

**CITY  
OF  
WILLMAR**

**2005  
ANNUAL  
REPORT**



City Attorney  
City Clerk-Treasurer  
Community Ed & Recreation  
Cultural Liaison  
Finance  
Fire  
Planning & Development Services  
Police  
**Public Works**



# Public Works/Safety Committee

CHAIR ..... DOUG REESE

VICE CHAIR ..... RON CHRISTIANSON

MEMBERS ..... CINDY SWENSON  
..... BRUCE DEBLIECK

STAFF ..... MICHAEL SCHMIT, CITY ADMINISTRATOR  
..... MELVIN ODENS, PUBLIC WORKS DIRECTOR  
..... JIM KULSET, PUBLIC SAFETY DIRECTOR

# Airport Commission

MEMBERS..... TED ANDERSON  
..... ARNOLD PLOWMAN  
..... BRUCE HANSON  
..... STEVE NEDRELOW  
..... PATRICK CURRY  
..... MARGUERITE SWENSON  
..... DAVID SOLSRUD

STAFF ..... MELVIN ODENS, PUBLIC WORKS DIRECTOR  
..... BRUCE PETERSON, PLANNING & DEVELOPMENT DIRECTOR

*Engineering*

## ***ENGINEERING PERSONNEL***

**City Engineer .....Melvin Odens**

**Assistant City Engineer .....Brian Bollig**

**Records/Const. Mgr .....Tom O'Malley**

**Technicians .....Richard Powers  
.....Lynden Wittman**

**Clerical .....Janell Sommers**



**Right to left: Brian Bollig, Mel Odens, Tom O'Malley, Janell Sommers, Richard Powers, and Lynden Wittman.**

## ***ENGINEERING SUMMARY FOR YEAR 2005:***

The year 2005 saw staff within the Engineering Department oversee \$5.4 million dollars worth of street-related projects. Local street construction/reconstruction was in the following areas:

### **Reconstruction**

Willmar Avenue SE – 4<sup>th</sup> St. to TH 71/23 Bypass  
3<sup>rd</sup> Street SW – Willmar Ave. to Kandiyohi Ave.

### **Overlay**

8<sup>th</sup> Avenue SE – 23<sup>rd</sup> St. to end of cul-de-sac  
Hansen Drive SW – Horseshoe south of 15<sup>th</sup> Ave.  
15<sup>th</sup> Avenue SW – 15<sup>th</sup> St. to 18<sup>th</sup> St.  
10<sup>th</sup> Street SW – Richland to north end of cul-de-sac  
Richland Avenue SW – 10<sup>th</sup> St. to 530 ft. West of 11<sup>th</sup> St.  
11<sup>th</sup> Street SW – Richland Ave. to 19<sup>th</sup> Ave.

### **Underground Utility Work**

Water and sewer extension to LDS church along County Road 24.  
4<sup>th</sup> Street SE underground as needed  
Trentwood Estates  
Oslo Meadows  
Woodberry Addition  
DBI development  
Hawkinson Development

### **New Construction**

3<sup>rd</sup> Street NE (Church of Latter Day Saints)  
4<sup>th</sup> Street SE relocation and connection to 19<sup>th</sup> Ave. SE  
Trentwood Estates (Warren Erickson)  
17<sup>th</sup> Street NW, 18<sup>th</sup> Avenue NW, 19<sup>th</sup> Avenue NW (Oslo Meadows)  
Woodberry Addition (Dale Nelson)  
5<sup>th</sup> Street SE, 24<sup>th</sup> Avenue SE, 9<sup>th</sup> Street SE (DBI Development)  
23<sup>rd</sup> Street SE relocation (Hawkinson)  
15<sup>th</sup> Street NW – 15<sup>th</sup> Avenue NW to 1,250' north

### **Street Lighting**

County Road 5 – Path Lighting as needed from US 12 north to College Road.  
Sunrise Path Lighting

### Miscellaneous

Signal Systems – Intersection of Willmar Avenue and Lakeland Drive SE and intersection of 5<sup>th</sup> Street and Willmar Avenue SE

Seal Coat Project

Crack Sealing

Total length of streets reconstructed was 1.49 miles, streets in new development were 2.81 miles, and streets overlayed were 1.06 miles. Other street-related projects worked on were: two signal systems, street lighting along all new streets, Willmar Avenue SE and Sunrise Park, crack sealing, and seal coat. Total construction dollars that staff within the Engineering Department oversaw was \$5.6 million dollars.

In addition to construction projects staff also has the responsibility for building plan reviews, excavation permits, plat reviews, wastewater treatment relocation project phase one – planning, cost estimates for many miscellaneous projects, locates (3200), public walk-in assistance, SE Willmar development planning, storm water regulations, Cities Engineers Association involvement, Airport terminal/FBO building construction, and local option sales tax projects (CC/BLC connection, path plan, industrial park redevelopment).

Swansson Field continues to develop with the stadium project, bathroom/concession building and plaza. Many hours of coordination between the various interest groups is necessary to get the project completed.

Building construction projects included: the swimming pool and bathhouse, 1,000-seat baseball stadium, and the concrete floor in the Blue Line Center. Dean Klinghagen and Kenny Stockland need to be acknowledged for their involvement with in-kind work and coordinating the Kandiyohi County Sentence to Serve work group. This work group was responsible for installing all 1,000 seats in the stadium, as well as installing all the hand railing. They are also willing to be a participant for work that is intended to be accomplished in 2005 such as the restroom/concession building, patio, and other work to finish the project.

The aerial photography update of the city is another project the Engineering Department continues to work on. This work involves acquiring digital images, and contours of all the sections in and around the City of Willmar. We were able to complete the corporate limits of the City.

# 2005 Construction Summary:

<u>Project No.</u>	<u>Type of Work</u>	<u>Length (Miles)</u>	<u>Cost</u>
0401	Wear Course	2.69	\$218,269.00
0501	Street Improvement	4.23	\$2,166,400.00
0502	Sewer and Water Main	2.4	\$1,038,682.00
0504	Willmar Ave. & Lakeland Dr.	1.34	\$1,650,256.00
0505-A & B	Signal Systems	NA	\$310,970.00
0507	Street Lighting	NA	\$128,225.00
0508	Seal Coat	NA	\$24,447
0509	Willmar Avenue Lighting	NA	\$75,008.00
<b><u>TOTAL</u></b>			<b><u>\$5,612,257.00</u></b>

This was the sixth year of a more aggressive approach to preventative maintenance as the City crack sealed numerous streets. We have also developed a 5-year plan for both crack sealing and seal coating.

## ***CRITICAL RATING RESULTS***

City streets are rated periodically to determine their condition. The ratings are done on a scale of 0 to 100. The streets and various data related to each street have all been entered into the computer. Using this information staff is working on a five-year construction program to assist in planning, financing, and maintaining our street network more efficiently.

## ***STREET WORK HISTORY***

<u><i>Year</i></u>	<u><i>Reconstruction</i></u>	<u><i>New Construction</i></u>	<u><i>Overlay</i></u>	<u><i>Seal Coat</i></u>
1991	3.17	1.62	.5	3.5
1992	2.02	1.04	0	4.9
1993	1.37	0.73	0	0
1994	1.86	0.51	.27	0
1995	1.15	0.11	1.07	3
1996	2.02	0.11	1.55	0
1997	0.63	0.81	1.01	5.88
1998	2.83	0.30	0.26	0.00
1999	0.97	0.61	0	3.48
2000	0.35	0.08	2.89	0
2001	1.34	.14	0.85	3.84
2002	0.00	1.18	0.39	0.00
2003	0.83	0.25	1.55	2.9
2004	1.74	1.48	0.78	0.0
<b>2005</b>	<b>1.49</b>	<b>2.81</b>	<b>1.06</b>	<b>0.79</b>
<b>Average</b>	<b>1.45</b>	<b>0.84</b>	<b>0.89</b>	<b>2.02</b>

Several seasonal employees are hired during the summer and fall to help with construction inspection, street and sidewalk inspection, traffic counts, and surveying. Many are college students who work during their summer break. Seasonal personnel are generally paid from project budgets.

## ***STREET MILEAGE***

<u><i>Type</i></u>	<u><i>Miles</i></u>
Trunk Highways	9.84
Trunk Highways Turnbacks (Designated as MSAS)	4.75
County State Aid Highways	13.38
Municipal State Aid Streets	19.15
County Roads	0.93
Other Local Roads and Streets – not designated (Include T.H. & CSAH frontage roads)	77.19
<b>TOTAL:</b>	<b>125.24</b>

***SUMP PUMP LINES:***

The installation of sump pump tile lines in conjunction with street construction/reconstruction was initiated in 1993. Below are the costs and length for the installation per year:

<u><i>YEAR</i></u>	<u><i>AMOUNT</i></u>	<u><i>FEET</i></u>
1993-1994	\$ 75,536	9,925
1995	91,090	12,970
1996	111,148	19,042
1997	39,792	7,176
1998	79,980	13,092
1999	21,576	3,959
2000	0	0
2001	33,860	5,514
2002	15,815	2,433
2003	17,778	1,997
2004	51,417	6,618
2005	101,639	11,283

***SANITARY SEWER COLLECTION SYSTEM:***

**SEWERS:** Gravity Lines: Life Expectancy 80 years

<u><i>Diameter</i></u>	<u><i>Length (miles)</i></u>
4"	0.31
6"	0.47
8"	67.32
10"	4.20
12"	6.68
15"	3.07
18"	3.73

21"	0.77
24"	0.95
27"	.069
30"	0.93
36"	0.29
42"	0.01
<b><i>TOTAL:</i></b>	<b><i>88.81</i></b>

**FORCE MAINS:** Life Expectancy 80 years

<i>Diameter</i>	<i>Length (miles)</i>
4"	0.37
6"	3.65
8"	0.72
10"	0.74
24"	3.11
<b><i>TOTAL:</i></b>	<b><i>8.59</i></b>

**MANHOLES:** Life Expectancy 80 years

Total Manholes approximately 1,332

**LIFT STATIONS:** Life Expectancy 50 years

Total Lift Stations 25  
City Limits: 16  
Eagle Lake: 9

Sanitary Sewer Collection Continued.....

<u><i>Construction Dates</i></u>	<u><i>Length (miles)</i></u>
1900-1940	15.79
1940-1950	5.3
1950-1960	13.84
1960-1970	13.17
1970-1980	18.27
1980-1990	14.74
1990-1995	6.5
1995-2000	2.82
2000-2002	2.34
2002-2003	.41
2003-2004	.99
2004-2005	2.25

**Cost per year to replace system (2000 Dollars)**

**\$216,825**

Note: The sanitary sewer trunk lines are being considered for replacement or rerouting because several are nearing capacity and the waste treatment plant is proposed to be relocated in the next 10 years. Trunk lines are the largest lines and are significantly higher in cost than normal residential lines. It is expected that 7-10 miles of trunk line will be needed at an approximate cost of \$350,000 per mile.

***STORM SEWER SYSTEM:***

**STORM SEWER MAINS:** Life Expectancy 80 years

<u><i>Diameter</i></u>	<u><i>Length (miles)</i></u>
6"	0.15
8"	1.80
10"	1.29
12"	15.06
15"	9.00
18"	5.98
21"	2.34
24"	6.48
27"	1.41
30"	2.37
33"	0.85
35"	0.13
36"	2.97

39"	0.39
42"	2.41
48"	1.66
54"	0.93
60"	0.10
72"	0.53
3' X 4' box	0.41
123" x 81" arch	0.28
138" x 87" arch	0.30
142" x 91" arch	0.13
29" x 18" arch	0.08
122" x 78" arch	0.06
<b><i>TOTAL:</i></b>	<b><i>57.39</i></b>

<b><i>Construction Dates</i></b>	<b><i>Length (miles)</i></b>	<b><i>Percentage</i></b>
1900-1940	8.16	14.21
1940-1950	2.60	4.53
1950-1960	7.86	13.69
1960-1970	4.51	7.85
1970-1980	11.12	19.37
1980-1990	8.59	14.96
1990-1995	7.81	13.60
1995-2000	2.43	4.5
2000-2002	0.97	1.79
2002-2004	1.4	2.53
2004-2005	1.96	3.41

***WATER DISTRIBUTION SYSTEM:***

**WATER MAINS:** Life Expectancy      80 years

<b><i>Diameter</i></b>	<b><i>Length (miles)</i></b>
2"	0.17
4"	10.15
6"	23.64
8"	45.94
10"	7.47
12"	20.44
16"	4.24
<b><i>TOTAL:</i></b>	<b><i>112.05</i></b>

<b><i>Construction Dates</i></b>	<b><i>Length (miles)</i></b>
1900-1940	10.41
1940-1950	3.02
1950-1960	9.27
1960-1970	19.04
1970-1980	25.55
1980-1990	19.30
1990-1995	13.35
1995-2000	4.22
2000-2002	2.69
2002-2004	3.18
2004-2005	2.97

**Cost per year to replace system (2000 Dollars)**

**\$208,445**

Note: Fire protection is what determines the size of water mains, and as commercial development increases around the perimeter of the city, larger, more costly mains are required. The present industrial park is in need of a major increase of water availability. Although it appears from construction dates that the immediate money needs are low, the fire demand increases in critical areas need to be addressed.

*Street & Park  
Maintenance*

# ***Public Works Maintenance Personnel***



**Director**                      **Melvin Odens**

**Superintendent**            **Ron Gilbertson**

**Working Foreman**         **Scott Ledeboer**

**Clerical**                      **Janell Sommers**

<b>Maintenance Workers</b>	<b>Dave Carlson</b>	<b>Scott Carruthers</b>	
	<b>Richard Doll</b>	<b>Dan Halvorson</b>	
	<b>Curtis Hein</b>	<b>Lynn Kløver</b>	
	<b>Steve Kotzenmacher</b>	<b>Todd Larson</b>	
	<b>Gary Manzer</b>	<b>Cal Miner</b>	
	<b>Ken Nelson</b>	<b>Ralph Nelson</b>	
	<b>Darin Niemeyer</b>	<b>Steve Quam</b>	
	<b>Galen Seehusen</b>	<b>Danny VanBuren</b>	
	<b>Mike VanDenEinde</b>		
	<b>Mechanics</b>	<b>Mike Stueckrath</b>	
		<b>Robin Wright</b>	

*Public Works Maintenance  
Staff Photo*



Back row: Lynn Kluver, Mike Stueckrath, Robin Wright, Steve Quam, Danny VanBuren, Galen Seehusen, Ron Gilbertson

Middle row: Gary Manzer, Steve Kotzenmacher, Mike VanDenEinde, Todd Larson, Ralph Nelson, Cal Miner, Mel Odens

Front row: Richard Doll, Dave Carlson, Curt Hein, Dan Halvorson, Darin Niemeyer, Ken Nelson, Scott Carruthers, and Scott Ledebor

# PUBLIC WORKS DEPARTMENT 2005 ANNUAL REPORT SUMMARY

## Snow Removal:

- Calendar year snowfall was 47.65”
- 2004 – 2005 seasonal snowfall was 43.20”
- Ten-year average seasonal snowfall is 51.90”
- Purchased 27 loads of salt (approximately 676.94 ton)
- Snow-related labor total was 4,622 hours

## Concrete Work:

- Work was completed at 16 various sites
- Work consisted of sidewalk replacement, curb replacement, Baker Diamond and Dorothy Olson Pool and garage related concrete work.

## Brush/Compost Disposal Site:

- Open to the public 4-2-2005 to 11-19-2005
- 22,081 total units used the site in 2005
- About 3,165 cubic yards of compost were hauled to the site in 2005
- 1,442 cubic yards of compost were screened during 2005
- Brush/Compost related labor – 421.5 hours

## Tree Planting:

- 19 varieties of trees planted during April and May
- 450 trees planted using 3 crews (6 staff)
- Tree planting related labor – 601 hours

## Tree Removal and Trimming:

- 472 Dutch Elm Diseased trees were removed.
- Total number of trees removed in 2005 was 561
- Total number of stumps and large roots removed was 331.
- Tree and stump removal related labor was – 5,141 hours
- Approximately 1,500 trees were trimmed in 2004
- Tree trimming related labor – 869.5 hours
- At time of this Annual Report 230 trees that were marked for removal in 2004 and 2005 were left to be removed.

