

Memo

Date: March 11, 2013
To: Kevin Stewart
From: Markus Ritsch
Subject: February 2013 ALERT Data Analysis

I. ALERT Data Source

Raw ALERT data records extracted from the Urban Drainage and Flood Control District's NovaStar 5.0 base station were analyzed for the period February 1 through February 28, 2013.

II. General System Analysis Summary

In 2013 the District will upgrade the telemetry backbone from legacy ALERT (A1) to the new A2 protocol. As the season progresses, the A1 feed from outlying repeaters to the District base station at Diamond Hill will terminate and all data will be received as A2. The following table quantifies the data reception throughout the conversion of the telemetry system as the season progresses. As of January 29, 2013, the West Creek repeater in Douglas County processes both incoming data on A1 and A2 but passes on only A2 format messages to Diamond Hill.

Table 1. Reception of A1/A2 Data at Diamond Hill

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
A1	321,136	218,368										
A2	304,067	319,089										

In 2013, WET will analyze only the A2 data each month going forward since only the A2 data received at Diamond Hill represents a complete dataset.

A. Specific Issues Identified this Month

Performance of the following sensors (Table 2) was questionable this month.

Table 2. Rain Sensors with Poor Performance Characteristics

Sensor ID	Description	Timer	Event	Comments
2730	Wx- Salisbury Park	93%	83%	
2790	Wx- W. Cherry Creek	68%	90%	
2980	Dakan Road	95%	82%	
3010	EPC at Hwy 105	96%	98%	
3070	Newlin Gulch	N/A	N/A	This site scheduled for A2 upgrade
4470	Little Narrows	43%	81%	Poor performance last month as well
4490	Apple Valley	77%	100%	
4510	Pinewood Springs	80%	65%	
4550	Boulder Jail	36%	100%	
4870	Little Narrows	66%	85%	
0	93 total reports received from this unknown ID.			

B. Continuous Operation of Base Receiver/Decoder

The A1 and A2 data feeds on the NS5 base station were in continuous operation for the entire month.

III. Rain Sensor Timer Reporting Summary

The following analysis assumes that each rain sensor has a 12-hour timer-reporting interval. The worst performing rain sensors for the month are summarized (Table 3).

Table 3. Monthly Summary of Sensors with Poor Timer Performance (Sensor ID)

Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*
4470	4470										
3070	4550										
1660	4870										
2790	2790										
4870	4490										
2320	4510										

*- Only sensors that operate year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

Sensors identified as having poor timer performance in multiple months are shaded with unique colors. A developing trend can thus be identified from the color shading as the year progresses.

IV. Rain Sensor Event Reporting Summary

A. District-Wide Total Tip/Count Statistics

The incrementing reports from all 1-mm rain sensors were analyzed to quantify the District-wide statistical total monthly tip summary (Table 4). For the months of January, February, March, October, November and December only the stations that operate year-round are included in the rain event analysis. These stations include all weather stations and the stations in Boulder County.

Table 4. District-Wide Total Tip/Count Statistical Summary

Statistical Parameter	Value	Comments
Mean	14.31	Only the 1-mm rain sensors were included in the analysis
Median	15	Only the 1-mm rain sensors were included in the analysis
Standard deviation	7.29	Only the 1-mm rain sensors were included in the analysis
Mean plus three standard deviations	36.18	Only the 1-mm rain sensors were included in the analysis
Minimum total count	1	Wx-Brighton Ditch (1570)
Maximum total count	33	Martin Gulch (4040)

B. Monthly Average Tip/Count Summary

A monthly summary of the District-wide mean total tip/count is presented (Table 5).

