

OFFSITE & ROADWAY DESIGN POINT SUMMARY

Design Point	Q ₁₀ (c.f.s.)	Q ₅₀ (c.f.s.)	STRUCTURE
1	89.6	195.5	10' D-10-R SUMP INLET
2	12.6	35.1	10' D-10-R SUMP INLET
2A	20.1	39.1	10' D-10-R SUMP INLET
3	5.5	10.5	4' D-10-R SUMP INLET
3A	5.5	10.5	4' D-10-R SUMP INLET
4	8.3	11.9	-
4A	5.6	10.8	-
7	21.9	41.2	18' D-10-R SUMP INLET
7A	22.8	41.1	18' D-10-R SUMP INLET
8	18.8	33.9	8' D-10-R SUMP INLET
8A	8.2	18.6	8' D-10-R SUMP INLET
10	27.8	55.9	10' D-10-R SUMP INLET
10A	8.9	15.6	10' D-10-R SUMP INLET
11	5.4	10.4	4' D-10-R SUMP INLET
11A	5.4	10.4	4' D-10-R SUMP INLET
13	15.1	30.1	6' D-10-R SUMP INLET
13A	7.9	14.7	6' D-10-R SUMP INLET
14	3.9	7.2	4' D-10-R SUMP INLET
14A	3.9	7.2	4' D-10-R SUMP INLET
16	3.2	6.1	4' D-10-R SUMP INLET
16A	3.2	6.1	4' D-10-R SUMP INLET

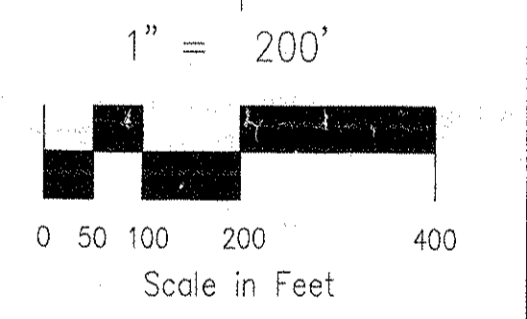
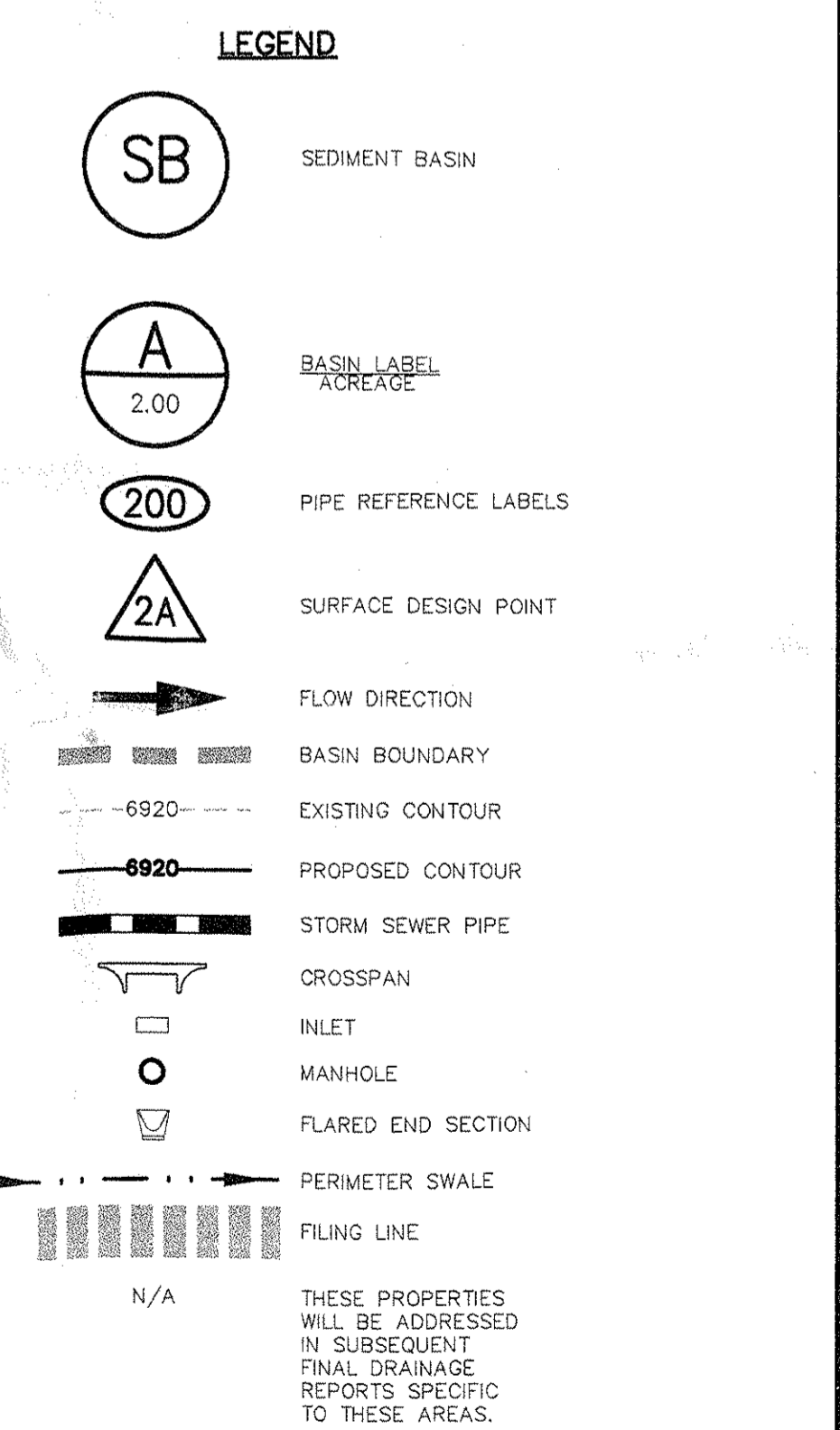
OFFSITE AND ROADWAY BASINS STORM SEWER SUMMARY