## Sign Work:

- Approximately 177 signs repaired
- Sign work related labor total – 626.5 hours

### **Street Maintenance:**

- 27 days were spent hot patching streets in 2005 or about 1,424.5 hours
- 673.4 ton of hot mix was used
- Street sweeping was done from 3-22-2005 to 11-23-2005
- 1,281 hours were spent on sweeping and about 557 hours on hauling sweepings and leaves.
- 2.34 miles of crack sealing were contracted

### **Painting:**

- Crosswalks, yellow curbs, stop bars, and parking lots
- Painting labor related total – 119 hours
- Contracted Traffic Marking Services for centerline and lane line markings
- Contracted D&D Contracting to paint parking lots at Robbins Island ,Civic Center and Olsen Aquatic Center

### **Mosquito Control:**

- Re-certified five pesticide applicators
- Sprayed mosquitoes from June 8, 2005 to September 30, 2005
- Sprayed entire city twelve times with Adulticide ( Anvil 2+2) in 2005 compared to twelve times in 2004
- Treated 1,900 catch basins with Larvicide (Vectrolex WSP) and treat storm water retention areas and wetland (Altosid Briquettes and Abate Pellets)
- This third year of the Mosquito Control Program, total cost for Mosquito Control was \$34,345.46 (labor, equipment, and product cost)

### **Airport Maintenance:**

- Maintenance projects range from snow removal, mowing, trimming, patching, spraying weeds, sign work, rolling grass runway, cutting trees, and others.
- Labor hours at the airport were 455.5 hour for 2005

### **Sanitary and Storm Sewer Maintenance:**

- Staff cleaned about 85.35 miles of sanitary sewers
- Televised sewer lines prior to road construction
- Most of the city sanitary sewers are cleaned every year for preventive maintenance
- Assisted with pumps during flooding conditions
- Labor related total for sanitary and storm sewer maintenance was 1,495.5 hours

### **Ice Rinks, Hockey Rinks and Ski Trails:**

- Maintain four skating rinks and two hockey rinks during the winter
- Maintain cross country ski trails when weather conditions permit
- Labor total for rinks and ski trails was 1,019.5 hours for 2005

### **Events Preparation:**

- 233 shelter reservations were prepared at Robbins Island
- 15 Showmobile reservations and numerous non-fee community events were arranged
- Diamond and Field preparations were made for 555 soccer, football, baseball and softball games

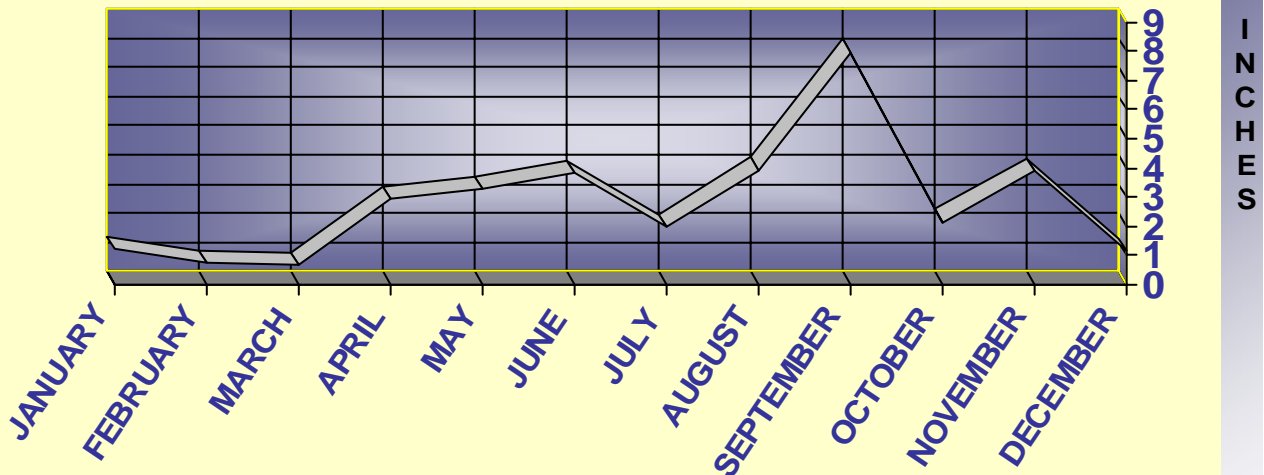
# Willmar, Minnesota

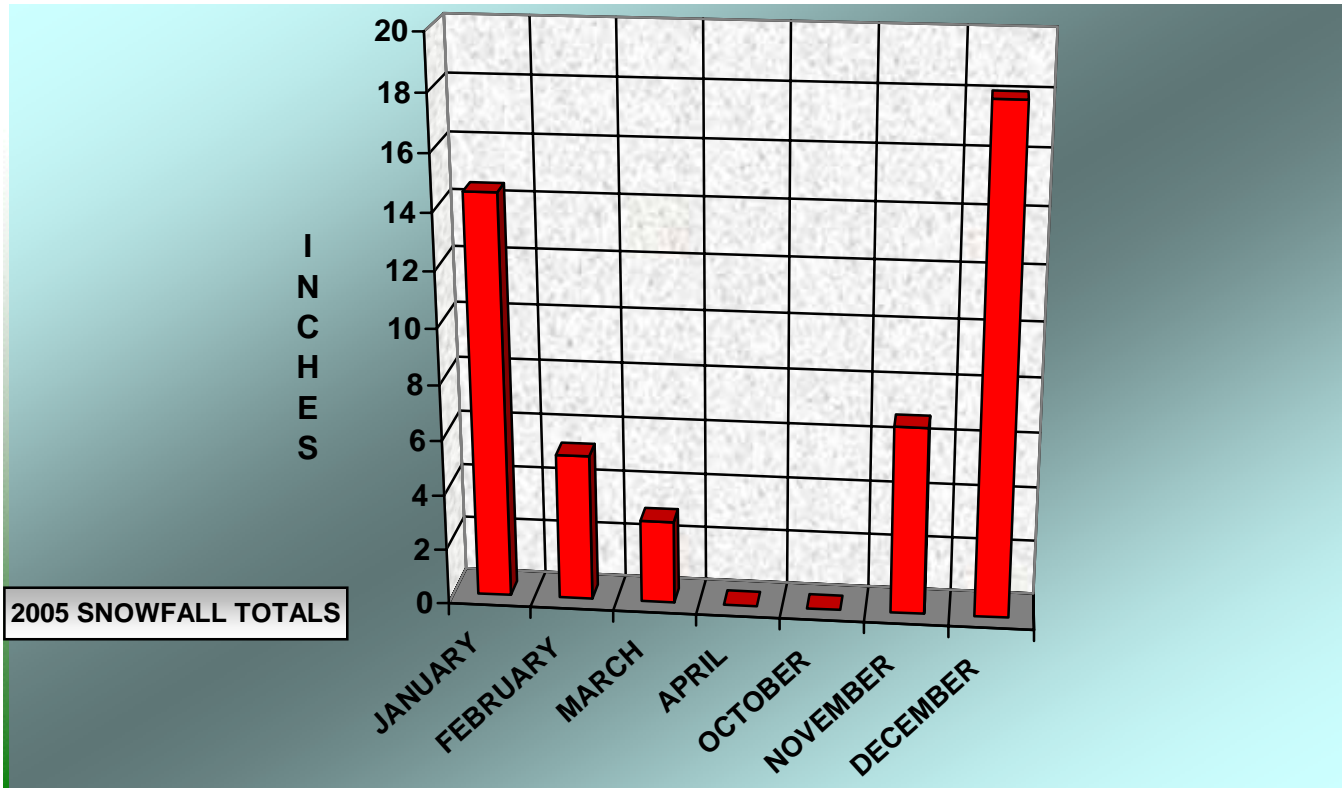
## Precipitation and Snowfall Totals

Precipitation Totals: (January – December) \*Eight year average is 28.97"

Month	Inches 2005	Inches 2004	Inches 2003	Inches 2002	Inches 2001	Inches 2000	Inches 1999	Inches 1998
January	1.20	.51	.34	.03	1.02	1.08	1.45	1.08
February	.73	.63	.32	.89	1.48	1.17	.15	.80
March	.68	1.11	.36	1.95	.75	1.05	1.31	1.38
April	2.91	1.33	3.15	2.03	6.87	.90	2.38	1.67
May	3.28	7.59	4.28	3.16	2.02	3.32	4.26	3.21
June	3.83	4.94	8.25	6.37	3.62	4.03	4.98	6.63
July	1.96	5.10	4.51	4.58	2.03	4.39	5.53	4.24
August	3.93	.09	.20	8.43	1.62	1.33	4.28	2.72
September	7.97	4.09	2.01	1.58	2.72	.50	2.33	.89
October	2.14	4.39	1.06	3.21	.90	1.74	.72	3.76
November	3.90	.71	.78	.03	4.93	1.18	.19	1.44
December	1.14	.18	.30	.27	3.90	.67	.16	.54
Yearly Total:	33.67	30.67	25.56	32.53	31.86	21.36	27.74	28.36

**2005 PRECIPITATION TOTALS**





**Seasonal Snowfall Totals:** (October – April) \* Ten Year Average is 51.90"

Seasonal Years	Inches
2004 – 2005.....	43.20
2003 – 2004.....	45.60
2002 – 2003.....	24.30
2001 – 2002.....	89.80
2000 – 2001.....	63.75
1999 – 2000.....	35.65
1998 – 1999.....	45.55
1997 – 1998.....	49.95
1996 – 1997.....	66.40
1995 – 1996.....	54.85

**Calendar Year Snowfall Totals:** (January – December) \*Ten year average is 50.43"

Month	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
January	14.50	7.70	3.00	1.60	9.00	18.60	22.40	16.70	17.50	18.70
February	5.30	10.60	11.80	5.10	22.10	9.00	3.70	2.80	2.00	4.00
March	3.00	4.30	6.50	29.20	8.20	.25	10.50	7.30	15.80	9.50
April				14.90		4.30	2.00	7.00	2.00	2.25
October				.50	1.00				.30	
November	6.80		18.5	.70	32.20	8.00		5.00	11.35	14.00
December	18.05	1.15	4.50	1.80	5.80	16.45	3.50	1.95	4.50	15.10
Yearly Total:	47.65	23.75	44.30	53.80	78.30	56.60	42.10	40.75	53.45	63.55



## ***SNOW REMOVAL:***

The Public Works Department's responsibility during each snowfall is as follows:

Streets – Approximately 127.85 miles  
Senior Center Parking Lot  
Fire Station Parking Lot  
Court House, Police Department Lot  
Sidewalks – 9.9 miles  
Ice rinks – (4)

Airport – Runway, Taxi-way, Hangers  
Civic Center Parking Lot  
City Parking Lots – (8)  
Bike Paths – 9.7 miles  
Hockey rinks – (2)  
County Office Building Lot

Private operators are hired to assist with snow hauling in the Central Business District, Airport, 1<sup>st</sup> Street, and Highway 12

The Public Works Department stockpiled about 2,400 yards of salt-sand mix for snow and ice control usage in the 2005 - 2006 snow season. For the 2005 year 27 loads of road salt were purchased for ice control or about 676.94 tons.

Snow-related labor total was **4,622 hours** for sidewalks, plowing, sanding, loaders, blowers, hauling sand and snow for 2005

Yearly Comparisons: (yearly labor hours to yearly snow totals)

2005 – 4,622 hours.....47.65" snow  
 2004 – 2,845 hours .....23.75" snow  
 2003 – 3,709 hours.....44.30" snow  
 2002 – 3,670.5 hours.....53.80" snow  
 2001 – 5,437.5 hours.....78.30" snow  
 2000 – 4,012.5 hours.....56.60" snow  
 1999 – 2,987 hours.....42.10" snow



**CONCRETE WORK:**

Public Works Staff worked on a variety of concrete projects for the year 2005. 178 cubic yards of concrete was installed. The following is a break down of the locations and work completed:

353 17 <sup>th</sup> St NW	Replace sidewalk panels
1 <sup>st</sup> St by Walt`s Car Wash	Repair manhole casting in sidewalk
High Ave NE	Replace curb sections
1415 Kandiyohi Ave SW	Raise CB repair curb sections
2 <sup>nd</sup> St SW & Kandiyohi Ave SW	Raise CB and replace curb section
1128 4 <sup>th</sup> St SW	Raise CB and replace curb section
Pacific Ave SW west of 9 <sup>th</sup> St SW	Repair CB and replace curb section
18 <sup>th</sup> St SW & Willmar Ave SW	Repair Intake



rolled and turned to aid in the decomposition process. The decomposition process takes about three years to complete. During the month of August a trommel screen was rented to screen about 1,442 cubic yards of compost.

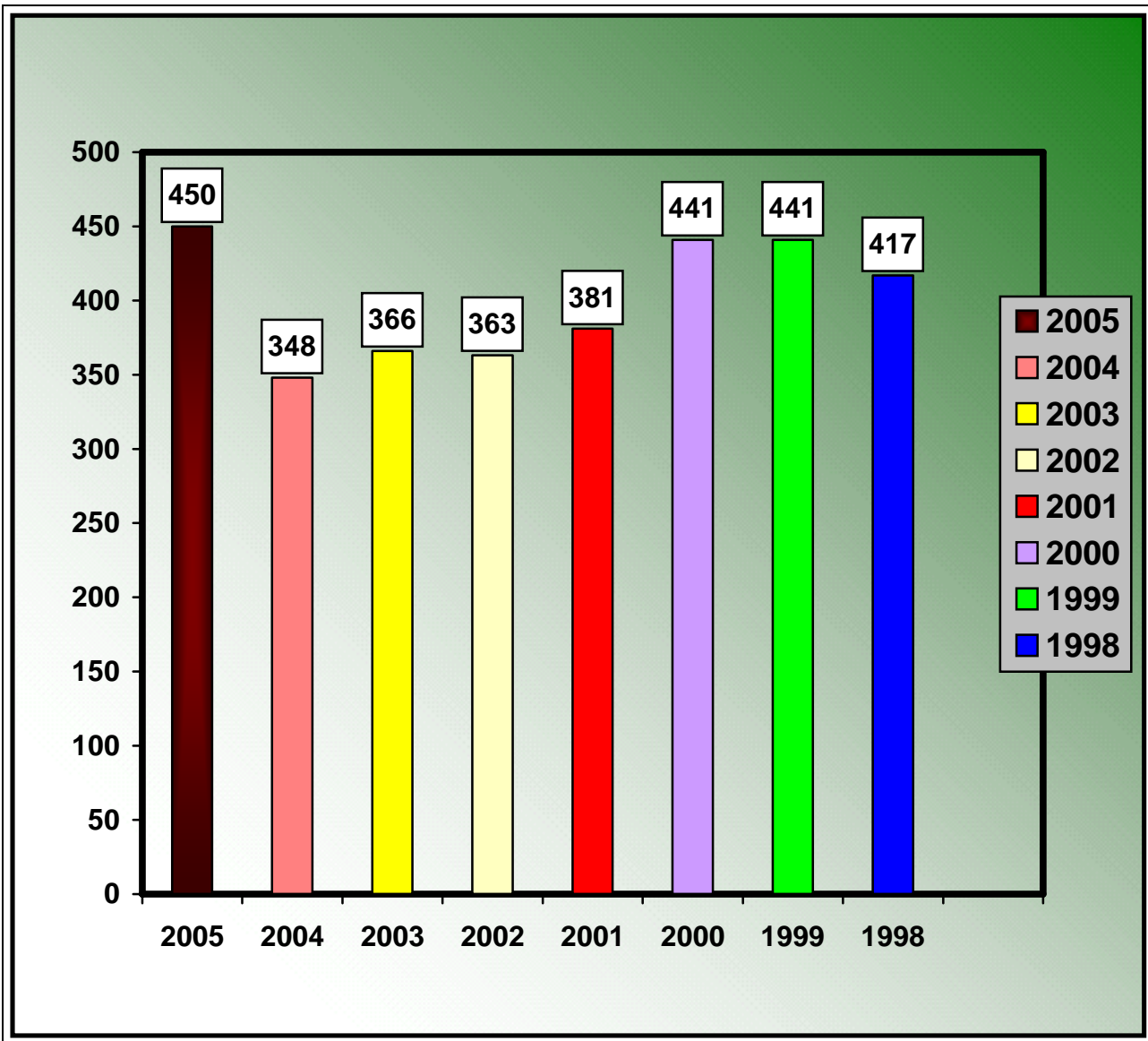
The brush pile is burned about four to six times per year. For the year 2004 the brush pile was burned on February 21, May 2, July 6, August 11, September 8, and December 7.

