TRASH TALK
Preventive maintenance, proper guarding keep uptime high at landfills

AT YOUR SERVICE
Diagnostic trucks help keep fleet uptime high

GOING SOLO
Attachments enable backhoe loader to do work of multiple machines
Next Generation Cat® 120 Motor Graders enable your agency to tailor the machine to best meet your preferences and applications. Choose between steering wheel and levers or joystick controls, tandem or all-wheel drive, and a range of scalable grade-control technologies.

**Controls**
Get the job done with a choice of joysticks or steering wheel and lever controls. The control console adjusts to the operator’s preference. With the option to integrate automatic grade control switches and buttons on the levers, full control is within arm’s reach.

**Operator Environment**
The all-new cab provides enhanced visibility, seat options and a new information-display screen. Seat upgrades include air suspension, heated and cooled, and air-adjusted side bolsters. Operators can view machine information and control Cat GRADE technology on the easy-to-read, 10-inch color monitor or touchscreen monitor.

**Maintenance Features**
New filtration system reduces typical operating expenses up to 15 percent compared to previous models. Extended change intervals for engine oil, hydraulic and transmission filters keep the new 120 motor grader going longer. Filters are grouped together in a central location for quick and easy access.

**Grade Control**
Scalable Cat GRADE technologies provide grade control options for different application requirements and budgets. Cat GRADE technologies include Cross Slope, Cross Slope Indicate, and Digital Blade Slope Meter.

### Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>120 MOTOR GRADER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Model</td>
<td>Cat C7.1 ACERT™</td>
</tr>
<tr>
<td>Emissions</td>
<td>Tier 4 Final</td>
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<tr>
<td>VHP Plus Range – Net</td>
<td>140 – 167 hp</td>
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<tr>
<td>AWD Range – Net</td>
<td>144 – 189 hp</td>
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<tr>
<td>Oper. Weight – Typically Equipped</td>
<td>35,067 lb</td>
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<tr>
<td>Oper. Weight – AWD Typically Equipped</td>
<td>36,731 lb</td>
</tr>
</tbody>
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4 Total Cost of Ownership
Value Estimating Tool (VET) compares machine values through life cycle

5 Best Performance
Next Generation mini excavators fill niche

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Selecting the best compact loader for your agency

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Diagnostic trucks help keep fleet uptime high

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Preventive maintenance, guarding keys to landfill success

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10 Going Solo
Attachments Enable Backhoe Loader to do Work of Multiple Machines

12 Increased Versatility
Attachments add value to backhoe loaders

13 The Right Foot
Keeping safe when entering, exiting machines

14 This & That
Training, simulators improve operator performance
Utilizing multiple purchase criteria, Sourcewell rates Cat machines as best value
High-quality used machines available online at CatUsed.com

ON THE COVER:
Mount Olive Township, New Jersey Fleet Supervisor Joseph Ziem and Assistant Director of Public Works Frank Wilpert, Jr. rely on a 420 F2 IT for a wide range of work.

CAT.COM/GOVERNMENTAL
Cat.com/governmental includes specifications for all machines. Download them or contact our dealership. Check this out and more at Cat.com/governmental.
WHAT IS THE VALUE ESTIMATING TOOL VET?

The Value Estimating Tool (VET) is a web-based tool that enables governmental agencies to quickly and easily compare the relative values of multiple machines, taking into consideration the total cost of ownership throughout each machine’s life cycle.

HOW CAN VET HELP YOUR AGENCY?

It can be used to compare multiple Cat® machines and/or compare multiple brands in the marketplace. VET can demonstrate the total-value advantage of Cat machines by putting together all the cost variables, such as resale value, fuel efficiency and lower maintenance and repair costs. By understanding the “true” cost of ownership (beyond the initial price), governmental agencies can make better-informed purchase decisions. Saving money over the entire length of the ownership period demonstrates responsible stewardship of constituents’ hard-earned tax dollars.

HOW DOES VET QUICKLY ZERO-IN ON A CUSTOMER’S PRIORITIES?

VET can be as simple or as sophisticated as you want. You can have as few as four inputs (purchase price, fuel costs, maintenance/repair costs and resale value) or also add comparisons of productivity costs. You’ll quickly receive easy-to-understand reports at the press of a button with VET.

