ATTACHMENT 2

2019 Turf Consultant's Report

Park Fields in Culver City

Before Soccer-

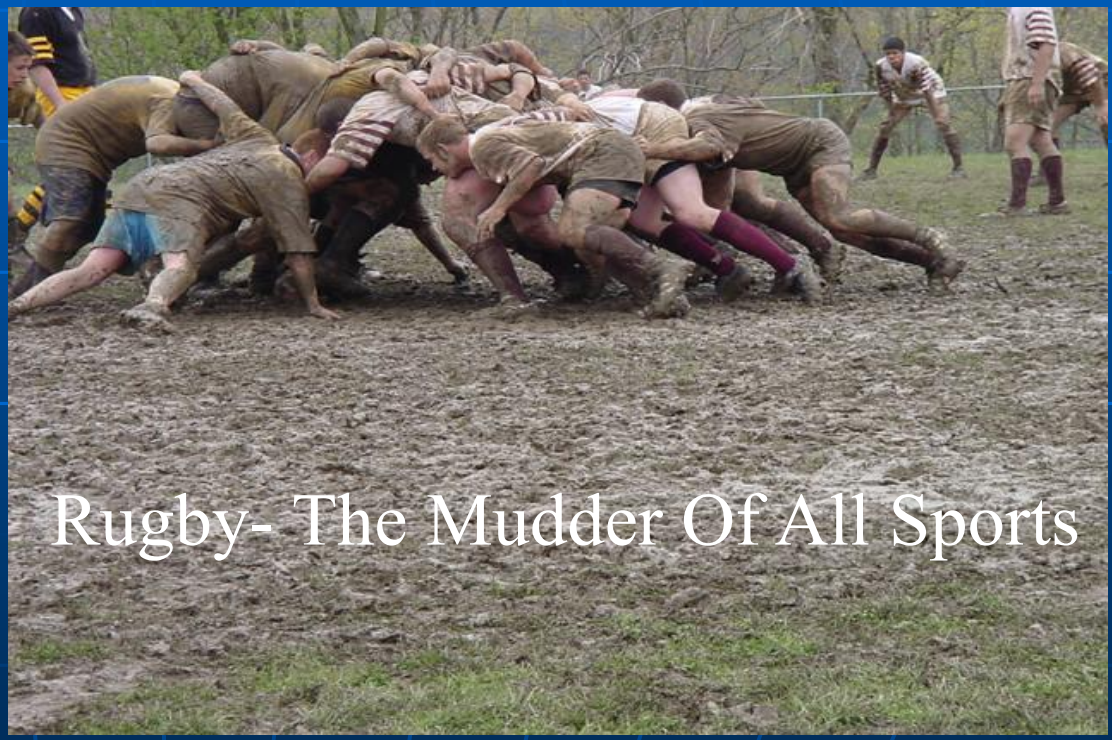
- You Had Dedicated Athletic Fields:

- Football Fields
- Baseball Fields
- When these seasons were over, you had 1 year before it would be played on again

Soccer Has Changed Everything Over The Past 20 Years!

- The popularity of soccer has increased 60% faster than the population growth.
- Every baseball outfield and park in town has become a soccer field.
- Budget constraints over the same time have caused turf maintenance to be cut dramatically.
- Your current sports fields were never designed to handle the wear they are receiving today.

Lacrosse And Rugby Cause More Damage Than Soccer- Lacrosse Is Growing Today At Close to The Rate Soccer has over the past 20 Years



Rugby- The Mudder Of All Sports

GOAL MOUTH SYNDROME

Here is What We Found on Your Sites

- Your current maintenance level on these fields is an average 1.67 but your average wear level is close to 3.75, 5 being the highest.
- Your fields have no time to rest.
- Some of your irrigation systems may need to be upgraded.
- There is almost no preventative irrigation maintenance taking place at these parks.
- You are fertilizing only 4 times a year with inadequate quantities.
- You are mowing the grass at 3.5”.
- Your adult sport usage is unusually low compared to most of our City Assessments.