During the 2005 year the general public and Public Works Crews hauled in about 3,165 cubic yards of new compost material (leaves, grass etc.) The Public Works Department spent 421.5 hours doing the necessary work at the Brush/Compost Site.



Public Works Staff screening compost with a trommel screen.

## **TREE PLANTING TOTALS:**



The Public Works Department spent 601 hours planting trees in 2005.

Varieties and quantities of trees planted for 2005 are as follows: Bur Oak – 30, Spring Snow Crab – 10, Amur Chokecherry – 5, Shamrock Linden - 25, Bergeson Ash – 25, Patmore Green Ash – 20, Autumn Purple Ash – 30, Fall Gold Ash – 30, Northern Blaze White Ash – 30, Boulevard Linden – 45, Autumn Blaze Maple – 45, Hackberry – 40, Schwedler Maple – 30, Emerald Luster Maple – 40, Scarlet Sentinel Maple – 30, Sugar Maple – 5, Columnar Maple(B&B) – 2, Magyar Ginkgo – 5, Autumn Blaze White Maple – 3.

***Dutch Elm Disease History and Total Removals:***

<u>Year</u>	<i>Public and Private Dutch Elm Disease Removal</i>	<i>Total Removals</i>	<i>Number of Trees Planted</i>
1972	4	15	150
1973	6	20	120
1974	2	127	203
1975	4	49	158
1976	64	96	160
1977	159	242	445
1978	323	330	360
1979	179	246	437
1980	220	255	679
1981	454	460	490
1982	495	505	498
1983	315	411	478
1984	525	610	761
1985	599	599	524
1986	424	503	571
1987	348	440	635
1988	123	149	503
1989	351	364	549
1990	442	528	559
1991	262	324	598
1992	160	248	730
1993	84	138	648
1994	178	219	421
1995	105	156	328
1996	110	176	361
1997	97	276	466
1998	131	230	417
1999	74	217	441
2000	68	144	441
2001	70	244	381
2002	83	170	363
2003	234	432	366
2004	776*	849	348
<b>2005</b>	<b>472*</b>	<b>561</b>	<b>450</b>
<b>Totals:</b>	<b>7,941</b>	<b>10,333</b>	<b>15,039</b>

Listed above are the Dutch Elm removals from public and private property, non-Dutch Elm total removals (wind storm, construction, and property owner requests), and numbers of trees planted from 1972 to 2005. 1972 was the first time a tree was cut due to Dutch Elm Disease.

\* As of the preparation of this report 230 marked Dutch Elm Disease trees were left to be removed from 2004 and 2005.



The total number of trees removed during **2005** was **561**. Of these, 472 trees were removed for Dutch Elm Disease. Crews spent approximately **4,720 hours** on tree removal in 2005.

Stump removal on boulevard, park, and public areas in 2005 was done by a private contractor. Public Works Crews clean up the stump grindings and install black dirt.

A total of 421 hours were spent on stump removal by city crews. Crews removed **331 stumps and large roots**.

Public Works Crews trimmed an estimated 1,500 trees with bucket trucks and pole saws in 2005. Most of this trimming is done for roadway traffic clearance, sidewalk clearance, and proper shaping. Trimming trees gives crews a chance to visually inspect each tree for hazardous or hanging branches. **Crews spent 869.5 hours on trees trimming for 2005.**

## **SIGN WORK:**

A number of reasons require the Public Works Department to address different sign needs for the City. Reasons for necessary sign work include accidents, new sign placement, construction activities, upgrades to faded or poor signs, and road restrictions. Crews repaired, replaced, or installed a total of **177 signs** for calendar year 2005. Labor total for 2005 sign work was **626.5 hours**.



## **STREET MAINTENANCE WORK:**

### ◆ **Street Sweeping**

Street sweeping started on **March 22, 2005** and continued throughout the season, when nonfreezing weather permits, with the last day being **November 23, 2005**. The sweeper is assisted with trucks hauling during spring sand pickup and fall leaf pickup. For the 2005 year, **1,281 hours** were spent on sweeping and **557 hours** were spent hauling leaves and sweepings with trucks.

### ◆ **Pothole Repair**

When weather does not permit the repair of potholes with hot mix, crews use a cold mix material that is heated in a pothole patcher. This pothole patcher is a trailer mounted unit with a four-yard box that heats the cold patch material for repairing potholes temporarily. City Crews spent **401 hours** in 2005 pothole patching.

### ◆ **Street Repair**

Public Works staff worked on street patching with hot mix 27 days during 2005. Crews used about **673.4** ton of hot mix. An important part of this task is maintaining safe traffic control during street repair operations for motorists and pedestrians. Any blacktop that is removed for patching is hauled to Duinick's pit for recycling. City Crews spent **1,424.5 hours** on these duties.

### ◆ **Preventive Street Maintenance**

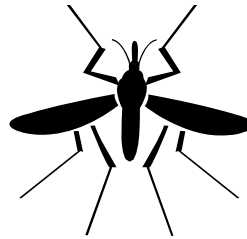
Part of street maintenance is also trying to prolong the life of streets and roadways. This is done through road restrictions, bituminous pavement crack sealing, and seal coating. The following are maps of the Public Works maintenance schedules as done in 1999, 2000, 2001, 2002, 2003, 2004 and 2005.

## **PAINTING:**

Public Works Crews, because of traffic volumes, weather, new construction, and requested traffic changes, repaint yellow curbs, turn arrows, crosswalks, parking lots, stop bars, handicap stalls, and on-street parking stalls. A breakdown of labor hours for painting is as follows:

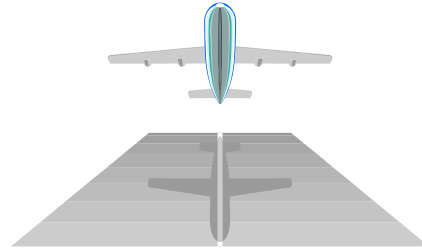
- Painting and cleaning curbs 18 hours, crosswalks 50 hours, turn arrows 10 hours, and parking lots 41 hour.
- D&D Contracting was hired to paint parking lots at Robbins Island, Civic Center Arena and Dorthy Olsen Aquatic Center for \$5,195.00

Repainting of centerlines and lane lines is contracted annually. Traffic Marking Services was the contractor for 2005 at a cost of \$6,622.00. (98,000 LF Yellow and 70,000 LF White)



## **MOSQUITO CONTROL:**

- ◆ In 2003 the City of Willmar implemented a mosquito control program. Five staff members were licensed as certified pesticide applicators. Two sprayers were purchased for application of an Adulticide mosquito control product.
- ◆ The third year of the spraying program began on June 8, 2005 and ended September 30, 2005.
- ◆ The Public Works Department sprayed the entire City of Willmar twelve times during the summer mosquito season with additional emphasis on park usage and community events.
- ◆ Adulticide – Anvil 2+2 was the product used.
- ◆ Average total per application cost for Adulticide was \$2,140.45 (includes product, labor rate, and equipment rate) per application.
- ◆ Two applications of Larvicide were applied to 1,900 city catch basins.
- ◆ One application of Altosid Briquettes was applied to wetlands and storm retention areas.
- ◆ One application of Abate Pellets was applied to storm retention areas that had standing water in them
- ◆ Larvicide -Vectolex WSP, Altosid Briquettes, and Abate Pellets were the product used.
- ◆ Average total application cost for Larvicide was \$8,660.00 (includes product, labor rate, and equipment rate).



## **AIRPORT MAINTENANCE:**

Projects at the airport range from snow removal, mowing, trimming, patching, spraying weeds, sign work, painting, rolling grass runways, cutting trees, and assisting with the fly-in preparations. Total hours spent on maintenance duties were **455.5 hours for 2005**.

## **FIRE HYDRANT MAINTENANCE:**

Each year city crews must check and service all fire hydrants in the city. Primarily this is done in the fall or early winter seasons. This is done to prevent freeze up and it also gives crews a chance to inspect and lubricate each hydrant. The City currently has about 1,600 public and private fire hydrants.

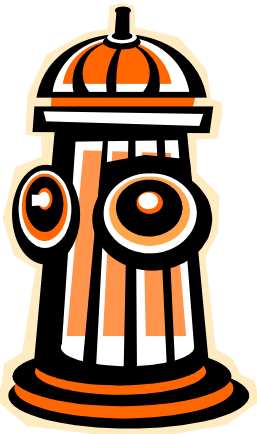
As part of a preventative maintenance program, Public Works staff cleans about 85.35 miles of sanitary sewer lines a year. The lines are cleaned in the fall and winter when weather permits. This preventive program is done to minimize costly sewer backup into private property.

Occasionally Public works staff is called to other private companies or agencies to open blocked or frozen sewer lines. Some of these are the mobile home parks, Kandi Entertainment Center, Runnings, Kandi. Bottled Water, Willmar Regional Treatment Center, Eagle Lake Sewer District, County Culverts, City of Kandiyohi, City of Pennock, Jennie-O Turkey Store, Mn/DOT, Kandiyohi County Landfill, Burlington Railroad, and others.

Ahead of street construction sewer lines are televised to identify potential future and persistent problems. A total of **1,495.5 hours** were spent on sanitary and storm sewers for **2005**.

The City of Willmar staffs two full-time mechanics at the Municipal Service Center. Vehicle maintenance is done for all departments of the City of Willmar and K.A.T. buses.

Two popular winter activities are ice-skating and cross-country skiing. Crews install hockey boards in the fall, paint boards as needed, and repair any damage from previous years. Public Works Crews sweep and water rinks daily in freezing weather conditions. Crews spent **1,019.5 hours** on watering skating rinks and skating rink maintenance. **0 hours** were spent on setting cross-country ski trails with a snowmobile ski trail groomer. Setting ski trails is very dependent on snow levels and snow conditions.



## **EVENTS PREPARATION:**

In preparation of scheduled events at Robbins Island, CBD events, Willmar Fest, and Swansson Field, Public Works Crews must clean and maintain shelters and restrooms.

- For 2005, a total of 233 Robbins Island reservations were scheduled and prepared for.

On request for usage of the Showmobile, Public Works Crews setup the Showmobile and stage.

- Showmobile reservations for 2005 were 15 which includes, Concert in the Park, Sonshine, Relay for Life, Church Events, County Fair, Celebrate Art, and other miscellaneous.

A part of the city summer and fall activities is baseball, softball, soccer, and football. Prior to all games, staff must drag the ball diamonds, chalk lines, setup fields, and paint lines. Crews spent **2,156 hours** on diamond and field maintenance.

- For 2005, approximately 555 baseball, softball, soccer, and football games were prepared for.



**Preparation for start up of Foot Lake and Willmar Lake Aeration systems being made by Public Works Staff with thin ice signs.**

## **2005 PARK PROJECTS:**

- Sprayed all playground areas for weed control.
- Installed sand under some play equipment for safety.
- Turf aerated baseball, soccer, and football fields.
- Added agri-lime to softball and baseball fields.
- Aeration on Willmar and Foot Lakes was turned on **December 29, 2004** and turned off for the season **March 25, 2005**.
- Install fencing to ball field at Gesch Park
- Shingled and installed new fascia to Miller Shelter.
- Rebuilt roller slide at North 7<sup>th</sup> St Park .
- Rebuilt Selvig water fountain



- Repaired path lights and underground wiring at South Swansson
- Remodeled bathrooms at Robbins Island on the hill
- Made numerous repairs and upgrades to Rice Pool
- Rebuilt motor and pump for Willmar Lake Aeration
- Repaired various play equipment at parks.





## **BAKER FIELD - TAUNTON STADIUM CONSTRUCTION:**

### **MISCELLANEOUS PROJECTS:**

- Assisted the Engineering Department with surveying on numerous occasions.
- Painted out graffiti at various parks and city locations.
- Repaired boulevard areas from snowplow damage.
- Helped at Civic Center Arena with ice maintenance and ice removal.
- Sprayed weeds in the Central Business area and trunk highway medians.
- Patched various blacktop areas for the Municipal Utilities.
- Moved bleachers for various school functions.
- Road restrictions were in place from **March 23, 2005 to May 4, 2005.**
- Hauled picnic tables for numerous community events.
- Public Works Crews installed and removed snowflakes, banners, wreaths and flags.
- Installed and removed road approaches for Sonshine Fest.
- Installed and monitored trash pumps during flooding conditions.
- Assisted with various projects at the Dorothy Olson Aquatic Center.
- Worked with Boy Scouts setting up projects.
- Setup barricades for different community events.
- Watered small trees as necessary during dry periods.
- Provided traffic control for several vehicle accidents.
- Assisted at the Senior Center with various maintenance projects
- Assisted with various construction projects at Baker Field – Taunton Stadium, crews put in 1,981 hour on projects at Baker Field – Taunton Stadium during 2005, backstop, concrete, score board, fencing, building construction, sodding and signage.
- Assisted with field preparation prior to grass seeding at the new Soccer Fields by Roosevelt School
- Assisted at the Waste Water Treatment Plant with various projects
- Constructed new boat landing by Fairgrounds

## **PARK DATA:**

<b>Park Areas</b>		<b>37</b>
<b>Park Acres</b>	<b>(approximately)</b>	<b>310 acres</b>
<b>Park Shelters/Gazebos</b>		<b>30</b>
<b>Ice Skating Areas</b>	<b>(North side, Lincoln, Hilltop, and Garfield)</b>	<b>4</b>
<b>Out side Hockey Rinks</b>	<b>(Garfield, and Lincoln)</b>	<b>2</b>
<b>Lighted Softball Fields</b>		<b>4</b>
<b>Lighted Baseball Fields</b>		<b>2</b>
<b>Nature Areas</b>		<b>4</b>
<b>Nature Areas Hiking Paths (non paved)</b>		<b>2.1 miles</b>
<b>Tennis Courts</b>		
<b>Lighted</b>		<b>10</b>
<b>Unlighted</b>		<b>5</b>
<b>Shared-Lighted</b>		<b>4</b>
<b>Hiking and Biking Trails (paved)</b>		<b>9.7miles</b>
<b>Wading Pool</b>		<b>1</b>
<b>Dorothy Olsen Aquatic Center</b>		<b>1</b>
<b>Beach Areas</b>		<b>1</b>
<b>Aeration Areas</b>		<b>2</b>
<b>Skate Board Parks</b>		<b>1</b>
<b>BMX Bike Tracks</b>		<b>1</b>