Whether your focus is cost per hour or cost per unit of production, you will see exactly how Cat products can save you — and your taxpayers — more money. You can even compare the value of items beyond the iron, such as Equipment Protection Plans, Customer Value Agreements and Cat Technology Solutions.

WHERE’S THE BEST PLACE TO LEARN MORE ABOUT VET?

For more information about the Value Estimating Tool, contact your local Cat dealership.

“__you’ll quickly receive easy-to-understand reports at the press of a button with VET. Whether your focus is cost per hour or cost per unit of production, you will see exactly how Cat products can save you — and your taxpayers — more money.__”

WADE PORTER
VET Value Consultant
NEW PRODUCT

Machines that precisely fit your agency’s needs enable your crews to work efficiently, and help you stay within budget. Right-sized machines with features that help complete work effectively save on time and fuel costs.

Caterpillar understands this, and has expanded the line of Next Generation mini hydraulic excavators with six new models in the seven- to 10-ton category, and four more in the one- to two-ton class. Next Generation models provide optimum value for your agency in terms of performance, operator experience, serviceability, and affordability.

Six new models in 7- to 10-ton Class

The new-model lineup includes the 307.5, a standard tail swing model with a fixed boom; 308 CR, a compact-radius model with a swing boom; 308 CR VAB, featuring a variable-angle (two-piece) swing boom; 309 CR, a new model in the mini range featuring a compact radius, swing boom, and high-flow auxiliary hydraulics; 309 CR VAB, which expands the 309 CR’s capability with a variable-angle boom; and 310, also new to the range, featuring a fixed boom, standard tail swing, and twin blade cylinders for handling heavy-duty dozing chores.

An exclusive feature for new Next Generation models is the standard Cat Stick Steer system, which enables the operator to switch (with the touch of a button) from conventional lever/foot-pedal steering controls to low-effort joystick control.

Four New Models in 1- to 2-ton Class

Four new models in the one- to two-ton class expand choices for matching machine capabilities and machine features to the applications: 301.5 (1.5-ton class, standard tail swing, with canopy); 301.7 CR (1.7-ton class, compact radius, with canopy); 301.8 (1.8-ton class, standard tail swing, with either canopy or cab); 302 CR (2.0-ton class, compact radius, with either canopy or cab).

Visit Cat.com or our dealership to learn more about the Next Generation mini excavators model that best meets your agency’s specific application needs.
"The best way to improve fleet management is through communication with your technicians. Find your technicians’ strengths and weaknesses, and then educate them on their weaknesses. Make them feel that they are a part of a team all striving to be the best at their jobs.”

MIKE SHYMSKE
Equipment Manager
City of Solon, Ohio

"As fleet professionals, we’re always looking for ways to reduce costs, improve operational efficiencies, and maintain the highest level of customer service. We realized there was a tremendous amount of valuable, cost-saving information available to us through VisionLink, and we simply weren’t leveraging it properly. Capitalizing on the ability to manage both fuel consumption and idle time not only reduces overall fleet costs, it also increases productivity.”

JENNIFER GOODSELL
General Services Manager
Imperial Irrigation District
Imperial, California

"The best way to improve fleet management is by having an equipment dealer who is interested, responsive, and knowledgeable about our specific operations and equipment maintenance needs. This is important on a site-specific basis, so that we can acquire equipment that is based on what we truly need and how it fits into our facility operations. This enables us to operate more efficiently and economically.”

STEPHEN L BECKER
Solid Waste Supervisor
Asotin County, Washington, Regional Landfill

"It’s important to have a maintenance program that’s strictly adhered to and followed up with good record keeping. Small agencies, especially road districts, don’t have the budgets to replace equipment and tend to keep equipment longer. Preventative maintenance is a must. Make sure all fluids are changed according to the manufacturer’s recommended intervals. Be sure and pull oil samples from those changes and have them tested. It’s not cheap to do, but it is cheaper in the long run! ”

MARK RIDINGER
Director of Highways
Nez Perce County, Idaho
Machine uptime is crucial to your agency’s success. Your workload demands it. Our Cat® dealership’s diagnostic trucks help keep machine uptime high. The trucks service your fleet in the field or at your shop, saving your agency the time and expense of transporting machines to our dealership.

