

Colchester Athletic Field Presentation

March 12, 2020

Athletic Field Expectation vs Existing Condition - No Over Use of Fields

Source- Cornell University

Proposed 2022 (if reconst/irrigation funded)			Colchester From 1997-(2007 -2014)*
	High Management Fields	Medium Management Fields	Minimal Management Fields
Field Expectations	High safety	High safety	High safety
	Very high visual quality	Reasonably high visual quality	Good visual quality
Grounds Manager	Educated in sports field management and experienced	Experienced with some education in sports field management	Knowledge and experience may be limited
Staff	Adequate staffing	Adequate but could use more	Limited support for field work
Equipment	Have all that is needed including : mowers, spreaders, aerifiers, rollers, irrigation system	Have mowers, spreaders, aerifiers, the ability to provide irrigation	Have the basics: mowers and spreader
Products	All products necessary for a high quality field	Fertilizer, seed and occasionally topdressing materials	Fertilizer and some seed
Budget	Beyond adequate for products, equipment and soil testing services	Adequate for products and equipment, possibly soil testing services	Limited to only the basics, mowing and possibly fertilizing

Thank you for taking the time to review the presentation on the Colchester Athletic Fields. We had hoped to have a forum, which would have provided opportunity for discussion and questions, but given the COVID-19 challenge, this is a safer way to present the information. If you have questions, please send them to Selectman@ColchesterCT.gov. We will post answers to them on our website.

What We Know

We need more fields

- Colchester has 13 fields available for use
- This is .81 fields per thousand residents
- Other towns in the area have up to 2.63 fields per thousand residents. This means Colchester has less than 50% of the fields available in other towns
- Overuse and the inability to rest fields causes irreparable damage

Refer to the chart on the next slide

Regional Available Field Space Comparison

Ref. Google Earth and Town Data sources

Date: 3-7-2020

Town	Population	Total # of Athletic Fields (incl BOE fields)	Field to Person ratio per thousand residents	Additional Notes
Colchester	16,000	15 * (13 last 3 years)	.93 (.81 last 3 yrs)	Inadq. Practice BOE field space, High School Fields limited access to Rec. Programs
Hebron	9500	25	2.63	Field space sufficient to rest multiple field off line, multiple practice fields, resv game fields
East Lyme	18,800	21/23 (depd on layout)	1.12/1.22	Art.Turf HS Game Field, add. Practice BOE fields
Montville	19,000	23	1.21	Art. Turf HS Game Field, Some Single use fields.
Waterford	19,000	30	1.57	Art Turf HS, add Practice fields, Maj. Single use fields,
Stonington	18,500	22	1.19	Art Turf HS, add Practice fields, majority Single use fields, LL owns complex
Marlborough	6,400	6, (8 prv), 9 depd layout	.94 (1.25 prv) 1.4 depd	HS Plays at RHAM, Memorial Field Recent Reconst., 2 Multi- 2 Excl BB/SB

The Town of Colchester does not have the available athletic field space per capita as the Towns listed above which are generally used to provide comparison. Additionally, the reference communities are within the CIAC division that the Bacon Academy is assigned.

Due to the WJMS Building project, Colchester over the last three years has had approximately 50% less available athletic field space, per capita, than the historic average of surrounding towns. This has created additional over use stressors with some high school teams practicing at the Rec Plex in addition to Recreational League Use.

There has been no restriction on growth or expansion of recreational leagues by the Town since the creation of the Rec Plex.

Even within reference communities, single use field turf conditions vary considerably between irrigated and non-irrigated Fields (Stonington LL Baseball vs Montville LL Baseball). Others provide sufficient practice field locations, and limit Game Field access to only games. Access to Artificial Turf Fields are by permit only.

There were no cases where non-irrigated grass fields that were used for practice and games, maintained Game Field status and Turf coverage over 100% of the field when utilized for multiple sport seasons.

All photo references are from the Fall of 2019. Weather conditions are the same. Use and field specific information are depicted on each slide.