Table 5. Monthly Summary of District-Wide Mean Total 1-mm Tip/Count

Year	Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*	Ave
2006	4.62	5.92	18.39	20.47	19.44	13.75	74.03	46.89	24.17	41.13	5.04	16.45	24.19
2007	11.56	5.40	29.75	65.03	68.30	15.87	36.20	46.38	22.13	29.50	6.54	11.29	29.00
2008	4.05	7.38	12.26	20.57	54.82	26.06	16.43	90.20	37.54	19.59	2.82	9.24	25.08
2009	6.33	3.11	11.37	59.26	63.45	68.00	65.00	20.00	27.29	30.24	11.00	5.60	30.89
2010	5.97	11.90	32.54	70.57	39.63	56.04	50.23	31.01	4.18	18.31	8.30	3.31	27.67
2011	6.78	7.45	7.54	33.94	92.68	39.42	90.87	18.25	37.67	25.73	10.41	13.59	32.03
2012	4.89	13.57	2.35	30.17	38.97	19.35	73.03	11.31	48.81	22.32	2.98	4.18	22.66
2013	2.96	14.31											

*- Only sensors that operate year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

C. Sensors with a Jump of Six or More in the Sequential Count

Several sensors experienced a large jump in the sequential tip count (Table 6).

Table 6. Sensors with a Jump of 6 or More in Sequential Count

Sensor Description	Sensor ID	Comment
		No sensors identified this month

D. Sensor-by-Sensor Incrementing Count Summary

The system-wide reception rate of incrementing, 1-mm tip reports for the month was approximately 95 percent. A total of 954 incrementing reports were received and a total of 1,002 reports were expected. The total loss of incrementing reports for the month was approximately 5 percent. Those sensors with the worst event transmission performance are summarized (Table 7).

Table 7. Monthly Summary of Sensors with the Most Missed Tips

Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*
4470	4510										
2330	2930										
2980	4470										
1660	2980										
--	2730										
--	4790										

*-Only sensors that are operational year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

Sensors identified as having poor event performance in multiple months are shaded with unique colors. A developing trend can thus be identified from the color shading as the year progresses.

V. Heavy Radio Traffic Analysis

Periods exceeding 1,000 messages per hour are analyzed independently in an attempt to quantify data loss rates from rain sensors using their sequential tip count series.

A. The Heaviest Hourly Traffic Periods This Month

The hourly periods of highest radio traffic this month are shown (Table 8). Each hour exceeding 1,000 reports was analyzed to quantify the number of missing rain reports for that hour.

Table 8. Periods of Heavy Radio Traffic

Day	Hour	Expected	Received	Total Load	Loss
13	13	2	2	679	0%
14	12	0	0	638	0%
18	15	0	0	615	0%
14	11	0	0	606	0%
13	10	0	0	605	0%

VI. Unknown Device Analysis – Received Data Log

The ALERT IDs present in the audio signal received by the decoder are compared against a list of “active” device IDs that are defined within NovaStar. Those IDs received by the decoder that are not defined within NovaStar are considered to be “unknown” and may be the result of radio noise or problems with the telemetry system. The reception of “unknown” device reports for the month is summarized (Table 9).

Table 9. Summary of Unknown IDs

Description	Quantity
Total number of unknown IDs (IDs without a device definition)	324
Total reports from unknown IDs	994
Unknown IDs with only a single received report (potential noise)	167
Total reports from all IDs – RecData Log entire month	319,089
Unknown reports as a fraction of total reports	0.31%

The total number of reports from unknown sensors is very small relative to the total reports received for the month. Shown below (Table 10) are the total reports received from unknown sensor IDs for each month of the year.

Table 10. Monthly Summary of Total Reports from Unknown IDs

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	1,220	1,474	1,276	1,174	721	5,707	610	1,738	442	533	2,857	6,396
2011	1,231	2,165	3,065	1,254	2,051	439	489	456	191	683	747	861
2012	692	750	1,575	977	5,469	11,016	453	683	774	2,657	3,854	5,466
2013	4,265	994										

The fraction of reports from unknown sensors relative to the total number of reports is shown below (Table 11).

Table 11. Monthly Percent of Unknown Sensor Reports

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	0.42%	0.56%	0.38%	0.32%	0.20%	1.61%	0.17%	0.49%	0.13%	0.16%	0.93%	1.88%
2011	0.39%	0.73%	0.90%	0.37%	0.58%	0.12%	0.12%	0.05%	0.12%	0.18%	0.22%	0.26%
2012	0.30%	0.25%	0.43%	0.26%	1.37%	2.74%	0.11%	0.18%	0.20%	0.72%	1.15%	1.62%
2013	1.40%	0.31%										

Any month shaded in yellow has an excessive number of reports from unknown sensors.

