

---

# HALDIMAND COUNTY

## Report CDP-04-2023 Community Partnership Program – Haldimand Youth Soccer Club Autonomous Line Painting System



For Consideration by Council in Committee on February 28, 2023

---

### OBJECTIVE:

To obtain approval from Council to support Haldimand Youth Soccer Club's purchase of an autonomous (robotic) field line painting system as a means to improve soccer field condition and player experience and to maximize limited volunteer resources.

### RECOMMENDATIONS:

1. THAT Report CDP-04-2023 Community Partnership Program – Haldimand Youth Soccer Club Autonomous Line Painting System be received;
2. AND THAT the request to purchase an autonomous field line painting system by the Haldimand Youth Soccer Club for use at both the Caledonia and Cayuga soccer complexes be approved;
3. AND THAT capital project funding to an upset amount of \$24,500 to support the purchase of an autonomous field line painting system, with related funding from the Community Partnership Capital Reserve, be approved;
4. AND THAT project and funding approval is conditional upon compliance with Policy 2011-01 and County standards, permits, and processes;
5. AND THAT the revised budget, as outlined in Report CDP-04-2023, be approved.

**Prepared by:** Sheryl Sawyer, Senior Community Partnership Liaison

**Reviewed by:** Katrina Schmitz, Manager, Community Development & Partnerships

**Respectfully submitted:** Mike Evers, MCIP, RPP, BES, General Manager of Community & Development Services

**Approved:** Craig Manley, MCIP, RPP, Chief Administrative Officer

### EXECUTIVE SUMMARY:

The Haldimand Youth Soccer Club (HYS) operates community soccer programming at both the Caledonia McClung Soccer Complex (Attachment 1) and the Cayuga Broecheler Park (Attachment 2) for the benefit of the community. Line painting has become an onerous task, leading to volunteer burnout and increasing operating costs. HYS wishes to minimize these challenges by investing in a turnkey autonomous line painting system.

### BACKGROUND:

Haldimand County's Community Partnership Program (CPP) is intended to encourage and enhance strategic partnerships to the benefit of community stakeholders and the municipality – offering a simple, streamlined, and customer-focused approach. The program is intended to balance the rigour of the

review process—necessary to ensure legitimate public interest issues are addressed—with flexibility and respect for the volunteer commitment of the groups.

Partnerships are an effective way to support groups and the County in achieving community and strategic goals. The CPP policy and process help the County identify and prioritize appropriate partnerships in a fair, clear and consistent manner, including providing a single, efficient entry point for community proposals into the municipality. All community requests to conduct work on County-owned land, regardless of whether they require County/other funding or are 100% funded by the applicant, are assessed and require County approval. The process includes a comprehensive staff evaluation—prior to approval—to ensure any issues or impacts of the proposal on the municipality and/or other stakeholders are resolved.

Since 2011, when the CPP program was established, more than 88 capital projects have been completed, leveraging more than \$3.5 million in community-raised funds to construct almost \$6 million in County enhancements.

Haldimand Youth Soccer Club (HYS) has worked closely with the County for more than thirty years, becoming a partner in the Fields & Parks Management Program and managing 108 acres of County recreational soccer facilities and serving hundreds of soccer players per season.

The request from HYS is for:

- (i) Approval to purchase the autonomous line painting system for use on County property; and
- (ii) Capital funding to support the purchase, with related upset funding in the amount of \$24,500 from the CPP Capital Reserve, representing 35% of the total budget of \$70,000.

## **ANALYSIS:**

The Haldimand Youth Soccer Club (HYS) has been in operation since the mid-1980s, formalizing its relationship with Haldimand County in 2006 and again in 2019 as a member of Haldimand County's Fields & Parks Management Program. The incorporated volunteer group receives seasonal grants for operation of both the Caledonia and Cayuga soccer complexes, an amount roughly equal to 35% of what it would otherwise cost Haldimand County to maintain the property with County staff and resources.

In collaboration with the County, HYS built and has been operating both parks under formal operating agreements with the County since 2006 – always meeting its agreement obligations. The Caledonia site boasts 17 soccer pitches, a clubhouse/storage facility including a full commercial kitchen and indoor washrooms, and a covered pavilion which was upgraded in 2019 through Report CDP-08-2019. At the Cayuga facility, there are 15 soccer pitches (one with full lighting), a storage building including indoor washrooms and a servery kitchen.

In order to support the ongoing care of the soccer complexes, the volunteer group has accessed grants and raised funds to purchase several tractors, related maintenance equipment and to construct improvements to the roofed pavilion. In 2018, the Haldimand Youth Soccer Club was recognized by Ontario Soccer, winning the prestigious Club Recognition Award.