# *Wastewater Treatment*

**WASTEWATER TREATMENT PERSONNEL**  
**(2005) ANNUAL REPORT**

*Superintendent*

*Colleen Thompson*

*Working Foreman*

*Jim Gauer*

*Operators*

*Jason Lindahl*

*Allen Schueler*

*Terry Thole*

*Doug Ruter*

*Biosolids Coordinator*

*Gaylord Lind*

*Lab Technician*

*Jim Werder*

*Safety Coordinator/Ass't. Lab Tech*

*Les Lange*

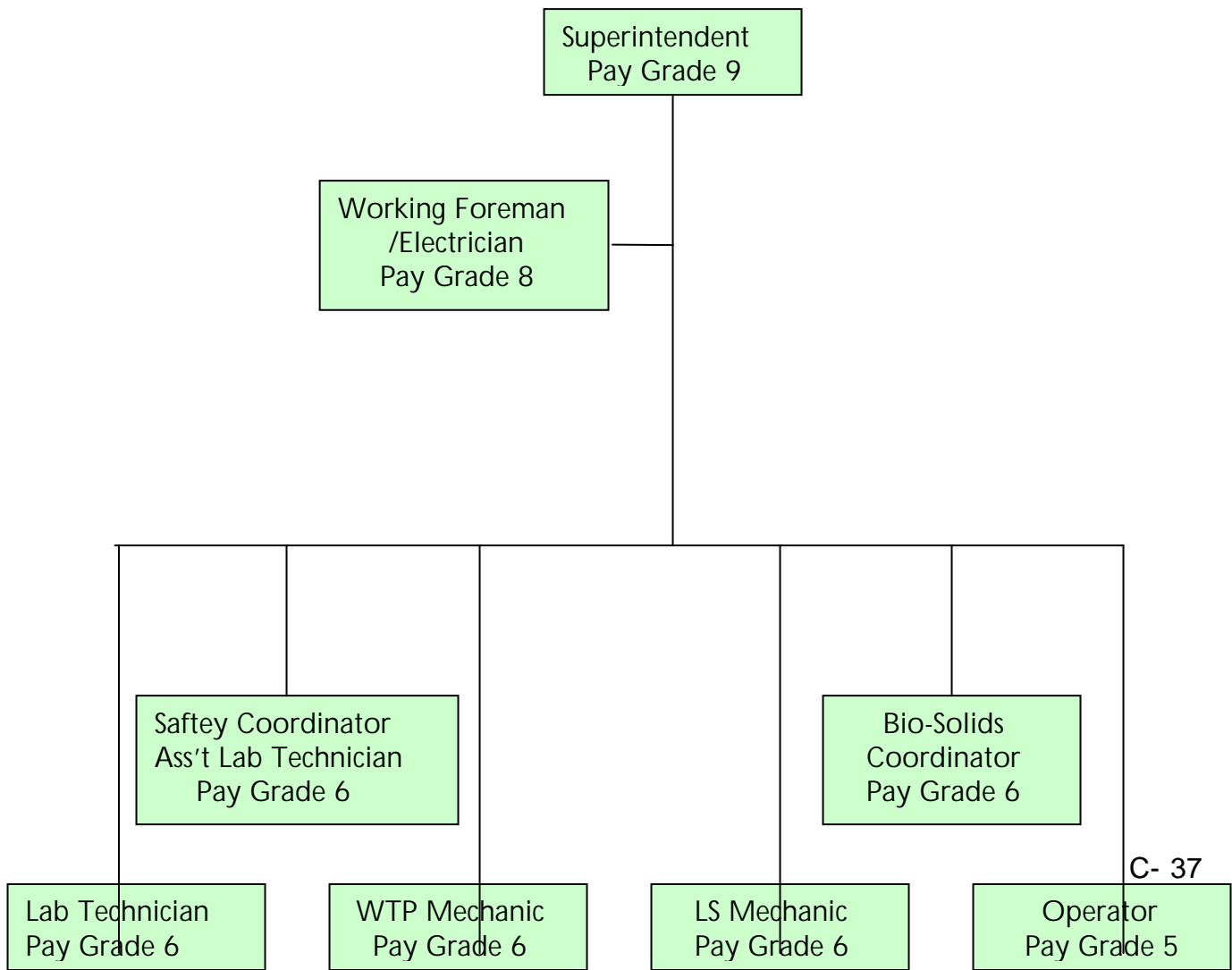
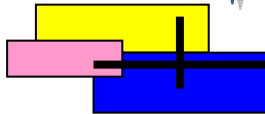
# Mechanic

Paul Marcus

## Lift Station Mechanic

Tom Templer

# Wastewater Treatment



# Wastewater Treatment Facility Staff



LEFT TO RIGHT: Jim Gauer, Colleen Thompson, Doug Ruter, Allen Schueler, Tom Templer, Jim Werder, Jason Lindahl, Terry Thole, Gaylord Lind, Paul Marcus and Les Lange

**CITY OF WILLMAR**  
**EXECUTIVE SUMMARY OF WWTP 2005 ANNUAL REPORT**

*Highlights for 2005*

**MESERB:**

MESERB continues to actively work with the MPCA on wastewater issues for the City as well as other members. This organization provides another set of eyes to watch for and stay on top of new issues related to wastewater treatment and the environment. Some of the hot topics monitored by MESERB in 2005 are as follows: Minnesota River Basin General Phosphorus Permit, Phosphorus rule amendments, Lake Eutrophication Standards, Mercury Standards, Human Health-Based Standards, Lower Minnesota River Dissolved Oxygen TMDL, Lake Pepin Eutrophication and Turbidity TMDL, Mercury Interim Policy and Regional Mercury TMDL, Wastewater Blending and Whole Effluent Toxicity (WET), Wastewater Phosphorus Control and Reduction Initiative as well as Stormwater Phase II MS4 Permit issues.

**Minnesota River Basin General Phosphorus Permit # MNG420000:**

As background, the lower 22 miles of the Minnesota River fails to meet the dissolved oxygen water quality standard during low flow conditions. As part of the implementation of the Lower Minnesota River Dissolved Oxygen Total Maximum Daily Load (TMDL), the Minnesota Pollution Control Agency (MPCA) has completed an area wide basin permit, called the Minnesota River Basin General Phosphorus Permit, to address phosphorus discharges to the Minnesota River above Shakopee. The General Permit calls for phosphorus reductions for wastewater treatment facilities over a ten-year period. This permit addresses the first five years (Phase I) of that ten-year period. The first phase of the permit was issued on December 1, 2005 and expires November 30, 2010. To meet the requirements of the permit the City will need to submit phosphorus results of the influent and effluent with the monthly Discharge Monitoring Report starting in January 2006 and begin to reduce phosphorus at the WWTP by 2008 unless the City files for an exclusion from the 5-month mass phosphorus limit. Filing for the exclusion would commit the City to meeting the 1 mg/l phosphorus limit by November 30, 2010.

**City NPDES/SDS Permit**

**(National Pollutant Discharge Elimination System/State Disposal System)**

The goal of this permit is to protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, and the U.S. Clean Water Act. This is a five year permit, effective December 29, 2004 to November 30, 2009. The most significant change from the previous permit includes a requirement to submit a Phosphorus Management Plan (PMP) within three years to include an annual average effluent phosphorus concentration goal of 1 milligram per liter.

Also included in the permit are special requirements that ask for a schedule for the planned plant replacement as well as submitting quarterly progress reports on the plant relocation program. This permit costs the city approximately **\$14,350** per year.

### Wastewater Treatment Plant Relocation and Conveyance System Project

It was the consensus of neighborhood and business groups to abandon the dual plant concept and on September 7, 2004 the council committed to relocating the Wastewater Treatment Plant to the new site on or before 2010. As part of this process, council approved a Program Management Concept for an engineering firm to manage this relocation. In November, City staff sent Request for Qualifications (RFQ) to 14 engineering firms. In December the city received Statements of Qualifications (SOQ) from 7 firms of which 3 firms were selected for interviews. They were Donohue & Associates, HDR, Inc. and Bolton & Menk/Brown and Caldwell team. In January 2005, interviews were conducted to complete the selection process. Donohue & Associates from Sheboygan Wisconsin was appointed as the Program Management firm to manage the relocation of the Wastewater Treatment Plant (wwtp). Donohue has opened an office in Willmar and is located at 200 S.W. 4<sup>th</sup> Street, Willmar and has assigned Sam Lahanis as the on-site Program Manager and Ken Sedmak as the Senior Program Manager. The first job Donohue completed was a Wastewater Program Guidance Document (WPGD) which is a document or guide that defines the project. It basically is the recipe book that explains how to start as well as finish the project. The project has been defined as having three (3) discreet phases: **Planning, Design and Construction/Start-up**. Upon completion of the WPGD Donohue was then appointed as the engineering firm to complete the Planning Phase. This is the most important phase because it defines what is going to be designed and constructed and what is going to be operated and maintained far into the future. This phase has a tremendous influence on the impending construction cost as well as the cost to operate the WWTP for many years.

### Lift Station Control Panels:

Staff has completed installation of new control and monitoring equipment at the lift stations and is in the process of design for new monitoring and control equipment for the influent and effluent buildings. The digester equipment was installed in December of 2005.

### Lift Stations:

The WWTP staff monitors and maintains 16 lift stations within the City and 9 around Eagle Lake. In August of 2005 city staff installed larger motors and impellers in Highway 12 lift station to increase pumping capacity and to reduce bypass events during rainstorms. Lift stations that pumped the greatest volume of wastewater to the plant in 2005 were the State Hospital, Hwy #12, Iverson Park and Arbys lift stations. New control and monitoring equipment has been installed in all lift stations.

### Treatment:

A comparison of 2005 to 2004 plant operating parameters is as follows:

The removal efficiencies of CBOD for 2005 are at 95.6% of design as compared to 95.7% in 2004. Influent flow is currently at 76% of design flow as compared to 73% in 2004. TSS has increased slightly in 2005 to 42% of design as compared to 39% in 2004. TBOD has increased to 83% of plant design as compared to 80% in 2004.

Note: *Design TBOD has been determined to be 12,190 lbs/day versus 10,800 in 2002 and earlier.*

#### 2005 WWTP Averages

Flow	3,810,417 gpd	design (5,040,000 gpd)
CBOD influent	8,313 lbs/day or 254 mg/l	
CBOD effluent	350 lbs/day or 11 mg/l	
TSS influent	5,622 lbs/day or 174 mg/l	design TSS (13,500 lbs/day)
TSS effluent	318 lbs/day or 10 mg/l	
TBOD influent	10,089 lbs/day	design TBOD (12,190 lbs/day)

#### WWTP Flows

Average flows for 2005 increased 5% from 2004. A peak flow of 9,171,000 gallons occurred on September 12, 2005 as compared to 7,421,000 gallons on October 28th, 2004. The City received 5.0 inches of rainfall on the 12<sup>th</sup>. The spring meltdown was not significant this year.

### **Biosolids:**

The wastewater treatment plant injected 5,129,334 gallons or 596 dry ton of biosolids to agricultural land. The City has available approximately 2,000 acres of MPCA approved farm sites to recycle this nutrient-rich fertilizer back to the environment.

### **Industrial Testing:**

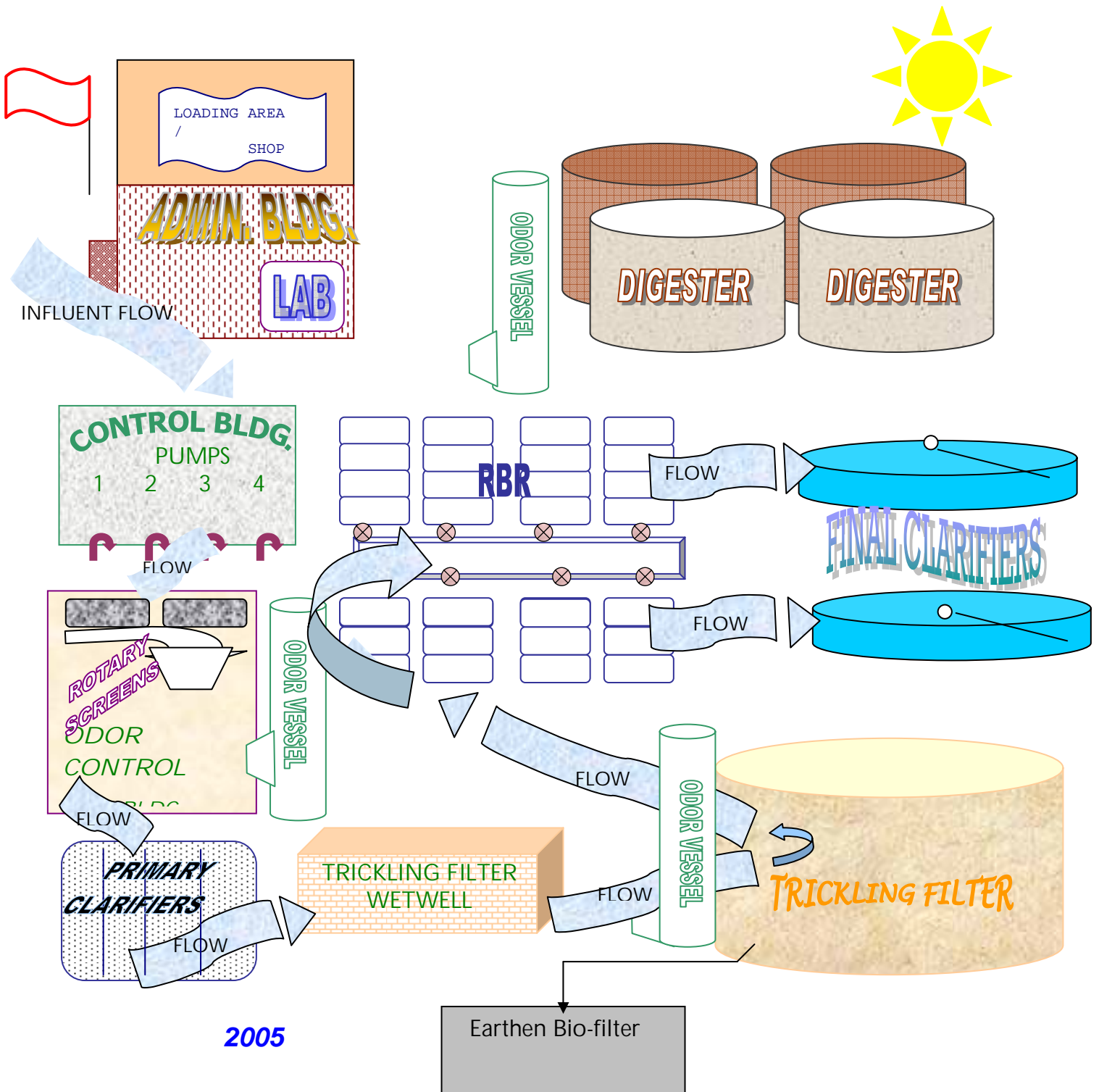
The City currently holds one industrial discharge permit and that is with Jennie-O Turkey Store. The City continues to monitor Jennie-O's discharges and tracks their impact/loading on the wastewater treatment plant. In 2005 Jennie-O contributed 67% of the plants total biological oxygen demand as compared to 65% in 2004, 40% of the total suspended solids as compared to 33% in 2004, and 37% of the flow as compared to 40% in 2004. In comparison to their interim permit limits with the City, in 2005 Jennie-O is operating at 97% of TBOD as compared to 91% in 2004, 75% of TSS as compared to 58% in 2004 and 78% of flow as compared to 80% in 2004.

Burlington Northern retains a permit with the Minnesota Pollution Control Agency that requires monitoring of their discharge to Foot Lake. The Burlington Northern process water retention ponds were complete in 2002 and continue to relieve the armory lift station of storm water during rain events.

### **Safety and Continuing Education Training:**

The Wastewater Treatment Plant staff continues to conduct monthly safety meetings covering recommended requirements set by State and Federal OSHA standards. In addition, the City consults with Administration Safety Associates quarterly to enhance our Program.