A number of “unknown” sensors had multiple reports, which may indicate the existence of a transmitter that is sending information on an ID that is not currently defined within NovaStar. The unknown IDs with multiple reports including the number of reports received by each are shown (Table 12).

Table 12. Reports Received by Unknown IDs

Unknown ID	Reports
0	93
2784	23
4644	17
2811	15
1950	14
13	13
1470	13
1954	13
2716	13

A total of 93 reports were received from unknown sensor ID zero (0). These reports were received and flagged as Line = 2, data concentrator format.

General System Analysis

Database Name

P:\A207-UDFCD-Data-Analysis\2013\02-2013\Novastar_extract_2013Feb.mdb

First Date in Database

2/1/13 12:00 AM

Total Days

28.0

Last Date in Database

2/28/13 11:59 PM

Total Hours

672.0

Total Records Analyzed

319,089

Records by Group

Wind Data	118,516	37%
Temperature	60,526	19%
Relative Humidity	54,396	17%
Barometric Pressure	30,307	9%
Battery Voltage	11,099	3%
Solar Radiation	10,003	3%
Water Level	9,511	3%
Precipitation	7,234	2%
Fuel Moisture	5,417	2%
Fuel Temperature	5,386	2%
Soil Moisture	2,733	1%
Repeater Status Report	2,303	1%
Unknown	994	0%
Repeater Pass List	339	0%
12Hr Status Report	256	0%
Handar 585 ALARM Status	41	0%
Solar Power	24	0%
ALERT/A2 Testing	4	0%
Total	319,089	

Records by Major Group

Meteorologic Sensors	155,232	49%
Soil and Fuel Sensors	13,536	4%
Water Level Sensors	9,511	3%
Rain Sensors	7,234	2%
Sensor Status Transmissions	2,963	1%
Total	188,476	

Traffic Loading Summary

Alert Reports	319,089	
Average Daily Traffic	11,396	
Average Hourly Traffic	475	
Median Hourly Traffic	470	hour beginning
Peak Hourly Traffic	679	Feb 13, 1:00 PM
2nd Max	637	Feb 14, 12:00 PM
3rd Max	615	Feb 18, 3:00 PM
4th Max	606	Feb 14, 11:00 AM
5th Max	604	Feb 13, 10:00 AM

Rain Timer Performance

Analyze Rain Sensors

Rain Sensors	Description	Rcv	Timer	Exp	Performance
4550	Boulder Jail	20	20:15	56	36%
4470	Little Narrows	24	15:46	56	43%
4870	SBC @ SB Road	37	16:38	56	66%
2790	Wx-W. Cherry Creek	38	16:00	56	68%
4490	Apple Valley	43	14:29	56	77%
4510	Pinewood Springs	45	12:36	56	80%
4330	Hansen Rain	49	12:50	56	88%
2930	Wx-Spring Valley Rd-DougCnty	50	12:48	56	89%
1420	Wx-Diamond Hill	50	13:27	56	89%
1440	Wx-Elbert	51	12:43	56	91%
920	Wx-Aurora Town Hall	51	12:44	56	91%
2730	Wx-Salisbury Park	52	12:45	56	93%
4880	Whispering Pines	52	12:14	56	93%
4220	Fling's	52	12:30	56	93%
4060	Lakeshore	52	12:15	56	93%
4570	St. Antons	53	12:28	56	95%
4350	Conifer Hill	53	12:30	56	95%
4310	Johnny Park	53	12:14	56	95%
4300	Big Elk Park	53	12:27	56	95%
4240	Sunset	53	12:28	56	95%
4080	Twin Sisters	53	12:13	56	95%
4040	Martin Gulch	53	11:41	56	95%
4710	Wx-Ward C-1	54	12:14	56	96%
1460	Wx-Urban Farm	54	12:14	56	96%
2210	Wx-Hiwan G.C.	54	12:25	56	96%
3030	WX-Bingham Lake Park	54	12:16	56	96%
4530	Winiger Ridge	54	12:14	56	96%
4340	Riverside	54	12:13	56	96%
4270	Cannon Mountain	54	12:28	56	96%
4260	Taylor Mountain	54	11:58	56	96%
4230	Golden Age	54	11:58	56	96%
4110	Betasso	54	12:15	56	96%
4100	Filter Plant	54	11:44	56	96%
4020	Rio Grande	54	12:13	56	96%
4010	Cresent	54	11:58	56	96%
3010	EPC at Hwy 105	54	12:16	56	96%
2990	Wx-Tomah Rd-DougCnty	55	12:00	56	98%
1920	Wx-Brighton	55	12:00	56	98%
140	Wx-Blue Mountain	55	12:00	56	98%
900	Wx-Aurora Reservoir	55	12:09	56	98%
4850	Porphyry Mtn	55	12:00	56	98%
4520	Eagle Ridge	55	12:13	56	98%
4360	Justice Center	55	11:33	56	98%
4320	Lee Hill Rain 2012	55	11:58	56	98%
4290	Red Hill	55	11:58	56	98%
4180	Gold Lake	55	11:58	56	98%
4160	Sunshine	55	11:58	56	98%
4150	Gold Hill	55	11:58	56	98%
4140	Logan Mill	55	11:43	56	98%
4130	Swiss Peaks	55	11:59	56	98%
4090	Magnolia	55	11:58	56	98%
4070	Bear Peak	55	11:58	56	98%
750	Wx-Quincy Reservoir	56	11:51	56	100%
4820	Doudy Draw	56	11:57	56	100%