Basin	Q ₁₀ (c.f.s.)	Q ₅₀ (c.f.s.)	PIPE RUN (c.f.s.)	PIPE SIZE
100	80.6	195.5	48'	48" RCP
101	109.1	243.9	48'	48" RCP
102	190.0	439.4	60'	60" RCP
103	82.5	110.3	48'	48" RCP
103A	40.1	71.4	30'	30" RCP
103B	92.6	181.7	54'	54" RCP
104	15.0	33.8	24'	24" RCP
105	15.0	33.8	24'	24" RCP
106	122.7	249.2	66'	66" RCP
106A	5.5	10.5	24'	24" RCP
106B	5.5	10.5	24'	24" RCP
106C	10.9	21.0	30"	30" RCP
107	324.0	711.1	84'	84" RCP
108	140.9	304.1	84"	84" RCP
109	464.9	1015.1	108"	108" RCP
110	127.1	267.2	66"	66" RCP
111	30.2	62.7	36"	36" RCP
112	41.0	96.0	54"	54" RCP
113	22.0	40.4	30"	30" RCP
114	22.0	40.4	30"	30" RCP
115	44.0	80.8	42"	42" RCP
116	49.6	101.0	42"	42" RCP
117	12.6	24.1	18"	18" RCP
118	97.6	188.7	60"	60" RCP
119	15.3	29.7	18"	18" RCP
120	32.5	59.3	18"	18" RCP
121	24.2	50.3	36"	36" RCP
122	28.9	59.1	36"	36" RCP
123	33.5	68.0	36"	36" RCP
124	108.0	305.0	60"	60" RCP
125	108.0	305.0	60"	60" RCP
125A	111.8	312.2	60"	60" RCP
126	115.7	319.4	66"	66" RCP
127	28.5	54.8	36"	36" RCP
128	3.2	6.1	18"	18" RCP
129	3.2	6.1	18"	18" RCP
130	31.7	65.0	36"	36" RCP
131	147.3	384.5	72"	72" RCP
132	194.2	486.8	72"	72" RCP
133	11.0	21.5	30"	30" RCP
134	11.0	21.5	30"	30" RCP
135	216.1	529.7	84"	84" RCP

OFFSITE & ROADWAY BASIN SUMMARY

Basin	Area (Acres)	Q ₁₀ (c.f.s.)	Q ₅₀ (c.f.s.)
A	2.8	10.1	19.0
B	0.8	0.8	2.1
C	2.8	10.2	19.1
D	2.2	8.7	16.3
E	1.7	6.3	11.9
E1	1.4	4.8	9.1
F	0.9	12.8	24.0
G	0.5	0.6	1.4
H	0.9	8.7	16.3
I	0.9	17.3	32.5
J	0.6	0.6	1.5
K	1.8	7.2	13.6
L	4.1	14.5	27.2
M	1.4	6.2	11.6
N	1.3	5.8	10.8
O	0.4	0.5	1.2
P	1.2	5.6	10.5
Q	0.4	0.4	1.0
R	0.6	0.6	1.5
S	1.0	4.2	7.9
T	0.5	0.5	1.3
U	1.1	5.0	9.3
V	2.66	10.1	19.0
W	1.0	0.9	2.3
X	0.3	0.3	0.8
Y	1.3	5.6	10.5
Z	1.8	7.7	14.4
AA	4.1	15.6	29.4
BB	2.4	11.0	20.6
CC	0.3	0.4	0.9
DD	9.7	24.2	50.3
EE	2.4	9.7	18.2
FF	16.5	39.7	82.5
GG	12.6	30.2	62.7
OS1	10.7	26.3	54.6

NOTE: PROPOSED GRADING SHOWN OUTSIDE OF THE FOREST MEADOWS DEVELOPMENT AREAS (INCLUDING DETENTION PONDS 3 AND 6) IS HIGHLY CONCEPTUAL IN NATURE AND HAS BEEN SHOWN FOR INFORMATION ONLY. AS EACH INDIVIDUAL ADJACENT SITE IS DEVELOPED, A DRAINAGE REPORT AND ASSOCIATED GRADING PLAN DOCUMENT WILL BE REQUIRED PER CITY OF COLORADO SPRINGS GUIDELINES.



ENGINEERING AND SURVEYING INC.