The current request is for partial County funding through the Community Partnership Program Capital Grant stream for 35% (up to \$24,500 in County funding) toward the purchase of an autonomous field line painting system which will help to better serve the community and reduce the burden on HYS volunteers.

### **Reduction in Volunteers and Capacity:**

Volunteerism has declined since the onset of the pandemic – some organizations reported losses of almost 75% of their volunteer workforce over the period of March 2020 through March 2021, according

to a CharityVillage.com report. The situation has not yet improved: a survey by Statistics Canada in November 2022 found that 67% of organizations indicated difficulty in recruiting volunteers and that many service organizations had had to cut back on services offered to the public as a result.

Haldimand County has not been spared from these challenges and many of our groups—from community halls to fields management to special events—have seen a decline in volunteers/volunteer hours. HYS, as a Fields & Parks Management partner, is reliant on volunteers in most of its service aspects—from administration to coaching to field maintenance—and wishes to make volunteering for HYS less of a chore and more of a joy in contributing. The group has identified that finding volunteers to regularly undertake the work of lining the fields has become challenging due to the heavy physical nature of the work, on an ongoing basis, throughout the summer.

Previous line painting has been done at the onset of each season by a professional company at a cost of \$10,000, ensuring that the lines at the beginning of the season are accurate. Every 7-10 days, four to six volunteers are required at each location (Caledonia and Cayuga) for a full day to re-line the fields using heavy, manual equipment. With the new robotic machinery, only one or two volunteers are needed. (The second volunteer is helpful to speed up paint refilling.) The autonomous equipment will also provide a higher quality of line painting. Volunteers have done their best to follow the professional lining template but, invariably by the end of the summer, the lines become less straight and accurate due to the limitations of the manual technology.

It has proven unsustainable to rely on volunteer manual line painting. To contract a professional service to do all the line painting throughout the season would cost the group approximately \$70,000 per year, while purchasing the autonomous system to be operated by volunteers will cost approximately \$36,000 per year – including the cost of equipment amortized over five years, paint costs, and annual data services required to access the satellite technology required to operate the machinery. A detailed cost-benefit analysis is included below.

#### Cost-Benefit Analysis:

Current Situation/Options (both Caledonia & Cayuga locations)	Details	Annual Cost
<b>Option #1</b> <b>Hybrid of One-Time Professional/Seasonal Volunteer Line-Painting</b>	<ul style="list-style-type: none"> <li>• Current approach</li> <li>• Initial lining by professional company (Simplistic Lines) includes all paint &amp; labour costs</li> <li>• Follow-up lining by volunteers throughout the season including: <ul style="list-style-type: none"> <li>– Manual machine costs</li> <li>– Paint</li> <li>– Volunteer labour (4 volunteers x 6 hrs. each x 12 times/yr. x 2 sites x \$16.50/hour)</li> </ul> </li> </ul> <p><b>Total annual cost: \$33,146</b></p> <ul style="list-style-type: none"> <li>• <u>Not recommended</u> as it is not sustainable given the associated time commitment and physical burden on volunteers.</li> </ul>	<p>\$10,000</p> <p>\$642</p> <p>\$13,000</p> <p>\$9,504</p>

<b>Current Situation/Options</b> (both Caledonia & Cayuga locations)	<b>Details</b>	<b>Annual Cost</b>
<b>Option #2</b>  <b>Professional Line-Painting Service for the Season</b>	<ul style="list-style-type: none"> <li>Initial lining by professional service, (Simplistic Lines) includes all paint &amp; labour costs</li> </ul>	\$10,000
	<ul style="list-style-type: none"> <li>Seasonal follow-up lining (\$2,500 x 12 times/yr. x 2 sites)</li> </ul> <p><b>Total annual cost: \$70,000</b></p> <ul style="list-style-type: none"> <li><u>Not recommended</u> as it is not a sustainable operating cost for the group.</li> </ul>	\$60,000
<b>Option #3</b>  <b>Autonomous Line Painter</b>	<ul style="list-style-type: none"> <li>HYS volunteers to complete all seasonal line painting with the proposed autonomous line painter</li> </ul>	
	<ul style="list-style-type: none"> <li>Equipment cost (\$70,000 over 5-year lifespan)</li> </ul>	\$14,000
	<ul style="list-style-type: none"> <li>Paint costs (\$500 x 13 times/yr. x 2 sites)</li> </ul>	\$13,000
	<ul style="list-style-type: none"> <li>Volunteer labour calculated at \$16.50/hr. (2 volunteers x 4 hrs. each x 13 times/yr. x 2 sites)</li> </ul>	\$3,450
	<ul style="list-style-type: none"> <li>Data charges for GPS</li> </ul>	\$3,500
	<p><b>Total annual cost: \$33,950</b></p> <ul style="list-style-type: none"> <li><u>Preferred option</u> given the ease and quality of the line painting and manageable volunteer commitment.</li> </ul>	

Purchasing an autonomous line painting system will eliminate the cost of professional lining at the start of the season, will ensure that lines during the season remain accurate and will allow limited volunteer resources to be better allocated during the season.