4810	Shanahan Ridge	56	11:41	56	100%
4250	Geer Canyon	56	11:28	56	100%
4170	Pine Brook	56	11:55	56	100%
2750	Wx-Castle Rock	57	11:32	56	102%
4790	Wx-Button Rock	57	11:31	56	102%
1570	Wx-Brighton Ditch	57	11:20	56	102%
4830	SBC @ San Souci	57	11:42	56	102%
4200	Lazy Acres	57	11:59	56	102%
4190	Slaughterhouse	57	11:28	56	102%
4050	Walker Ranch	57	11:14	56	102%
3020	Wx-West Creek WX	58	11:17	56	104%
1520	Wx-Marston Lake North	58	11:01	56	104%
4770	Wx-Cal-Wood Ranch	58	11:17	56	104%
4860	Fairview Peak	58	11:45	56	104%
4840	SBC@S Boulder Ditch	58	11:21	56	104%
4750	Wx-Louisville Lake	59	11:04	56	105%
4730	Wx-Sugarloaf	60	11:04	56	107%
2710	Wx-Highlands Ranch WTP	61	10:41	56	109%
4030	Red Garden	67	9:38	56	120%
2980	Dakan Rd	53	12:34	56	95%
2350	Idledale	17	11:57	56	30%
2340	El Rancho	25	10:12	56	45%
2330	Morrison	44	13:46	56	79%
2320	Choke Cherry Resvr	26	9:59	56	46%
2310	Genesee Village	20	12:45	56	36%
2280	Kinney Peak	20	12:49	56	36%
2260	Brook Forest	19	12:53	56	34%
2230	Bear Cr below Cub	2		56	4%
1810	Sand Creek at mouth	54	12:12	56	96%
1710	Shop Creek	45	11:54	56	80%
1700	Cherry Cr @ Champa	54	12:14	56	96%
1660	SPR at Henderson	49	13:33	56	88%
1640	SPR at Union Ave.	55	11:57	56	98%
1550	Lakewood CC	34	11:33	56	61%
1530	Bear Creek @ Lowell	2	0:00	56	4%
1370	West Metro FS13	45	11:57	56	80%
1360	Denver Zoo	20	2:24	56	36%
1350	Chatfield COE	33	13:55	56	59%
1060	Heritage Square	33	11:57	56	59%
1050	Jeffco Fairgrounds	51	10:15	56	91%
1030	NREL/S. Table Mtn.	33	11:57	56	59%
1010	Denver West	44	12:41	56	79%
1000	Maple Grove Resv.	56	11:57	56	100%
970	Pump Sta 3	62	10:36	56	111%
840	Fire Station 12	31	15:57	56	55%
830	Side Creek Park	45	12:35	56	80%
760	Mission Viejo Park	47	11:57	56	84%
700	Toll Gate @ 6th	55	12:00	56	98%
620	Quincy/Highline	18	19:19	56	32%
540	Parker/Mississippi	44	12:17	56	79%
530	Fire Station #19	46	11:57	56	82%
520	Jewell Detention	48	11:57	56	86%
510	Virginia Court	40	13:19	56	71%
440	Fire Station #7	46	11:57	56	82%
310	Guy Hill Ranch	32	12:29	56	57%
300	Van Bibber Park	42	12:18	56	75%
220	Upper Leyden	35	11:06	56	63%
150	Nott Creek	34	10:55	56	61%