Each one of our heavy-duty trucks is equipped with a hydraulic crane, air compressors, cutting and welding equipment, laptop computer with diagnostic software, and the latest electronic equipment for fast and accurate troubleshooting and onsite service and repairs.

Highly skilled and experienced technicians, trained to service and repair Cat machines, staff each diagnostic truck. Technicians use the latest diagnostic software in the industry such as Cat Electronic Technician, Cat Product Link System, and Service Information System Web, to ensure that the most accurate information is used when servicing your fleet.

**Machine Shop on Wheels**

Fully equipped trucks, the latest technology, and highly skilled technicians mean that repairs are made correctly the first time. This saves you money, and means that your machines are back to work quickly.

Trucks can also provide lube service to your agency’s fleet in the field and at your agency’s shop. Lube services available in the field include:

- Inspections
- Scheduled fluids sampling
- Preventive maintenance services

We’ll safely dispose of used oil and other fluids. Our service records will help you make well-informed service and preventive maintenance decisions, and will be beneficial at resale time.

Contact our dealership to learn more about the variety of services available to you in the field or at your agency’s shop to help keep your fleet uptime high.
Keeping pace with trash trucked into your agency’s landfill can be a challenge. Following three basic maintenance practices improves machine uptime to help your crews meet the challenge.

**OPERATOR TRAINING**
Your agency’s operators know their machines inside and out, and can be a great help in detecting problems when they are small. But they need training to recognize when something is wrong. Training should include:

- A basic understanding of how machine systems work and wear.
- The ability to conduct a proper walkaround inspection.
- Knowing the different levels of machine warnings and how to respond appropriately.

**DAILY WALKAROUNDS**
Daily walkaround inspections may be the single best way to identify potential problems and prevent costly repairs. With a little training, and a walkaround checklist, operators can detect many problems in early stages.

Cat Inspect is an easy-to-use application that enables users to download Cat machine inspections. Digital inspections can be integrated with other systems like My.Cat.Com and VisionLink® for a more complete view of your fleet’s performance.

**REGULAR MAINTENANCE**
Oil and filter changes and fluids samplings should be completed on a regular schedule to keep machine uptime high. Shutting down a machine for scheduled maintenance helps prevent extended downtime for machine failure.

Product Link™ provides accurate, timely and useful information about machine utilization and condition. When combined with VisionLink, your agency can automatically schedule and monitor PM activities.

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**ALWAYS ON GUARD**
Machine guards help protect key components and systems from damage, debris, and wrapping of refuse materials around components. Guarding options include:

- **Engine and Power Train Guards** – Prevent trash build-up and shield components.
- **Front Frame Guards** – Stop trash build-up inside the frame, and protect components and hydraulic lines.
- **Axle Wrapping and Seal Guarding** – Block material from wrapping and binding around the axles.
- **High Radiator Air Inlet with Screen** – Helps prevent trash from entering the radiator area.
- **Striker Bars** – Help keep wheels free of debris.
OUT OF **THIS WORLD**

This summer marks the 50th anniversary of one of the greatest achievements in world history — Apollo 11’s successful landing on the moon on July 20, 1969. Caterpillar played a key role in the safety of the crew over the eight-day mission.

Communications between the Apollo crew and all NASA tracking stations around the world were provided by an 18-foot tracking antenna in North Carolina powered by 10 Cat® diesel gensets. Those stations played a vital role in the mission, enabling teams on the ground to maintain contact with the astronauts.

Since the 1969 moon landing, 10 United States astronauts have left their marks on the lunar surface. Caterpillar was there for all the landings, providing critical power that laid the technological foundation for space exploration, which has made our world a better place in so many ways.

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**APWA CALENDAR**

Upcoming training and education programs from the American Public Works Association (APWA) include:

**JULY 25, 2019**
The course, Developing and Managing Requests for Proposals, will be held in Kissimmee, Florida.

**AUG. 15, 2019**
The course, Maintain Shared Assets: Reduce Costs & Downtime with Teamwork, will be offered as a Webinar.

