

FEASIBILITY STUDY

Red Island Contractors Inc. +
BDA Landscape Architects +
Roy Consultants +
EVOQ Architecture

Kciw Knicanewek Sports and Recreation Park

TOBIQUE FIRST NATIONS, NB

FEBRUARY 18, 2019



Red Island Contractors Inc. (RICI) has assembled a dynamic project team to undertake the design of the Kciw Knicanewek Sports and Recreation Park. The most unique aspect of the project team is that two community members own Red Island Contractors Inc. The project team includes for landscape architecture services - BDA Landscape Architecture, for architecture services - EVOQ Architecture and for engineering services - Roy Consultants.

The project team members have an extensive experience working with First Nation governments on community infrastructure. The project team has a complete understanding and appreciation for the importance of incorporating cultural symbols and icons. The inclusion of local motifs and artisans in the design and construction processes add a significant sense of ownership from the community members.

The Tobique First Nation is a community with a vibrant and positive vision for the future. The Kciw Knicanewek Sports and Recreation Park will certainly be an expression of the unique culture and dynamism of the community members. The structure will be designed to meet the functional needs of organization within a warm and familiar venue.

The project team will work collaboratively and openly with First Nation clients to ensure that both the process and product are of the highest quality for budgetary and time requirements. Many projects entail working with traditional artists of the region to embed cultural symbolism within the design. The team is constantly strive to balance cultural sensitivity and environmental responsibility through the use of sustainable technologies and renewable resources where possible.



TABLE OF CONTENT

1	Introduction
3	Location Plan
5	Existing Influences
6	Project Design Approach
7	Architectural Approach
8	Park Plan
9	Rendering Images
19	Phasing Costs
20	Cost Estimate
23	Appendix A - Civil Engineering
24	Appendix B - Stormwater Management
25	Appendix C - Plan on Air Photo
26	Appendix D - Architectural Program and Schematic Plan of the Field House



The Tobique Youth Council

INTRODUCTION BY TOBIQUE YOUTH COUNCIL

The Tobique Youth Council is proud to have worked on the design of the Kciw Knicanewek Sports and Recreational Park. The community is truly excited about the design and location of the recreation facilities. The new facilities will be a catalyst for greater physical activity and community wellness.

The youth council is a collection of dedicated high school students ranging from the ages of 14-18 and three (3) committed group leaders. The Tobique Youth Council was created 2015 to give the youth an opportunity to do something better for themselves and their community; thus, creating a purposeful citizenry that strives to make promote a healthy and resilient community for the benefit of future generations.

The members of the youth council identified the lack of recreational and play areas in the community as a significant impediment to community wellness. In the past, the Tobique First Nation was known for its athletic prowess, especially in baseball and hockey. The community had often hosted sports tournaments like the Indian Summer Games, cultural gathers like Pow-wows, political assemblies like All-Chief Assemblies, and open-air entertainment events like carnivals and holiday celebrations. The current situation is a mere shadow of the past. In addition, the lack of physical activity if left unchecked will have long-lasting negative health and social consequences. It is for these reasons, the Tobique Youth Council decided it is now the time to act. The members of the youth council have a vision to build a multifunctional park that can host sport and cultural events and provide a place for family and friends to enjoy fresh air, open spaces, and facilities to gather and cook. The youth will be relentless in their quest to effect change.

The Tobique Youth Council imagines a multifunctional park that includes a playground, splash pad, outdoor rink and seating areas giving the youth a safe space that they can value and is an area that the youth can enjoy on their own, with friends, or with family. The multifunctional park helps prevent excessive screen-time, isolated play while promoting more physical activity, and social interaction by providing recreational opportunities for children and families all year round. Having a family-friendly environment that allows community members of all ages to enjoy not only provides ample room to run about and enjoy the outdoors, but it also enhances social and interpersonal skills of children and youth, family outings, and community cohesion.

The multifunctional park will have a green theme. The park can be viewed as a

reclamation project because it will be located on a former community dump site which when decommissioned left the lands unsuitable for residential and commercial purposes. This project will reclaim those lands for useful purposes and attract development to the abutting lands; which will be zoned for a new medium density residential sub-division that will have mixed housing units. The park will use products and methods that minimize the generation of Green House Gas emissions such as wood construction rather than concrete and steel, access roads free of petroleum products, and renewable sources of power to meet the electrical demands of the park.

The Tobique Youth Council has and will continue to raise funds for the project. In collaboration with the Chief and Council fund-raising will include sponsored runs to the funding agencies, lotteries, social impact investments, and corporate donations. In addition, the First Nation, federal and provincial governments have a role to play in effecting change. The First Nation has and continues to provide administrative support to the Youth Council. The provincial government can assist the project by providing financial contributions supporting the reclamation of waste lands, and the use of goods and services that reduce the project's carbon footprint. The federal has a larger role to play. The Truth and Reconciliation Commission (TRC) contemplates mechanisms to promote community wellness. More specifically, Section 89 of the TRC's Call to Action report directs the federal government to promote physical activity as a pathway to community wellness.

89. We call upon the federal government to amend the Physical Activity and Sport Act to support reconciliation by ensuring that policies to promote physical activity as a fundamental element of health and well-being, reduce barriers to sports participation, increase the pursuit of excellence in sport, and build capacity in the Canadian sport system, are inclusive of Aboriginal peoples.

The federal government will be asked to make significant financial contributions that match the effort of the youth.

The community of Tobique First Nation and the Tobique Youth Council will be enriched and inspired with the creation of the new park and youth in the community will finally have a safe space to play and build happy healthy relationships.

Their overall motto is "Be the Change you want to see in the world".