Fields need WATER

- Proper irrigation is the single most important component of healthy turf
- Colchester has irrigation on R7 and R8. The water is drawn from a pond and the algae and sediment create ongoing issues with the system.
- There is also irrigation, although not used, at Cody Camp
- Currently, we do not have ample supply of water in the field location to attach an external irrigation system

Refer to the attached slides for photo images of fields



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, Map data ©2020 50 ft

Example of Non- Irrigated Field Complex – Multi Brownd Moisture Stress Turf within Outfield



Imagery ©2020 Maxar Technologies, USDA Farm Service Agency, Map data ©2020 100 ft

Ledyard High School – Natural Grass Game Field, Non permanent Irrigated Fields, Clear Moisture Stress and Wear Stress in Practice Areas and Game Field. Soccer relocated games to alternate location.



Imagery ©2020 Maxar Technologies, Map data ©2020 50 ft

Ledyard Middle School – No Irrigation – Clear Moisture Stress and Over Use Areas



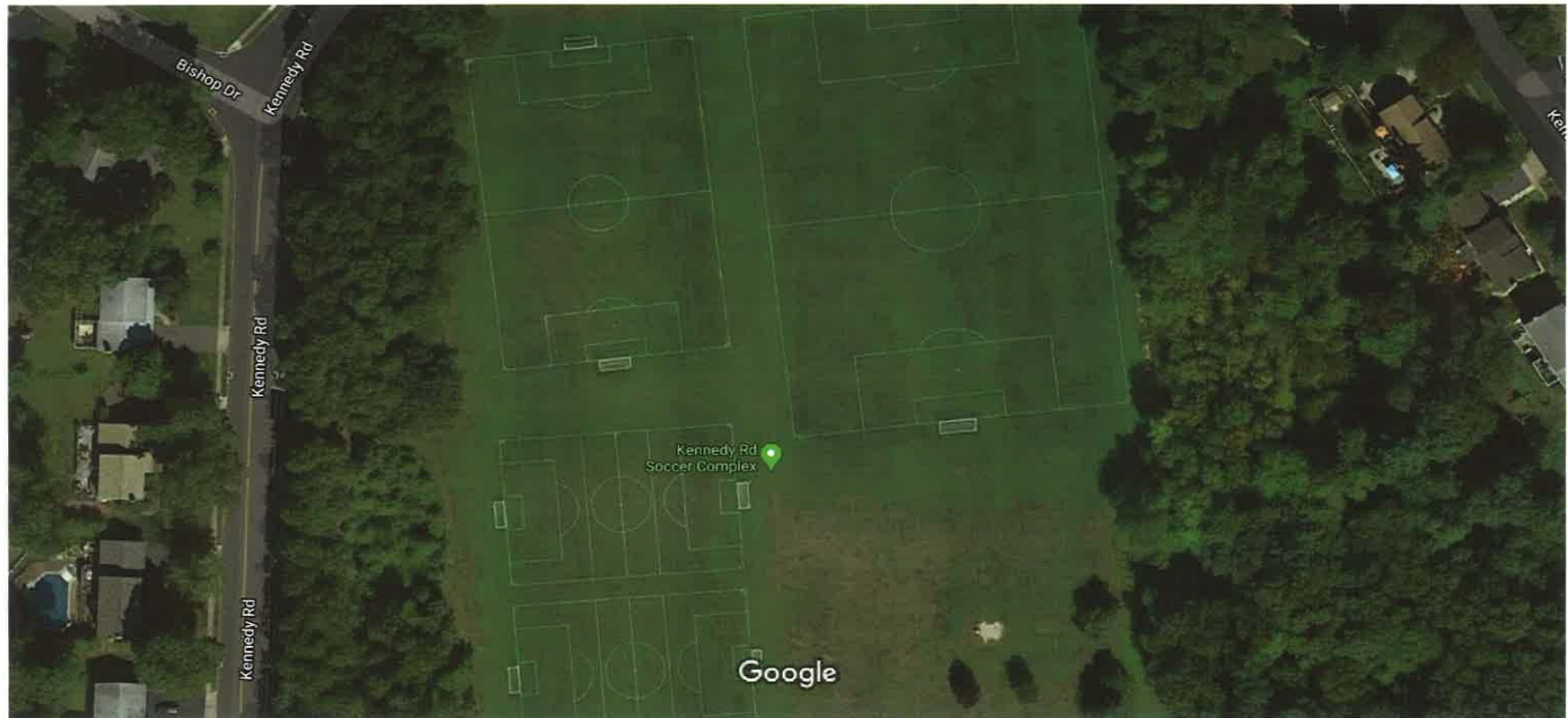
Imagery ©2020 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2020 50 f

Charter Oak – Bennett Academy – Wear and Moisture Stress



Imagery ©2020 Maxar Technologies, U.S. Geological Survey

Illing Jr. High School – Moisture Stress – Single Use area.