Rain Event Performance		Reports Received	954			Analyze Rain Sensors									
	Systemwide Avg	Total Tips	1,002												
	95.21%	Data Loss	4.79%												
Description	Sensor	Performance	1-tips	2-tips	3-tips	4-tips	5-tips	6-tips	>6-tips	Rcv	Exp	Miss	Hold	Bucket	
Pinewood Springs	4510	65%	8	1	1	1	0	0	0	11	17	6	0	0.0393701	
Wx-Spring Valley Rd-DougCnty	2930	80%	3	1	0	0	0	0	0	4	5	1	0	0.0393701	
Little Narrows	4470	81%	10	3	0	0	0	0	0	13	16	3	0	0.0393701	
Dakan Rd	2980	82%	18	5	0	0	0	0	0	23	28	5	0	0.0393701	
Wx-Salisbury Park	2730	83%	4	1	0	0	0	0	0	5	6	1	0	0.0393701	
Wx-Button Rock	4790	85%	9	2	0	0	0	0	0	11	13	2	0	0.0393701	
SBC @ SB Road	4870	85%	14	3	0	0	0	0	0	17	20	3	0	0.0393701	
Rio Grande	4020	87%	11	2	0	0	0	0	0	13	15	2	0	0.0393701	
Hansen Rain	4330	88%	13	0	1	0	0	0	0	14	16	2	0	0.0393701	
Twin Sisters	4080	88%	6	1	0	0	0	0	0	7	8	1	0	0.0393701	
Wx-Cal-Wood Ranch	4770	89%	7	1	0	0	0	0	0	8	9	1	0	0.0393701	
Bear Peak	4070	89%	14	2	0	0	0	0	0	16	18	2	0	0.0393701	
Wx-W. Cherry Creek	2790	90%	8	1	0	0	0	0	0	9	10	1	0	0.0393701	
Doudy Draw	4820	90%	16	2	0	0	0	0	0	18	20	2	0	0.0393701	
Johnny Park	4310	90%	17	2	0	0	0	0	0	19	21	2	0	0.0393701	
Martin Gulch	4040	91%	28	1	1	0	0	0	0	30	33	3	0	0.0393701	
SBC@S Boulder Ditch	4840	91%	19	2	0	0	0	0	0	21	23	2	0	0.0393701	
Wx-Louisville Lake	4750	92%	10	1	0	0	0	0	0	11	12	1	0	0.0393701	
Sunshine	4160	95%	17	1	0	0	0	0	0	18	19	1	0	0.0393701	
Wx-Diamond Hill	1420	95%	18	1	0	0	0	0	0	19	20	1	0	0.0393701	
Lee Hill Rain 2012	4320	95%	20	1	0	0	0	0	0	21	22	1	0	0.0393701	
SBC @ San Souci	4830	96%	21	1	0	0	0	0	0	22	23	1	0	0.0393701	
Justice Center	4360	96%	21	1	0	0	0	0	0	22	23	1	0	0.0393701	
Lazy Acres	4200	96%	21	1	0	0	0	0	0	22	23	1	0	0.0393701	
Betasso	4110	96%	21	1	0	0	0	0	0	22	23	1	0	0.0393701	
Red Garden	4030	96%	23	1	0	0	0	0	0	24	25	1	0	0.0393701	
Wx-West Creek WX	3020	100%	15	0	0	0	0	0	0	15	15	0	0	0.0393701	
Wx-Ward C-1	4710	100%	7	0	0	0	0	0	0	7	7	0	0	0.0393701	
Wx-Urban Farm	1460	100%	8	0	0	0	0	0	0	8	8	0	0	0.0393701	
Wx-Tomah Rd-DougCnty	2990	100%	29	0	0	0	0	0	0	29	29	0	0	0.0393701	
Wx-Sugarloaf	4730	100%	15	0	0	0	0	0	0	15	15	0	0	0.0393701	
Wx-Quincy Reservoir	750	100%	6	0	0	0	0	0	0	6	6	0	0	0.0393701	
Wx-Marston Lake North	1520	100%	18	0	0	0	0	0	0	18	18	0	0	0.0393701	
Wx-Hiwan G.C.	2210	100%	11	0	0	0	0	0	0	11	11	0	0	0.0393701	
Wx-Highlands Ranch WTP	2710	100%	15	0	0	0	0	0	0	15	15	0	0	0.0393701	