Blanco Park


Blanco Park
Averaging 37.9 Hours of play per week.
Legend
Blanco Park
Blanco Park
Blanco Park
Google Earth
©2016 Google
N
40 ft

2019 Initial Site Visit

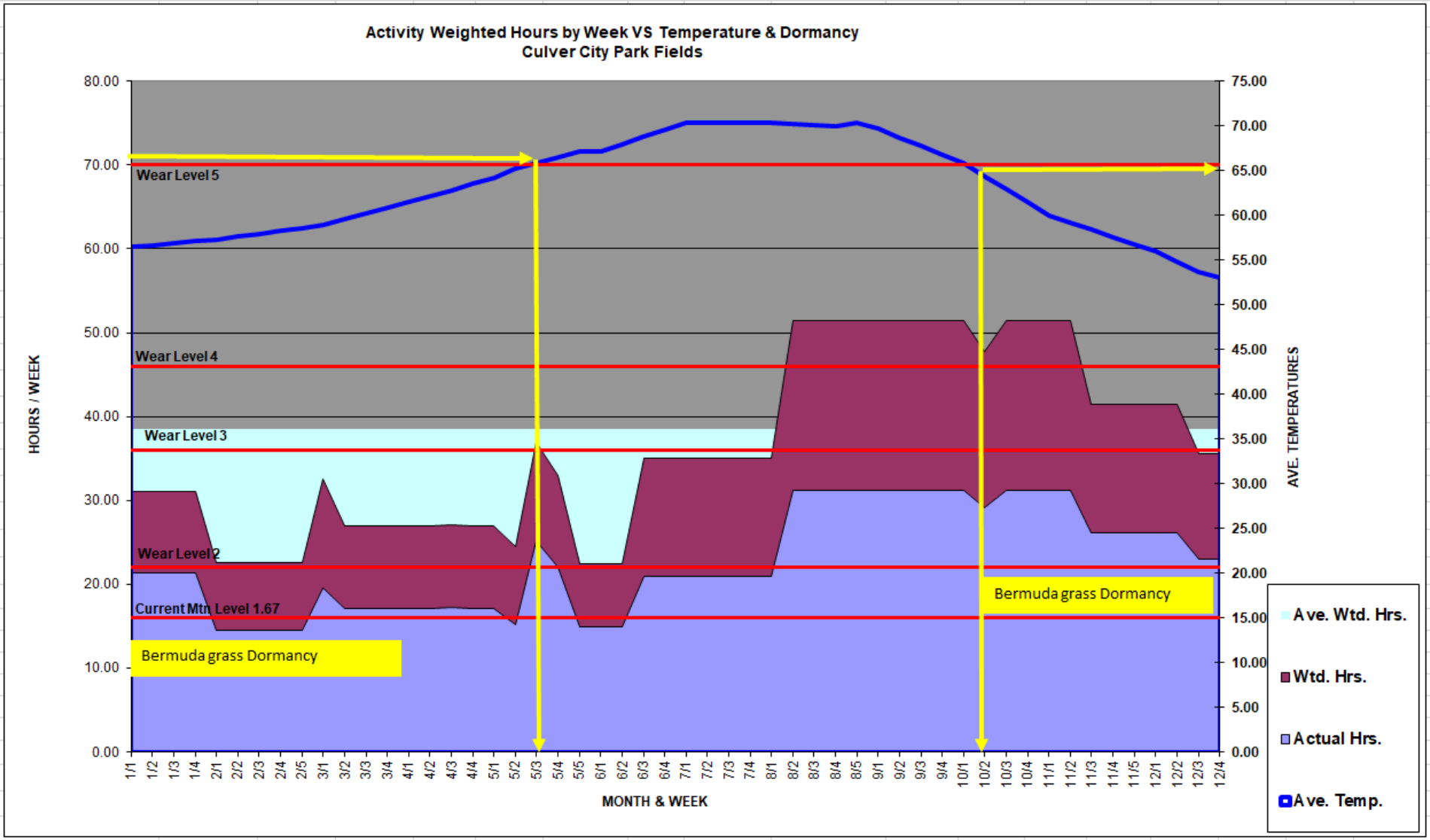
SITE	Root Depth	Field CONDITION	Bare Spots	Weeds	Compacted Areas	Irrigation System	Worn Areas
Culver City Park	3.00	OK	10%	10%	35%	C- to B	0%
Veterans Park-Fields	2-3"	OK	20%	30%	30%	A	20%
Syd Kronenthal Park Fields	2.50	Poor	0%	20%	0%	D	0%
Culver West Alexander Park Fields	4.00	OK	0%	10%	30%	B	0%
El Marino Park Fields	4.00	OK	0%	10%	30%	A	0%
Tellefson Park Fields	3.00	OK	10%	10%	0%	B	0%
Lindberg Park Fields	3.50	OK	0%	20%	25%	B	0%
Blanco Park Fields	4.00	OK	0%	0%	30%	A	0%
Fox Hills Park Fields	3.00	OK	0%	10%	20%	A	0%
Carlson Park Fields	3.00	OK	0%	0%	0%	A	0%