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, Map data ©2020 50 ft

Kennedy Road Soccer Complex, Manchester – Single Use, Irrigated Facility.



Ledyard – Town Farm Road Field – Irrigated. Some Over Use Areas Visible.



Ledyard – Col. Ledyard Park- Soccer Field –Full Well Based Irrigation – High School Game Field, Northerly Baseball – Modified Rain Train/Tank Irrigation, West Baseball/Multiple Use –No Irrigation – Clear Moisture Stress and Wear.



Marlborough – Single Baseball – One Nozzle Infield Irrigated
Outfield Moisture and (Disease/Infestation Stressed), Warning Tract
Area Reseeded



Imagery ©2020 Maxar Technologies, RIGIS, USDA Farm Service Agency, Map data ©2020 100 ft

Example of Irrigated Baseball Complex – Fields Clearly Green vs Off Field Moisture Stress



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, Map data ©2020 50 ft

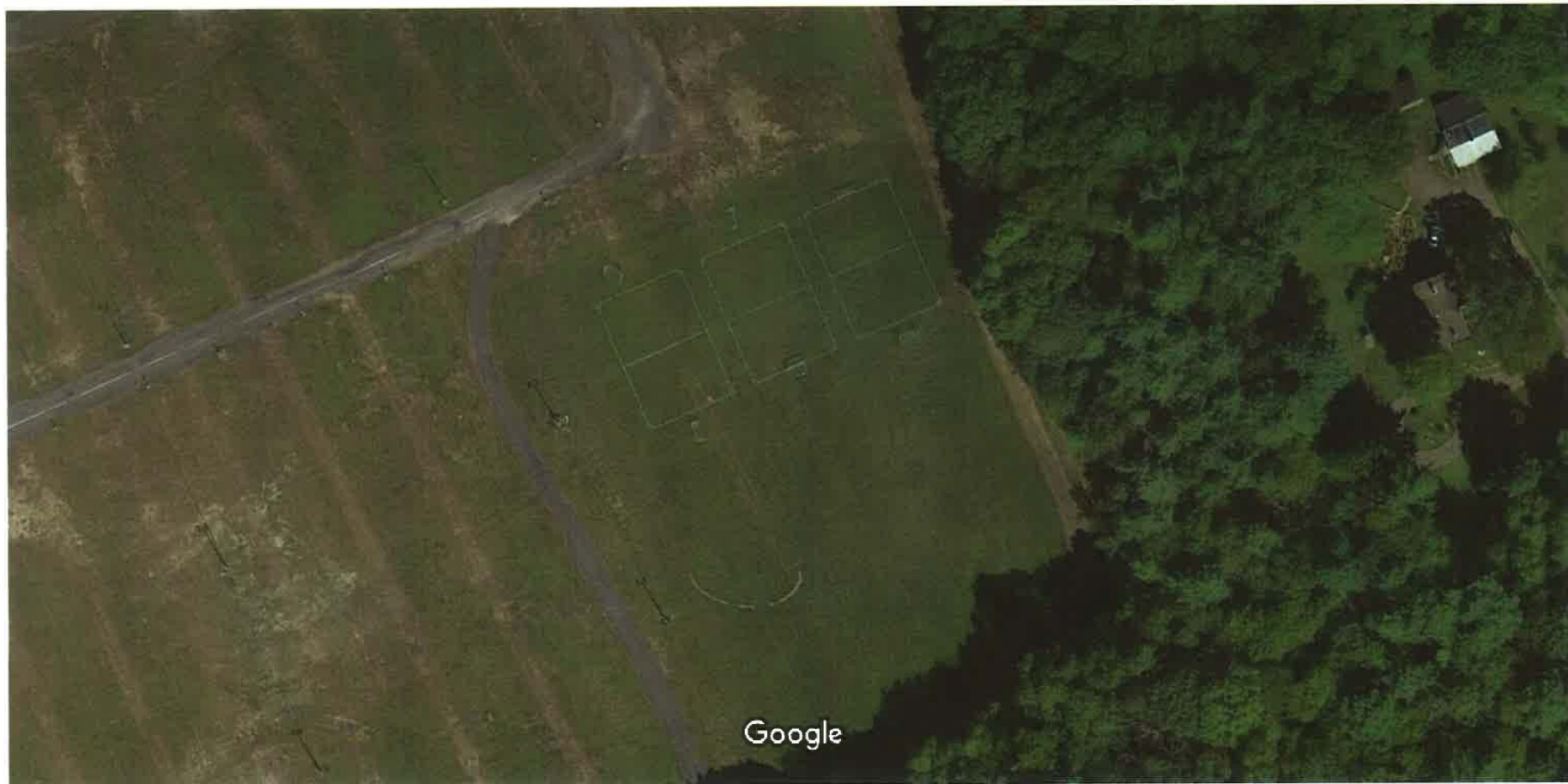
Marlborough – Blackledge Field – Non-Functioning Irrigation – Controller Below Grade