**SEPT. 8-11, 2019**
The Public Works Expo (PWX) will be held in Seattle.

For more information or to register online, visit APWA.Net/Events. Questions? Call the APWA’s Education Department at 800.848.2792.

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**NIGP CALENDAR**

Training and educational programs offered by the National Institute of Governmental Purchasing (NIGP) include:

**JULY 29, 2019**
The course, Developing and Managing Requests for Proposals, will be held in Austin, Texas.

**AUG. 25-28, 2019**
Forum 2019 will be held in Austin, Texas.

**SEPT. 26, 2019**
The class, Fundamentals of Leadership and Management, will be held in Seattle.

For additional information or to register online, visit nigp.org. More details are also available by calling 703.736.8900.
Orchestra music from resorts and ballrooms echoed across lakes in the Township of Mount Olive, New Jersey, in the decades after the Civil War and before the start of World War II. New York City high rollers spent nights at the township’s casinos. Families enjoyed long-remembered days canoeing, swimming, and fishing.

By the 1950s, resorts and casinos were mostly gone, and bungalows that had been summer homes in the Northwest New Jersey township were converted to year-round use.

Today, the Mount Olive Township Department of Public Works is using a community block grant to replace storm drains dating back to the resort era. Existing pipe is a mixture of sizes, and inadequate for the town of 30,000. Plastic pipe is replacing reinforced concrete pipe for a uniform, dependable system.

A Cat® 420F2 IT Backhoe Loader is doing all trenching and backfilling on the project. The backhoe loader works for all five departments that comprise the Department of Public Works. “The machine has done sewer lines, water mains, culverts, basically everything,” says Frank Wilpert, Jr., assistant director of public works.

The machine is most commonly used for excavation and drainage work, but has also been used for backfilling stone, planting trees, installing fences, pulling stumps, and snow removal. “We stage mud runs, and we’ll use the 420F2 IT for excavation of deep mud pits,” Wilpert notes.

**Tool Changes from Safety of the Cab**

The quick coupler enables operators to quickly switch attachments on the machine; which the town uses an average of 30 hours monthly. Mechanical attachments can be changed in less than 30 seconds from the cab. “The quick coupler in the front has been fantastic,” Joseph Zeim, fleet supervisor, notes. “We try to have that on every Cat machine that we order.”

“We can go to a jobsite with a multiple set of tools for the front of the machine, and not need to bring separate machines,” Wilpert says. “We can use a set of forks, instead of bringing a loader with forks. We keep interchanging the attachments at the jobsite. There’s no downtime.”
Zeim adds, “We can swing the boom over, and grab a different bucket, instead of bringing an excavator with a bigger bucket. It almost saves a whole morning.”

Many attachments are interchangeable with other machines, and are shared between departments. “If one department buys a bucket, the other departments are able to use it, too,” Wilpert says.

The machine’s high-flow hydraulics and powerful hydraulic pump provide full breakout force and full lifting capability while idling. “You can dig at an idle, and have the same amount of power,” Zeim says.

Purchasing the backhoe loader through a cooperative contract two years ago, saved staff the time of writing individual specs and reduced the machine’s purchase cost. “It’s much easier for us to purchase off that contract,” Wilpert says.

**Always Ready**

Uptime on the machine is 99 percent. “The operators do a walk-around every time that they use the machine to make sure that everything is alright,” Zeim notes. “It’s greased weekly, and washed every time that it comes back from a job.”

Township personnel change oil every 250 hours, and strictly adhere to the Caterpillar recommended preventive maintenance schedule. “It’s easy. I go online, punch in the serial number, and it has all the intervals and exactly what needs to be done at each one,” Zeim says. “The site provides part numbers, everything that I need.”

And a proud past becomes a bright future in Mount Olive Township.

**Switching to Cat Machines**

The township of Mount Olive, New Jersey, has been switching to Cat® machines in the past five years. Township employees are easily able to operate all Cat machines in the fleet. Service from Cat dealership, Foley Cat, helps keep uptime high.
WITH THE INTRODUCTION OF THE CAT® 440 AND 450 BACKHOE LOADERS, THE MOST VERSATILE MACHINE IN YOUR AGENCY’S FLEET IS NOW ABLE TO QUICK CONNECT TO AN EVEN GREATER NUMBER OF ATTACHMENTS TO EFFICIENTLY COMPLETE AN EVEN WIDER VARIETY OF WORK.

