

# Colchester Athletic Field Presentation

Original Date: March 2020

Revised: November 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
<b>Field Expectations</b>	High safety	High safety	High safety
	Very high visual quality	Reasonably high visual quality	Good visual quality
<b>Grounds Manager</b>	Educated in sports field management and experienced	Experienced with some education in sports field management	Knowledge and experience may be limited
<b>Staff</b>	Adequate staffing	Adequate but could use more	Limited support for field work
<b>Equipment</b>	Have all that is needed including : mowers, spreaders, aerifiers, rollers, irrigation system	Have mowers, spreaders, aerifiers, <b>the ability to provide irrigation</b>	Have the basics: mowers and spreader
<b>Products</b>	All products necessary for a high quality field	Fertilizer, seed and occasionally topdressing materials	Fertilizer and some seed
<b>Budget</b>	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

## 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 at least 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 be no restriction of the 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 photos reference are from the Fall of 2019. Weather conditions are the same. Use and field specific information are depicted on each slide.



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



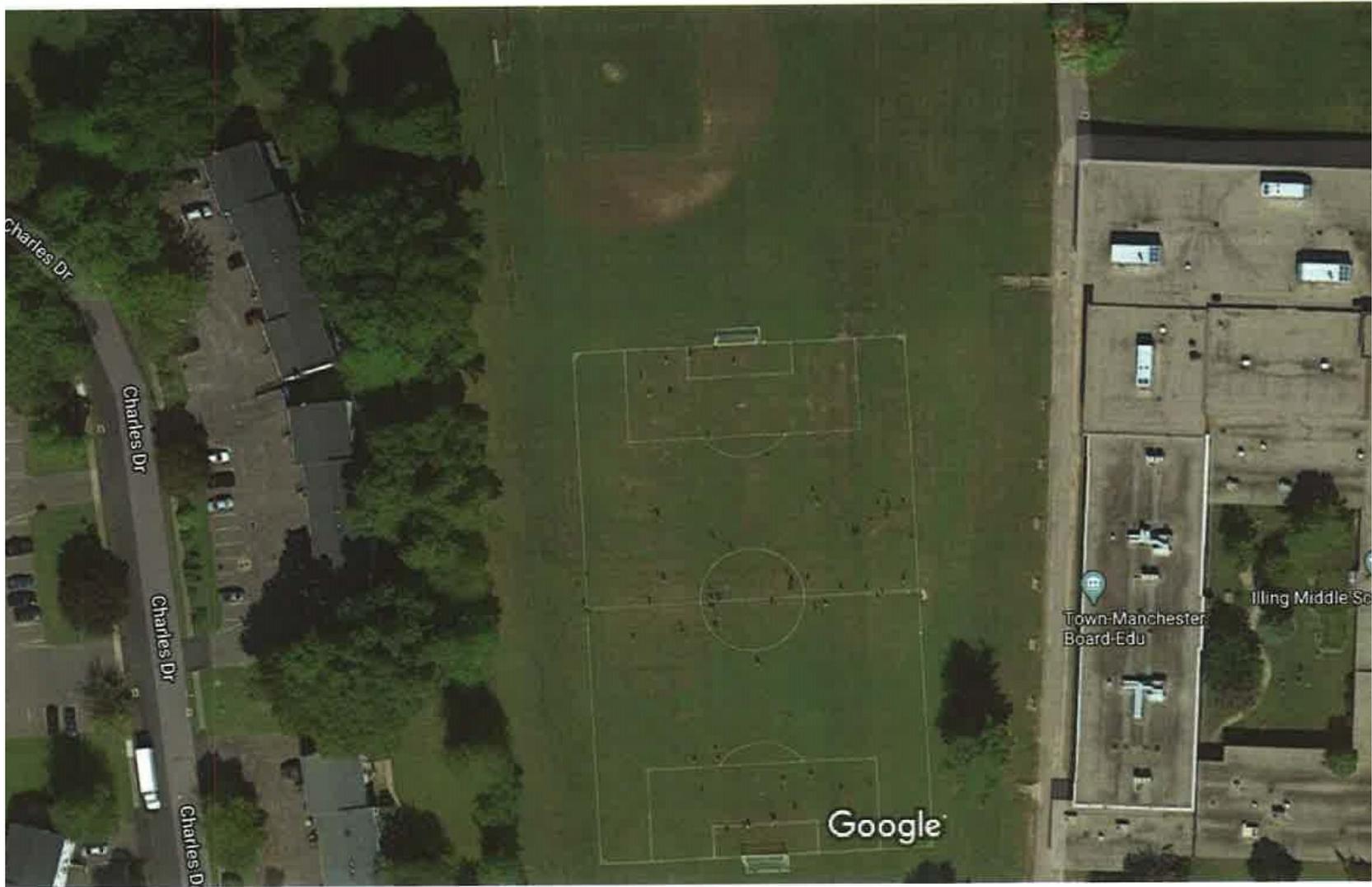
Ledyard High School – Natural Grass Game Field, Non permanent Irrigated Fields, Clear Moisture Stress and Wear Stress in Practice Areas and Game Field. Soccer relocated games to alternate location.