LOCATION PLAN



(<https://www.google.com/maps>)



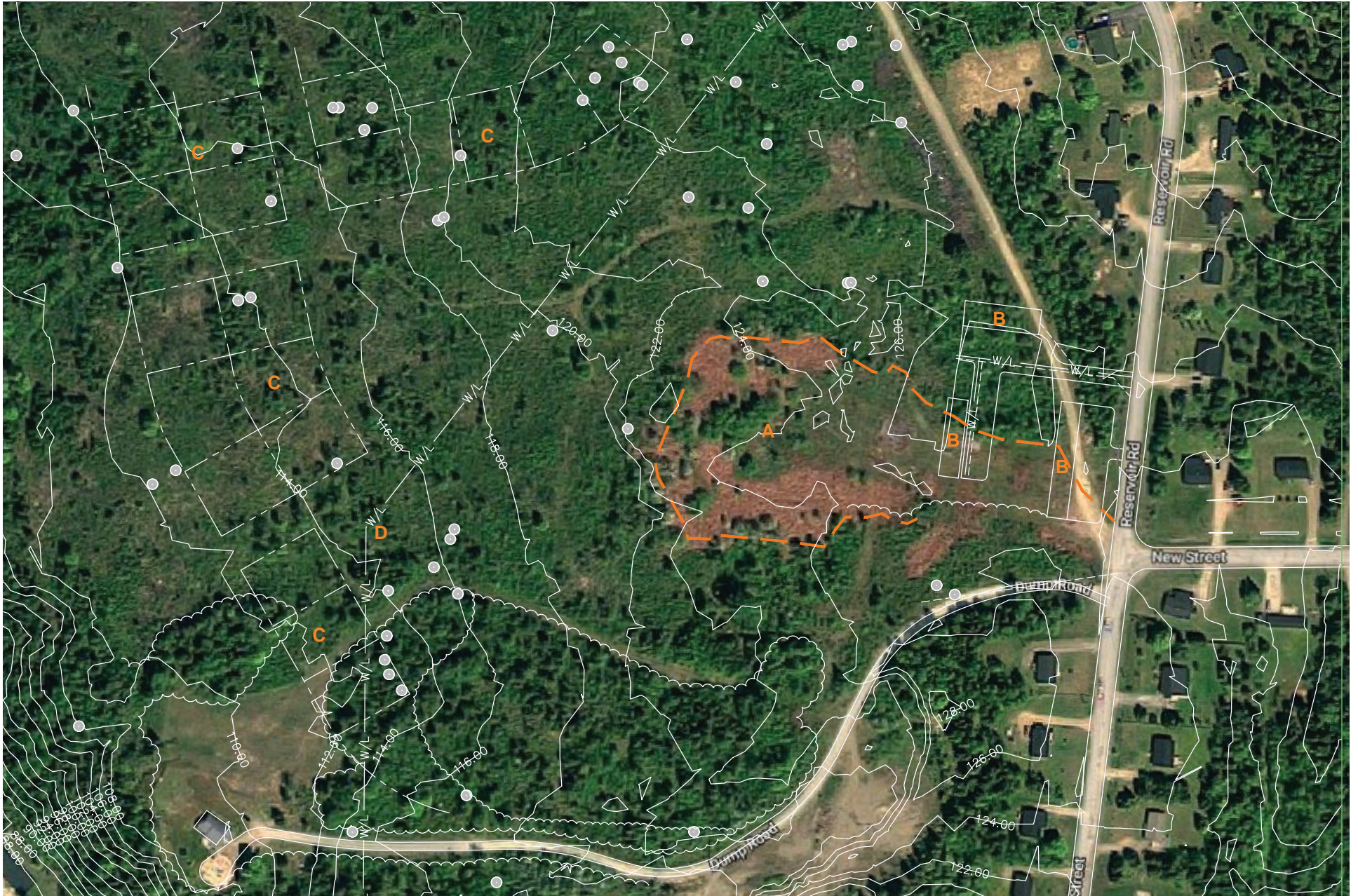


Existing Adjacent Housing (J. Sackville)

The proposed site for the Kciw Knicanewek Sports and Recreation Park is centrally located in the community providing equal access to residents. The site is a mix of existing former and planned land uses:

- A. The site was the former location of the community land fill/dump which is now closed. An investigation of the landfill is proposed in phase 1 to determine if further remediation is required. The park plan will be designed to avoid cutting into the dump. Recreation facilities will be placed on the capped landfill area without disturbing the underlying materials.
- B. The site is bordered on the east side by a recently constructed social housing project on Reservoir Road. This population is a significant user group for the park and ease of access and how the housing development addresses the park in an important part of the plan (“Eyes on the Park”).
- C. The site accommodates the demand for housing, the Band has designated the land north and west of the park site as residential. A concept plan has been prepared that illustrates a possible layout of building lots and streets.
- D. The Band is currently planning a new 200mm water transmission line to upgrade the water system on the Reserve. This proposed line crosses the park site. During the course of the design for this corridor a simple environmental review was conducted by Hive Engineering. It was determined the site supports a grove of Butternut (*Juglans Cinerea*) trees which are a protected species at risk. Hive Engineering mapped the Butternut trees and identified the trees to be protected which are shown on the air photo (right). The park plan will be developed to avoid these trees.
- E. The topography of the site includes an upper plateau of the dump site at elevation 123 meters and sloping five percent from east to west to a lower level of 116 meters.

EXISTING INFLUENCES



- A Existing Abandoned Dump Site
- B Existing Housing
- C Future Housing Lots
- D Future Waterline

- Former Dump
- W/L — Future Waterline
- 123.00 — Existing Contours
- Existing Butternut Trees (Protected Species At Risk)

1:2500

PROJECT DESIGN APPROACH

The proposed access to the park is a street that aligns with New Road and forms an intersection with Reservoir Road. This street is part of an overall neighborhood street network plan that ties the existing social housing to a street and connects them to the proposed subdivision. The urban design context of the park is to have it nested in a residential neighborhood with local pedestrian and bicycle access and a regional address off Reservoir Road for vehicle access.

The gateway to the park is one block in from Reservoir Road, this is marked by large natural stones with the park name engraved in them.

The park is organized on two levels to accommodate the land fill cap (upper level) and the existing topography. The upper level is set at a grade of 123 meters and includes the baseball diamond (310' center field), a parking area and the grounds building. The baseball diamond is oriented north to south for optimal play.