Cody Camp Baseball -JJIS – Single Use Field. 5 year recovery from Grey Leaf Spot disease Decimation, due to untrained operation of irrigation and fertilizer application by Non-Town Personnel. Irrigation remains shut off due to in ability to determine responsible party for cost of water. Recovery by overseeding and fertilization only (K-8 School State regulations)



JJIS Multi Use Field – Note: Although designed as a multi use/general field, the only “Normally organized scheduled” user is Soccer. Light Baseball use, Light PE/recess use by school during daytime. Considered to be a single use field for wear purposes.



Example of Hebron Off Site Practice Fields. Jr Soccer located in under utilized portion Lion Park Parking area.



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, Map data ©2020 50 ft

Example #2 Hebron Off Site Midget Football Practice 1/3 size fields – Gilead School
Note: Marginal Use due to EEE closures 2019. Normal practice time 6-8 pm



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2020

100 ft

Colchester Rec-Plex – all fields (except R1) – Used Multiple Sports. Fall R-8 reserved for Football. Football practices nightly upon its one Game Field. Mid July-Mid Nov. (96 days) – 2-3 hr practices, 3 games per home event.

Remaining 6 fields stripped to provide 10 fields (varying sizes, including over non-multi purpose fields. Aug 1 – First week in Nov. 7 days/wk (91 days). See enlargements for striping. Pond Water Irrigation available R7 and R-8 only. See Discussion.