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



## Charter Oak – Bennett Academy – Wear and Moisture Stress



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

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, Northernly 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



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 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

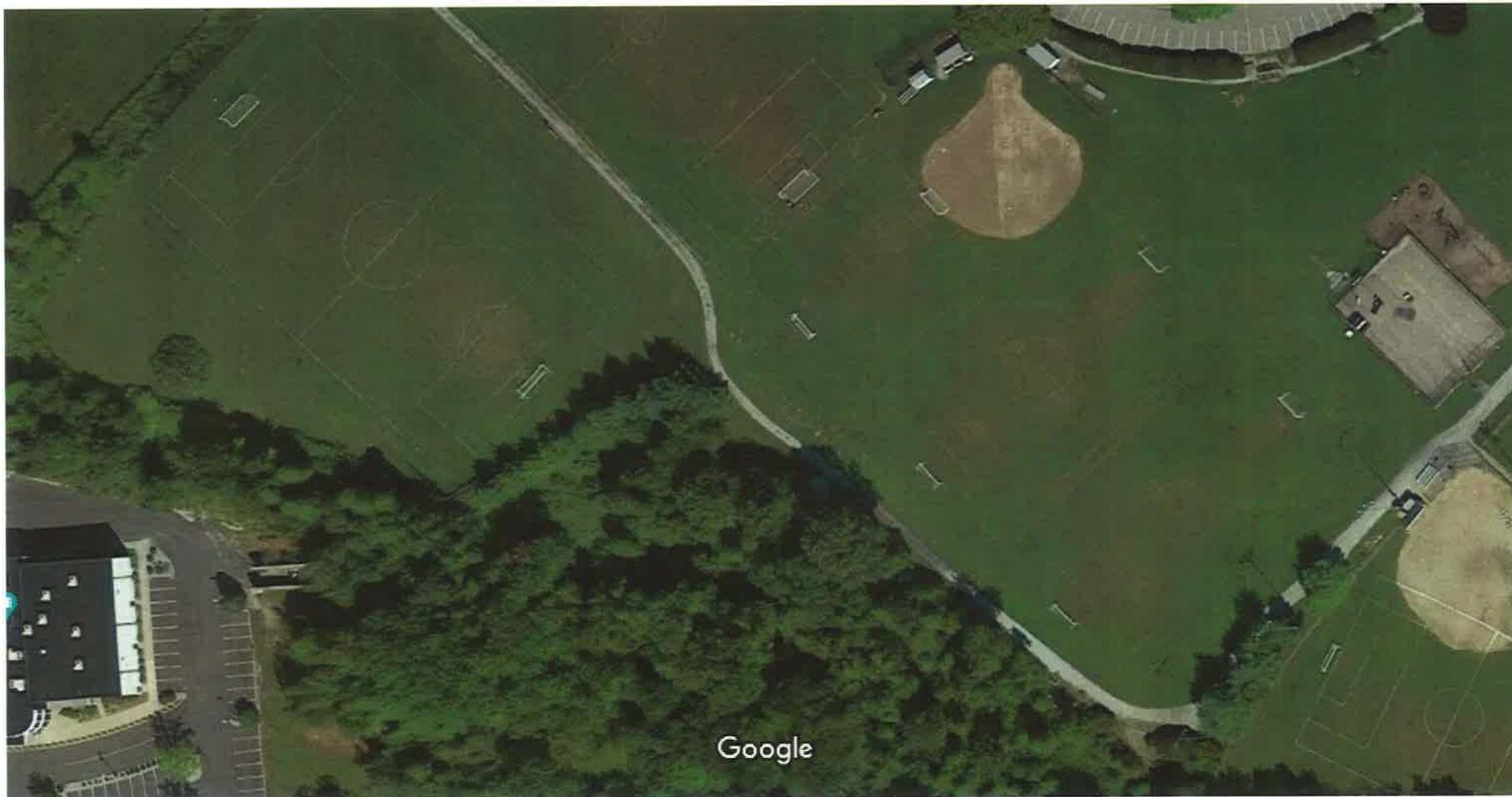


Imagery ©2020 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2020 100 ft

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 striped to provide up to 10 fields (varying sizes, including on 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.