On both the 440 and 450, a variety of mechanical and hydraulic backhoe couplers is available from the factory or as a field installation. Options include dual lock pin grabber couplers and pin lock couplers.

Both models are available with the all new Integrated Tool Carrier (IT Coupler) for single tilt loader arm configurations from the factory or as a simple field installation. The IT Coupler provides quick connection to a variety of attachments from the safety and comfort of the cab.

Backhoe loader attachments, which can be purchased or rented at the Cat Rental Store, include:

**Backhoe Attachments:**
- Buckets – Standard Duty, Heavy Duty, Heavy Duty Rock, Soil Excavation, Coral, and Ditch Cleaning
- Cold Planers
- Hammers
- Augers
- Rippers
- Thumbs (mechanical and hydraulic)
- Vibratory Plate Compactors
- Quick Couplers

**Loader Attachments:**
- Buckets – General Purpose, Multi-Purpose, Side Dump, and Light Material
- Angle Blades
- Brooms
- Rakes
- Forks
- Material Handling Arm
- Snow Plows

Visit Cat.com or our dealership to learn more about using backhoe loader attachments to stretch your equipment budget.

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**INCREASED VERSATILITY**

**BACKHOE LOADER ATTACHMENTS TACKLE WIDE VARIETY OF JOBS**

**2D AND 3D SYSTEMS REDUCE PASSES AND TIME TO COMPLETE CUTS**

Grade with 2D system, which displays real-time bucket location relative to grade on the high-resolution touchscreen color monitor, is standard on all Cat® Backhoe Loaders. Operators select the desired target depth and target slope, and the system provides real-time guidance on depth, slope, and horizontal distance to grade. Height and depth alerts indicate target grade or obstacles.

Grade with 3D works is an optional feature. The system, well-suited for complex and multi-machine projects, provides real-time position guidance and the machine’s exact position relative to a GPS system.
Proper care must be taken to prevent injury when entering and exiting machines. Following a few, simple tips can prevent slips and falls, and help keep your agency’s personnel safe when getting in and out of the cab.

- Read the operation and maintenance manual for proper mounting and dismounting procedures.
- Inspect the condition of steps, ladders, and railings, and check for mud, water, ice, grease, or any other material that could cause slipping.
- Face the machine when mounting and dismounting.
- Always maintain three points of contact when climbing up and down. This means two feet and one hand or two hands and one foot in contact with the machine at all times.
- Don’t rush. Take the time to properly enter and exit the equipment. Take extra care in wet, snowy, icy, or other dangerous weather conditions.
- Hands should be free at all times. Don’t carry anything when climbing ladders. A rope may be used to raise or lower items, if necessary.
- Never jump out of the cab or off the equipment to exit. Always use the machine’s hand and footholds, and lower yourself in a controlled manner.
- When exiting, be sure the machine is turned off with the parking brake engaged, implements grounded, and the key removed from the ignition.
- Be sure gloves and boots are clean of mud, and any other materials that could cause you to slip or lose your grip, before climbing. Securely engage the entire hand and foot, avoiding toe-hold and/or finger-hold grips.
- Avoid wearing loose or torn clothing that can catch on the equipment.

Following these precautions will help prevent lost-time due to injury. Visit Cat.com to learn how to keep your operators safe when entering and exiting machines.
LEARN BY DOING

TRAINING AND SIMULATORS HELP IMPROVE OPERATOR, FLEET PERFORMANCE

Well-trained machine operators improve efficiency, and drive down the cost of maintenance, repairs, and your agency’s overall equipment operation budget. Training helps your employees operate machines more safely, and reduces unnecessary wear and tear.

A variety of training is available to meet your agency’s schedule and specific needs. Our dealership offers three types of training to improve your operators’ skills: Instructor-Led, E-Learning, and Cat Simulator Operator Training.