15 NORTH NEVADA AVENUE
 COLORADO SPRINGS, CO 80903
 (719) 955-5485, FAX (719) 471-4812

FOREST MEADOWS - OFFSITE & ROADWAYS DRAINAGE MAP

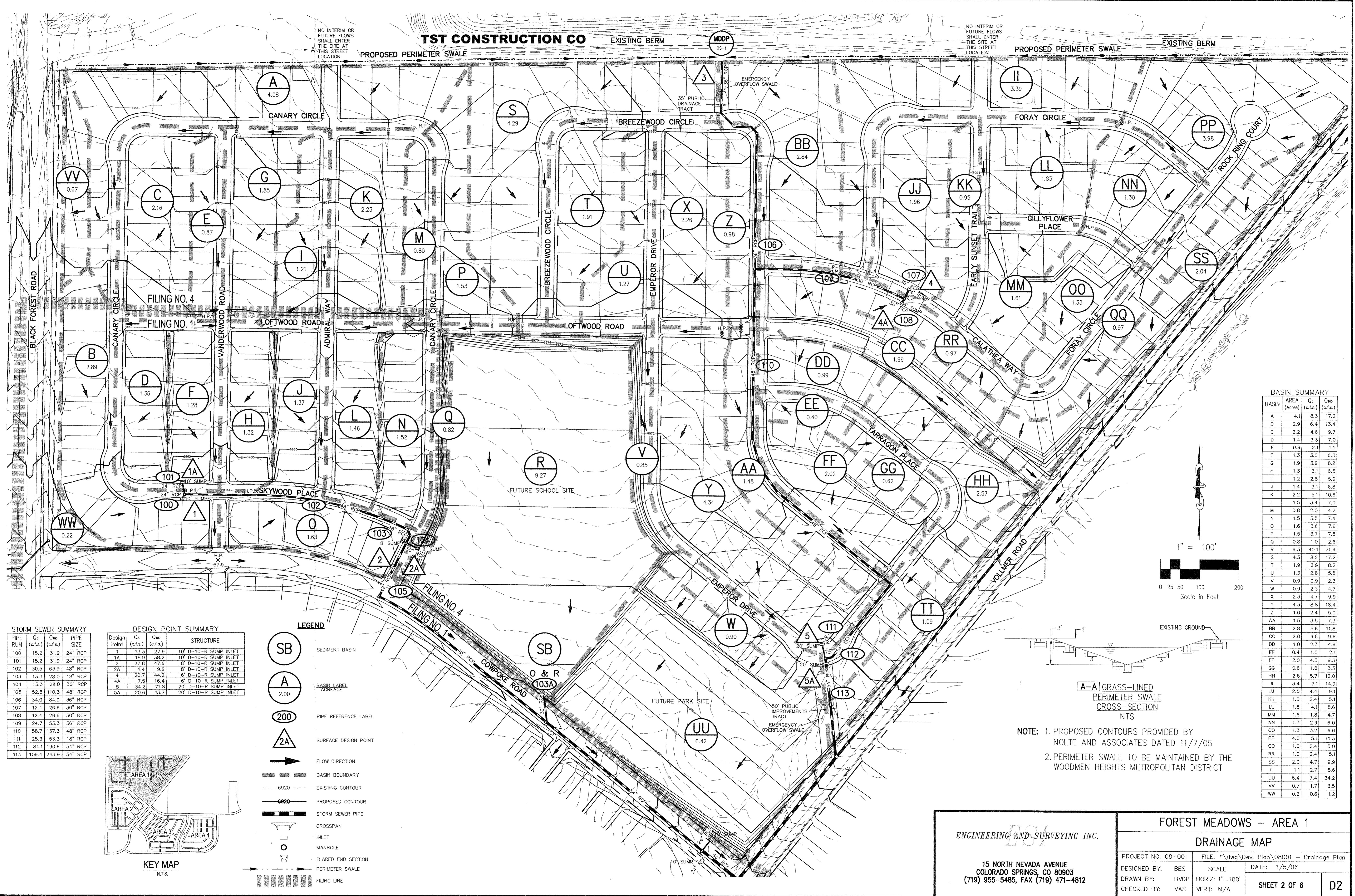
PROJECT NO. 08-001 FILE: *dwg\Dev. Plan\08001 - Drainage Plan

DESIGNED BY: BES SCALE: DATE: 1/5/06

DRAWN BY: BVDP HORIZ: 1"=100'

CHECKED BY: VAS VERT: N/A

SHEET 1 OF 6 D1



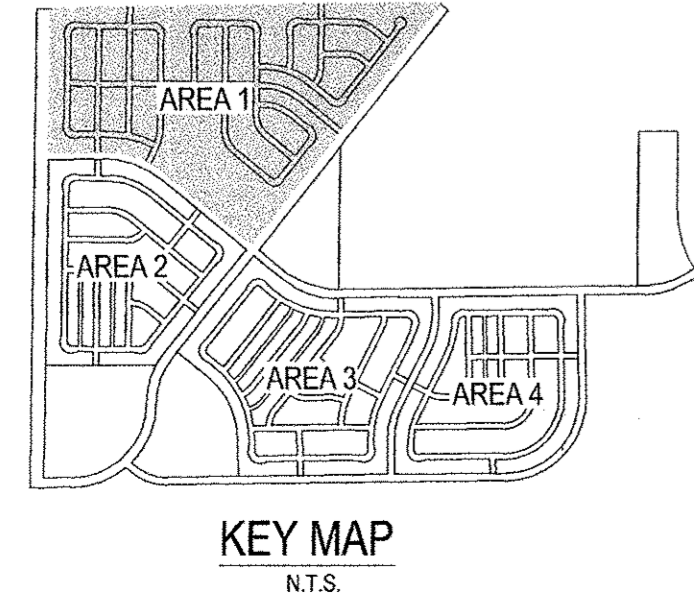
STORM SEWER SUMMARY

PIPE RUN	Qs (c.f.s.)	Q100 (c.f.s.)	PIPE SIZE
100	15.2	31.9	24" RCP
101	15.2	31.9	24" RCP
102	30.5	63.9	48" RCP
103	13.3	28.0	18" RCP
104	13.3	28.0	30" RCP
105	52.5	110.3	48" RCP
106	34.0	84.0	36" RCP
107	12.4	26.6	30" RCP
108	12.4	26.6	30" RCP
109	24.7	53.3	36" RCP
110	58.7	137.3	48" RCP
111	25.3	53.3	18" RCP
112	84.1	190.6	54" RCP
113	109.4	243.9	54" RCP

DESIGN POINT SUMMARY

Design Point	Qs (c.f.s.)	Q100 (c.f.s.)	STRUCTURE
1	13.3	27.9	10' D-10-R SUMP INLET
1A	18.9	38.2	10' D-10-R SUMP INLET
2	22.8	47.6	8' D-10-R SUMP INLET
2A	4.4	9.6	8' D-10-R SUMP INLET
4	20.7	44.2	6' D-10-R SUMP INLET
4A	7.5	16.4	6' D-10-R SUMP INLET
5	34.2	71.8	20' D-10-R SUMP INLET
5A	20.6	43.7	20' D-10-R SUMP INLET

- LEGEND**
- SEDIMENT BASIN
 - BASIN LABEL ACRES
 - PIPE REFERENCE LABEL
 - SURFACE DESIGN POINT
 - FLOW DIRECTION
 - BASIN BOUNDARY
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - STORM SEWER PIPE
 - CROSSSPAN
 - INLET
 - MANHOLE
 - FLARED END SECTION
 - PERIMETER SWALE
 - FILING LINE