Wx-Castle Rock	2750	100%	3	0	0	0	0	0	0	3	3	0	0	0.0393701	
Wx-Brighton Ditch	1570	100%	1	0	0	0	0	0	0	1	1	0	0	0.0393701	
Wx-Brighton	1920	100%	6	0	0	0	0	0	0	6	6	0	0	0.0393701	
Wx-Blue Mountain	140	100%	13	0	0	0	0	0	0	13	13	0	0	0.0393701	
WX-Bingham Lake Park	3030	100%	18	0	0	0	0	0	0	18	18	0	0	0.0393701	
Wx-Aurora Town Hall	920	100%	1	0	0	0	0	0	0	1	1	0	0	0.0393701	
Wx-Aurora Reservoir	900	100%	5	0	0	0	0	0	0	5	5	0	0	0.0393699	
Winiger Ridge	4530	100%	19	0	0	0	0	0	0	19	19	0	0	0.0393701	
Whispering Pines	4880	100%	22	0	0	0	0	0	0	22	22	0	0	0.0393701	
Shanahan Ridge	4810	100%	18	0	0	0	0	0	0	18	18	0	0	0.0393701	
St. Antons	4570	100%	1	0	0	0	0	0	0	1	1	0	0	0.0393701	
Boulder Jail	4550	100%	21	0	0	0	0	0	0	21	21	0	1	0.0393701	
Eagle Ridge	4520	100%	8	0	0	0	0	0	0	8	8	0	0	0.0393701	
Apple Valley	4490	100%	7	0	0	0	0	0	0	7	7	0	0	0.0393701	
Conifer Hill	4350	100%	12	0	0	0	0	0	0	12	12	0	0	0.0393701	
Riverside	4340	100%	15	0	0	0	0	0	0	15	15	0	0	0.0393701	
Big Elk Park	4300	100%	4	0	0	0	0	0	0	4	4	0	0	0.0393701	
Red Hill	4290	100%	18	0	0	0	0	0	0	18	18	0	0	0.0393701	
Cannon Mountain	4270	100%	10	0	0	0	0	0	0	10	10	0	0	0.0393701	
Taylor Mountain	4260	100%	14	0	0	0	0	0	0	14	14	0	0	0.0393701	
Geer Canyon	4250	100%	15	0	0	0	0	0	0	15	15	0	0	0.0393701	
Sunset	4240	100%	6	0	0	0	0	0	0	6	6	0	0	0.0393701	
Golden Age	4230	100%	9	0	0	0	0	0	0	9	9	0	0	0.0393701	
Fling's	4220	100%	8	0	0	0	0	0	0	8	8	0	0	0.0393701	
Slaughterhouse	4190	100%	19	0	0	0	0	0	0	19	19	0	0	0.0393701	
Gold Lake	4180	100%	1	0	0	0	0	0	0	1	1	0	0	0.0393701	
Pine Brook	4170	100%	16	0	0	0	0	0	0	16	16	0	0	0.0393701	
Gold Hill	4150	100%	20	0	0	0	0	0	0	20	20	0	0	0.0393701	
Logan Mill	4140	100%	16	0	0	0	0	0	0	16	16	0	0	0.0393701	
Swiss Peaks	4130	100%	20	0	0	0	0	0	0	20	20	0	0	0.0393701	
Filter Plant	4100	100%	6	0	0	0	0	0	0	6	6	0	0	0.0393701	
Magnolia	4090	100%	18	0	0	0	0	0	0	18	18	0	0	0.0393701	
Lakeshore	4060	100%	14	0	0	0	0	0	0	14	14	0	0	0.0393701	
Walker Ranch	4050	100%	9	0	0	0	0	0	0	9	9	0	0	0.0393701	
Crescent	4010	100%	17	0	0	0	0	0	0	17	17	0	0	0.0393701	
TOTAL			911	39	3	1	0	0	0	954	1002	48	1		
Idledale	2350	100%	18	0	0	0	0	0	0	18	18	0	0	0.0393701	
El Rancho	2340	100%	10	0	0	0	0	0	0	10	10	0	1	0.0393701	
Morrison	2330	96%	21	1	0	0	0	0	0	22	23	1	0	0.0393701	
Genesee Village	2310	88%	14	0	1	0	0	0	0	15	17	2	0	0.0393701	
Kinney Peak	2280	95%	17	1	0	0	0	0	0	18	19	1	0	0.0393701	