Your Wear VS Your Maintenance

WEAR INDEX IN HOURS PER WEEK								
			Actual	Actual	Activity	Current	Current	Reccomended
		#	Hours/Yr	Hours/Wk	Weighted	Wear	Maint.	Maint.
SITE	Sq. Ft	Weeks	Per Field	Per Field	Hours/ Wk	Level	Level	Level
Culver City Park	294000	52	1456	28.0	38.5	4.58	1.67	4.58
Veterans Park-Fields	180000	52	1062	20.4	33.2	4.58	1.67	4.58
Syd Kronenthal Park Fields	204000	52	872	17.4	16.2	3.33	1.67	3.33
Culver West Alexander Park F	40000	52	1214	23.3	29.4	4.58	1.67	4.58
El Marino Park Fields	31000	52	182	20.2	43.1	3.75	1.67	3.75
Tellefson Park Fields	31500	52	45	5.0	1.7	2.25	1.67	2.25
Lindberg Park Fields	110000	52	184	10.2	11.3	4.75	1.67	4.75
Blanco Park Fields	106000	52	1148	23.0	54.7	4.75	1.67	4.75
Fox Hills Park Fields	130000	52	572	20.4	13.4	3.08	1.67	3.08
Carlson Park Fields	115000	52	350	38.9	1.2	1.83	1.67	1.83
Totals/ Averages	1241500	52	708	20.7	24.3	3.75	1.67	3.75