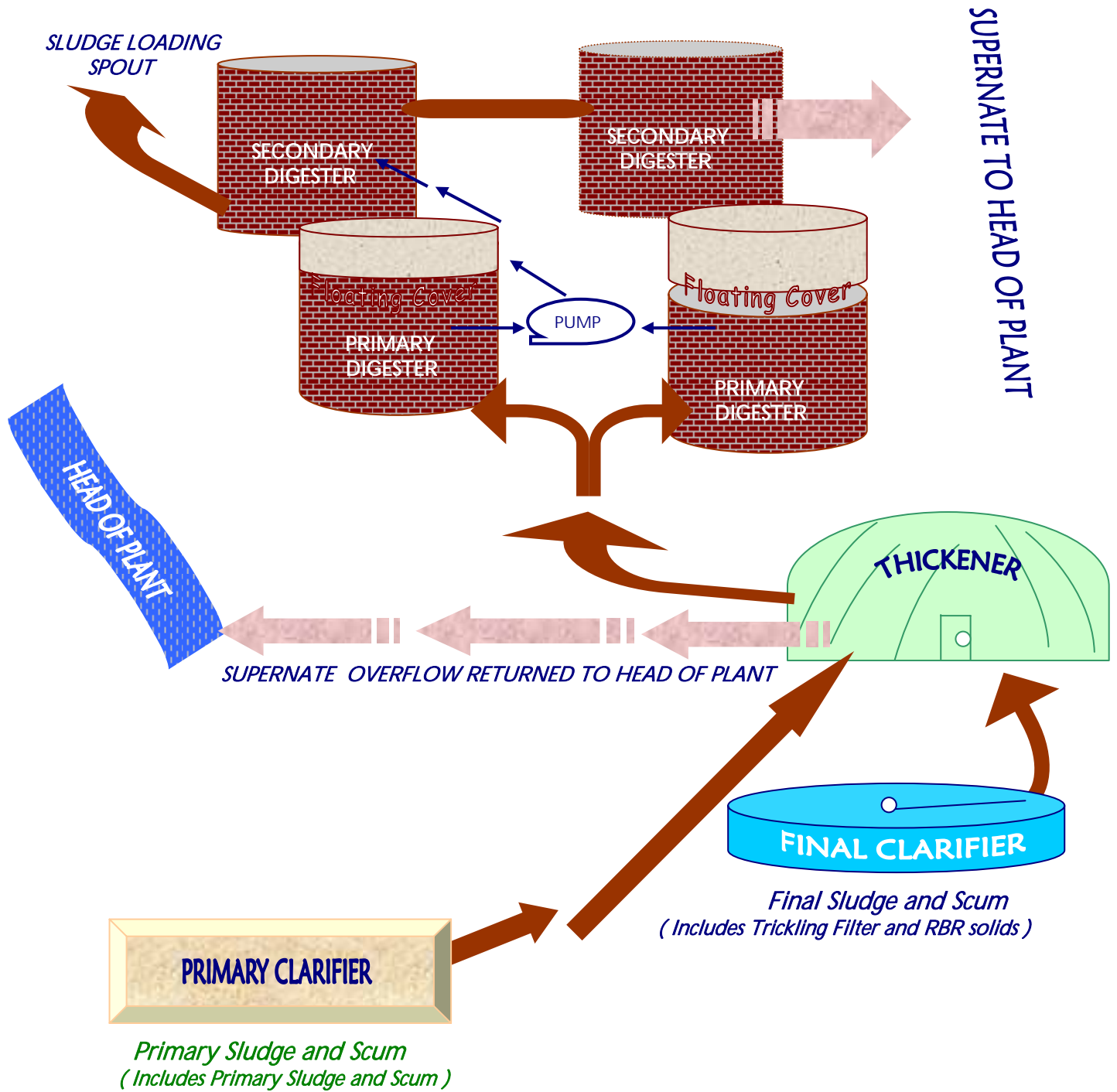
# WILLMAR WASTEWATER TREATMENT PLANT



2005

# SOLIDS PROCESSING FLOW DIAGRAM

## SOLIDS PROCESSING FLOW DIAGRAM



**YEARLY PCA REQUIREMENTS:**

<b>REPORT</b>	<b>DUE DATE</b>	<b>DATE SUBMITTED</b>
• 2005 Pretreatment Annual Report	01-31-06	01-12-06
• 2005 MPCA Biosolids Report	12-31-05	12-13-05
• 2005 EPA Annual Biosolids Report (submitted by MPCA)	12-31-05	12-13-05
• 2005 Hazardous Chemical Inventory Report (Tier 312)	03-01-06	02-03-06
• 2005 Hazardous Waste License	no longer required	no longer required
• 2005 Water Use Report	02-15-06	02-02-06
• Monthly Discharge Monitoring Report due every Month prior to the 21 <sup>st</sup> .		
• The most recent MPCA inspection was performed on September 21, 2005 by MPCA Compliance Officer, Ben Koplín. The compliance monitoring survey results showed the facility was operated and maintained as set forth in the terms and conditions of the facility's NPDES permit.		
• Chlorinating of the final effluent occurs from May through October.		
• The Annual Evaluation and Planning Survey, has been replaced by the Wastewater Infrastructure Needs Survey (WINS). The WINS survey is to provide the MPCA and the Minnesota Legislature with essential information on the condition and future needs of Minnesota's wastewater infrastructure. The requirement for completion of the survey is mandatory and will be satisfied every other year. A survey was completed and submitted on October 19, 2005.		

## **TREATMENT:**

**Pretreatment** consists of course screenings and grit removal for the protection of subsequent treatment units and equipment. The two rotary screens are located after the influent pumps and remove grease and other fine material.



**Course Barscreen and Compactor**



**Rotary Fine Screens**

**Primary treatment** consists of Primary Clarifiers that allow sedimentation to occur, removing the greatest portion of suspended solids.

**Secondary treatment** consists of biological treatment of the wastewater by means of the Tricking Filter, RBCs and Final Clarifiers. This treatment phase converts dissolved material into settleable material reducing the organic content in the water.



**Tricking Filter**



**Rotating Biological Contactor's (RBC'S)**

## **Air Treatment**

The Willmar Wastewater Treatment Plant is surrounded on three sides by urban development. One of these sides includes a Shopping Mall. In an attempt to reduce reoccurring odors at the wwtp, City staff investigated, designed and constructed an earthen biofilter. In its simplest form, a biofilter is considered a natural process, similar to the biological treatment of our wastewater. It works by blowing odorous air through a series of pipes and then through a rock layer and compost/wood chip media.



**Earthen Biofilter**

**PLANT AVERAGES:**

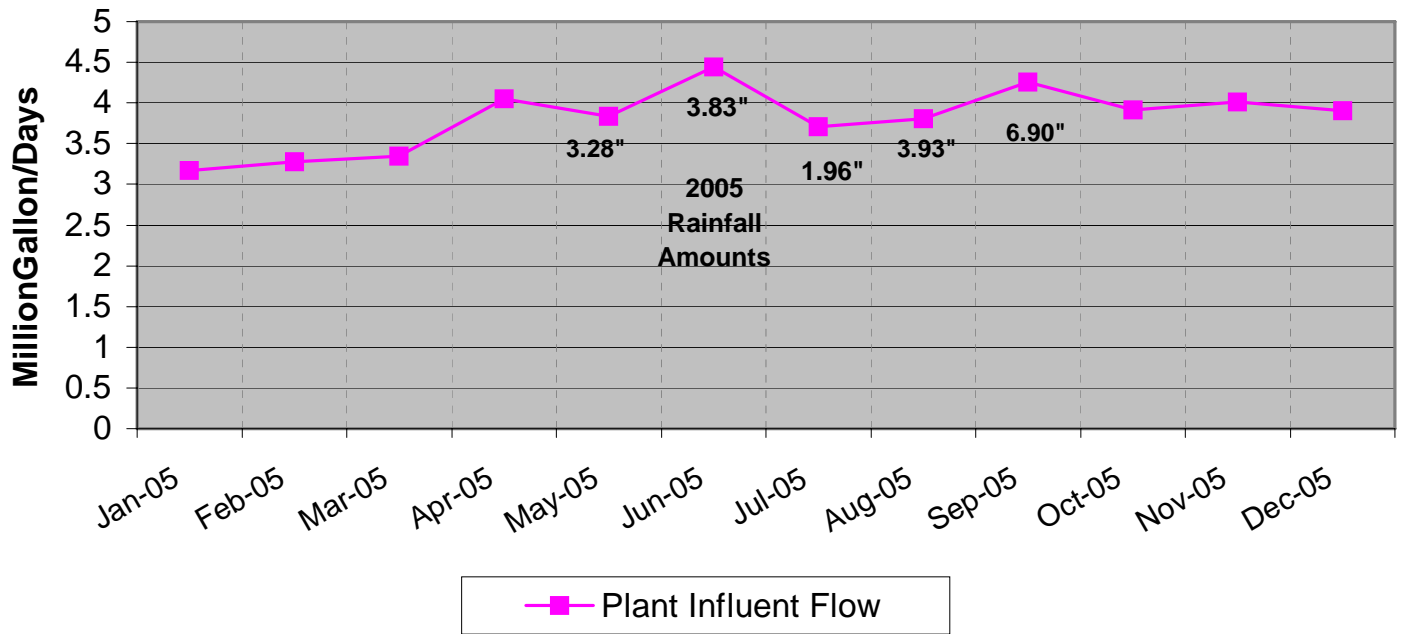
<u>Year</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
Flow	3,670,333 GPD	3,682,917 GPD	3,631,083 GPD	3,810,417 GPD
CBOD Influent	261 MG/L	266 MG/L	252 MG/L	254 MG/L
CBOD Influent lbs./day	8,085 LBS	8,414 LBS	7,829 LBS	8,313 LBS
CBOD Effluent	11.06 MG/L	15.45 MG/L	10.92 MG/L	10.83 MG/L
CBOD % Removal	95.8%	94.12%	95.69%	95.58%
TSS Influent	207 MG/L	186 MG/L	176 MG/L	174 MG/L
TSS Effluent	9.02 MG/L	11.63 MG/L	10.15 MG/L	10 MG/L
TSS % Removal	95.7%	93.56%	94.15%	94.01%
Total Phosphorus	6.42 MG/L	6.4 MG/L	7.17 MG/L	7.72 MG/L
Dissolved Oxygen	8.25 MG/L	8.6 MG/L	8.67 MG/L	8.76 MG/L
TBOD Influent	299 MG/L	306.83 MG/L	239 MG/L	286 MG/L
TBOD Influent lbs./day	10,067 LBS	10,383 LBS	9,787 LBS	10,089 LBS
Ammonia Nitrogen	12.69 MG/L	14.38 MG/L	10.12 MG/L	16.68 MG/L

**Influent Flow Average Flow Million Gallons per Day/Month**

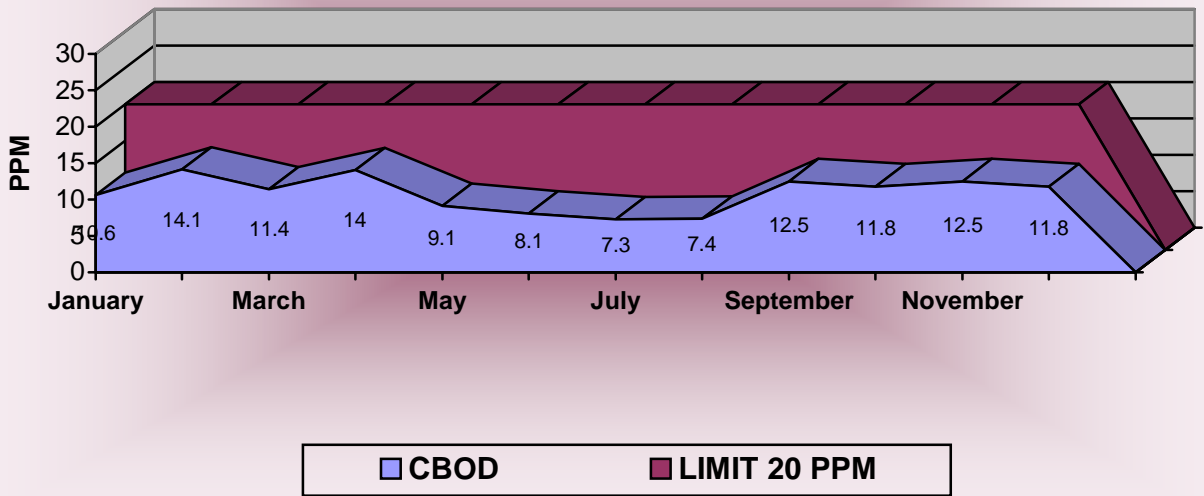
**2005**

**Peak Daily Flow**

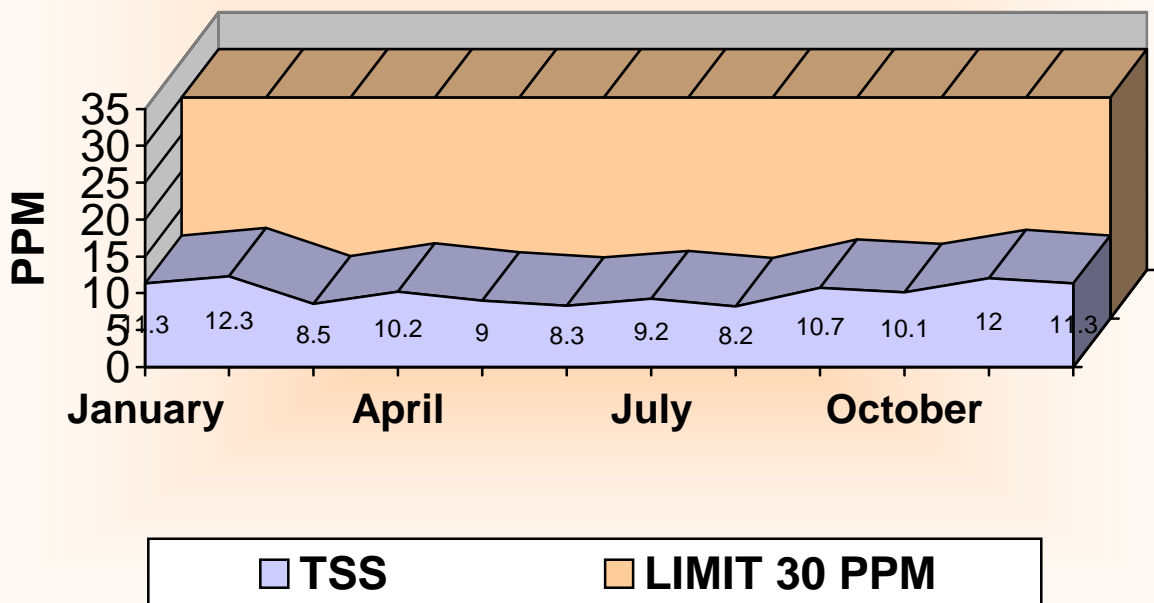
**9.171 MG on September 12, 2005**



**WWTP EFFLUENT CBOD  
(Monthly Average) (2005)**

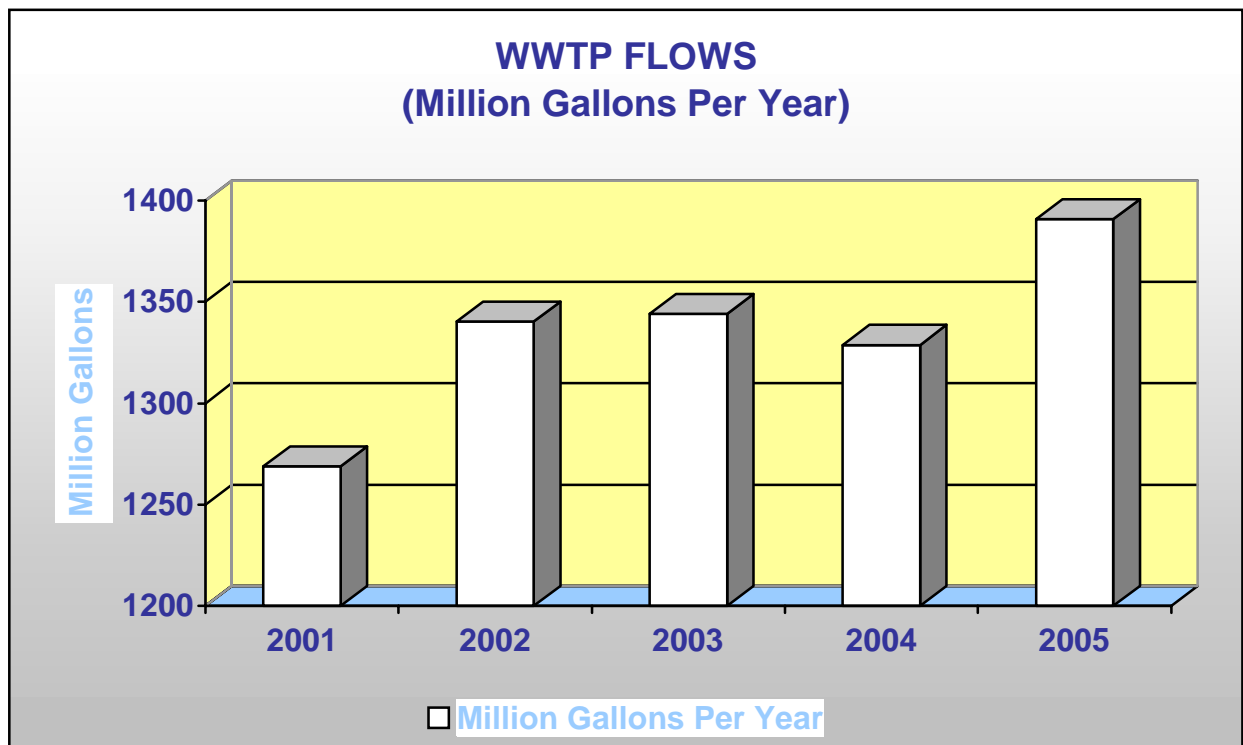


**WWTP EFFLUENT TSS  
(Monthly Average) (2005)**



## WWTP FLOWS (Million Gallons Per Month)

<u>Month</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
January	99.949	93.658	107.418	102.642	98.251
February	89.470	84.754	99.593	97.251	91.831
March	107.357	97.717	107.170	103.783	103.816
April	163.411	108.098	116.804	101.043	121.601
May	125.251	116.922	128.666	113.275	118.764
June	109.811	115.424	140.268	128.255	133.254
July	104.321	121.91	131.935	120.036	115.016
August	104.413	135.132	111.604	113.076	117.877
September	89.352	123.002	101.678	115.396	127.644
October	93.406	125.744	102.530	116.713	121.387
November	87.497	109.137	95.571	112.800	120.486
December	94.624	108.79	100.996	104.501	120.975
<b>Totals</b>	<b>1,268.862</b>	<b>1,340.288</b>	<b>1,344.233</b>	<b>1,328.771</b>	<b>1,390.902</b>
Minimum	87.497	84.754	95.571	97.251	91.831
Average	105.738	111.69	112.02	110.731	115.901
Maximum	163.411	135.132	140.268	128.255	133.254