Brook Forest	2260	100%	17	0	0	0	0	0	0	0	17	17	0	0	0.0393701
Bear Cr below Cub	2230	50%	0	1	0	0	0	0	0	0	1	2	1	0	0.0393701
Sand Creek at mouth	1810	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701
Shop Creek	1710	87%	11	2	0	0	0	0	0	0	13	15	2	0	0.0393701
Cherry Cr @ Champa	1700	100%	7	0	0	0	0	0	0	0	7	7	0	0	0.0393701
SPR at Henderson	1660	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.0393701
SPR at Union Ave.	1640	93%	13	1	0	0	0	0	0	0	14	15	1	0	0.0393701
Lakewood CC	1550	100%	15	0	0	0	0	0	0	0	15	15	0	0	0.0393701
West Metro FS13	1370	91%	20	0	1	0	0	0	0	0	21	23	2	0	0.0393701
Denver Zoo	1360	84%	14	1	1	0	0	0	0	0	16	19	3	0	0.0393701
Chatfield COE	1350	83%	15	4	0	0	0	0	0	0	19	23	4	0	0.0393701
Heritage Square	1060	100%	8	0	0	0	0	0	0	0	8	8	0	0	0.0393701
Jeffco Fairgrounds	1050	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701
NREL/S. Table Mtn.	1030	100%	7	0	0	0	0	0	0	0	7	7	0	0	0.0393701
Denver West	1010	100%	19	0	0	0	0	0	0	0	19	19	0	0	0.0393701
Maple Grove Resv.	1000	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701
Pump Sta 3	970	100%	1	0	0	0	0	0	0	0	1	1	0	0	0.0393701
Fire Station 12	840	78%	6	0	1	0	0	0	0	2	7	9	2	0	0.0393701
Side Creek Park	830	91%	9	1	0	0	0	0	0	0	10	11	1	0	0.0393701
Mission Viejo Park	760	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701
Toll Gate @ 6th	700	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701
Quincy/Highline	620	88%	14	0	1	0	0	0	0	1	15	17	2	0	0.0393701
Parker/Mississippi	540	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701
Fire Station #19	530	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.0393701
Jewell Detention	520	100%	8	0	0	0	0	0	0	0	8	8	0	0	0.0393701
Virginia Court	510	92%	11	1	0	0	0	0	0	0	12	13	1	0	0.0393701
Fire Station #7	440	95%	17	1	0	0	0	0	0	0	18	19	1	0	0.0393701
Guy Hill Ranch	310	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701
Van Bibber Park	300	100%	12	0	0	0	0	0	0	0	12	12	0	0	0.0393701
Upper Leyden	220	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701
Nott Creek	150	100%	20	0	0	0	0	0	0	0	20	20	0	0	0.0393701
Porphory Mtn	4850	100%	2	0	0	0	0	0	0	0	2	2	0	0	0.01
Fairview Peak	4860	100%	17	0	0	0	0	0	0	0	17	17	0	0	0.01
EPC at Hwy 105	3010	98%	38	1	0	0	0	0	0	0	39	40	1	0	0.01

2013 Monthly ALERT Radio Traffic Summary