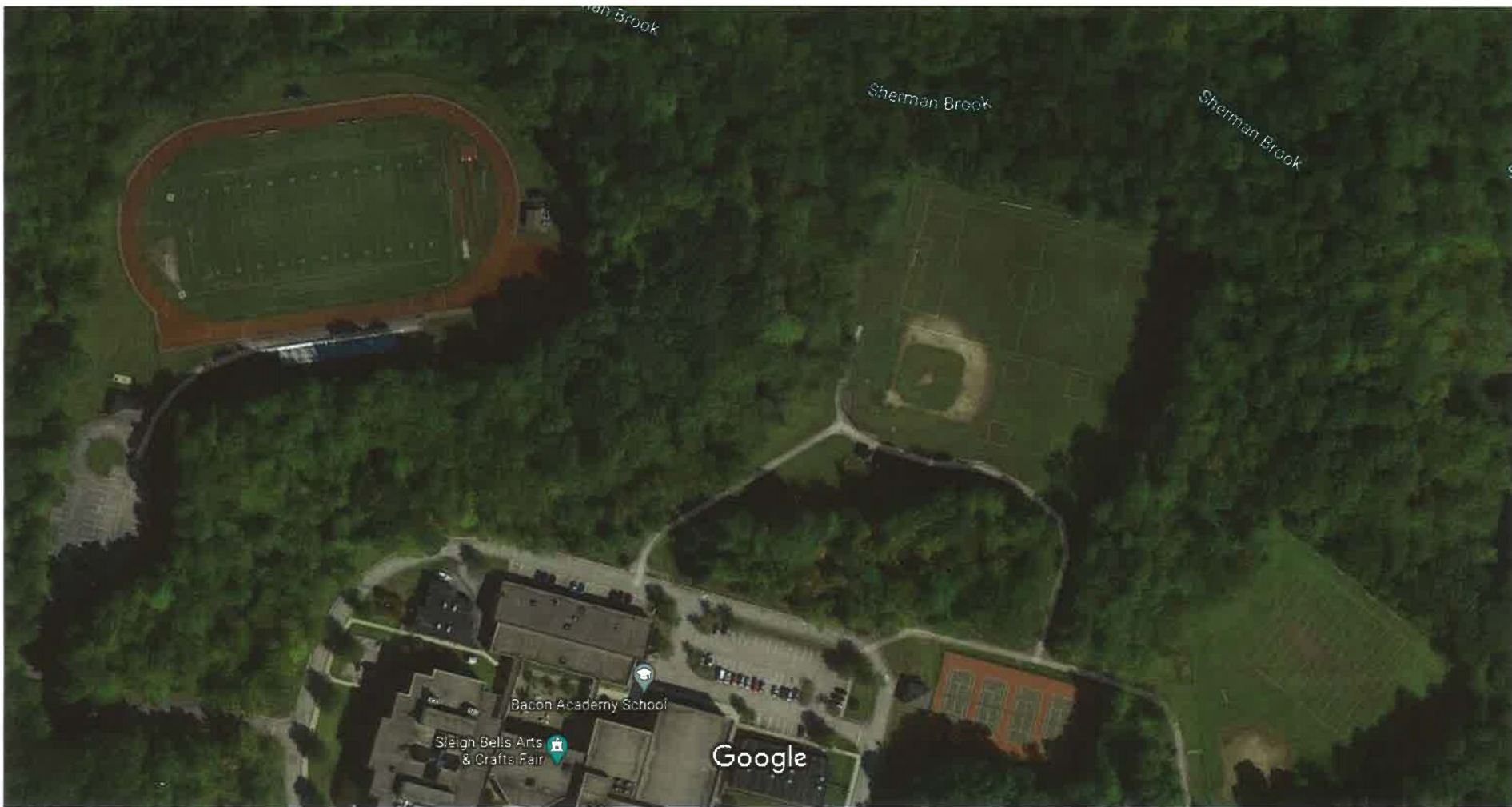


Imagery ©2020 Maxar Technologies, U.S. Geological Survey, Map data ©2020 50 ft



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, Map data ©2020 50 ft

Rec-Plex Enlargement #2



Imagery ©2020 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2020 100 ft

Bacon Academy – Natural Turf 4 Sport Game Field – Water Cannon/Well Irrigated. Baseball And Softball Field, Non –Irrigated Multi Use Practice Field. Clear Wear and Moisture Issues, Softball Excess High Water Table in Spring, No Drains, Baseball Outfield Insufficient Moisture And Wear Stress.

R5 and R6 Fields need to be graded

- These fields are in need of proper grading to create a crowned field with installation of some drainage to provide a good surface for playing

What Has Happened in the Past?

1997 Recreation Master Plan

- First recommendation to install Irrigation Systems.
- Identified the need to acquire additional property.
- Plan created at a point prior to year round sports (i.e. Spring and Fall Baseball & Soccer), there is no mention of a Lacrosse sport utilizing the recreation complex.
- Topographic Plan and text depict R-5 and R-6 being a non-crowned outfield soccer overlay. These two field areas were not constructed as game field status.

Refer to Attachment A for the full Plan

Field Work 2000

- Construction of R-7 Soccer Field.
- Eventual connection to R-8 irrigation system.
- Water source is former fire pond that is subject to algae overgrowth and low water during the time of the year that irrigation is most needed.
- The resulting system (installed twice by contractor at the time of installation), requires the water to be pumped 45 feet of elevation and 1000 feet to the field.
- The water quality issue of the source pond clogs the heads with sediment and algae and requires additional maintenance/replacement (3 pumps and all heads) and monitoring to ensure proper operation.
- No further actions were taken by the Town to address land acquisition issues or funding to provide additional fields or irrigation to other fields.

2007 Stantec Study

- Colchester Recreational Site Improvements Master Plan
- Consultant prepared Analysis of existing Town owned properties for Athletic Field expansion.
- The Town of Colchester Athletic & Recreational Facilities Task Force was formed in November 2005 charged with completing a needs assessment and long-term plan of the athletic facility needs of the Town and Board of Education over the next 10 years.
- The task force would be provided an inventory from the Town and Board of Education of existing facilities and town owned land.
- The project cost estimates ranged from 1.6 to 3.3 million dollars each with a total of 13.2 million dollars necessary for all projects to be done.
- Many of the projects failed to identify significant issues regarding off site improvements required, lack of potable water, former landfill ground water pollution bloom, accurate wetland location, and Road infrastructure capacity.
- Generally, the report was ignored due to these issues and cost.