Rec-Plex Enlargement #1



## 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 Canon/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.

## History

1997 Recreation Master Plan – Page 17 (see Attached) First recommendation to install Irrigation Systems. Noted also within the Plan is the need to acquire additional property. This is 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.

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. Although better than nothing, 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 are taken by the Town to address land acquisition issues or funding to provide additional fields or Irrigation to other fields.

2007 – Stantec –Colchester Recreational Site Improvements Master Plan (see attached) – Consultant prepared Analysis of existing Town owned properties for Athletic Field expansion. The Town of Colchester, Athletic & Recreational Facilities Task Force (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. Each of the proposed areas had estimates that ranged from. 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 theses issues and cost.

## History – (cont)

2014 – Long Capital Plan submitted to Board of Finance and Board of Selectmen –First Comprehensive Analysis of existing Town owned properties (section regarding Rec-Plex attached). 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 for solution via general fund allocation.

2014 – Dr. Jason Henderson & Julie Campbell conduct a field assessment and report for the Rec-Plex. (See attached) The primary challenges at that point in time 1) lack of irrigation, 2) malfunction of existing Irrigation, 3) no core cultivation, 4) minimal overseeding, 5) in ability to control weeds. Recommendations Items 2,3,4, have been adapted by staff as funded within the FY14-15 budget. See reference slide. However The first challenge had not been addressed due to funding constraints.

2016- Field Sustainability Task Force forms, meets and reviews the issues regarding the field. 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 adapt The recommendation that Capital Items/Projects are to be funded though the user fees. No general fund Allocations for irrigation issues raised in previous reports is brought forward or mentioned.

June 2017 – Town of Colchester Ordinance 18-10 is amended (see attached) that established the legal basis for the establishment and collection of the Field Sustainability Fee upon each participant within sports Leagues utilizing the fields at the Rec-Plex – Est funds available to date. \$43,000.

RECREATION FIELD APPLICATION RATES  
Revised Date 3-22-2016 add schools

Field	Measure	Area Sq. Ft.	1000's SF	4 lbs/1000		Spring Fertilizer		May Fertilizer		Late August Fertilizer		.25 Area Overseed	
				Spring Seed (lbs) 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.)	Perennial Rye 20 lbs/1000 SF	Late October Urea 43-0-0 (0.5N/1000 Sq.Ft)				
				Lbs total field		Lbs total field		Lbs total field		Lbs total field			
R1	25x(220'x220')x3.14	38,000	38	152	152	190	190	190	190	190	190	190	38
R2	300'x340'	102,000	100	400	400	500	500	500	500	500	500	500	100
R3	245'x280'	68,600	68	272	272	340	340	340	340	340	340	340	68
R4	230'x160'	36,800	36	144	144	180	180	180	180	180	180	180	36
R5	400'x295'	118,000	118	472	472	590	590	590	590	590	590	590	118
R6	320'x270'	86,400	86	344	344	430	430	430	430	430	430	430	86
R7	310'x200'	62,000	62	248	248	310	310	310	310	310	310	310	62
R8	380'x180'	68,400	69	276	276	345	345	345	345	345	345	345	69
				Totals	2308	2308	2885	2885	2885	2885	2885	2885	577
				Order	2400	2400	2900	2900	2900	3000	3000	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 Fertilizer		May Fertilizer		Late August Fertilizer		Approx. 1/3 worn Area Overseed	
				Spring Seed (lbs) 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.)	Perennial Rye 20 lbs/1000 SF	Late October Urea 43-0-0 (0.5N/1000 Sq.Ft)				
				Lbs total field		Lbs total field		Lbs total field		Lbs total field			
Bacon Acad.	Football	380'x245'	93,100	93	372	372	465	465	465	465	465	620	93
	Baseball	345'x370'	127,650	128	512	512	640	640	640	640	640	845	128
	Softball	(314x195)+(90x225)	81,500	81	324	324	405	405	405	405	405	540	81
JJIS	Soccer	340'x220'	75,000	75	300	300	375	375	375	375	375	500	75
	Cody Camp	.25x(220'x220')x3.14	38,000	38	152	152	190	190	190	190	190	190	38
				Totals	1660	1660	2075	2075	2075	2075	2075	2695	415
				Order	1700	1700	2100	2100	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 REC PLEX PREPARED FOR



PHOTO Spring 2012

215 OLD HEBRON ROAD

DATE 3-1-2020

COLCHESTER, CT

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

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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