Instructor-Led - Our experienced pros provide personalized training and practical advice in programs that incorporate both classroom and on-machine instruction. Three training options are available: Improve competency of entry-level operators, hone skills of employees with three or more years of experience, and conduct an evaluation of employees and individual training to improve any deficiencies your operators may have.

E-Learning Operator Training - Machine-specific training in web-based and CD-formats, which can be utilized at whatever time is most convenient for your employees. Training improves operators’ basic knowledge of machine controls, maintenance, inspection, safety, pre-operating and operating procedures.

Simulator-Based Training - A safe and economical way to introduce your employees to new machines, and help new hires safely become familiar with equipment before confidently climbing into real cabs. Operators are able to practice difficult maneuvers repeatedly until fully mastered, without safety risk or machine damage. Four types of simulators are available: Dozers, excavators, wheel loaders and motor graders.

Contact our dealership to learn how training can help improve operator performance, safety, and reduce your agency’s equipment costs.
Sourcewell (formerly known as NJPA), one of North America’s largest governmental cooperative contract holders, recently awarded a competitively solicited contract to Caterpillar. As part of the evaluation process, responses from equipment companies were compared to multiple criteria to help governmental agencies determine the best value when making purchase decisions.

Caterpillar’s response — which included considerations such as pricing, customer service, warranties and others — was scored the highest among 14 equipment manufacturers who submitted responses. In addition to new machine sales, the newly awarded contract enables Cat® dealerships to sell parts, service, used equipment and to rent machines.

“We are extremely proud that the inherent value in Cat equipment was reflected in receiving the highest scoring response to this RFP,” said Ann Schreifels, Caterpillar Governmental Sales Manager. “Cooperative purchasing is a great way to ensure that governmental customers receive the best value for their money. This is our fourth award from Sourcewell, and we couldn’t be happier with the relationship we have with them. The strong focus they have on serving their member’s needs is perfectly in line with our own emphasis on customer satisfaction.”

Cooperative contract use is a fast-growing trend for governmental purchases thanks to its simple process and time-saving benefits. Additionally, it provides member agencies with the ability to make decisions based on overall value.

High-quality used machines available online at CatUsed.com

The Caterpillar used equipment website, CatUsed.com, has been refreshed to expand customers’ direct access to high quality Cat® equipment supplied from the Cat dealership network. From low-hour machines that serve as an alternative to buying new equipment to less-expensive, higher-hour machines with trusted reliability, a wide variety of machines is available through the site.

More than 22,000 used pieces — construction equipment, power systems, attachments and agricultural equipment — are available. All machines are Cat Certified Used equipment, which have been selected, inspected, and serviced to meet the Cat dealership network’s high standards.

NEW FEATURES OF CatUsed.com INCLUDE:

- Enhanced mobile design, enabling access to the site from any device
- Custom alerts that inform customers immediately when equipment meeting their needs becomes available
- Dealer services information
- Cat Certified Used equipment assurance of high quality

Visit CatUsed.com to learn more about the high-quality, used machines available to help your agency efficiently complete your work and stay within your equipment budget.
FLEET MANAGEMENT MADE SIMPLE

Fleet management is one of every agency’s top goals. Cat® Product Link™ is an easy, effective way to improve fleet management. The telematic system provides accurate, timely, and useful information about the location, utilization, and condition of your machines.

Product Link transmits fleet information via cell and satellite. The corresponding web-based application, VisionLink®, enables customized health and utilization reports delivered to your computer, tablet and/or smart phone.

Visit our dealership or Cat.com/governmental to learn how to use Product Link and VisionLink to improve your agency’s fleet management.

CAT FINANCIAL PROVIDES NUMEROUS OPTIONS FOR GOVERNMENTAL BUYERS

A wide variety of financing options is available from Cat Financial for all types of state and local governmental agencies. Financing options available to agencies include: non-appropriations clauses, extended protection and insurance services, low interest rates, and tax-exempt options when financing new or used equipment.

Or consider a governmental lease or tax lease, either of which can be cancelled without penalty on the last day of an appropriations period, if funding isn’t approved for the following year. Contact our dealership or visit Cat.com/governmental to learn more about the financing options available from Cat Financial that help achieve your agency’s budgetary objectives.