Refer to Attachment B

Long Capital Plan 2014

- First comprehensive analysis of existing Town owned properties
- Report highlights the over use of the existing facility, the need for additional site acquisition and the start of the over seeding program.
- Short term maintenance/repair items listed have been funded and addressed.
- Long term systematic issues were generally ignored and lacked general funding.

Refer to Attachment C

2014 Jason Henderson Study

- Dr. Jason Henderson & Julie Campbell conduct a field assessment and report for the Rec-Plex.
- The primary challenges at that point in time
 1. Lack of irrigation
 2. Malfunction of existing irrigation
 3. No core cultivation
 4. Minimal over-seeding
 5. Inability to control weeds
- Recommendations
 - Items 2,3,4, have been adopted by staff as funded within the FY14-15 budget.
 - The first challenge had not been addressed due to funding constraints.

Refer to Attachment D

Field Sustainability Task Force 2016

- The Task Force is comprised of two members of the Board of Selectmen, two members of the Board of Finance, two members of the Recreation Commission. (Names of the members are listed on the attached minutes).
- The recommendations are issued as of 10/4/16 and presented to Board of Finance at their following meeting.
- The Board of Finance minutes of 10/5/16 are attached and under Item 10C the Board consensus is to adopt the recommendation that Capital Items/Projects are to be funded through the user fees.
- No general fund allocations for irrigation issues raised in previous reports is brought forward or mentioned.

Refer to Attachments E and F

June 2017 Field Sustainability Fee

- Town of Colchester Ordinance 18-10 is amended that established the legal basis for the establishment and collection of the Field Sustainability Fee
- Each participant pays \$10 per registration
- Est funds available to date. \$43,000.

What it costs

RECREATION FIELD APPLICATION RATES

Revised Date 3-22-2016 add schools

Field	Measure	Area Sq. Ft.	1000's SF	4 lbs/1000	Spring Seed (lbs)	Spring Fertilizer	May Fertilizer	Late August Fertilizer	.25 Area Overseed	Late October
				Blue/Rye Mix	13-25-12 (0.5lb N/1000Sq.Ft)	Poly Coat 31-0-10 (1.5lb. N/1000 Sq.Ft.)	Poly Coat 31-0-10 (1.5lb. N/1000 Sq.Ft.)	Poly Coat 31-0-10 (1.5lb. N/1000 Sq.Ft.)	Perennial Rye	Urea 43-0-0 (0.5N/1000 Sq.Ft)
					Lbs total field	Lbs total field	Lbs total field	Lbs total field	20 lbs/1000 SF	Lbs total field
R1	25x(220'x220')x3.14	38,000	38	152	152	190	190	190	190	38
R2	300'x340'	102,000	100	400	400	500	500	500	500	100
R3	245'x280'	68,600	68	272	272	340	340	340	340	68
R4	230'x160'	36,800	36	144	144	180	180	180	180	36
R5	400'x295'	118,000	118	472	472	590	590	590	590	118
R6	320'x270'	86,400	86	344	344	430	430	430	430	86
R7	310'x200'	62,000	62	248	248	310	310	310	310	62
R8	380'x180'	68,400	69	276	276	345	345	345	345	69
			Totals	2308	2308	2885	2885	2885	2885	577
			Order	2400	2400	2900	2900	2900	3000	600

Price 2016

Winding Brook	\$4,872	\$1,200				\$4,800	
Harrell's		\$930.54	\$1,353	\$1,353			\$500
Hart Seed	\$6,324						
TruGreen		\$1,200					
Total One year Recreation Complex							
\$13,809							