The lower level is set at a grade of 118 meters and includes a larger parking area with a drop-off, turning loop, and space for buses. The south side of the lower level includes a soccer field and track cut into the slope providing a seating area along the east end of the field. The north side of the lower level is the day-use area of the park, this includes:

- Field house with a canteen, common area, washrooms, warm-up area for winter use (rink/sliding), and Zamboni garage.
- Multi-purpose concrete slab with a roof (60x120') for a winter rink, summer basketball, lacrosse, roller blading, ball hockey, etc. The covered slab could also host other activities/events such as a markets.
- A sliding hill on the 3:1 slope (five meter drop) from the baseball diamond to the lower level adjacent to the playground.
- Playground with activities for children of all ages and abilities.
- Amphitheater built into the slope.
- Splash pad.
- Picnic Area that includes a central gazebo for large groups, smaller picnic shelters, shade trees and grass area.
- Trail loop connecting all the activities in the park for access and as a walking/exercise network.

HISTORICAL PHOTOS / THE CANOE AS A SHELTER

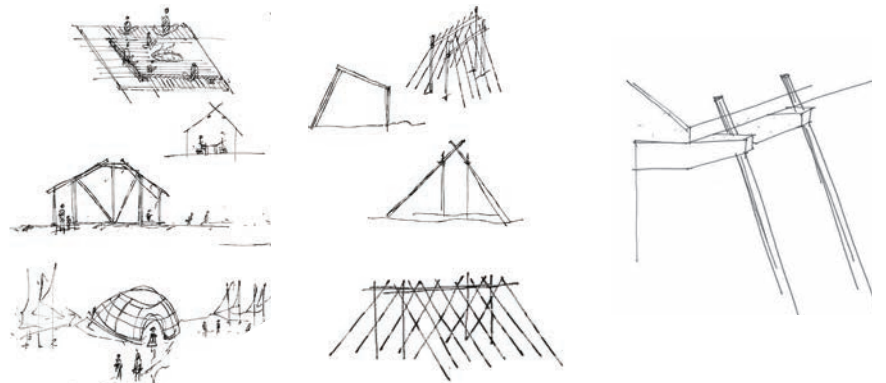


(Provincial Archives of New Brunswick)

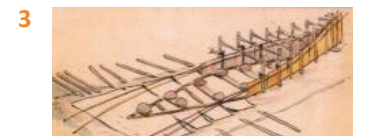
OUIJÉ-BOUGOUMOU, SHAPUTUAN PAVILION



ARCHITECTURAL GESTURES



BUILDING A BARK CANOE



(The Art and Obsession of Tappan Adney)

WIGWAM TYPOLOGIES

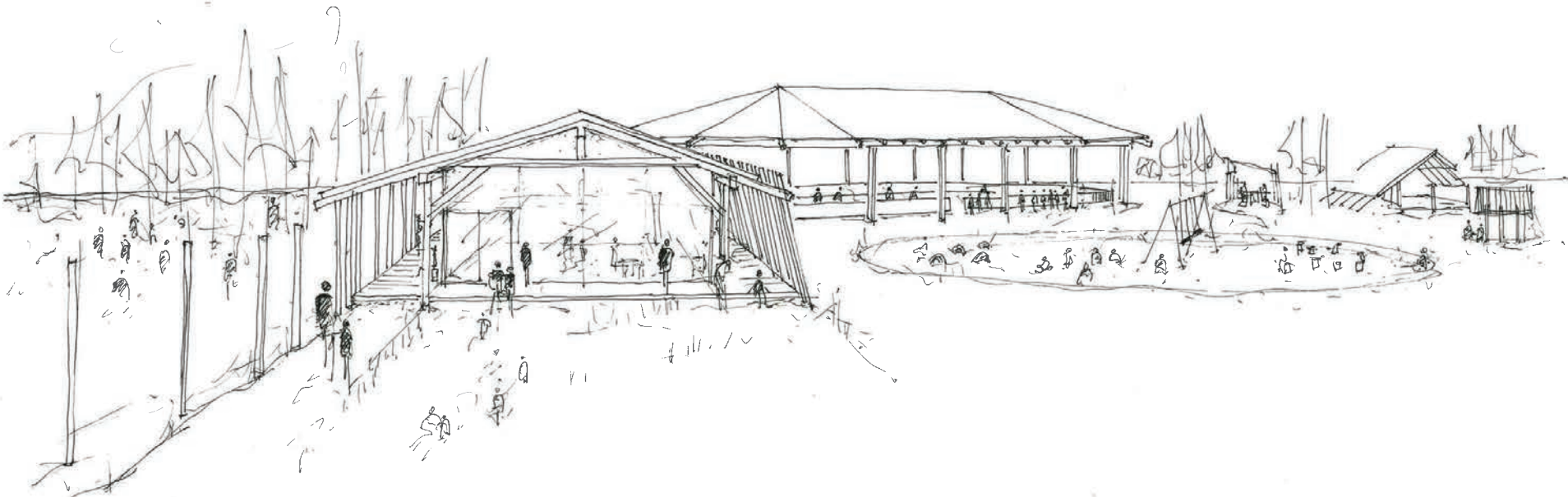


(Heritage Newfoundland&Labrador)