TEAM EJP Vernon, CT  
36 Clark Road  
Vernon, CT

06415

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
<u>Package 00001</u>				
900	FT	8 FST PIPE DUCTILE 52 CL	23.36	21,024.00
44	EA	8 AMARILLO FAST-GRIP	93.00	4,092.00
1	EA	GASKET		
		5 1/4 M-CENT HYD 5-6 OL	2,300.00	2,300.00
3	EA	6MJ NST	11.41	34.23
3	EA	VALVE BOX COVER WATER	32.72	98.16
3	EA	36 VALVE BOX BASE BELL	29.69	89.07
3	EA	26 VALVE BOX TOP NF L/C	141.99	425.97
1	EA	8 MJ DI TEE CL	828.98	828.98
3	EA	8 MJ DI RS VALVE OR		2,486.94
		**RED NUT**		
1	EA	8X6 MJ DI REDUCER CL	55.58	55.58
6	EA	6 SIP DI EZGRIP	49.81	298.86
2	EA	RESTRAINT W/ACC		
		6 SIP DI EZGRIP	36.55	73.10
		RESTRAINT W/ACC		
Package Sub-total:				30,693.93
 <u>Package 00002</u>				
900	FT	8 FST PIPE DUCTILE 52 CL	23.36	21,024.00
44	EA	8 AMARILLO FAST-GRIP	93.00	4,092.00
1	EA	GASKET		
		5 1/4 AVK HYD 5-6 OL 6MJ	2,526.32	2,526.32
3	EA	NST	11.41	34.23
3	EA	VALVE BOX COVER WATER	32.72	98.16
3	EA	36 VALVE BOX BASE BELL	29.69	89.07
3	EA	26 VALVE BOX TOP NF L/C	141.99	425.97
1	EA	8 MJ DI TEE CL	828.98	828.98
3	EA	8 MJ DI RS VALVE OR		2,486.94
		**RED NUT**		
1	EA	8X6 MJ DI REDUCER CL	55.58	55.58
2	EA	6 SIP DI EZGRIP	36.55	73.10
6	EA	RESTRAINT W/ACC		
		6 SIP DI EZGRIP	49.81	298.86
		RESTRAINT W/ACC		
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

## Phase 2 and Beyond— Issues, Recommendations, Funding

Phase 2 consists installation 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. \$3,500 per field irrigated.

Funding Source/Schedule for Phase 2 and Annual Water Cost has not been determined other than the use of Field Sustainability Fund as presently being collected.

Field R-5 and R-6 require evaluation in regard to the need/desire to create crowned properly graded athletic field or to reserve them as practice field status only. Should the latter be chosen, then irrigation systems may be installed at the present time. Est \$35,000 each. Should these fields be improved to the status or properly crowned, drained and graded, each reconstruction would include the installation of the U/G irrigation system at the time of reconstruction. Estimated cost for each reconstruct with proper grading and irrigation would be \$250,000 per field.

Regardless of the improvement work conducted at the RecPlex, the need for additional field space off site is still required to meet the demands of the level of activity between School Athletics and Recreational Use within the Town of Colchester. This has been highlighted as a concern since 1997 and reiterated in 2007, and 2016. When residents expectations are set by area communities conditions, the same conditions must be provided in order to meet their expectations. This includes available space, treatment of space, limiting use for specific field type (game vs practice field) (single use fields). <http://safesportsfields.cals.cornell.edu/field-scheduling> provides data in regard to over use and field scheduling.

Public expectation without realistic knowledge of the limitation of natural turf fields and limited improvement funding will always result in the public expectation not being met.

## November 2020 Update.

As COVID-19 became the focal point for organized sport field use throughout Connecticut, the use of the sports fields were cancelled in accordance with the Governor's Executive Orders. The Summer and Fall weather patterns resulted in drought conditions in eastern Connecticut. However the Town maintained the recommended over seeding and Fertilization program. This would be equivalent to following the recommendation previously ignored to rest at least one field for a sports season. The results are clear by the following photographs taken Nov 18, 2020 in 30 degree weather. The irrigated fields (R-7 and R-8) are in exceptional condition. The others are in good condition with minimal stress areas.



RecPlex R-8

## November 2020 Update



Rec-Plex R-8

# November 2020 Update



Rec-Plex R-7

# November 2020 Update



Rec-Plex R-2

November 2020 Update



Rec-Plex R-2 Infield Detail

## November 2020 Update



Rec-Plex R-3

# November 2020 Update



Rec-Plex R5

## November 2020 Update



Rec-Plex R-6