12)
     - CX Series (CX004K***9KP)
   - Connectivity:
     - L-JACK™ Fiber Optic Connector (RLRK121LC02B)
   - Enclosures:
     - NEMA-4X Fiber Enclosures (OCO12NX or OCO12NKS)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

4. CHEMICAL STORAGE TANKS
   - Cables:
     - BX Series (BX002KWLSOP + BX006KSLA9YP)
     - DX Series (DX006DALS9KR12)
   - Connectivity:
     - Fiber Adapter Panel (6112MMDDLAC)
     - R-Jack (ECSK2201U00)
   - Enclosures:
     - NEMA-4X Fiber Enclosures (OCO12NX or OCO12NKS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB66B)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

5. MOTOR CONTROL CENTER/PUMPING STATIONS
   - Cables:
     - BX Series (BX002KWLSOP + BX006KSLA9YP)
     - DX Series (DX006DALS9KR12)
   - Connectivity:
     - Fiber Adapter Panel (6112MMDDLAC)
     - R-Jack (ECSK2201U00)
   - Enclosures:
     - NEMA-4X Fiber Enclosures (OCO12NX or OCO12NKS)
     - DIN Rail Box (DTC-1AP)
     - ZDM Enclosure (ZDMB66B)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

6. ADMINISTRATION OFFICE
   - Cables:
     - BX Series (BX002KWLSOP + BX006KSLA9YP)
     - DX Series (DX006DALS9KR12)
   - Connectivity:
     - Fiber Adapter Panel (6112MMDDLAC)
     - R-Jack (ECSK2201U00)
   - Enclosures:
     - NEMA-4X Fiber Enclosures (OCO12NX or OCO12NKS)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)

7. WASTEWATER SOLUTIONS

8. MASTER CONTROL CENTER
   - Cables:
     - DX Series (DX006DALS9KR12)
     - GX Series (GX048KSLA9YP + GX096WLSLAPY)
   - Connectivity:
     - Category 6 Jack (KMJA6)
     - Patch Panel (DCC4888/110SIX)
     - Field Terminable Plug (OCCUFP6A)
   - Enclosures:
     - Rack (CMR45)
     - Cabinet (CC3807)
     - RTS Fiber Enclosure (RTS1U-3AP/R/RTS1U-3APB)
   - Assemblies:
     - Cat 6 Patchcord (PCSX03B06)
     - LC to LC Fiber Jumper (D5GLC-LC-3M)
CUSTOMER: SACRAMENTO REGIONAL WASTEWATER PLANT (SRWTP)

THE CHALLENGE
To build the most reliable, high-speed, long-life, maintenance-free, fiber backbone with low cost of ownership to support the EchoWater Project, Sacramento’s largest-ever public works project and the largest single block of financing ever issued by the EPA.

THE OCC SOLUTION
SRWTP installed OCC’s cabling and connectivity for the industry’s highest crush resistance, elimination of congested conduit, and superior chemical and water resistance, which created an ideal end-to-end wastewater solution. OCC helped SRWTP to achieve optimum network transmission reliability and low maintenance to keep their control processes up and running 24-7 with no downtime.

CLIENT ASSESSMENT
“In 15 years of using OCC’s end-to-end cabling and connectivity system, SRWTP has never experienced even a moment of downtime and our control processes keep on running with impeccable transmission performance! We’re also very satisfied with OCC’s most reliable customer service, fast delivery of customized pre-terminated connectivity solutions, and committed OCC Certified Installers.”

– Ronald Y Kwok, PE, MIET, Associate Electrical Engineer
PRODUCT HIGHLIGHTS: CABLES

HC-Series High Density Cables
(Used in Monitoring Areas, Administration Offices, Master Control Center) OCC’s high-capacity cable bundles subgroups of 12 fibers into compact, flexible cables of up to 288 fibers. Ideal for permanent infrastructure where hundreds of fibers need to be run through small conduits.

GX-Series Subgrouping Cables
(Used in Monitoring Areas, Administration Offices, Master Control Center) Used in trunking, LAN, and distribution applications where small-size, lightweight, and versatile installation capability are required for ducts, plenums, and air-handling spaces. Jacket highly chemical resistant for installation in harsh industrial environments.

CX-Series Hybrid Cables
(Used in Security Gates and Monitoring Areas) Ideal for security applications, the CX Series cable is available for indoor and outdoor settings. This cable can provide power and data transfer solutions to ensure the security of your facility against intrusions, equipment failure, or other threats.

BX-Series Breakout Cables
(Used in Water Storage Tanks/ Controls, Receiving Well, Motor Control Centers, Pumping Stations, Filtration Tanks) Ideal for installations requiring an extremely rugged and reliable cable design where maximum mechanical and environmental protection are required. Ideal configuration for a single termination point requiring multiple fibers.

DX-Series Distribution Cables
(Used in Security Gates, Monitoring Areas, Administration Offices, Master Control Center) OCC's fiber optic pigtail assemblies are designed for reliability and performance. They combine high-precision zirconia ferrules and rugged composite hardware to provide the optical performance, durability, and repeatability necessary for today's network applications.

Fiber Optic Pigtail
(Used in Water Storage Tanks/Controls, Receiving Well, Filtration Tanks) OCC's fiber optic pigtail assemblies are designed for reliability and performance. They combine high-precision zirconia ferrules and rugged composite hardware to provide the optical performance, durability, and repeatability necessary for today's network applications.

K-Jacket
OCC’s Fluoropolymer Jacket was built to withstand severe chemical environments. Ideal to use in facilities that contain corrosive chemicals and gases such as Bromine, Chlorine, Sulfur Dioxide, and Methane Gas.