BASIN SUMMARY

BASIN	AREA (Acres)	Qs (c.f.s.)	Q100 (c.f.s.)
A	4.1	8.3	17.2
B	2.9	6.4	13.4
C	2.2	4.6	9.7
D	1.4	3.3	7.0
E	0.9	2.1	4.5
F	1.3	3.0	6.3
G	1.9	3.9	8.2
H	1.3	3.1	6.5
I	1.2	2.8	5.9
J	1.4	3.1	6.8
K	2.2	5.1	10.6
L	1.5	3.4	7.0
M	0.8	2.0	4.2
N	1.5	3.5	7.4
O	1.6	3.6	7.6
P	1.5	3.7	7.8
Q	0.8	1.0	2.6
R	9.3	40.1	71.4
S	4.3	8.2	17.2
T	1.9	3.9	8.2
U	1.3	2.8	5.8
V	0.9	0.9	2.3
W	0.9	2.3	4.7
X	2.3	4.7	9.9
Y	4.3	8.8	18.4
Z	1.0	2.4	5.0
AA	1.5	3.5	7.3
BB	2.8	5.6	11.8
CC	2.0	4.6	9.6
DD	1.0	2.3	4.9
EE	0.4	1.0	2.1
FF	2.0	4.5	9.3
GG	0.6	1.6	3.3
HH	2.6	5.7	12.0
I	3.4	7.1	14.9
JJ	2.0	4.4	9.1
KK	1.0	2.4	5.1
LL	1.8	4.1	8.6
MM	1.6	1.8	4.7
NN	1.3	2.9	6.0
OO	1.3	3.2	6.6
PP	4.0	5.1	11.3
QQ	1.0	2.4	5.0
RR	1.0	2.4	5.1
SS	2.0	4.7	9.9
TT	1.1	2.7	5.6
UU	6.4	7.4	24.2
VV	0.7	1.7	3.5
WW	0.2	0.6	1.2

NOTE: 1. PROPOSED CONTOURS PROVIDED BY NOLTE AND ASSOCIATES DATED 11/7/05
2. PERIMETER SWALE TO BE MAINTAINED BY THE WOODMEN HEIGHTS METROPOLITAN DISTRICT

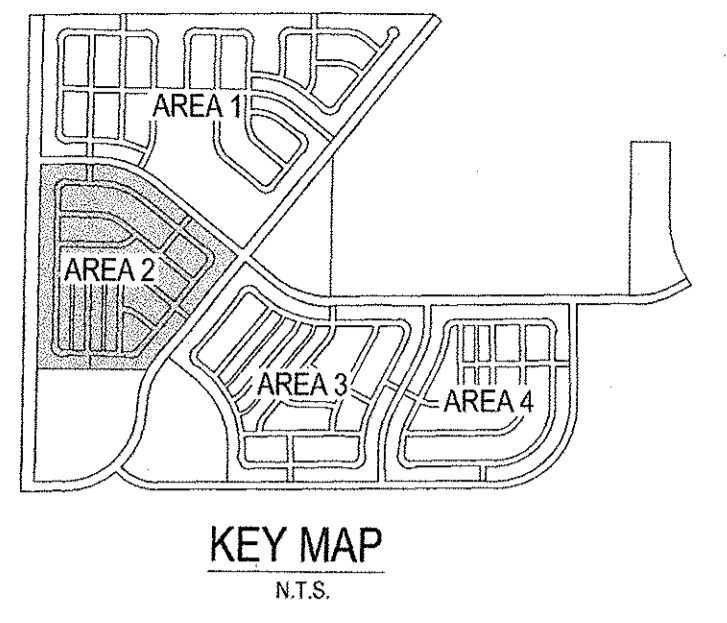
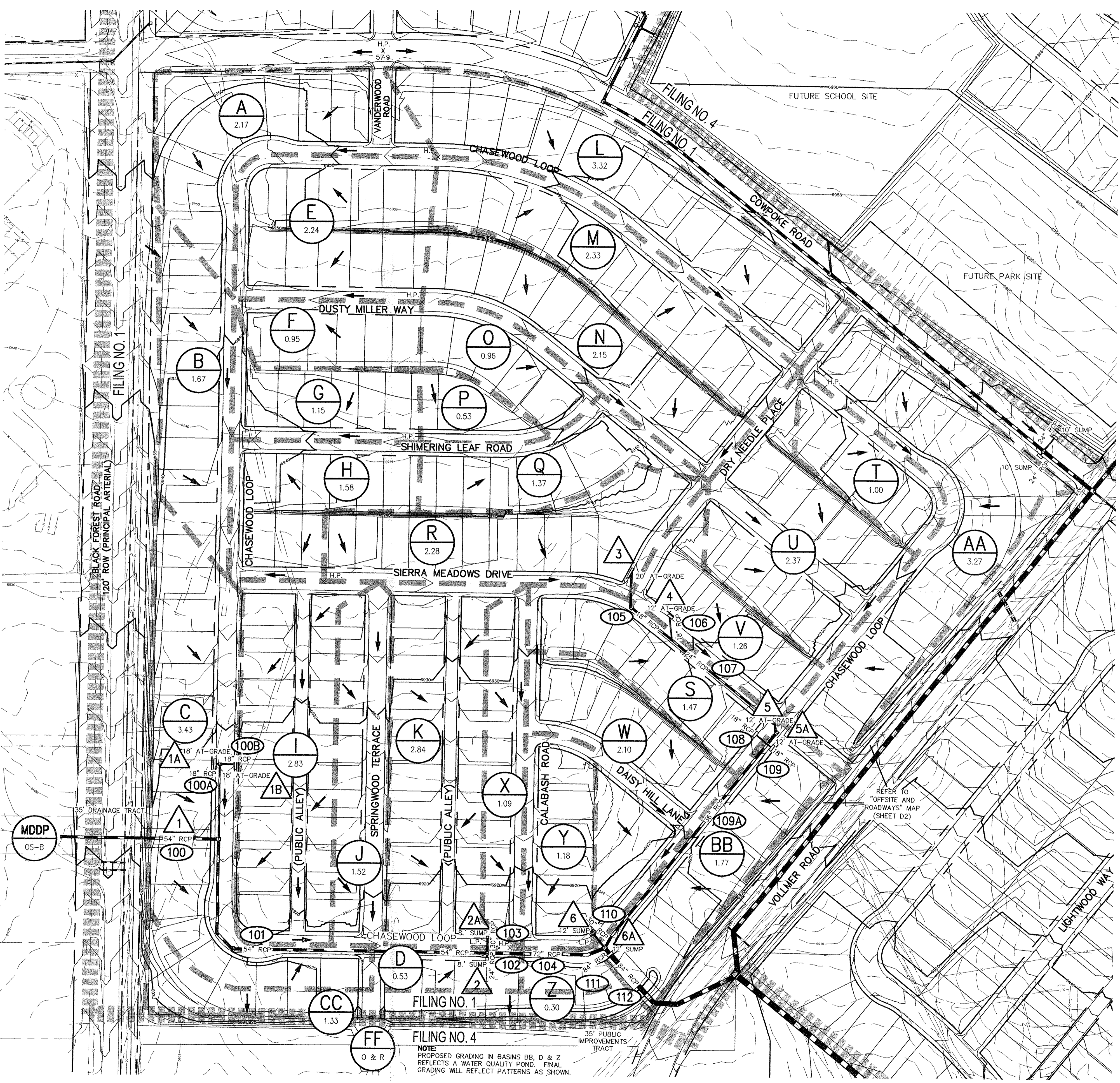
ENGINEERING AND SURVEYING INC.