### Project Details:

Line painting is core to operating a soccer facility. Athletic field paint is made from a combination of latex paint, water, and glue. To protect the environment, the paint dissolves within a short time—usually 7-10 days on natural grass turf—and needs reapplying on a regular basis. The process is very expensive – either in professional services or in volunteer labour time and physical strength. The current line painting system in use for both HYS-maintained properties is cumbersome to operate and very heavy to move.

HYS is facing a crisis of sorts – to either pay a professional service to keep its fields lined (which would result in higher registration fees for participants) or to invest in technology that can keep the fields lined accurately while protecting volunteer resources. The incorporated Board of Directors for HYS voted to instead pursue the technical option in purchasing an autonomous line painting system.

The equipment being requested will eliminate the need to pay for costly lining at the start of the season and provide a replacement to bulky manual line painting that is difficult for volunteers to manage on an ongoing basis both from a physical and accuracy perspective. Precise and relatively easy field lining

enhances the player experience, maintains HYS professionalism and ability to attract higher-level teams and tournaments and reduces an extreme physical burden on the volunteer workforce.

### **The Technology:**

The requested equipment uses precise GPS guidance, similar to that in use by some farmers. The autonomous unit allows for pinpoint accuracy and is easily modified for flexible field outlines based on demand and use. For example, mid-summer, under-6 soccer practice and games (multiple playing fields per pitch) may give way to regulation-size playoff fields by autumn tournament season.

The equipment component of the line painting system includes the following assets:

- Battery-operated SWOZI Cart Pro fully autonomous line painter, modified to use convenient large-volume paint pods (consistent with pods already in use at HYS), with a lift assembly to allow for precise height adjustment;
- Charging station and extra batteries;
- Android table interface which is easy to learn and user-friendly;
- A custom trailer solution with portable storage tank to accommodate bulk paint pods; and
- Set-up, guidance, and technical support by a Hamilton-based company.

Software on the included Android tablet that will control the unit is to be loaded with location-specific field lining templates, based on the needs of HYS. The lining cart itself relies on Virtual Reference Station satellites, offering centimetre-level accuracy through multiple reference stations that counteract distance-dependent systematic errors such as satellite orbit errors or atmospheric refractions. In practical terms, the lines painted by the SWOZI Cart Pro offer accuracy within a few inches over 100 yards of painted lines.

### **Community Need and Benefit:**

Hundreds of soccer players access programming through the Haldimand Youth Soccer Club (HYS). The expectation of parents and players is for professional-quality amenities on which to learn and to progress to a higher level of play. Affordable registration rates are a key driver of soccer registrations, with participants needing minimal equipment outlay – and HYS wishes to preserve those affordable rates for the community by choosing not to pay for season-long professional line painting. Investing in line painting technology allows both objectives for users and families—affordability and quality field condition—to be achieved. Additionally, an autonomous line painting system allows for volunteers to help with programming and other aspects of field maintenance and management as opposed to spending significant hours on manual line painting, as is the current practice.

An extremely accessible and affordable sport, soccer is growing in Canada given that families can register their child with minimal equipment outlay. HYS registrations have reflected this trend – in the first four days of the 2023 registration period, HYS saw more children registered than in the first four weeks of the 2022 season. In 2019, Canada Soccer reported that there were over one million registered soccer players in Canada, in comparison with just over 600,000 hockey players. Population growth, particularly in the burgeoning Caledonia Avalon community, which borders the Caledonia McClung Soccer Complex, is also feeding this trend.

### **Alignment with Haldimand County Council Priorities and Corporate Strategic Pillars:**

Policy 2011-01 is intended to provide a simple, streamlined, and customer-focused approach to facilitating positive partnership investments to improve County facilities and to balance the rigour of the review process with flexibility and respect for the volunteer commitment of the groups.

One of the key principles of the Community Partnership Program is that all approved projects are in alignment with one or more of the strategic plans for the County. The current project aligns with the following 2018-2022 Haldimand County Council Priorities in the following ways:

*Customer Service Enhancements:* allows HYS to offer high-level recreational facilities while keeping costs low for participants.

*Recreational facility needs & implementation strategy:* updates playing facilities with state-of-the art precision lining and accommodates both population growth and soccer popularity growth.