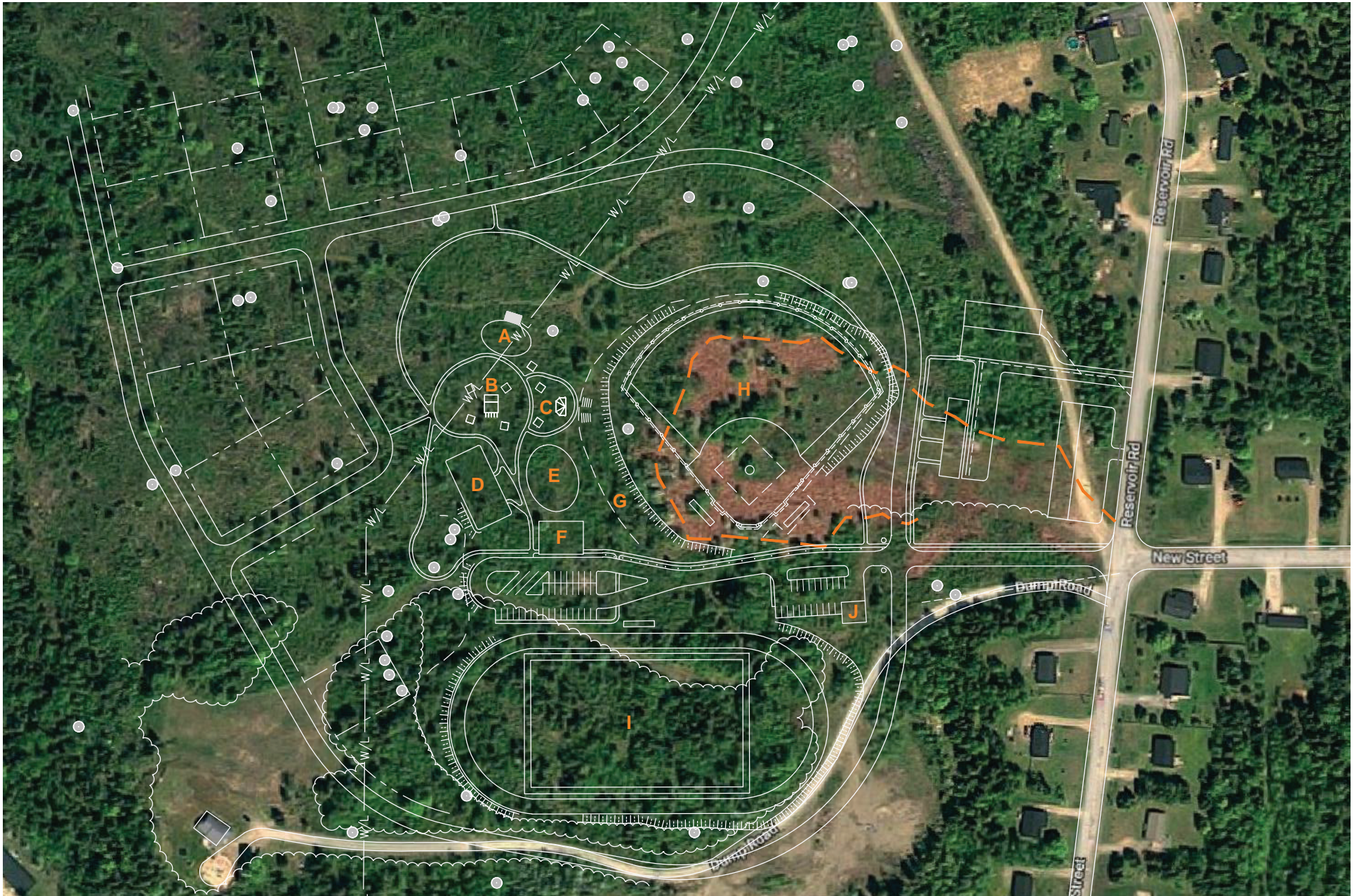



(The Canadian Encyclopedia)

ARCHITECTURAL APPROACH



PARK PLAN



- | | | | | | | | | |
|---|-------------------------|---|------------------|---|--|---------|------------------|---|
| A | Splash Pad | E | Playground | I | Soccer Field/Track | — — | Former Dump | 
1:2500 |
| B | Picnic Area | F | Field House | J | Grounds Building | — W/L — | Future Waterline | |
| C | Amphitheater | G | Sliding Hill | ● | Existing Butternut Trees (Protected Species At Risk) | | | |
| D | Multi-Purpose Slab/Rink | H | Baseball Diamond | | | | | |
| | | | | | | | | |

RENDERING IMAGES



RENDERING IMAGES



- | | | | | | |
|---|-------------------------|---|------------------|---|--------------------|
| A | Splash Pad | E | Playground | I | Soccer Field/Track |
| B | Picnic Area | F | Field House | J | Grounds Building |
| C | Amphitheater | G | Sliding Hill | | |
| D | Multi-Purpose Slab/Rink | H | Baseball Diamond | | |



RENDERING IMAGES



RENDERING IMAGES



RENDERING IMAGES



RENDERING IMAGES



RENDERING IMAGES



RENDERING IMAGES



RENDERING IMAGES



PHASING COSTS

Phase 1 (2019)	1.0	Playground	100,000.00 \$
	2.0	Splash Pad	105,000.00 \$
	3.0	Baseball Diamond	470,000.00 \$
	4.0	Clearing/Grubbing and Excavation	349,115.00 \$
	5.0	Sewer and Water	260,000.00 \$
	6.0	Entry Road and Parking	269,800.00 \$
	7.0	Electrical	100,000.00 \$
	8.0	Walkways	15,000.00 \$
	9.0	Bleachers Furniture	45,000.00 \$ 20,000.00 \$
	10.0	Topsoil and Hydroseed	150,000.00 \$
Subtotal			1,883,915.00 \$
15% Contingency			282,587.25 \$
Total Construction Cost			2,166,502.25 \$
Landfill closure investigation			13,000.00 \$
15% Design and Engineering			324,975.34 \$
5% Project Management			108,325.11 \$
TOTAL PHASE 1 *			2,612,802.70 \$
			<i>* excluding taxes</i>
			<i>* including general conditions, administration and profit</i>
Phase 2 (2020)	4.0	Walkways	39,000.00 \$
	5.0	Site Amenities	259,500.00 \$
		Engraved Rock Bollards	7,000.00 \$
	6.0	Landscaping	75,000.00 \$
		Topsoil and Hydroseed	48,765.00 \$
	11.0	Multipurpose Concrete Slab	558,850.00 \$
	12.0	Field House	486,000.00 \$
13.0	Grounds Building	178,500.00 \$	
14.0	Electrical	310,000.00 \$	
Subtotal			1,962,615.00 \$
15% Contingency			294,392.25 \$
Total Construction Cost			2,257,007.25 \$
15% Design and Engineering			338,551.09 \$
5% Project Management			112,850.36 \$
TOTAL PHASE 2 *			2,708,408.70 \$
			<i>* excluding taxes</i>
			<i>* including general conditions, administration and profit</i>
Phase 3	9.0	Soccer Field and Track	360,480.00 \$
Subtotal			360,480.00 \$
15% Contingency			54,072.00 \$
Total Construction Cost			414,552.00 \$
15% Design and Engineering			62,182.80 \$
5% Project Management			20,727.60 \$
TOTAL PHASE 3 *			497,462.40 \$
			<i>* excluding taxes</i>
			<i>* including general conditions, administration and profit</i>