- WWTP 2005 influent flow increased 4.5% from 2004.
- Peak daily flow was 9,171,000 gallons on September 12, 2005.

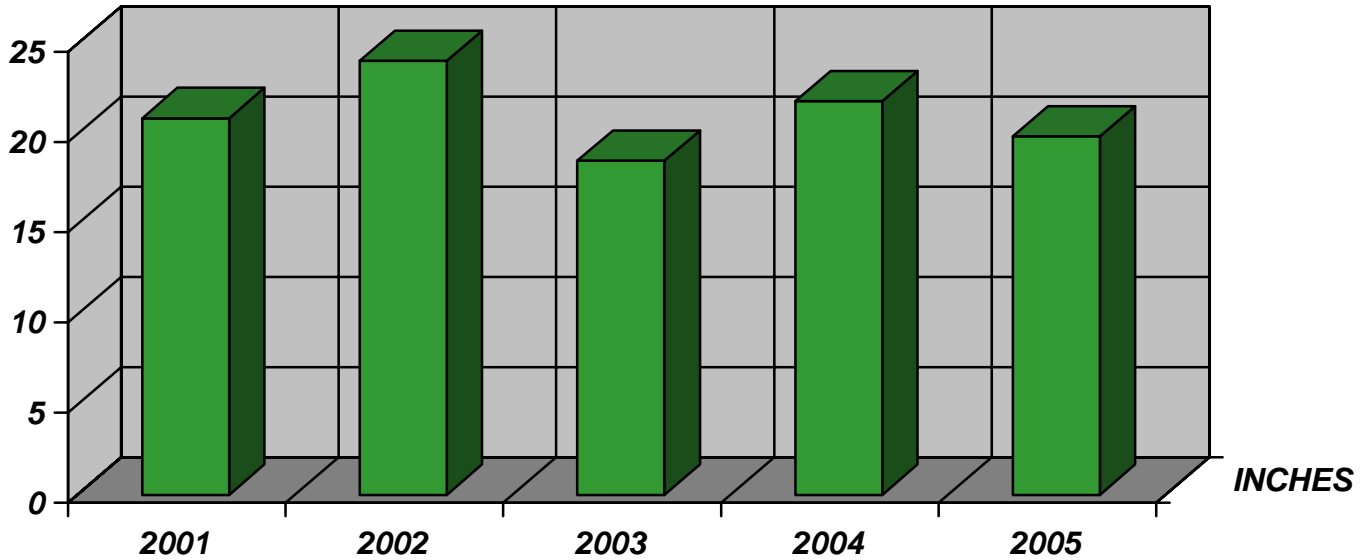
## RAIN SUMMARY:

### 2005

May - 3.28"  
June - 3.83"  
July - 1.96"  
August - 3.93"  
September - 6.90"  
**TOTAL: 19.90"**

2001 rainfall amounted to 20.92 inches  
2002 rainfall amounted to 24.09 inches  
2003 rainfall amounted to 18.56 inches  
2004 rainfall amounted to 21.85 inches  
**2005 rainfall amounted to 19.90 inches**

## RAINFALL AMOUNTS



## **BIOSOLIDS AND DIGESTERS:**

A  
total of



5,129,334 gallons or 596 dry ton of biosolids were land applied to MPCA approved farm sites in 2005 as compared to 5,445,362 gallons or 639 dry ton in 2004.

The Wastewater Treatment Plant prepares every fall and spring to land apply biosolids that have been generated and stored over the winter and summer seasons. The MPCA land application period for 2005 runs from September 2004 to August 2005. The city reserves approximately 2,000 acres of land to apply this nutrient rich fertilizer and land applies by injecting biosolids with a field tractor and a 5,300 gallon honeywagon. The biosolids are transferred to the field by a semi and tanker that can carry 5,000 gallons.

The City nursed biosolids from the plant to the field by the use of two tankers. One is City-owned and the other contracted from a company named Five Star Pumping based out of New London. Dollars spent in 2005 for rental amounted to approximately \$36,394.92 as compared to \$31,481.00 in 2004. This is a \$4,913.92 which is primarily due to an increase in billing charges from Five Star.

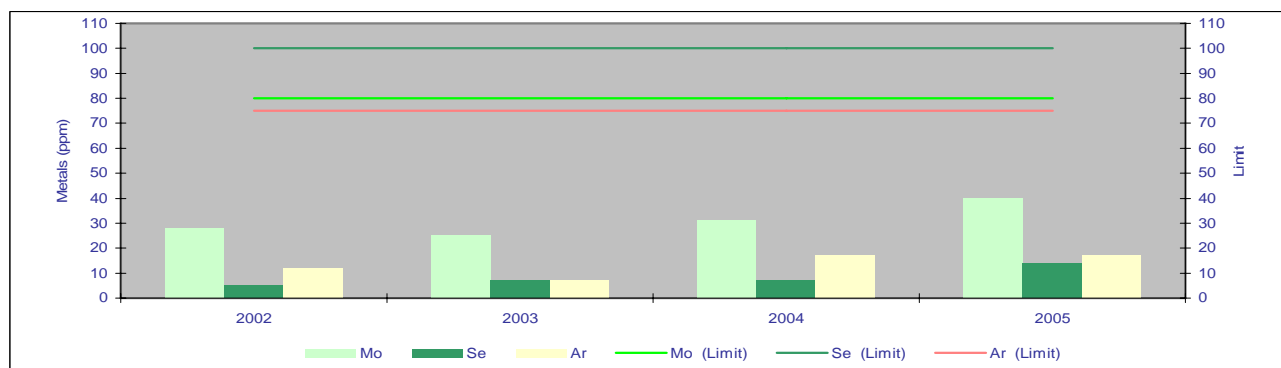
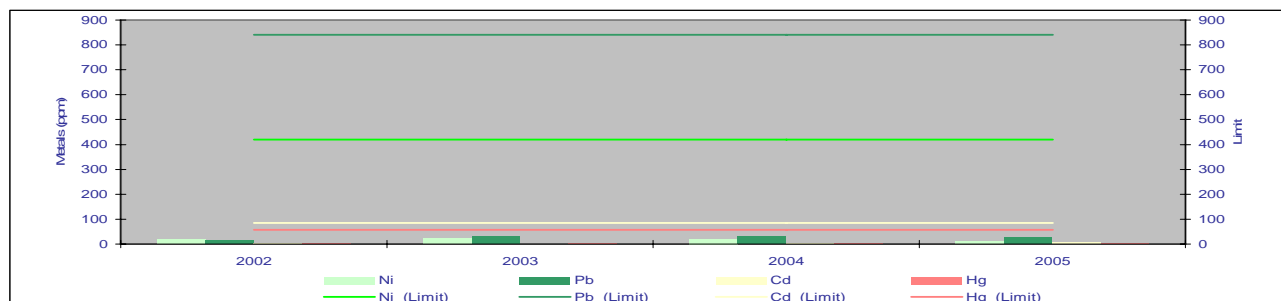
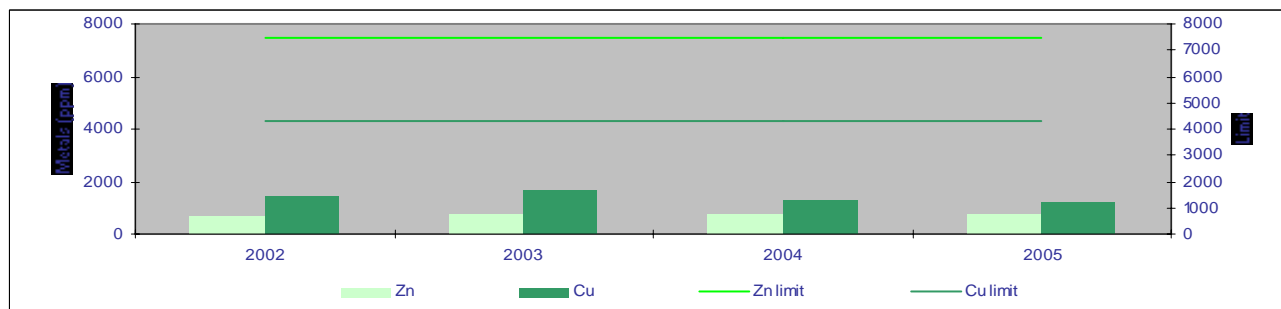
In 2005 (January thru December) the city moved a total of 12,149,600 gallons of biosolids and supernate. About 4,627,000 gallons of biosolids were transferred from the existing site to storage, approximately 2,393,600 gallons of supernate was brought back from storage to the existing site for treatment and 5,129,000 gallons were land applied. Total cost in 2005 to haul biosolids and supernate amounted to \$179,262.63.

City staff is operating the hauling and land application of biosolids in a cost effective manner at \$0.015 / gallon.

## BIOSOLIDS METALS (PPM)

Metal	2002	2003	2004	2005	*Ceiling Limits
Zn	707	726	725	785	7500
Cu	1438	1624	1291	1205	4300
Ni	16	22	20	12	420
Pb	14	31	31	27	840
Cd	2.6	0.8	4	6	85
Hg	1.6	2	2	1.5	57
Mo	28	25	31	40	75
Se	5	7	7	14	100
Ar	12	7	17	17	75

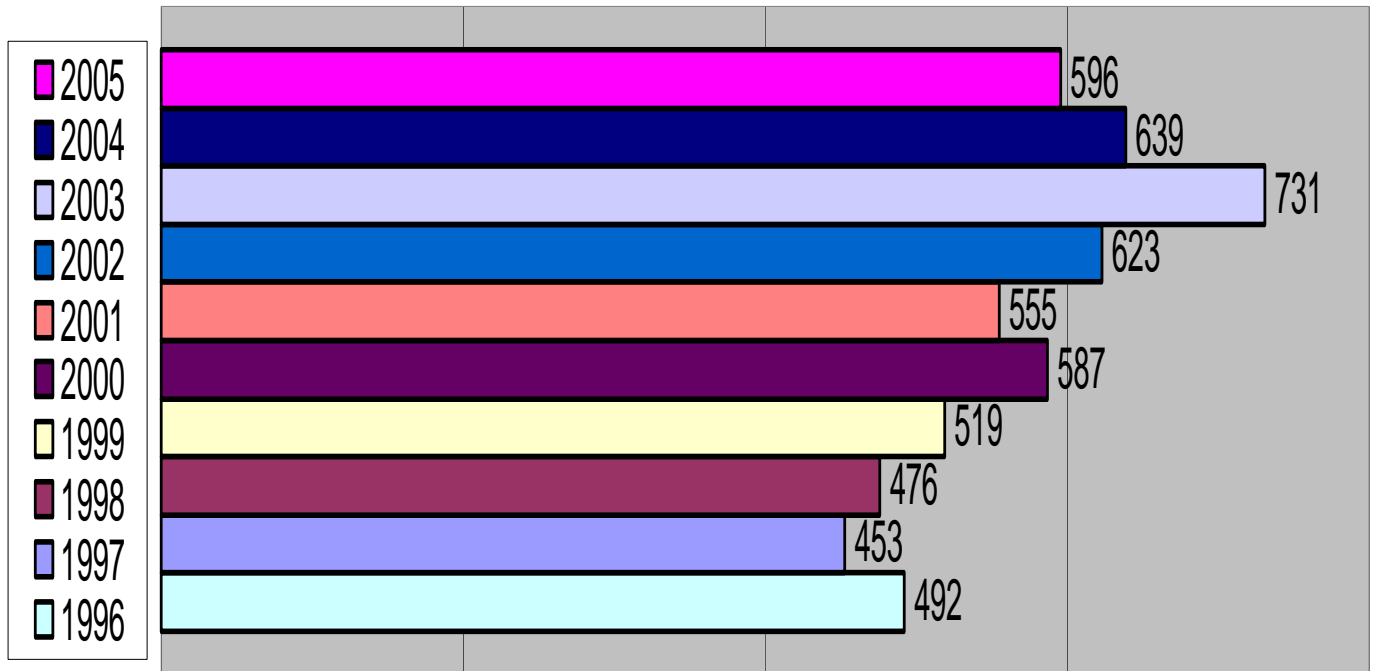
\* If any one metal exceeds a ceiling limit then biosolids should not be hauled to the field until the level is brought below the limit.