SCHOOL APPLICATION RATES

Note: Additional cost at Bacon for Broadleaf Weed Control - Grub Control

Field	Measure	Area Sq. Ft.	1000's SF	4 lbs/1000	Spring Seed (lbs)	Spring Fertilizer	May Fertilizer	Late August Fertilizer	Approx. 1/3 worn Area Overseed	Late October
				Blue/Rye Mix	13-25-12 (0.5lb N/1000Sq.Ft)	Poly Coat 31-0-10 (1.5lb. N/1000 Sq.Ft.)	Poly Coat 31-0-10 (1.5lb. N/1000 Sq.Ft.)	Poly Coat 31-0-10 (1.5lb. N/1000 Sq.Ft.)	Perennial Rye	Urea 43-0-0 (0.5N/1000 Sq.Ft)
					Lbs total field	Lbs total field	Lbs total field	Lbs total field	20 lbs/1000 SF	Lbs total field
Bacon Acad.	Football 380'x245'	93,100	93	372	372	465	465	465	620	93
	Baseball 345'x370'	127,650	128	512	512	640	640	640	845	128
	Softball (314x195)+(90x225)	81,500	81	324	324	405	405	405	540	81
JJIS	Soccer 340'x220'	75,000	75	300	300	375	375	375	500	75
	Cody Camp .25x(220'x220')x3.14	38,000	38	152	152	190	190	190	190	38
			Totals	1660	1660	2075	2075	2075	2695	415
			Order	1700	1700	2100	2100	2100	2700	450

NOTE New WJJMS Fields not included.

Winding Brook Seed- Harrell's fert	\$3,460	\$660	\$980	\$980	\$2,160	\$500
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Fertilizer and Seed application data break down for RecPlex and Schools



TOWN OF COLCHESTER RECPLEX PREPARED FOR

2020 PRELIMINARY IRRIGATION LAYOUT

215 OLD HEBRON ROAD

DATE 3-1-2020

COLCHESTER, CT

200 100 0 200 Feet

PHOTO Spring 2012

SCALE 1"= 100'



Proposed use of Recreation Capital Fund. Phase 1 – Connect 8" CLDIWP for Water Quality and Source Supply adequacy. Est. Cost \$45,000. Phase 2 - Install U/G Irrigation R1, R2, R3, Est. Cost \$25,000 to \$28,000 per field). Convert R8 & R7 to public water. Est. Cost \$15,000. Annual Water Est. \$2,400 per field irrigated. Funding Source/Schedule for Phase 2 and Annual Water Cost TBD.

Town of Colchester Interoffice Memorandum

To: Cheryl Hancin, Recreation Director
From: James Paggioli, L.S., Director of Public Works
CC:
Date: March 7, 2016
Re: RecPlex Irrigation Estimate

As requested by the Sports Field Sustainability Sub-Committee the estimate of probable costs for an in ground automatic irrigation system for fields R1, R2, R3, R5, and R6 are contained herein. The system will require the connection of the existing 6" main that serves the spray park area to the 8" main that is presently to be terminated at the property line near the parking cul-de-sac in the area of R-6. A central control system is envisioned to be attached to the bathroom building with required electrical services placed at that point and control wiring to serve each of the independent field systems. Each field will require a 4" service leg for each field origination from the main extension so that each field will operate independently based upon need or scheduling.

Water cannon or retractable systems were not considered due to the manual labor required to operate the systems and the fact that the area are open to the public throughout the day, and in the summer the camp utilizes the entire area. These types of system would require the site supervision of one staff person for the entire operation for safety concern and the systematic coordination of the unavailability of a field on a rotating basis during the day. The majority of main work would still be required since no adequate sized source of water exists at each field to operate a water cannon. Additionally, the optimum time frame for watering fields does not coincide with working hours of staff.

Estimate:

- 1) 900' of 8" main installed @ \$50/L.F. = \$45,000
- 2) R1 – 100' of 4" service main installed @ \$35/L.F. = \$3,600
- 3) R2 - 150' of 4" service main installed @ \$35/L.F. = \$5,250
- 4) R3 – 330' of 4" service main installed @ \$35/L.F. = \$11,550
- 5) R5 – 60' of 4" service main installed @ \$35/L.F. = \$2,100
- 6) R6 – 30' of 4" service main installed @ \$35/L.F. = \$1,050
- 7) Electrical Control installation and control trenching = \$25,000 (No Building Modification Incl.)
- 8) Individual Field meters 5 @ \$2,000 / meter = \$10,000
- 9) R1 -Irrigation System installed = \$25,000
- 10) R-2 Irrigation System installed = \$28,000
- 11) R-3 Irrigation System installed = \$25,000
- 12) R-5 Irrigation System installed = \$35,000
- 13) R-6 Irrigation System installed = \$35,000

Total Estimate = \$251,550

Water use estimates would be for 3/4" per acre/ per week, and at existing water rates, the cost for water per field per week would be approximately \$200 for 2 acre fields. With 12 weeks being the irrigation season, estimated costs for water would be \$2,400 per field for larger fields, and \$1,200 for 1 acre fields (R1).