COST ESTIMATE

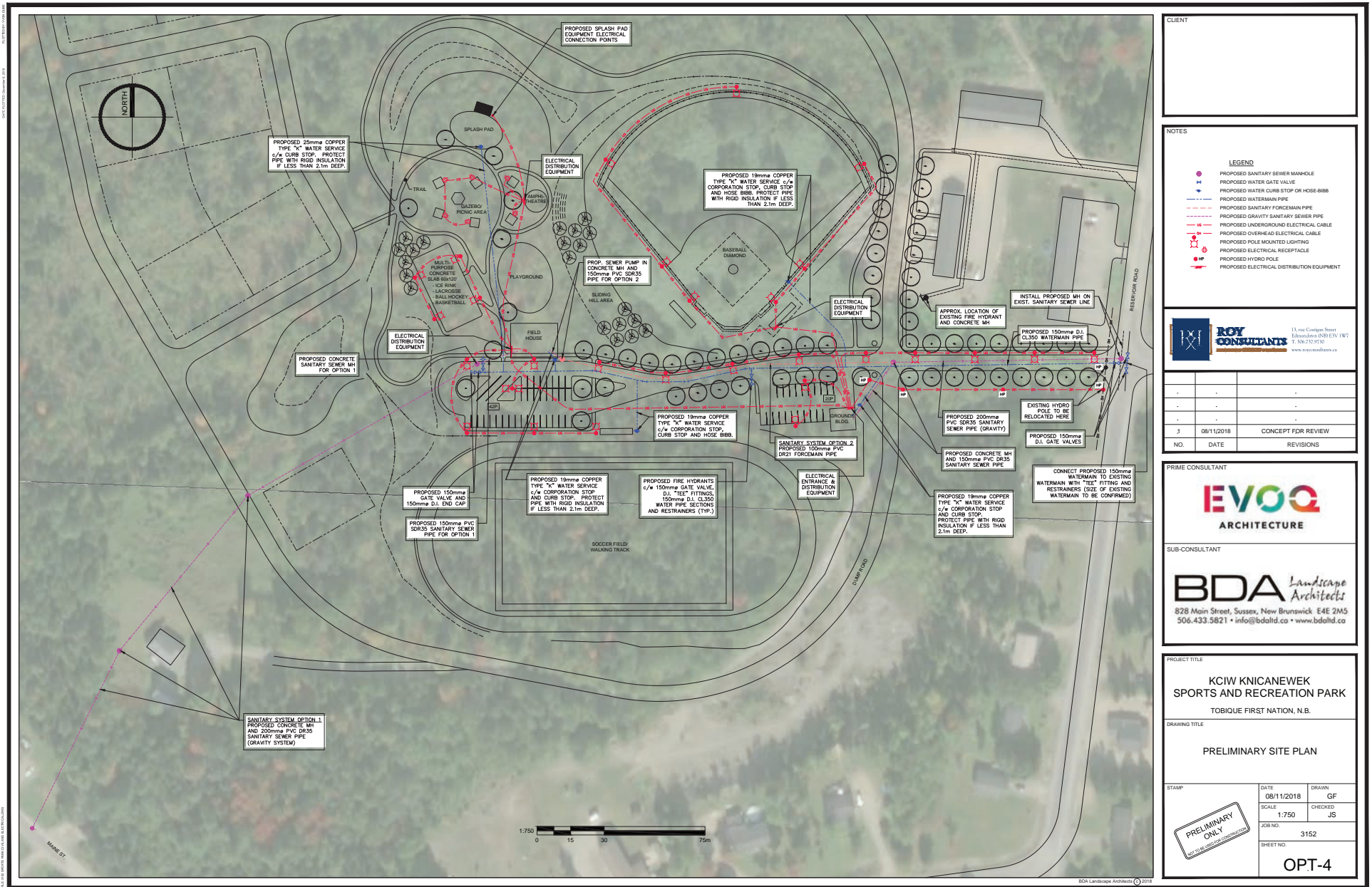
Item No.	Description	Quantity	Unit	Unit Cost	Extended Price
1.0 Clearing/Grubbing and Excavation					
1.1	Erosion Control	1	lump	\$15,000.00	\$15,000.00
1.2	Clearing and Grubbing	2.8	Ha	\$50,000.00	\$140,000.00
1.3	Common Excavation	12937	cu.m.	\$5.00	\$64,685.00
1.4	Stockpile Surplus	25886	cu.m.	\$5.00	\$129,430.00
				1.0 Subtotal	\$349,115.00
2.0 Sewer and Water					
2.1	Waterline (from Reservoir Rd to Grounds Bldg, Field House and Splashpad)	1	lump	\$130,000.00	\$130,000.00
2.2	Sewer Line (from Reservoir Rd to Field House and Splashpad)	1	lump	\$130,000.00	\$130,000.00
				2.0 Subtotal	\$260,000.00
3.0 Entry Road (from Reservoir Rd.) & Parking					
3.1	Asphalt and Granular base/subbase	4030	sq.m.	\$60.00	\$241,800.00
3.2	Line Markings	1	lump	\$3,000.00	\$3,000.00
3.3	Re-Route Dump Road	1	lump	\$25,000.00	\$25,000.00
				3.0 Subtotal	\$269,800.00
4.0 Walkway					
4.1	Tailings Walkways with Granular Base	1800	sq.m.	\$30.00	\$54,000.00
				4.0 Subtotal	\$54,000.00
5.0 Site Amenities					
5.1	Furniture (Flagpoles, Benches, Picnic Tables, Bike Racks, Trash Receptacles)	1	lump	\$84,500.00	\$84,500.00
5.2	Picnic Shelters w. Concrete Pad and WWM	4	each	\$20,000.00	\$80,000.00
5.3	Gazebo w. Concrete Pad and WWM	1	each	\$35,000.00	\$35,000.00
5.4	Rock Bollards with engraving	2	each	\$3,500.00	\$7,000.00
5.5	Bleachers	3	each	\$15,000.00	\$45,000.00
5.6	Amphitheatre	1	lump	\$45,000.00	\$45,000.00
5.7	Zamboni	1	lump	\$35,000.00	\$35,000.00
				5.0 Subtotal	\$331,500.00
6.0 Landscaping					
6.1	Deciduous Trees, Coniferous Trees, and Shrubs	1	lump	\$75,000.00	\$75,000.00
6.2	150mm Topsoil and Hydroseed	22085	sq.m.	\$9.00	\$198,765.00
				6.0 Subtotal	\$273,765.00
7.0 Playground					
7.1	Equipment Purchase and Installation	1	lump	\$70,000.00	\$70,000.00
7.2	Playground Surfacing (Sand), Edging and Drainage	1	lump	\$30,000.00	\$30,000.00
				7.0 Subtotal	\$100,000.00