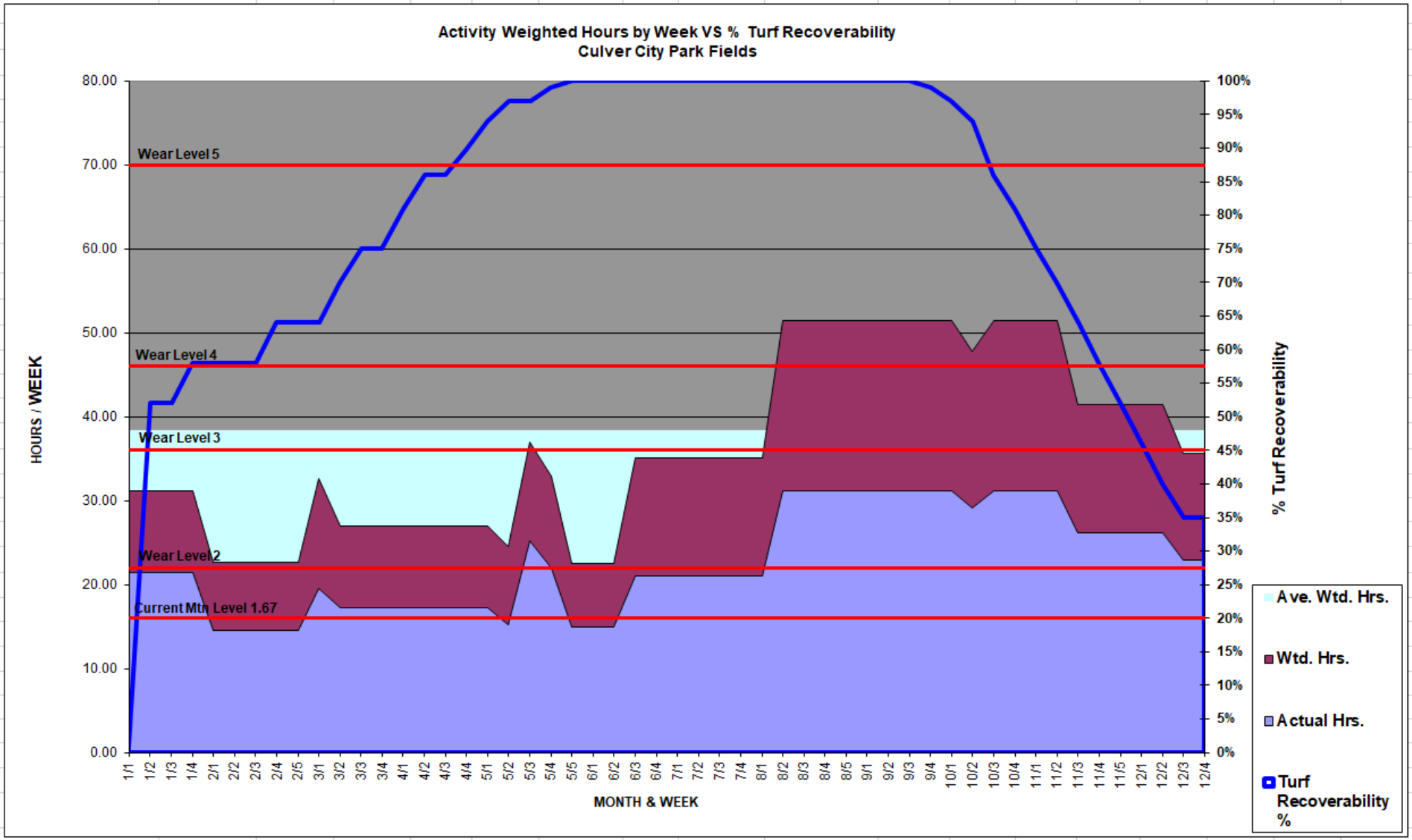
Activity Weighting Scale	
Walking on field/Softball	1.00
Baseball	1.25
PE	1.50
Parked Cars	1.50
Marching Band	1.75
Youth Soccer Games	1.85
Youth Flag Football Games	1.85
Youth Soccer & Flag FB Prac.	2.00
Adult Soccer & Flag FB Games	2.13
Adult Soccer & Flag FB Prac.	2.25
Lacrosse	2.25
Tackle FB &Rugby	2.50
Sports Clinics & Camps	2.50

Bermuda Grass Dormancy VS Wear



You Need Set Aside Time Each Year- Annual Renovation Equals Sustainable Sports Fields

Your Turf's Ability to Recover Month by Month



Culver City Park Soil Analysis

FOR:	Culver City Park					SOIL ANALYSIS										
ACRES:	6.75															
pH	SALT	LIME		ORGAN.	NIT.	PHOS.	POTAS.	SULF	CALC.	MAGN.	SOD.	ZINC	IRON	MANG.		Boron
	MMMOS	%		%	N PPM	P PPM	K PPM	S PPM	Ca PPM	Ma PPM	Na PPM	Zn PPM	Fe PPM	Mn PPM	Cu PPM	
7.15	0.29	No	S.Loam	5.40	7.05	91	330	17	2165	379	52	67.20	30.00	2.00	1.30	1.05
RECOMMENDED LEVELS		LOW	S.LOAM	3.5%+		50 PPM	413	15 PPM	2100.00	269.18	35 PPM	1.00	5.00	1.00	0.20	0.50
LBS/ 1000 SQ FT. NEEDED					8.00	0.00	3.79	1.84	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
								12.0%	6.0%	3.0%		1.0%	17.0%	2.5%	1.0%	0.1%
		CATION EXCHANGE CAPACITY														
RECOMMENDED LEVEL		%CEC	%H	%K	%Ca	%Mg	%Na	Chlor	SAND%	SILT%	CLAY%					
		15.06	0%	6%	72%	21%	2%	28.00	58.00%	27.70%	14.30%					

