

# The Municipal Pipeline

## Ottawa installs 16" (400mm) Bionax® PVCO Pipe



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**Mike Taggart**

Owner of Taggart Construction Ltd.

The Cardinal Creek Village project in Ottawa marked the first time that the City of Ottawa used 16-inch (400mm) Bionax PVCO (molecularly oriented polyvinyl chloride) pipe from IPEX. “Ottawa is one of our largest markets, so it was a pretty big deal,” explained Perry Crozier, Ontario Municipal Representative. “They wanted to try the 16 inch (400mm) because they were really happy with the product in smaller diameters. Now that they have worked with this new product, it will be added to their specs for next year, and we will be able to use it for future projects.” Mike Taggart, owner of Taggart Construction Ltd. and contractor for the project adds, “We had to get special permission from the City for this pilot project in 16" (400mm) Bionax PVCO. The pipe was installed with absolutely no leaks, and there were no issues with any of the fittings and restraints. It all went very well.”

Smaller diameter Bionax PVCO has been Ottawa’s choice in areas of critical infrastructure, such as those involving high traffic and the need for accessibility in downtown areas. Says Crozier, “The City of Ottawa likes to use it in the downtown core. When they are working in tight constraints, they know they won’t have an issue with Bionax PVCO. There’s no risk of damage spreading because of a split pipe, which can happen with regular PVC pipe.” The Cardinal Creek Village area has its own unique demands that made Bionax PVCO the best choice.

Cardinal Creek Village is part of an area that will be developed over a period of twenty years as part of a Community Development Plan process. The area is bounded

by the Ottawa River on the north and by residential and agricultural areas on the east. To the west are both existing and developing urban residential areas, land set aside for industry, and a major community transit park and ride. Crozier adds, “The full development potential of the subdivision consists of 540 semi/townhouse units, 440 single family homes, 60 back-to-back townhouse units, three schools, three parks, four mixed-use blocks, one medium-density block, and a network of local and collector roads.”

An added challenge to the project was that the subdivision was going to be serviced by two separate municipal water main operating pressure zones. The lands designated as Phase 1A will be connected to the City of Ottawa’s existing infrastructure, which is a 1E pressure zone. Phase 1B lands will be fed from existing infrastructure in 1E and 2E pressure zones. As a result of the development’s master servicing study process and analysis using detailed hydraulic modelling, the boundary between the two zones was designated as 70 m. Within this area is a band between approximately 63 m and 77 m that can be serviced by either pressure zone. Bionax PVCO provided the solution to the challenge without changing the diameter of the pipe required. Because Bionax PVCO is not as thick as regular PVC pipe, it has the larger interior size that offers the flow capacity required to transition between the two pressure zones while still maintaining the outside diameter required for the connectors.

## New 14", 16" & 18" (350mm, 400mm & 450mm) PVC Pressure Pipe

- ✓ 40% Lighter than Conventional PVC
- ✓ 3 Times Tougher than PVC
- ✓ Easier to Install and Time Saving
- ✓ No Risk of Damage Spreading
- ✓ Large Interior Size
- ✓ Corrosion Resistant



Taggart had never worked on a project with two different pressure zones like the one at Cardinal Creek. "It's very unusual to have two water mains on the same street: one with high and one with low water pressure." The new low pressure line is being pressurized now. In the future phase, the high pressure line will be pressurized. Taggart values the partnership he has with IPEX. "We've been buying pipe from IPEX for a long time. We have a very good partnership with them, and if there are any issues, Perry is on the job and there's not a problem. It's a very good relationship."



Weighing 40 percent less than regular PVC pipe, Bionax PVC is a popular on-site product. Crozier explains, "They put the pipe on a block in order to attach the fittings before they lower it into the trench, and because of the lighter weight, they can manipulate the pipe manually to get their work done. They couldn't do this with PVC pipe. Anything that makes the job easier for the people on the site saves some time in the long run. With the project requiring approximately 3200 m of 16 inch (400mm) pipe alone, that's important time saved." Construction on the current phase is complete.

"One thing that the City of Ottawa appreciated was that our submission included the offer to do training," said Crozier. "We trained approximately 30 people on site, including people from the city and the contractors. We worked with contractors and

installation crews, training them on the right ways to handle restraining devices, how to put them on, and how to attach the service connections. We also include an installation guide as part of the training, and show the importance of going through all the steps and not doing anything outside of our recommendations." Crozier adds, "We got great comments from people at the city about how much they appreciated our training and support." Taggart agrees, "For my experienced crew members it was a good refresher course. Some of the other men on the crew hadn't installed pipe at that diameter, so it was new to them. The training was definitely helpful."

Municipalities know that subdivision contractors are often under a lot of pressure from developers to get their jobs done so that roads can be paved and the contractors can begin selling houses. The other reality is that often municipalities are understaffed and cannot deliver the frequent, ongoing inspections that these projects require. If there is a problem with the installation or the product, the city is responsible down the line for costly repair and maintenance of the infrastructure. "We pride ourselves as leaders in the industry, because we offer the training and support that ensures proper installation the first time and a good quality product that will withstand stress and be easy to adapt in the future," says Crozier. "If the city has to come into a subdivision and tap a service off a regular PVC pipe that is bent or under stress in any way, there's a good chance that it might split. Bionax PVC doesn't fail in that way. You can tap it on a bend and not worry about expensive and lengthy repairs."

Crozier appreciates the leadership that the City of Ottawa provides. "A lot of municipalities in the area outside of Ottawa follow Ottawa specs. Ottawa does all the leg work, and the other municipalities look at what Ottawa does and do the same." From the city's point of view, using 16 inch (400mm) Bionax PVC for this new development was the perfect choice. For IPEX, the City of Ottawa's incorporation of the new specs will open doors for new markets in the future.