15 NORTH NEVADA AVENUE
COLORADO SPRINGS, CO 80903
(719) 955-5485, FAX (719) 471-4812

FOREST MEADOWS - AREA 1
DRAINAGE MAP

PROJECT NO. 08-001 FILE: *\\dwg\Dev. Plan\08001 - Drainage Plan
DESIGNED BY: BES SCALE: DATE: 1/5/06
DRAWN BY: BVDP HORIZ: 1"=100'
CHECKED BY: VAS VERT: N/A

SHEET 2 OF 6 D2



DESIGN POINT SUMMARY

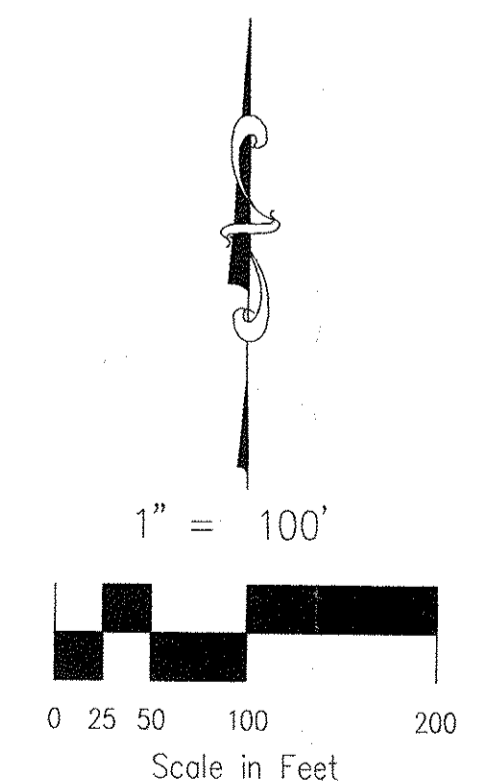
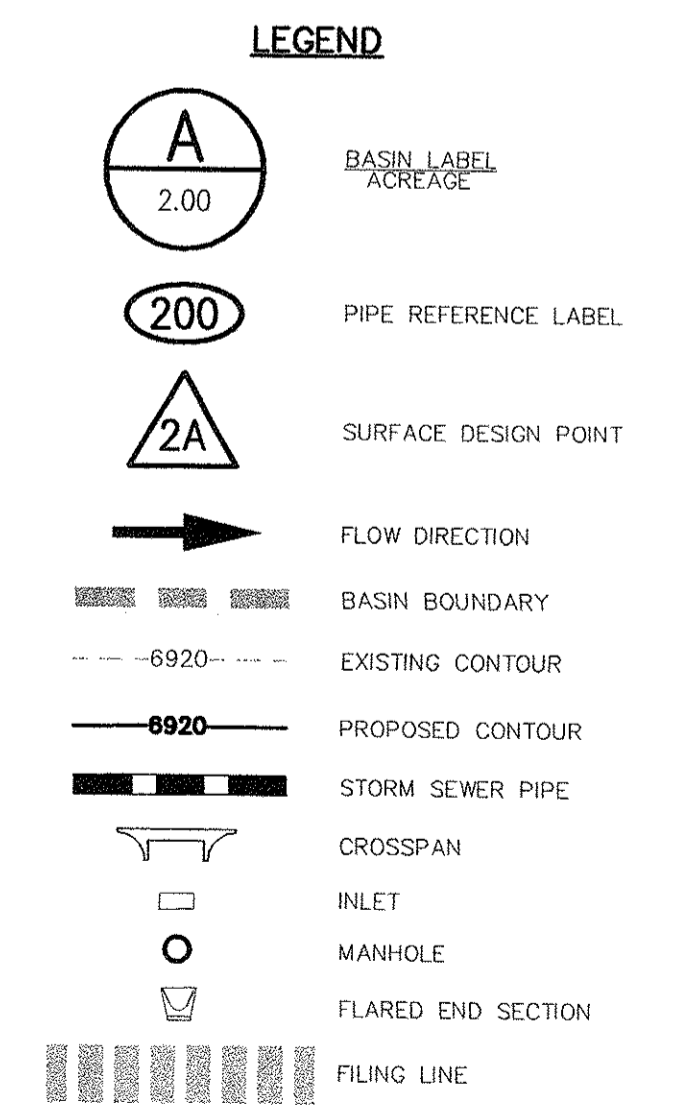
Design Point	Qs (c.f.s.)	Q100 (c.f.s.)	STRUCTURE
1A	11.4	23.8	18" D-10-R AT GRADE INLET
1B	15.5	32.3	18" D-10-R AT GRADE INLET
2	7.8	18.6	8" D-10-R SUMP INLET
2A	25.4	55.5	8" D-10-R SUMP INLET
3	21.7	45.9	20" D-10-R AT GRADE INLET
4	16.7	45.8	12" D-10-R AT GRADE INLET
5	28.7	70.3	12" D-10-R AT GRADE INLET
5A	7.1	14.8	12" D-10-R AT GRADE INLET
6	19.7	42.8	12" D-10-R SUMP INLET
6A	15.4	32.2	12" D-10-R SUMP INLET