COST ESTIMATE

Item No.	Description	Quantity	Unit	Unit Cost	Extended Price	
8.0 Splash Pad						
8.1	Concrete Splash Pad and Equipment	1	lump	\$90,000.00	\$90,000.00	
8.2	Shade Pergola	1	lump	\$15,000.00	\$15,000.00	
				8.0 Subtotal	\$105,000.00	
9.0 Soccer Field and Track						
9.1	Playfield Installation and Drainage	6996	sq.m.	\$30.00	\$209,880.00	
9.2	Tailings Track with Granular Base	3480	sq.m.	\$30.00	\$104,400.00	
9.3	Fence	210	lin.m.	\$220.00	\$46,200.00	
				9.0 Subtotal	\$360,480.00	
10.0 Baseball Diamond						
10.1	Playfield Installation	1	lump	\$150,000.00	\$150,000.00	
10.2	Fence	1	lump	\$70,000.00	\$70,000.00	
10.3	Lighting	1	lump	\$250,000.00	\$250,000.00	
				10.0 Subtotal	\$470,000.00	
11.0 Multipurpose Concrete Slab (60x120')						
11.1	Reinforced Concrete Slab	670	sq.m.	\$155.00	\$103,850.00	
11.2	Dasher Boards	1	lump	\$80,000.00	\$80,000.00	
11.3	Lighting	1	lump	\$75,000.00	\$75,000.00	
11.4	Roof	1	lump	\$300,000.00	\$300,000.00	
				11.0 Subtotal	\$558,850.00	
12.0 Field House						
12.1	Field House	1	lump	\$486,000.00	\$486,000.00	
				12.0 Subtotal	\$486,000.00	
13.0 Grounds Building						
13.1	Grounds Building	1	lump	\$178,500.00	\$178,500.00	
				13.0 Subtotal	\$178,500.00	
14.0 Electrical Service						
14.1	Overhead to Park Entrance, Underground along Park Access Road	1	lump	\$300,000.00	\$300,000.00	
14.2	Underground to service Grounds Bldg, Rink, Field House, Splashpad and Baseball Field	1	lump	\$110,000.00	\$110,000.00	
				14.0 Subtotal	\$410,000.00	
					Subtotal	\$4,207,010.00
					15% Contingency*	\$631,051.50
					Total Construction Cost	\$4,838,061.50
					15% Design and Engineering	\$725,709.23
					5% Project Management	\$241,903.08
					Total Project Cost	\$5,805,673.80

* Allowance for unknown site conditions

APPENDIX A - Civil Engineering



CLIENT

- NOTES
- LEGEND**
- PROPOSED SANITARY SEWER MANHOLE
 - W PROPOSED WATER GATE VALVE
 - PROPOSED WATER CURB STOP OR HOSE-BIBB
 - PROPOSED WATERMAIN PIPE
 - PROPOSED SANITARY FORCEMAIN PIPE
 - PROPOSED GRAVITY SANITARY SEWER PIPE
 - PROPOSED UNDERGROUND ELECTRICAL CABLE
 - PROPOSED OVERHEAD ELECTRICAL CABLE
 - PROPOSED POLE MOUNTED LIGHTING
 - PROPOSED ELECTRICAL RECEPTACLE
 - HP PROPOSED HYDRO POLE
 - PROPOSED ELECTRICAL DISTRIBUTION EQUIPMENT

ROY CONSULTANTS
13, rue Colette Street
Edmonton (AB) T5V 1W7
T: 503.73.0733
www.royconsultants.ca

NO.	DATE	REVISIONS
1	08/11/2018	CONCEPT FOR REVIEW

PRIME CONSULTANT

EVOQ
ARCHITECTURE

SUB-CONSULTANT

BDA Landscape Architects
828 Main Street, Sussex, New Brunswick E4E 2M5
506.433.5821 • info@bdald.ca • www.bdald.ca

PROJECT TITLE

KCIW KNICANEWEK SPORTS AND RECREATION PARK
TOBIQUE FIRST NATION, N.B.