### **BIOSOLIDS (QUANTITY)**

1996	492 dry tons	1,693 loads	6.51 loads/day-Tanker
1997	453 dry tons	717 loads	2.76 loads/day-Tanker
1998	476 dry tons	1739 loads	2.84 loads/day-Tanker
1999	519 dry tons	827 loads	3,18 loads/day-Tanker
2000	587 dry tons	920 loads	3.54 loads/day-Tanker
2001	555 dry tons	722 loads	2.78 loads/day-Tanker
2002	623 dry tons	817 loads	3.14 loads/day-Tanker
2003	731 dry tons	1,042 loads	4.00 loads/day-Tanker
2004	639 dry tons	1,089 loads	4.19 loads/day-Tanker
<b>2005</b>	<b>596 dry tons</b>	<b>1,026 loads</b>	<b>3.94 loads/day-Tanker</b>

### Dry Tons



## **INDUSTRIAL TESTING:**

### **Burlington Northern:**

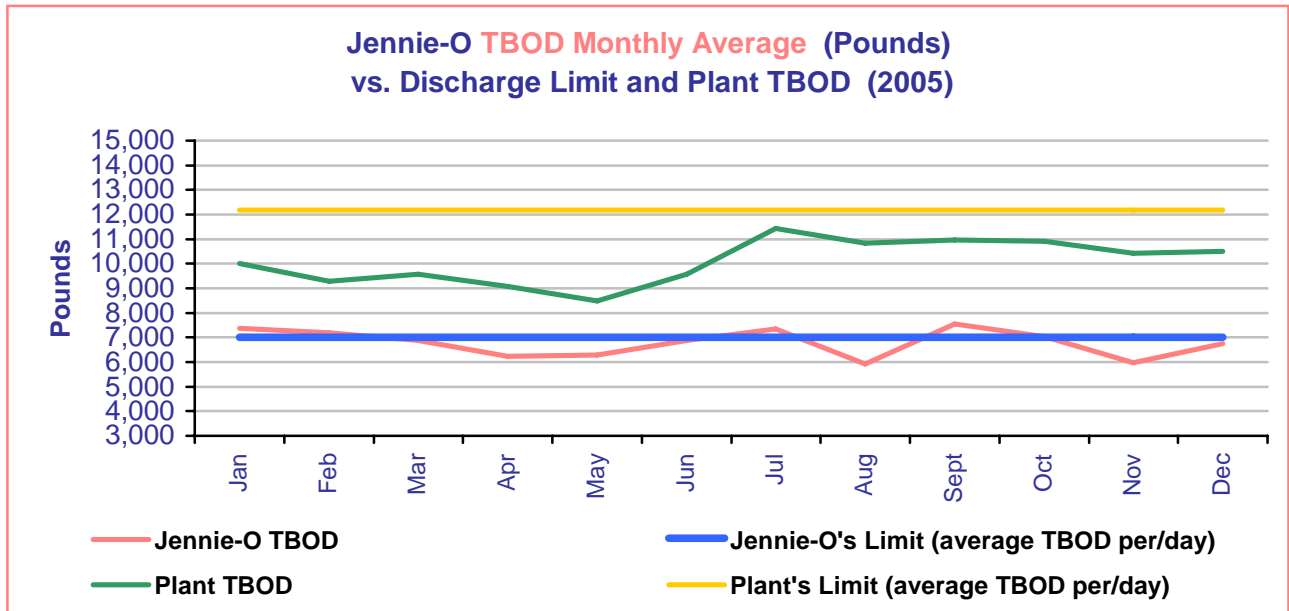
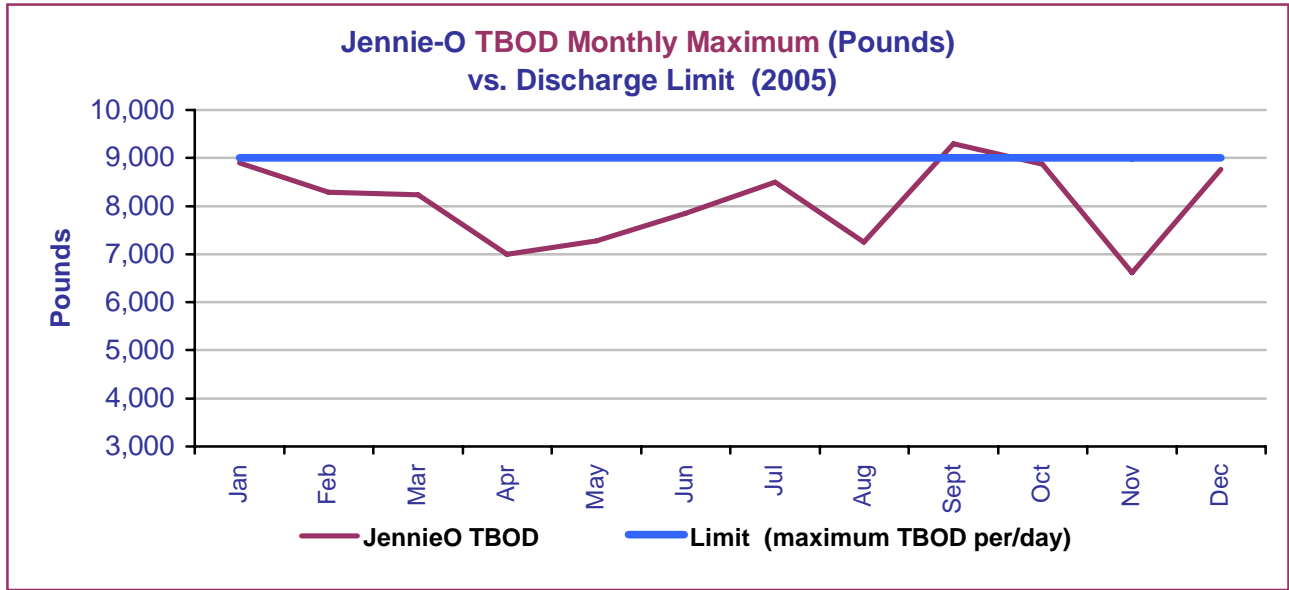
The improvements to the wastewater retention ponds have helped to reduce the amount of storm water to the wastewater treatment plant. It has been estimated that approximately 2,480,791 gallons of B.N. water (industrial) was treated at the Wastewater Treatment Plant in 2005 as compared to 2,879,561 gallons in 2004. This is a 13.8% decrease.

**Leachate:** Due to capacity concerns at the Wastewater Treatment Plant it has been decided to not accept leachate. Accepting leachate at the WWTP will be reconsidered during the WWTP relocation project.

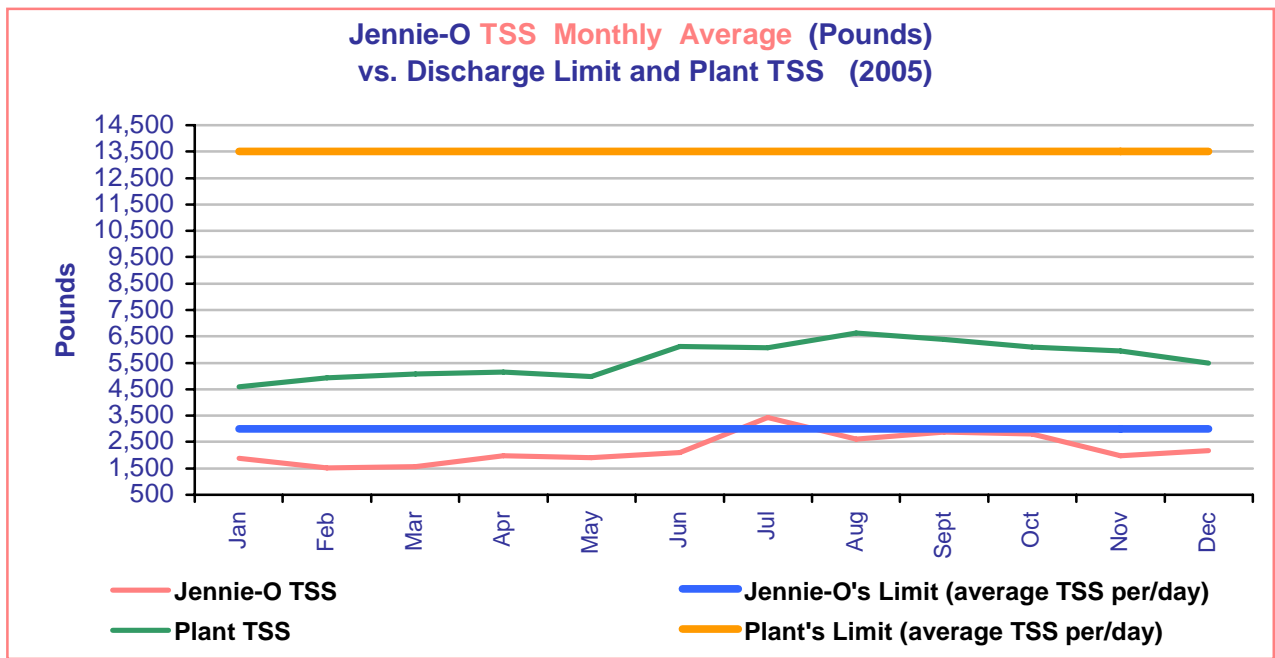
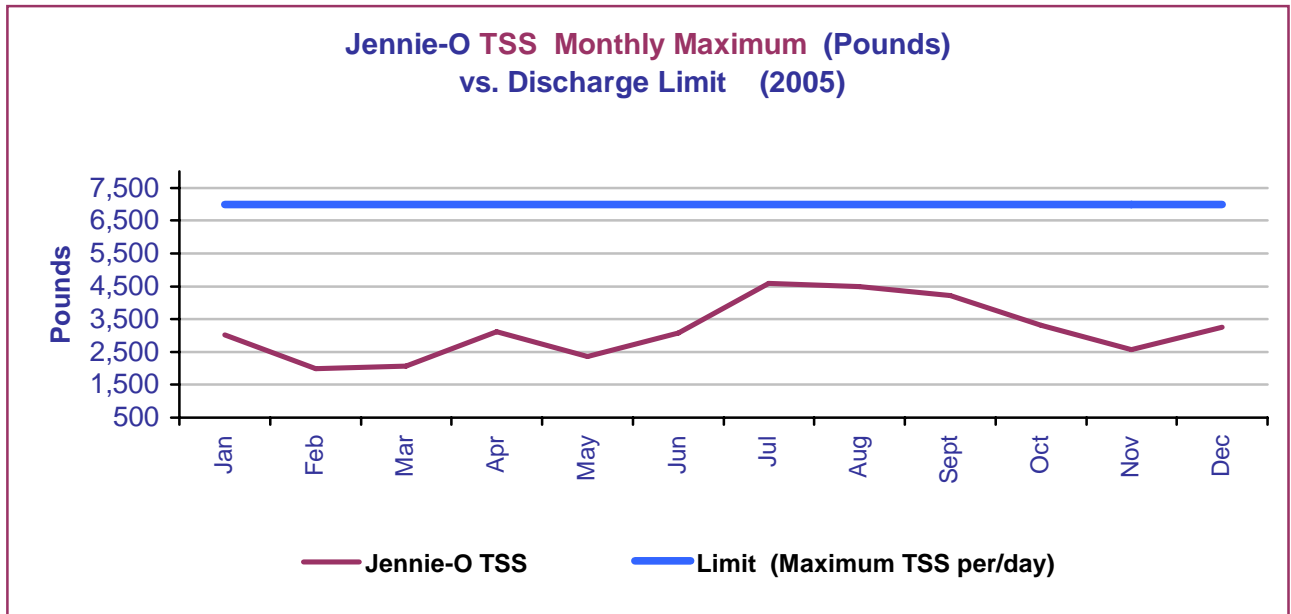
**Jennie-O:** The City continues to monitor the Benson and Willmar Avenue Jennie-O plants for flow, BOD, TSS and pH. Sample analysis is run twice per week with flow being recorded daily. Grease/oil, sulfate and ammonia nitrogen are analyzed monthly by Minnesota Valley Testing Labs. Phosphorus is analyzed once per week by City staff.

Jennie-O's pretreatment, at the Willmar Avenue Plant, consists of two Dissolved Air Flootation (DAF) chambers which receive raw Jennie-O wastewater from the 330,000 gallon equalization basins. The treatment process of the DAF with the addition of polymer and air causes solids to float. These solids are skimmed off and rendered. As the solids are being drawn off, the liquid portion continues on for biological treatment at the City Wastewater Treatment Plant.

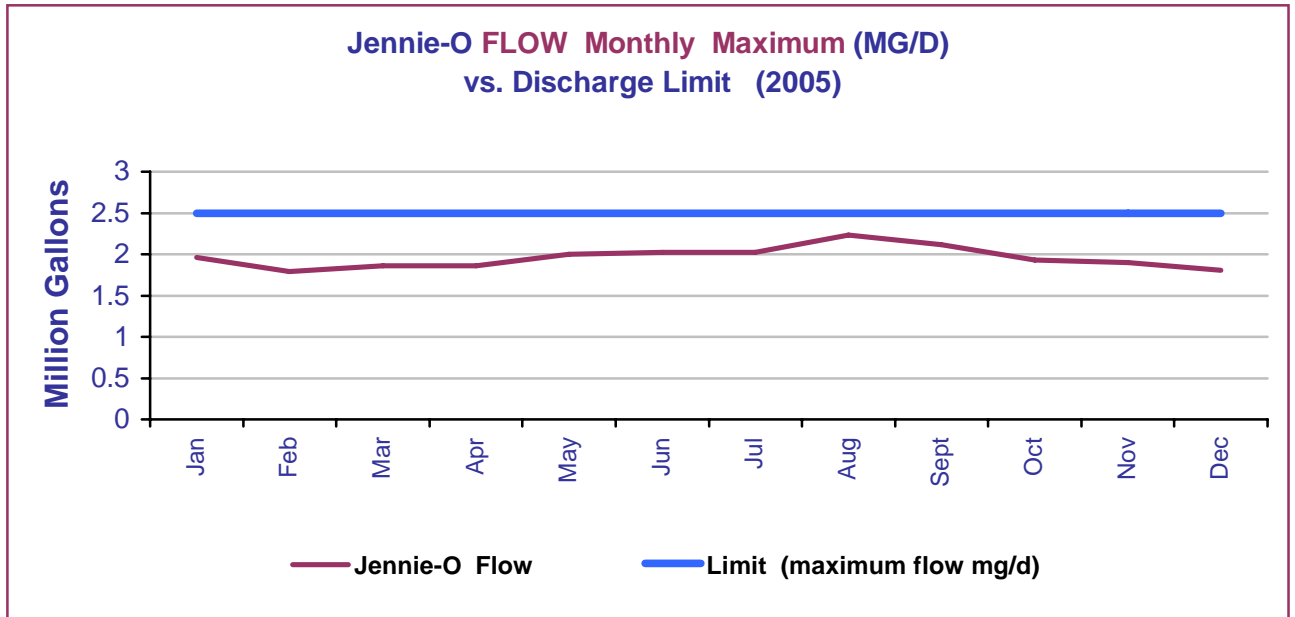
# TOTAL BIOLOGICAL OXYGEN DEMAND (TBOD)

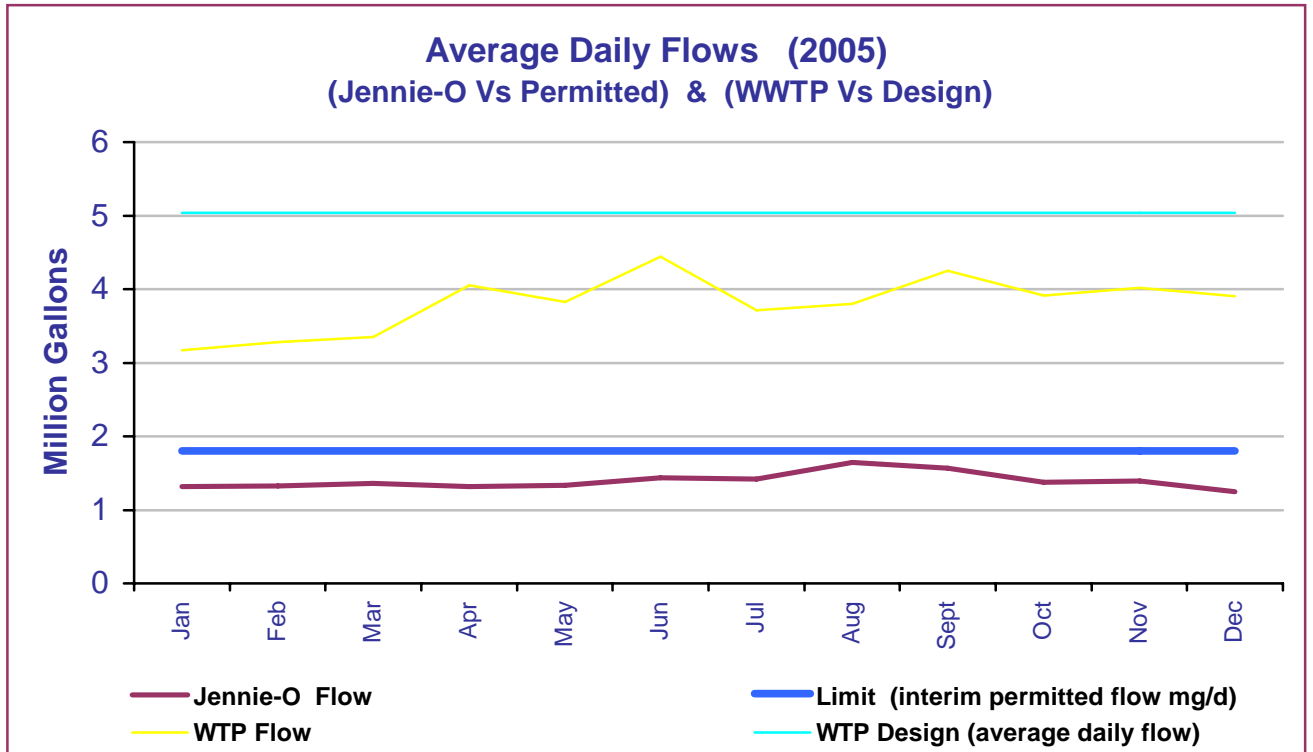


# TOTAL SUSPENDED SOLIDS (TSS)



# FLOW (MILLION GALLONS / DAY)





**EDUCATION AND TRAINING:**

All employees have attended many training seminars throughout the year for renewal of certificates. All employees are currently certified with a Wastewater Treatment Operator Certificate and Boilers Licenses.