STORM SEWER SUMMARY

PIPE RUN	Qs (c.f.s.)	Q100 (c.f.s.)	PIPE SIZE
100	41.0	96.0	54" RCP
100A	7.5	13.2	18" RCP
100B	6.7	17.9	18" RCP
100C	14.2	31.0	24" RCP
101	55.2	127.0	54" RCP
102	12.7	27.7	24" RCP
103	12.7	27.7	30" RCP
104	13.2	28.3	72" RCP
105	54.9	114.2	18" RCP
106	8.5	17.8	18" RCP
107	8.5	17.8	24" RCP
108	17.0	35.5	18" RCP
109	70.2	146.2	18" RCP
109A	94.2	196.7	36" RCP
110	16.8	36.0	30" RCP
111	124.1	212.6	84" RCP
112	140.9	248.6	84" RCP

BASIN SUMMARY

BASIN	AREA (Acres)	Qs (c.f.s.)	Q100 (c.f.s.)
A	2.2	4.8	10.0
B	1.7	3.7	7.8
C	3.4	7.4	15.4
D	0.5	1.4	2.9
E	2.2	5.1	10.7
F	1.0	2.3	4.7
G	1.2	2.8	5.8
H	1.6	3.7	7.7
I	2.8	6.7	13.9
J	1.5	3.9	8.2
K	2.8	6.7	14.0
L	3.3	7.2	15.1
M	2.3	5.2	10.8
N	2.2	4.8	10.0
O	1.0	2.2	4.7
P	0.5	1.2	2.6
Q	1.4	2.6	6.1
R	2.3	5.1	10.7
S	1.5	3.6	7.4
T	1.0	2.4	4.9
U	2.4	5.6	11.8
V	1.3	3.1	6.5
W	2.1	3.6	9.0
X	1.1	2.8	5.9
Y	1.2	2.9	6.0
Z	0.3	0.9	1.8
AA	3.3	7.1	14.8
BB	1.8	4.1	8.5
CC	1.3	3.6	7.5



NOTE: PROPOSED GRADING IN BASINS BB, D & Z REFLECTS A WATER QUALITY POND. FINAL GRADING WILL REFLECT PATTERNS AS SHOWN.

NOTE: PROPOSED CONTOURS PROVIDED BY NOLTE AND ASSOCIATES DATED 11/7/05

ENGINEERING AND SURVEYING INC.