You Need Fertigation-
Fertilizer is Injected Into Irrigation Water

It Is The Fastest Way to Grow in New Fields and Mend Damaged Ones

Dual Tank System-50 Acres

Tanks Underground

Your Fields Need More Maintenance

MAINTENANCE FREQUENCY

	Category Mtn. Level		Mowings Per Year		Aerations Per Year		Top-Dress Per Year		Overseed Per Year		Fertilize Per Year	
	Curr. Level	New Level	Curr Level	New Level	Curr Level	New Level	Curr Level	New Level	Curr Level	New Level	Curr Level	New Level
Culver City Park	1.67	4.58	52	96	2	12	0	1	1	1	2	6
Veterans Park-Fields	1.67	4.58	52	96	2	12	0	1	2	1	2	6
Syd Kronenthal Park Fields	1.67	3.33	52	96	2	6	0	1	2	1	2	6
Culver West Alexander Park Fields	1.67	4.58	52	96	2	12	0	1	2	1	2	6
El Marino Park Fields	1.67	3.75	52	96	2	6	0	1	2	1	2	6
Tellefson Park Fields	1.67	2.25	52	52	2	6	0	0	2	1	2	6
Lindberg Park Fields	1.67	4.75	52	96	2	12	0	1	2	1	2	6
Blanco Park Fields	1.67	4.75	52	96	2	12	0	1	2	1	2	6
Fox Hills Park Fields	1.67	3.08	52	96	2	6	0	0	2	1	2	6
Carlson Park Fields	1.67	1.83	52	52	2	2	0	0	2	1	2	6

You Need Some Additional Equipment

I Am Recommending an Aggressive Wear-Tolerant Hybrid Blue Grass Mix

Pepperdine University Malibu

You Need an Additional 7851 Man Hours of Maintenance – at 2000 Hours Per Person Per Year, This Will Require 4 Additional People To Raise Your Maintenance Level to Sustainability

WEAR INDEX IN HOURS PER WEEK														
			Actual	Actual	Activity	Current	Current	Reccomended	Current	Needed	Addit.	Current	New	
		#	Hours/Yr	Hours/Wk	Weighted	Wear	Maint.	Maint.	Ann. Mtn.	Ann. Mtn.	Ann. Mtn.	Approx.	Approx.	$
SITE	Sq. Ft	Weeks	Per Field	Per Field	Hours/ Wk	Level	Level	Level	Hours	Hours	Hours	Mtn.Cost	Mtn.Cost	Increase
Culver City Park	294000	52	1456	28.0	38.5	4.58	1.67	4.58	273	1129	856	$9,567	$39,519	$29,953
Veterans Park-Fields	180000	52	1062	20.4	33.2	4.58	1.67	4.58	276	1848	1572	$13,941	$64,679	$50,738
Syd Kronenthal Park Fields	204000	52	872	17.4	16.2	3.33	1.67	3.33	1661	1926	265	$58,128	$67,399	$9,271
Culver West Alexander Park F	40000	52	1214	23.3	29.4	4.58	1.67	4.58	78	910	832	$2,735	$31,838	$29,103
El Marino Park Fields	31000	52	182	20.2	43.1	3.75	1.67	3.75	59	643	584	$2,077	$22,505	$20,428
Tellefson Park Fields	31500	52	45	5.0	1.7	2.25	1.67	2.25	58	68	10	$2,022	$2,371	$349
Lindberg Park Fields	110000	52	184	10.2	11.3	4.75	1.67	4.75	138	1304	1167	$4,819	$45,648	$40,830
Blanco Park Fields	106000	52	1148	23.0	54.7	4.75	1.67	4.75	273	1129	856	$3,600	$28,397	$24,796
Fox Hills Park Fields	130000	52	572	20.4	13.4	3.08	1.67	3.08	273	1129	856	$5,692	$29,499	$23,807
Carlson Park Fields	115000	52	350	38.9	1.2	1.83	1.67	1.83	273	1129	856	$4,547	$42,530	$37,983
Totals/ Averages	1241500	52	708	20.7	24.3	3.75	1.67	3.75	3363	11215	7851	$107,127	$374,385	$267,258