**SAFETY PROGRAM:**

The Wastewater Treatment Plant conducted monthly safety meetings covering recommended requirements set by State and Federal OSHA standards. The topics covered in 2005 included but were not limited to:

- Gas Monitoring
- Electrical Safety and Extension Cords
- Chlorine Safety
- CPR/AED (2 Part Training Session)
- Emergency Action Plan (Homeland Security)
- Respiratory/Confined Space
- Personal Protective Equipment Eye Protection
- Lock Out/Tag Out
- Hazard Communication

In order to get more training in during the year we have put together some training materials with a comprehension quiz to be in compliance with OSHA on the Comprehension of Training part of the General Safety Compliance Rules. The written Comprehension Safety Program consists of:

Confined Space Entry	Electrical Safety
Emergency Response	Eye Protection
Fire Prevention	First Aid & Bloodborne Pathogens
Foot Protection	Forklift Safety
Hand Protection	Hazard Communication
Head Protection	Hearing Conservation
Lifting & Ergonomics	Lockout/Tagout
Machine Guarding	Materials Handling
Respiratory Protection	Slips, Trips and Falls
Tool Safety	Violence in the Workplace
Welding, Cutting, and Brazing	Workplace Security

An OSHA style safety audit will be scheduled for February of 2006. This will be a tool to identify areas within the Wastewater Treatment Plant that would require more safety training.

*Airport*

# ***Willmar Municipal Airport***



## **2005 Annual Report**

### Staff

Steven Wright ..... Airport Manager

### Professional Associations

Minnesota Council of Airports ..... Vice Chair  
American Association of Airport Executives ..... Affiliate Member

### Governmental Interaction

State of Minnesota ..... MnDOT Office of Aeronautics  
United States of America ..... Federal Aviation Administration

### Summary

The airport remained active while hosting the Willmar Community Education and Recreation's Transportation Day. The Willmar Municipal Airport remains as a key airport that houses approximately 50 aircraft.

The paving project was bid on July 26, 2004 to take advantage of another federal grant which most of the work was done in 2005. Duininck Brothers, Inc. of Prinsburg, MN was awarded the contract in the amount of \$3,192,271.70 to pave the runway, taxiways, and apron as well as install the runway edge lights.

Steve Wright, airport manager since August 14, 2000, resigned his position on December 28, 2005. He was Willmar's first full-time manager. He accepted a position with General Mitchell International Airport in Milwaukee, Wisconsin. Willmar Air Service had provided airport manager duties as needed prior to the City hiring a full time manager.

# ***Current Airport Summary***



## Current Airport Inventory

### Facilities

- 5,700' x 100' asphalt runway
  - with parallel taxiway
- 3,500' x 300' turf runway
- Two private hangar areas
- One service ramp area
- Main Terminal Facility
  - With maintenance shop
- Secondary shop area



Willmar Municipal Airport – Mid 1940s

### Services (offered through agreement with Fixed Base Operator)

- Flight Training and Instruction
- Maintenance and Repair
- Courtesy Car for transient pilots
- Aircraft Sales (Lancair Columbia 300 & 400)
- Aviation Fuel
  - 100LL
  - Jet A

### Navigational Aids

- Localizer Approach
- GPS Approach (Global Positioning System)
- VOR Approaches (Very-High Frequency Omni-directional Range)
- AWOS (Automated Weather Observation System)
- Runway End Identifier Lights (Runway 10)
- Airport Beacon
- Lighted Windssock
- Lighted Airport Direction Signs
- Medium Intensity Runway Lights

### Staffing

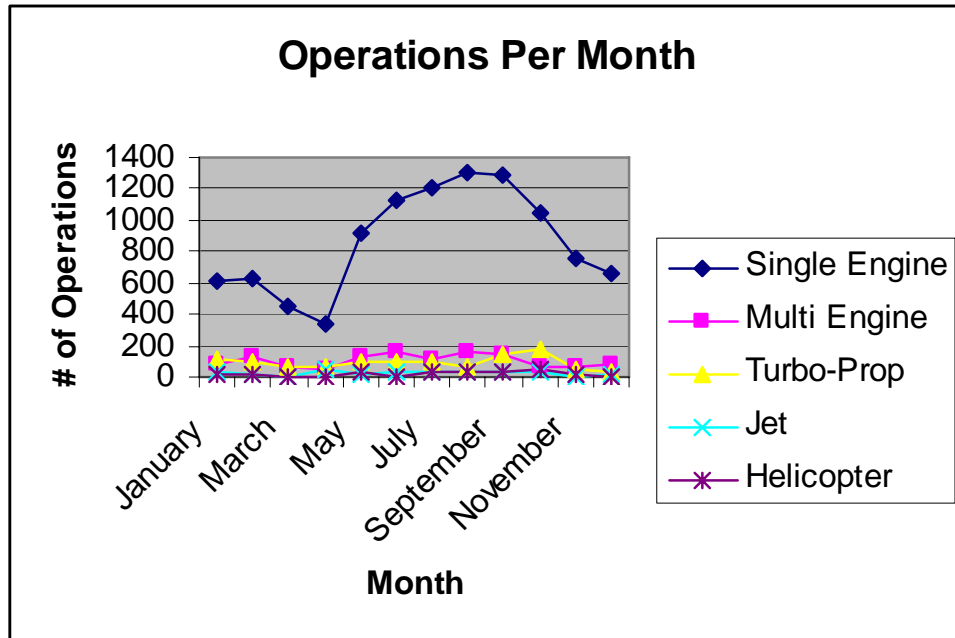
- Full-time Airport Manager
- Public Works Department staff for airfield maintenance

### Airport Organizations (Based on the field):

- Willmar Air Service (Full-service Fixed Base Operator)
- Experimental Aircraft Association
- Civil Air Patrol
- Local Flying Clubs

## Activity

A slower economy and the high price of fuel continue to have an effect on General Aviation. Operations once again totaled approximately 18,000 in 2005. Regional corporations continue to utilize Willmar's airport for its long runway and aircraft services.



## Fuel Usage

The amount of activity can be reflected in the gallons of fuel sold at the airport. The ability to fuel an aircraft at the Willmar Municipal Airport has always been an important service to the aviation community. Fueling equipment is owned by the City of Willmar and operated under agreement by Willmar Air Service. All fueling personnel are required to receive annual training in the areas of safety and quality control. Fueling personnel perform daily inspections of all fuel tanks, filters, and pumping equipment. Willmar Air Service sells approximately 100,000 gallons of fuel in 2005, of which 35,000 gallons were Jet A and 65,000 gallons were 100LL Avgas. Revenue generated from the fuel flowage totaled about \$5,000.

## Improvements

No funds are being invested into the current airport since construction activities are taking place for the new airport facility. The airport is operating under a reactive maintenance program where maintenance is performed only if an item impacts the safe condition of the airport. If construction activities of the new airport extend beyond another year, then the City may need to invest money into the current airport surfaces.

# ***New Airport Activity***



## New Airport Inventory

### *Facilities:*

- 5,500' x 100' asphalt runway
  - with parallel taxiway
- 3,000' x 250' turf runway
- Private hangar development area
- T-Hangar development
- One service ramp area
- Main Terminal Facility
  - With maintenance shop

### *Services:* (offered through agreement with Fixed Base Operator)

- Aircraft Charter/Taxi
- Flight Training and Instruction
- Maintenance and Repair
- Courtesy Car for transient pilots
- Aircraft Sales (Lancair Columbia 300 & 400)
- Aviation Fuel
  - 100LL
  - Jet A

### *Navigational Aids:*

- ILS precision approach (Instrument Landing System)
- GPS Non-precision Approach (Global Positioning System)
- VOR Non-precision Approaches (Very-High Frequency Omni-directional Range)
- AWOS (Automated Weather Observation System)
- Medium Approach Lighting System (Runway 13 & Runway 31)
- Airport Beacon
- Lighted Windssock
- Lighted Airport Direction Signs
- High Intensity Runway Lights
- Parallel Taxiway Lights

### *Staffing:*

- Full-time Airport Manager
- Airport Intern
- Public Works Department staff for airfield maintenance

### *Airport Organizations (Based on the field):*

- Willmar Air Service (Full-service Fixed Base Operator)
- Experimental Aircraft Association
- Civil Air Patrol
- Local Flying Clubs

# ***New Airport Funding Overview***

## ***State Project History***

<b>State Funding</b>	
SP 3401-35 Airport Layout Plan/Environmental State share spent	\$131,979.82
SP 3401-42 Environmental Assessment/Preliminary Design Funds Spent (Reimbursed by FAA)	\$0.00
SP 3401-43 Land Acquisition (Parcel 13) Funds Spent (Reimbursed by FAA)	\$0.00
SP 3401-45 Land Acquisition (Parcel 16) Funds Spent (Reimbursed by FAA)	\$0.00
SP 3401-47 Preliminary Engineering State share allocated & spent	\$315,469.20
SP 3401-48 Acquisition of Airport Lands State share allocated & spent	\$265,000.00
SP 3401-49 Phase I Grading and Drainage State share under grant	\$130,756.00
SP 3401-50 Phase II Grading and Drainage State share under grant	\$508,767.00
SP 3401-51 Engineering Design Services State share under grant	\$252,160.00
SP 3401-52 Drill Well for New Airport State share under grant	\$14,000.00
SP 3401-53 Pave and Light Runway 13/31, Apron, and Roads State share under grant	\$401,820.00
<b>Total Granted to Date</b>	<b>\$2,019,952.02</b>

## ***Remaining Projects***

<u>FY 2005</u> Miscellaneous Projects	
<b>Building Projects</b>	
Arrival/Departure Facility	\$1,000,000.00
Fixed Based Operator Facility	\$600,000.00
<b>Paving Projects</b>	
Parking Lot	\$22,000.00
<b>Miscellaneous</b>	
Landscaping	\$10,000.00
Hangar Relocation	\$250,000.00
<u>2005 Project Estimates</u>	<u><i><b>\$1,882,000.00</b></i></u>

## ***Federal Project History***

### Federal Funding

<u>FY 2000</u>	Preliminary Engineering & Land Acquisition FAA Project # 3-27-0115-01 (Project Closed)	
	Federal Eligible Costs:	\$549,469.18
	Federal Funds Received (90%):	\$494,522.26
<u>FY 2001</u>	Acquire Land for New Airport FAA Project # 3-27-0115-02 (Open Project)	
	Federal Eligible Costs:	\$2,025,000.00
	Federal Funds Received (90%):	\$1,822,500.00
<u>FY 2002</u>	Phase 1 Grading and Drainage for New Airport FAA Project # 3-27-0115-03 (Open Project)	
	Federal Eligible Costs:	\$2,476,441.11
	Federal Funds Received (90%):	\$2,228,797.00
<u>FY 2003</u>	Phase 2 Grading and Drainage for New Airport FAA Project # 3-27-0115-04 (Open Project)	
	Federal Eligible Costs:	\$3,328,638.89
	Federal Funds Received (90%):	<u>\$2,995,775.00</u>
<u>FY 2004</u>	Paving and Electrical FAA Project # 3-27-0115-05 (Open Project)	
	Federal Eligible Costs	\$3,839,860.00
	Federal Funds Received (95%)	\$3,647,867.00

## ***Remaining Projects***

<u>FY 2005</u>	Miscellaneous Finishing Projects
<b>Grading and Drainage</b>	
Primary Runway Grading	\$68,000.00
Drainage Improvements	\$55,000.00
<b>Pavement Projects</b>	
Entrance Road	\$30,100.00
Runway Striping & Grooving	\$155,232.00
<b>Navigational Aids</b>	
Primary Taxiway Lighting	\$448,914.00
Primary Runway PAPIS	\$60,380.00
<b>Security</b>	
Building Area Fencing	\$168,300.00
<b>Miscellaneous</b>	
Airport Signing	\$1,000.00
<u>2005 Project Estimates</u>	<u>\$986,926.00</u>

**Note: A soft earmark in federal legislation has allocated \$1 million that can be used for hangar construction.**

*Senior Center,  
Auditorium,  
& City Office  
Building*

# Willmar Area Senior Citizens Community Center, Auditorium, and City Offices 2005 Annual Report

## SENIOR CENTER:

The Willmar Area Senior Citizens Center continues to serve as a highly popular and active facility for many of the older generation's need for leisure activities. The facility has continued to serve not only as a senior center but as a facility for many community functions.

The Willmar Area Senior Citizens Community Center is operated by the City of Willmar under policies and guidelines established by the Willmar Area Senior Citizens Council and the City Council.

### Maintenance & Capital Improvements:

- ENTRANCE SIGN OFF OF HIGH AVENUE – LANDSCAPING, EAGLE SCOUT PROJECT
- NEW FLOOR – BURLINGTON NORTHERN ROOM
- ROOFTOP UNIT – NORTH SIDE
- PAINTING THE ROOMS INSIDE THE BUILDING
- ELECTRICAL REPLACEMENT (BALLAST & BULBS) IN ALL THE ROOMS
- REPLACE EMERGENCY EXIT SIGNS
- STRIP/WAX AND SHAMPOO FLOORS THREE TIMES A MONTH
- MADE FRAMES



## AUDITORIUM:

The Auditorium continues to be the focal facility for the majority of the recreation programs. Facility use is daily, and through the majority of the year, is on a seven day a week schedule. Activities start early with the facility opening on weekdays for morning activities at 7a.m. and continuing often after 10 p.m.

The facility continues to serve the public in a wide variety of opportunities such as indoor playground, indoor tennis, basketball, volleyball, pre-school programs, senior exercise, morning walkers, tournaments, gymnastics' and crafts. Plus the Auditorium provides space for groups to meet. Its home to the Golden Gloves boxing, Cardette Danceline and a Hispanic soccer league. The Indoor Range is open Tuesdays and Thursdays evenings for the public but is also used by law enforcement agencies around the area for training.

### **Maintenance & Capital Improvements:**

- INSTALLED STEEL GATES
- CONSTRUCTION CHAIR CART
- INSTALLED NEW LIGHT IN ENTRANCE
- INSTALLED NEW EMERGENCY LIGHTING THROUGHOUT BUILDING

## **CITY HALL**

The City Office custodial staff person Betty Swenson, with the help of Roscoe Berg, continues to be a valuable asset to the City. Along with the day-to-day maintenance duties, they are involved with numerous projects making the buildings and facilities operate smoothly which contributes to a comfortable working environment

### **Maintenance & Capital Improvements:**

- BUILT STORAGE SHELVES FOR MID-MN DEVELOPMENT COMMISSION
- REMODELED TWO OFFICE UPSTAIRS FOR IT PERSONNEL
- REMODELING PROJECT FOR THREE OFFICE ON MAIN FLOOR
- INSTALLED NEW EMERGENCY LIGHTING THROUGHOUT THE BUILDING
- CONSTRUCTED PLANHOLDERS IN THE BASEMENT FOR PLANNING AND DEVELOPMENT AND ENGINEERING DEPARTMENTS
- CONSTRUCTED PODIUM FOR USE IN COUNCIL CHAMBERS