The current project also aligns with the principles of the Corporate Strategic Pillar identified as *Community Vibrancy & Healthy Community: investing in high-quality sustainable services that promote the well-being of communities and contribute to the betterment of the quality of our natural environment or the health of residents.*

## **FINANCIAL/LEGAL IMPLICATIONS:**

Policy No. 2011-01 states that the Community Partnership Program (CPP) will encourage and actively support partnerships with not-for-profit community groups. Within the Capital Projects Grant Program, Council has the responsibility to approve community capital projects with an overall budget of greater than \$10,000.

The overall budget for this equipment purchase is \$70,000. Haldimand Youth Soccer (HYS) has requested 35% funding from the Community Capital Grants Program, which is in keeping with the related policy and is currently available in the Community Capital Reserve. Should this initiative be approved, there remains approximately \$160,370 in the Community Partnership Reserve which is unallocated for 2023. This balance includes the annual 2023 contribution amount of \$150,000, which will be approved with the passing of the 2023 Tax-Supported Operating Budget.

The full warranty for the autonomous line painting system is one year. Simplistic Lines, the Canadian distributor of the SWOZI autonomous line painting system, will be responsible for any needed repairs or support. HYS has had a good working relationship with Simplistic Lines for many years in its capacity as a contracted line painting company for season-initial lining, and reports the company to be responsive and responsible in all aspects of customer service. While estimating the lifespan for brand-new technology is difficult, it can be safely said that the mechanical components of the system (e.g. cart, paint distribution system, trailering, storage system) can be expected to have a ten-year lifespan, based on manufacturer's specifications. Software component upgrades and updates on the lining equipment, plus the included Android tablet, will be ongoing expenses which are fully the responsibility of HYS.

The CPP Policy (2011-01) requires that all community funding for Council-approved projects must be in place with the County or secured/confirmed with the applicable community group prior to the start of any project. HYS has, in hand, its community share of 65% of the project budget and would like to proceed with purchase immediately following Council approval of the project.

As a result of the proposed project, the following capital budget amendment is requested:

	<b>Current Approved Budget</b>	<b>Proposed Revised Budget</b>
<b>Expenditures</b>		
Autonomous Line Painting System	\$0	\$70,000
<b>Total Expenditures:</b>	<b>\$0</b>	<b>\$70,000</b>
<b>Financing</b>		
Community Contribution (65%)	\$0	\$45,500
Community Partnership Capital Reserve (35%)	\$0	\$24,500
<b>Total Financing:</b>	<b>\$0</b>	<b>\$70,000</b>

In addition to the funding required for the requested equipment purchase, the Public Sector Accounting Board (PSAB) reporting standards require the County to record the fair market value of contributed assets. This capital equipment will be amortized over the estimated lifespan of the associated asset for accounting purposes.

Ongoing management, maintenance, repairs, replacement, insurance, and storage of the autonomous line painting system will be the responsibility of HYS through its Fields & Parks Management agreement with Haldimand County. Replacement or upgrades of major components of the system, such as updating or replacing of parts, (including technical and software components), may be assessed in the future as community partnership initiatives between HYS and Haldimand County. Ongoing utility and consumables costs will be the responsibility of HYS.

Since this is a very specialized technology, only one company in North America, Simplistic Lines, is able to supply a quote and provide the equipment and expertise. HYS has worked with Simplistic Lines for paint supply and season-initial lining for over ten years and reports that Simplistic offers reliable and responsive customer service to HYS, with the expectation to continue the good relationship.

## **STAKEHOLDER IMPACTS:**

This application was assessed by the Community Partnership Program's Staff Review Team, which is comprised of staff from all County Divisions. In particular, staff from Facilities, Parks, Cemeteries & Forestry Operations and Finance provided detailed feedback.

Community stakeholders—aside from Haldimand County, Haldimand Youth Soccer and its volunteers—include players and the community-at-large. Players will benefit from crisp, professionally-lined fields throughout the season, allowing for confidence in a higher level of play and refereeing consistency for advanced players and recreational learners alike. The Club is eager to provide—with the County's support—this cutting-edge technology for the benefit of residents.

## **REPORT IMPACTS:**

Agreement: No

By-law: No

Budget Amendment: Yes

Policy: No

## **REFERENCES:**

1. [Fields & Parks Management Policy 2019-04](#)
2. [Community Partnership Program Policy 2011-01](#)
3. [CDP-08-2019 Community Partnership Program – Haldimand Youth Soccer \(Caledonia\) Pavilion Enhancement](#)

## **ATTACHMENTS:**

1. Location Map - Caledonia McClung Soccer Complex.
2. Location Map - Cayuga Broecheler Park.