COMPOSITE SCENARIO COST ANALYSIS					
City of Culver City	Scenario #1	Scenario #2	Scenario #3	Scenario #4
Composite of All The Parks:	2019	2020	2021	2022
	Current Wear Mtn Level	Current Wear Mtn Level	Current Wear Mtn Level	Current Wear Mtn Level
	1.67	3.75	3.75	3.75
	Mowing 1/ Week Only		With Equipment Purchase	After New Equipment
$/acre/yr	$5,230	$16,404	$17,590	$16,404
Square Feet Natural Turf	1,241,500	1,241,500	1,241,500	1,241,500
ANNUAL TOTALS:	$149,063	$467,519	$501,319	$467,519
Top dressing	$3,760	$18,022	$18,022	$18,022
Grass Seed	$36,606	$7,395	$7,395	$7,395
Fertilizer-Granular fertilizer applied every 8 weeks	$1,570	$59,846	$59,846	$59,846
Fertigation		$7,870	$7,870	$7,870
Manpower	$107,127	$374,385	$374,385	$374,385
New Equipment Needs				
Overseeder			$13,000	
Aerway Aerator			$13,000	
Fertigation at Veteran's and Syd Kronenthal Parks			$7,800	
New Equipment $ 33,800				

Below Is The Annual Maintenance Calendar For Culver City Park

DATE:	SQ.FT:	294000						Culver City Park										
10/24/19																		
APPLICATION SCHEDULE:						City of Culver City												
	UFLEX 46-0-0	Fertigation 32-0-0	P 11-52-0	K 0-0-50	Solu-Plus 1-0-1	Solu-Kelp 1-1-4	Calfresh Na Blocker	Biology Boost Innoculant	Con. Soil Conditioner	Microbes Starter	Gypsum Ca	Sulfur S	Mows/	Shatter	Knife	Plug	Over	Top
WEEK OF	LBS	GLS	LBS	LBS	GLS	GLS	GLS	LBS	YRDS	LBS	LBS	LBS	Week	Tine	Aerate	Aerate	Seed	Dress
01/01/19	426	0	0	0		0	0	0	0	0	0		1		X			
01/08/19													1					
01/15/19													1					
01/22/19													1					
01/29/19	0	0	0	0		0	0	0	0	0	0		2		X			
02/05/19													2					
02/12/19													2					
02/19/19													2					
02/26/19	426	0	0	0	0	0	0	0	0	0	0		2		X			
03/05/19													2					
03/12/19													2					
03/19/19													2					
03/26/19	0	0	0	0	0	0.0	0	0	0	0	0	0	2		X			
04/02/19													2					
04/09/19													2					
04/16/19													2					
04/23/19	426	0	0	0	0	0.0	0	0	0	0	0		2		X			
04/30/19													2					
05/07/19													2					
05/14/19													2					
05/21/19													2					
05/28/19	0	0	0	0	7	3.4	0	1.7	6.00	0	0	0	2	X	X	X	X	X

Your Most Pressing Needs to Achieve Sustainability

- Drastically increase your maintenance level on these fields.
- You will need to add approximately 7850 additional manhours.
- Your shortage of man hours to reach sustainability is literally 4 people short.
- You should hire 2 of these for irrigation maintenance.
- Switch to a very aggressive Hybrid Kentucky Blue grass.
- You need to schedule time off on the fields each summer for *Major Annual Turf Renovation.*
- You need to increase your fertilization rate.
- Most of your soil samples indicate the need for much potassium and other nutrients. The maintenance calendars in this assessment reflect what these fields need.
- You need fertigation for all your high wear fields.
- You should have your irrigation systems assessed.
- The tasks that you should do annually on your high wear fields can be done much more quickly by an outside contractor with larger equipment because these tasks are labor intensive.


What are Your Options?

Your Options

- Increase Maintenance Level
  - Reduce Usage
- Increase Natural Turf Fields
  - Artificial Turf
- Increase Users Fees