DRAWING TITLE

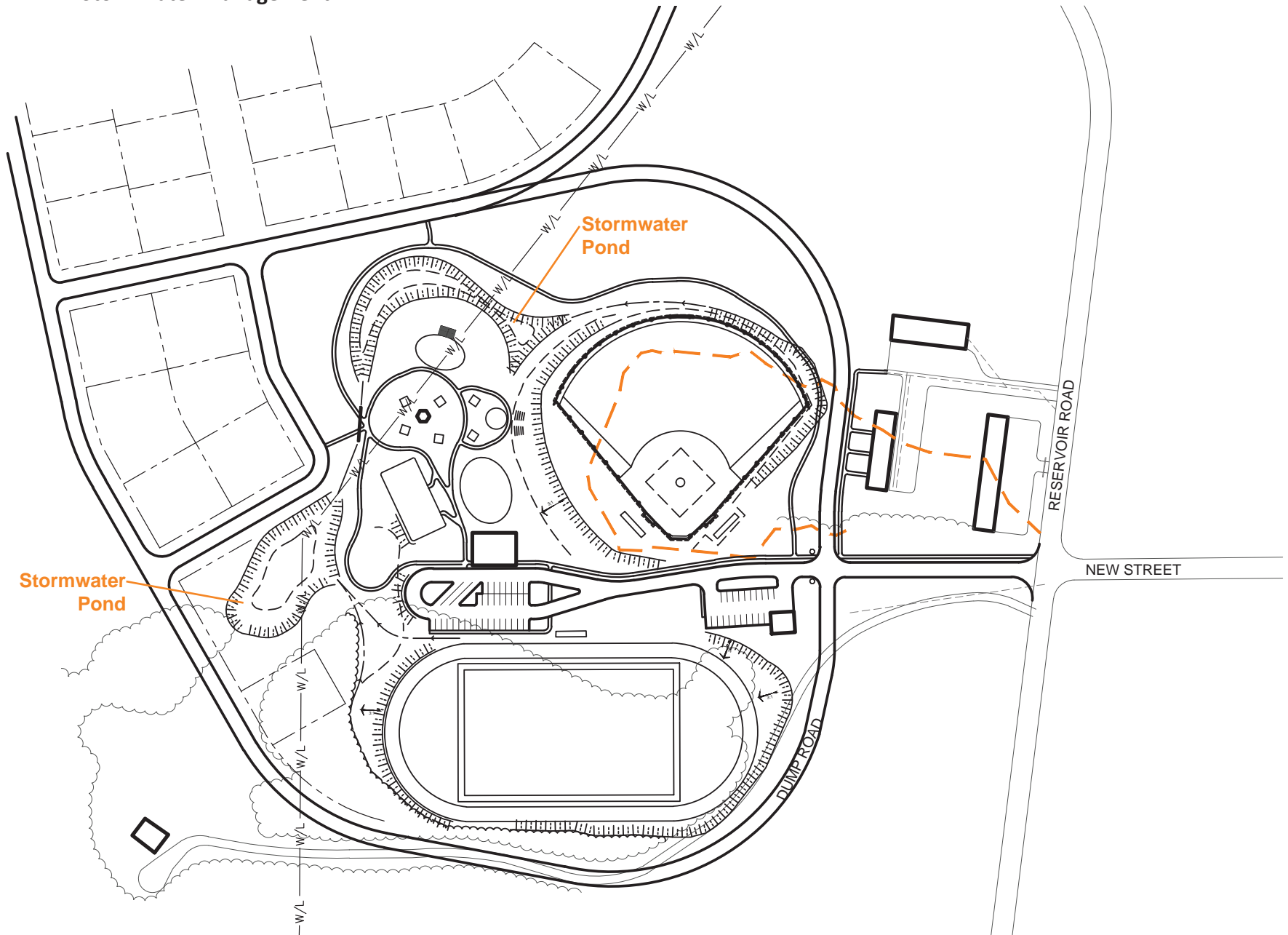
PRELIMINARY SITE PLAN

STAMP

DATE	08/11/2018	DRAWN	GF
SCALE	1:750	CHECKED	JS
JOB NO.	3152		
SHEET NO.	OPT-4		

PRELIMINARY ONLY
NOT TO BE USED FOR CONSTRUCTION

APPENDIX B - Stormwater Management



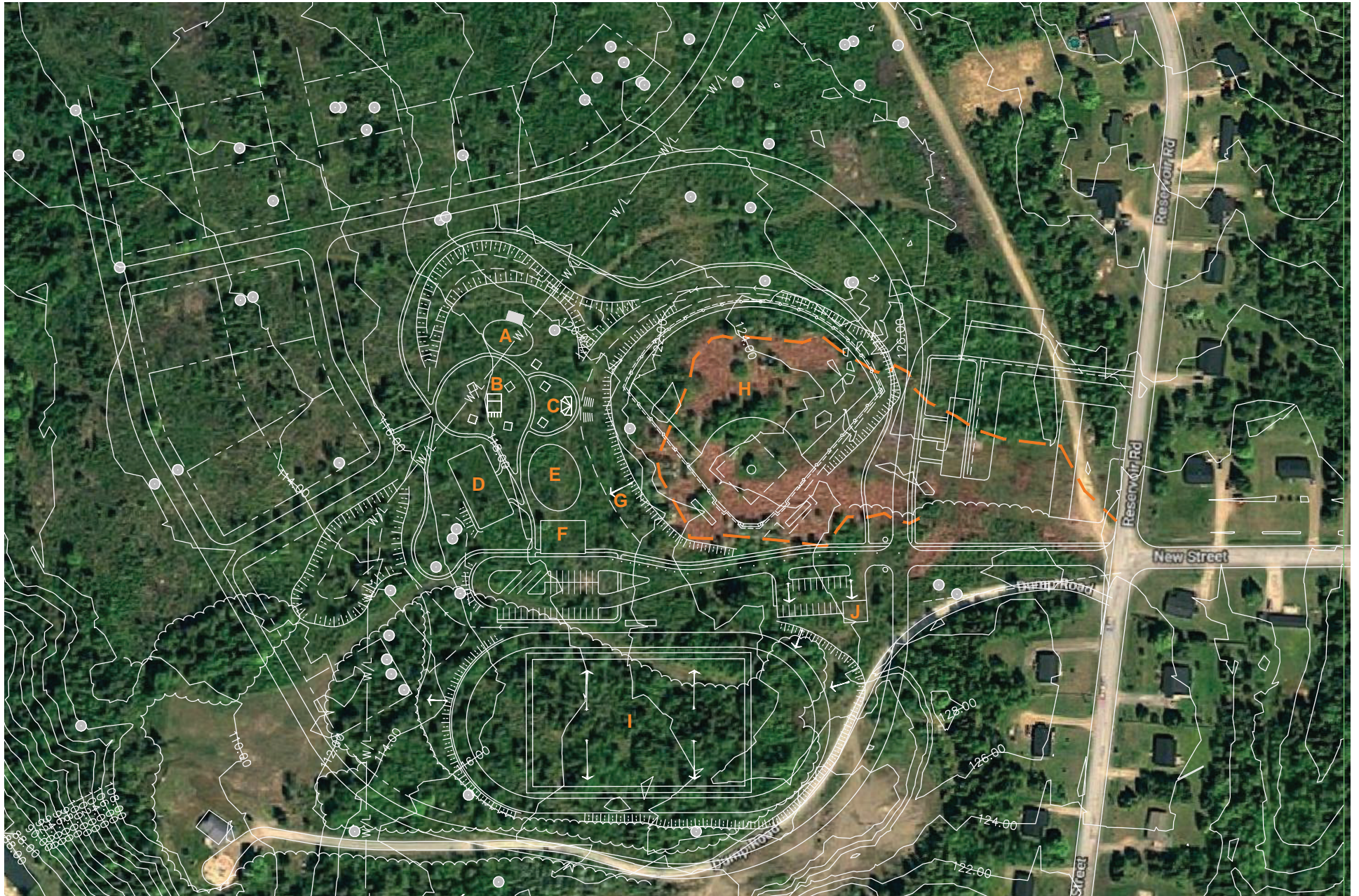
— Former Dump
 - W/L - Future Waterline

● Existing Butternut Trees (Protected Species At Risk)