Phase 1 Material Quote

TOWN OF COLCHESTER-DPW
127 NORWICH AVENUE
COLCHESTER,, CT

06415

TEAM EJP Vernon, CT
36 Clark Road
Vernon, CT

06066

Telephone: 860-875-9711

3/04/20 Bid ID: 5418539 COLCHESTER,CT ROAD EXT

Page 1

Quantity	Sell Per	Description	Unit Price	Extended Price
Package 00001				
900	FT	8 FST PIPE DUCTILE 52 CL	23.36	21,024.00
44	EA	8 AMARILLO FAST-GRIP GASKET	93.00	4,092.00
1	EA	5 1/4 M-CENT HYD 5-6 OL 6MJ NST	2,300.00	2,300.00
3	EA	VALVE BOX COVER WATER	11.41	34.23
3	EA	36 VALVE BOX BASE BELL	32.72	98.16
3	EA	26 VALVE BOX TOP NF L/C	29.69	89.07
1	EA	8 MJ DI TEE CL	141.99	141.99
3	EA	8 MJ DI RS VALVE OR	828.98	2,486.94
		RED NUT		
1	EA	8X6 MJ DI REDUCER CL	55.58	55.58
6	EA	6 SIP DI EZGRIP RESTRAINT W/ACC	49.81	298.86
2	EA	6 SIP DI EZGRIP RESTRAINT W/ACC	36.55	73.10
Package Sub-total:				30,693.93

Package 00002				
900	FT	8 FST PIPE DUCTILE 52 CL	23.36	21,024.00
44	EA	8 AMARILLO FAST-GRIP GASKET	93.00	4,092.00
1	EA	5 1/4 AVK HYD 5-6 OL 6MJ NST	2,526.32	2,526.32
3	EA	VALVE BOX COVER WATER	11.41	34.23
3	EA	36 VALVE BOX BASE BELL	32.72	98.16
3	EA	26 VALVE BOX TOP NF L/C	29.69	89.07
1	EA	8 MJ DI TEE CL	141.99	141.99
3	EA	8 MJ DI RS VALVE OR	828.98	2,486.94
		RED NUT		
1	EA	8X6 MJ DI REDUCER CL	55.58	55.58
2	EA	6 SIP DI EZGRIP RESTRAINT W/ACC	36.55	73.10
6	EA	6 SIP DI EZGRIP RESTRAINT W/ACC	49.81	298.86
Package Sub-total:				30,920.25

Additional costs: Sand bedding - \$800, Stonedust trench restoration \$1,000, Pressure, Chlorination, and Bacteria Testing \$1,800, Contractor Labor Excavation, Installation, Compaction Est \$15,000
Total = \$49,300

What We Recommend

Install Irrigation

- Install underground irrigation on R1, R2, R3
 - Estimated cost is \$28K per field
- Convert R8 & R7 to public water
 - Estimated cost is \$15K
- Annual Cost of water is \$3500 per field
- Funding source for irrigation includes Field Sustainability Fund and additional capital dollars

Evaluate R5 & R6

- These fields need to be crowned to allow for proper drainage.
- Alternative to grading is to use fields for practice only
- Cost of running irrigation to these fields = \$35K per field
- Cost of grading and irrigation = \$250K per field

Cody Park

The Town will plan to pay for the water to the Cody Park Field since the irrigation exists but is turned off for lack of a funding source at the current time

Increase Number of Fields

- Regardless of the improvement work conducted at the RecPlex, the need for additional field space off the current site is still required to meet the demands of the level of activity between School Athletics and Recreation Use within the Town of Colchester.
- This need was identified in the first study in 1997 and reiterated in every study following.
- We need available space, care of the space, limited use for specific field types such as single sport use or game vs practice use.

We Need Money

- We do not need to study the field issue any longer. We need to fund the studies which have been done.
- Monies for this plan will be included into the 2020-2021 Town of Colchester Budget and brought to the Board of Selectman, the Board of Finance and Public Referendum for approval

(Costs listed are approximations and are not meant to be inclusive of all potential costs associated with the recommendation)