FOREST MEADOWS - AREA 2

DRAINAGE MAP

PROJECT NO. 08-001 FILE: *\\dwg\Dev. Plan\08001 - Drainage Plan

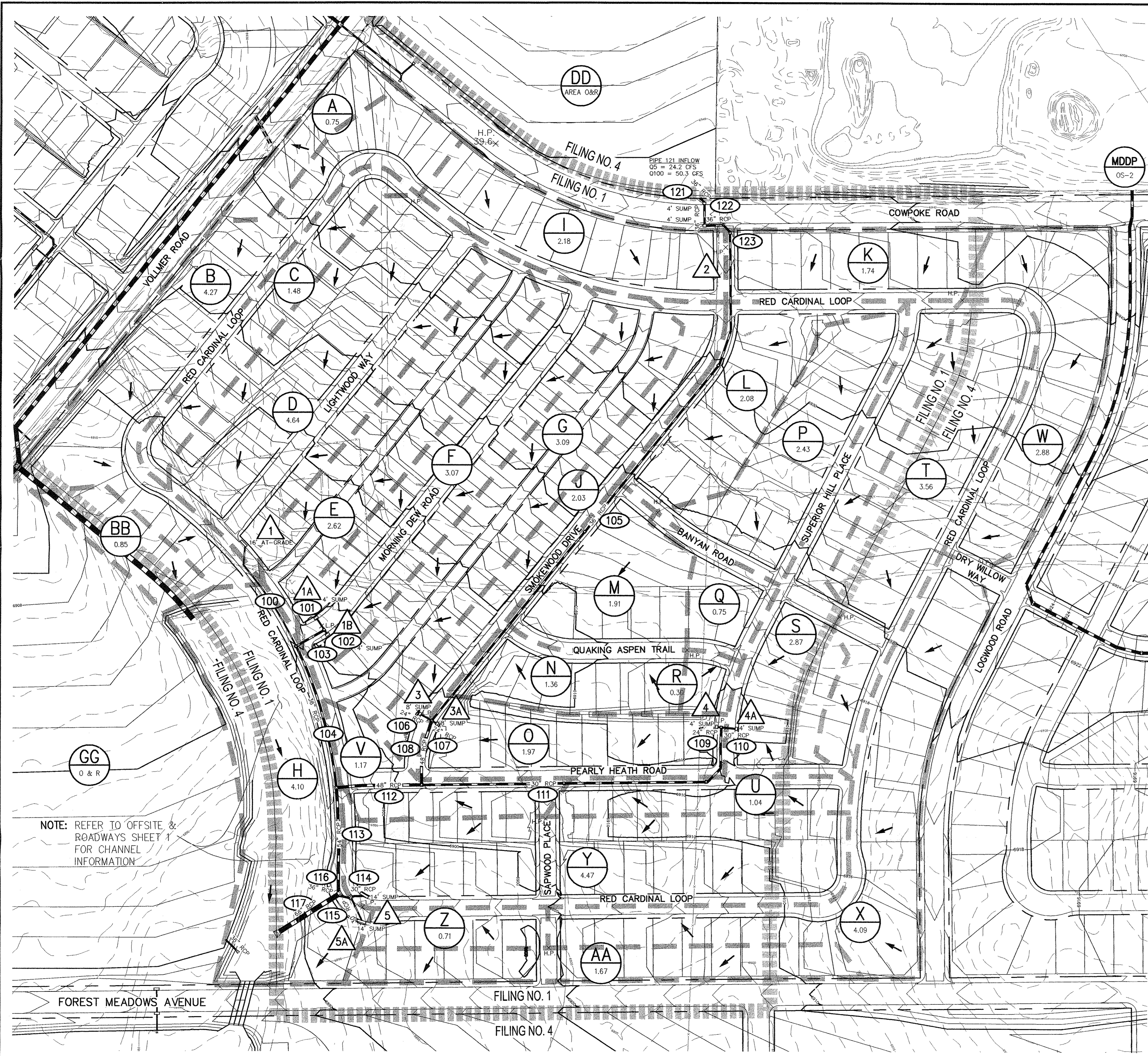
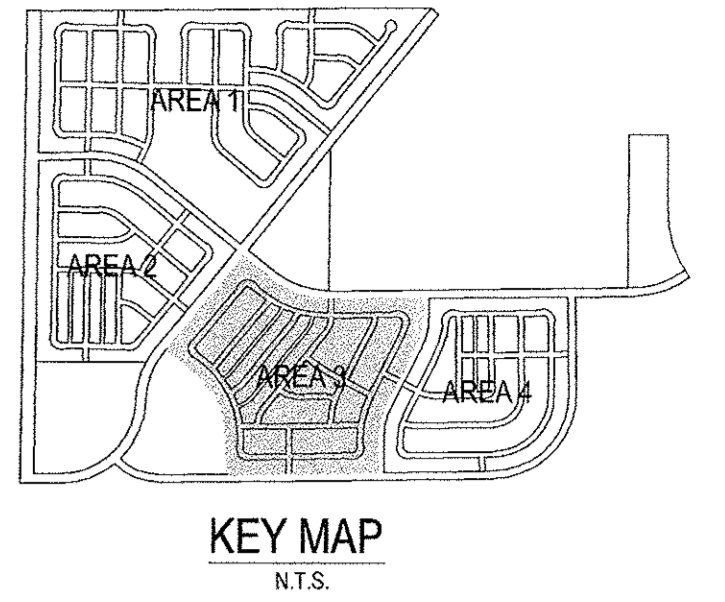
DESIGNED BY: BES SCALE DATE: 1/5/06

DRAWN BY: BVDP HORIZ: 1"=100'

CHECKED BY: VAS VERT: N/A

15 NORTH NEVADA AVENUE
 COLORADO SPRINGS, CO 80903
 (719) 955-5485, FAX (719) 471-4812

SHEET 3 OF 6 **D3**



DESIGN POINT SUMMARY

Design Point	Qs (c.f.s.)	Qmp (c.f.s.)	STRUCTURE
1	13.8	28.6	16' D-10-R AT GRADE INLET
1A	15.5	32.4	4' D-10-R SUMP INLET
1B	4.0	8.2	4' D-10-R SUMP INLET
3	8.7	18.2	8' D-10-R SUMP INLET
3A	18.2	39.3	8' D-10-R SUMP INLET
4	7.8	16.0	4' D-10-R SUMP INLET
4A	11.3	23.6	4' D-10-R SUMP INLET
5	21.7	45.5	14' D-10-R SUMP INLET
5A	20.5	42.8	14' D-10-R SUMP INLET

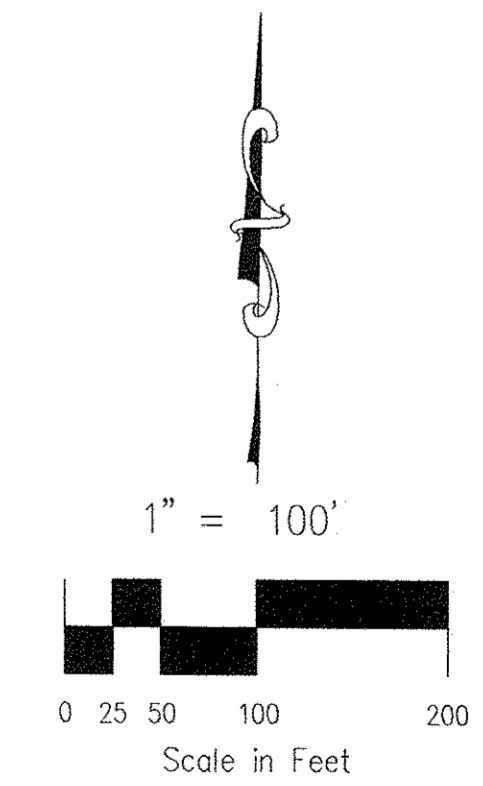
STORM SEWER SUMMARY

PIPE RUN	Qs (c.f.s.)	Qmp (c.f.s.)	PIPE SIZE
100	7.9	16.6	18" RCP
101	9.2	19.2	24" RCP
102	9.2	19.2	30" RCP
103	18.4	38.5	36" RCP
104	26.3	55.1	36" RCP
105	34.1	69.1	36" RCP
106	13.2	28.3	24" RCP
107	13.2	28.3	24" RCP
108	54.9	114.2	48" RCP
109	8.5	17.8	24" RCP
110	8.5	17.8	30" RCP
111	17.0	35.5	30" RCP
112	70.2	146.2	48" RCP
113	94.2	196.7	54" RCP
114	19.4	40.6	30" RCP
115	19.4	40.6	30" RCP
116	38.9	81.3	36" RCP
117	125.7	262.4	66" RCP