R-Jack/RJ45 Ethernet Connector
OCC’s R-Jack is designed for harsh environment protection for your copper connectivity. 100 percent transversely sealed (IP-68) protects against moisture, dust, and other contaminants. Provides an affordable solution for Ethernet connectivity in harsh and environmentally challenging applications. R-Jack provides a variety of options, including pre-kitted solutions that are designed to integrate seamlessly with industrial applications.
Open-Frame Rack
(Used in Administrative Offices, Master Control Center) When it comes to standard EIA-compliant aluminum open-frame relay racks, OCC offers top-of-the-line relay racks that feature a variety of heights to meet any cabling infrastructure needs. Ideal for equipment rooms and telecommunications closets, our open-frame rack is an excellent foundation to build a network system.

PRODUCT HIGHLIGHTS: CONNECTIVITY

Pre-terminated Trunk Cables
(Used in Water Storage Tanks, Controls, Receiving Well, Motor Control Centers, Pumping Stations, Filtration Tanks) OCC’s line of DIN Rail fiber optic and copper enclosures offer a rugged and versatile product line ideal for secure terminations within industrial settings. Utilizing OCC’s existing 600 series adapter plates, the DTC product family is based on offering versatility and ease of installation.

PRODUCT HIGHLIGHTS: ASSEMBLIES

RTC/RTS Enclosures
(Used in Administrative Offices, Master Control Center) Our line of fiber optic enclosures allow for easier termination, greater capacity, and uncomplicated cable management. All OCC fiber optic enclosures can be ordered pre-assembled with pigtailed and adapter panels.

ZDM Box-Zone Distribution Enclosure
(Used in Water Storage Tanks, Controls, Receiving Well, Motor Control Centers, Pumping Stations, Filtration Tanks) OCC’s Zone Distribution Enclosure is a compact and reliable patch and splice enclosure ideal for indoor wall-mount applications.

Open-Frame Rack
(Used in Administrative Offices, Master Control Center) When it comes to standard EIA-compliant aluminum open-frame relay racks, OCC offers top-of-the-line relay racks that feature a variety of heights to meet any cabling infrastructure needs. Ideal for equipment rooms and telecommunications closets, our open-frame rack is an excellent foundation to build a network system.

Pre-terminated Trunk Cables
(Used in Water Storage Tanks, Controls, Receiving Well, Security Gates and Monitoring Areas, Motor Control Centers, Pumping Stations, Filtration Tanks) OCC’s trunk cables can be ordered with a variety of termination and performance configurations.

LC to LC Fiber Jumpers
(Used in Water Storage Tanks, Controls, Receiving Well, Security Gates and Monitoring Areas, Motor Control Centers, Pumping Stations, Filtration Tanks) OCC offers pre-terminated trunk cables that are ideal for backbone applications. OCC’s trunk cables can be ordered with a variety of termination and performance configurations.

Category 6 Patch Cords
(Used in Water Storage Tanks, Controls, Receiving Well, Security Gates and Monitoring Areas, Motor Control Centers, Pumping Stations, Filtration Tanks) OCC created modular cords with guaranteed compliance that offer superior PSANEXT performance suitable for mitigation of alien crosstalk.
TECHNICAL AND DESIGN-BUILD EXPERTISE
Instead of relying on OCC just for products, more and more of our customers rely on our design-build expertise. Our design engineers and technical staff provide unprecedented service, support, and assistance.

ONE-STOP SHOP
Since we provide one of the largest network solutions portfolios in the industry, many of our customers rely on OCC as their one-source solutions provider from the most reliable end-to-end cabling and connectivity systems down to the shortest patch cable. We can meet your every network need.

CUSTOMER-DERIVED INNOVATIONS
We partner with you, our customer, and listen to your needs. Thanks to our customers, we’ve designed, innovated, and customized some of the best solutions in the industry for the speed, immediate scalability, space savings, and ultra-high performance demanded by zero downtime networks of all sizes.

COMPETITIVE WARRANTY PROGRAMS
OCC, in conjunction with certified Multimedia Design and Integration Specialist (MDIS) installers around the world, is able to offer various competitive warranty and extended warranty programs. OCC has developed warranty plans that offer a flexible approach to a lasting network installation.

QUICK SHIPPING

SAME DAY SHIPPING
ON IN-STOCK ITEMS IF ORDERED BY 12PM, EST.
GLOBAL PARTNERS & LOCATIONS

OCC ROANOKE, VA
Corporate Headquarters and Fiber Optic Cable Manufacturing Facility
5290 Concourse Drive
Roanoke, VA 24019 USA
540.265.0690 or 800.622.7711

OCC DALLAS, TX
Harsh Environment and Specialty Connectivity Manufacturing Facility
1700 Capital Avenue, Suite 150
Plano, TX 75074 USA
972.509.1500 or 877.509.1500

OCC ASHEVILLE, NC
Enterprise Connectivity Manufacturing Facility
33 Superior Way
Swannanoa, NC 28778 USA
828.298.2260 or 800.880.7674

JOIN OUR SOCIAL NETWORK
For the most up-to-date information on all of OCC’s products, news and information, visit our website at occfiber.com. Registered users get added benefits, access to additional information, white papers, and more.

Like us on Facebook:
facebook.com/OCCSolutions

Follow us on Twitter:
twitter.com/occsolutions

Watch us on YouTube:
youtube.com/user/occsolutions

Follow us on Linked In:
linkedin.com/groups/optical-cable-corporation