1:2500

APPENDIX C - Plan on Air Photo

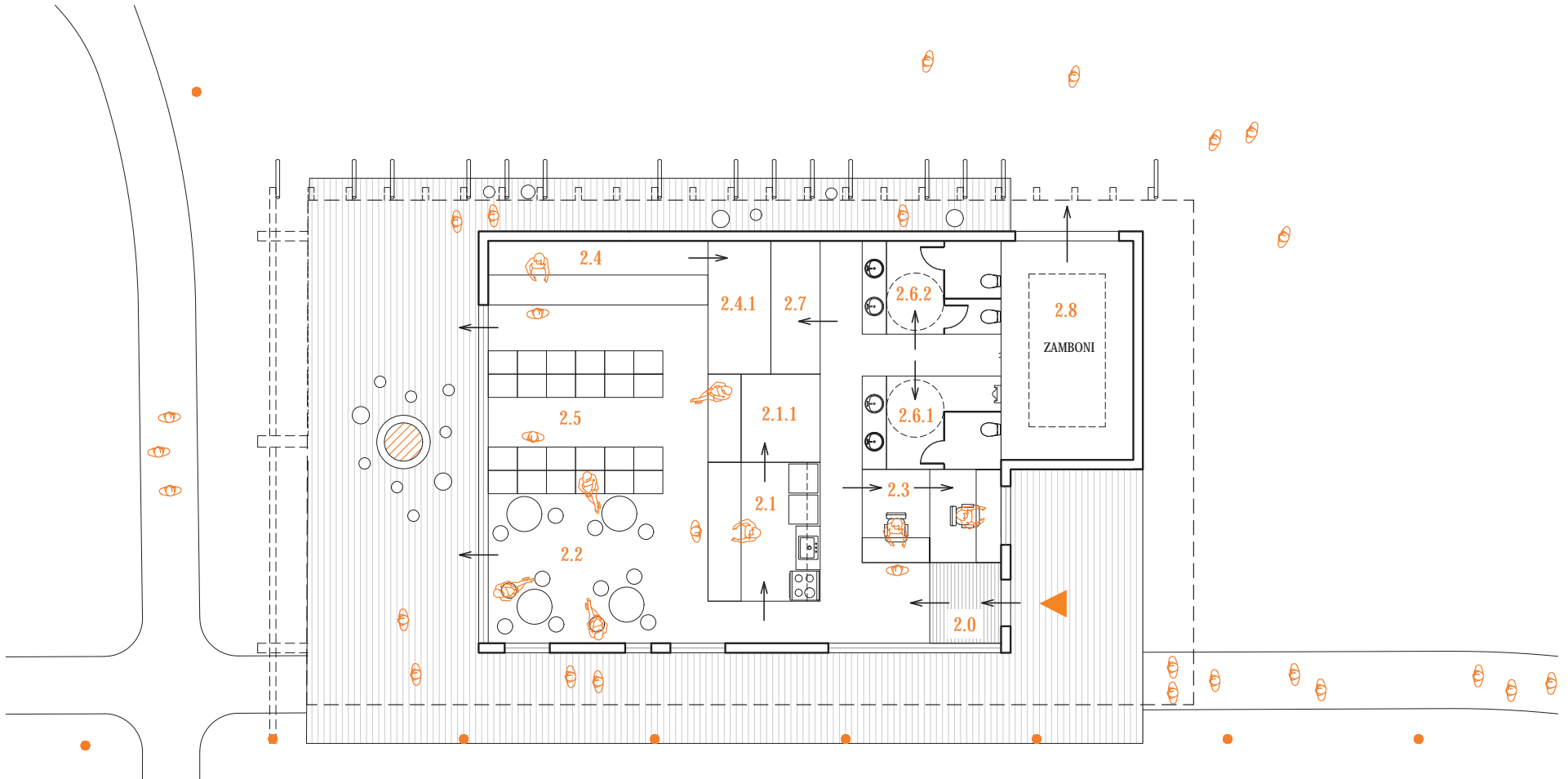


- | | | | | | | | | |
|----------|--------------------------------|----------|-------------------------|---|---|---|--------------------------|--|
| A | Splash Pad | E | Playground | I | Soccer Field/Track |  | Former Dump | 
1:2500 |
| B | Picnic Area | F | Field House | J | Grounds Building |  | Future Waterline | |
| C | Amphitheater | G | Sliding Hill | | |  | Existing Contours | |
| D | Multi-Purpose Slab/Rink | H | Baseball Diamond |  | Existing Butternut Trees (Protected Species At Risk) | | | |
| | | | | | | | | |

APPENDIX D - Architectural Program

Space #	Space function	Net Area (sq.m.)	Net Area (sq.ft.)
1	GROUNDS BUILDING		
1.1	Pick-up storage	35	377
1.2	Maintenance equipment storage	15	161
1.3	General storage space	10	108
	Total Area - NET	60	646
	Total Area - GROSS (+40%)	84 sq.m.	904 sq.ft.
2	FIELD HOUSE		
2.0	Entrance vestibule	4	43.04
2.1	Canteen (3.5 meter counter)	10	107.6
2.1.1	Canteen storage	5	53.8
2.2	Multi-purpose area (16 seats)	20	215.2
2.3	Management offices (2 desks)	8.5	91.46
2.4	Equipment rental space	4.5	48.42
2.4.1	Equipment rental storage	5	53.8
2.5	Changing room (36 half door lockers)	20	215.2
2.6.1	Men's public washroom	9	96.84
2.6.2	Women's public washroom	9	96.84
2.7	Janitor's storage	4	43.04
2.8	Zamboni storage	20	215.2
	Total Area - NET	119	1280.44
	Total Area - GROSS (+40%)	166.6 sq.m.	1792.616 sq.ft.

Schematic Plan - Field House



 EXTERIOR FIRE PIT


1:200