- LEGEND**
- BASIN LABEL
 - ACREAGE
 - PIPE REFERENCE LABEL
 - SURFACE DESIGN POINT
 - FLOW DIRECTION
 - BASIN BOUNDARY
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - STORM SEWER PIPE
 - CROSSSPAN
 - INLET
 - MANHOLE
 - FLARED END SECTION
 - FILING LINE

BASIN SUMMARY

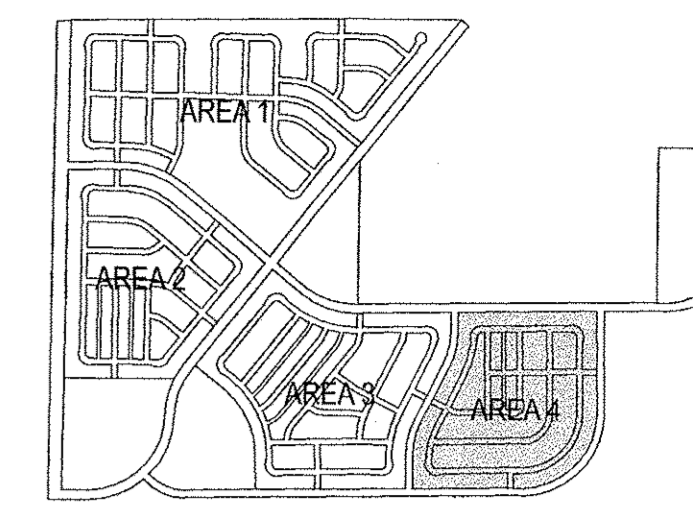
BASIN	AREA (Acres)	Qs (c.f.s.)	Qmp (c.f.s.)
A	0.8	1.8	3.9
B	4.3	8.9	18.7
C	1.5	3.8	7.9
D	4.6	10.5	21.7
E	2.6	6.8	14.0
F	3.1	7.9	16.5
G	3.1	7.8	16.2
H	4.1	2.5	6.0
I	2.2	4.8	10.0
J	2.0	5.1	10.7
K	1.7	3.9	8.2
L	2.1	4.9	10.3
M	1.9	3.0	7.6
N	1.4	3.3	6.8
O	2.0	4.6	9.6
P	2.4	5.5	11.5
Q	0.8	1.8	3.7
R	0.3	0.7	1.4
S	2.9	6.6	13.7
T	3.6	7.1	14.9
U	1.0	2.6	5.4
V	1.2	2.8	5.8
W	2.9	6.3	13.2
X	4.1	5.6	11.7
Y	4.5	9.2	19.2
Z	0.7	1.8	3.8
AA	1.7	3.9	8.1
BB	0.9	1.8	4.7



NOTE: REFER TO OFFSITE & ROADWAYS SHEET 1 FOR CHANNEL INFORMATION

NOTE: PROPOSED CONTOURS PROVIDED BY NOLTE AND ASSOCIATES DATED 11/7/05

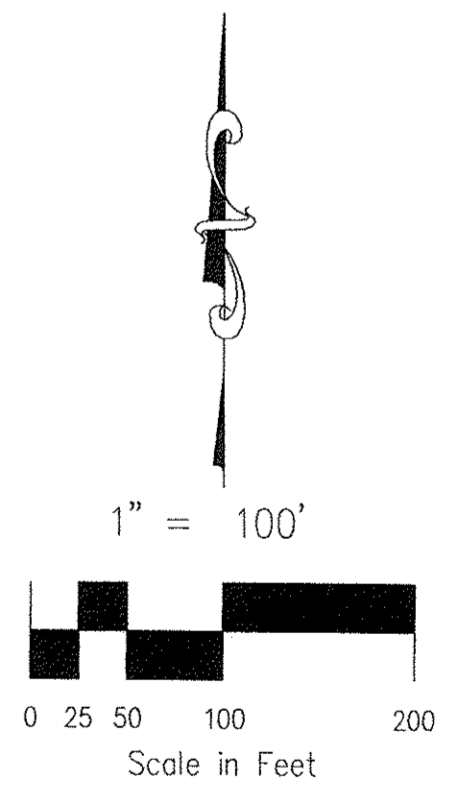
ENGINEERING AND SURVEYING INC. 15 NORTH NEVADA AVENUE COLORADO SPRINGS, CO 80903 (719) 955-5485, FAX (719) 471-4812		FOREST MEADOWS - AREA 3 DRAINAGE MAP	
		PROJECT NO. 08-001 DESIGNED BY: BES DRAWN BY: BVDP CHECKED BY: VAS	FILE: *\\dwg\Dev. Plan\08001 - Drainage Plan SCALE: HORIZ: 1"=100' VERT: N/A



KEY MAP
N.T.S.

LEGEND

- A BASIN LABEL
- 200 PIPE REFERENCE LABEL
- 2A SURFACE DESIGN POINT
- FLOW DIRECTION
- BASIN BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- STORM SEWER PIPE
- CROSSSPAN
- MANHOLE
- FLARED END SECTION
- FILING LINE



STORM SEWER SUMMARY

PIPE RUN	Q _s (c.f.s.)	Q _{max} (c.f.s.)	PIPE SIZE
100	108.0	305.0	66" RCP
101	12.9	28.3	18" RCP
102	120.9	333.3	72" RCP
103	133.8	361.6	72" RCP
104	146.5	387.9	72" RCP
105	159.3	414.1	72" RCP
106	17.4	36.3	30" RCP
107	34.9	72.7	36" RCP
108	194.2	486.8	72" RCP

BASIN SUMMARY

BASIN	AREA (Acres)	Q _s (c.f.s.)	Q _{max} (c.f.s.)
A	2.9	3.1	9.4
B	0.9	2.4	5.0
C	1.6	3.6	7.6
D	2.4	5.8	12.0
E	2.2	5.3	11.0
F	1.9	4.2	8.7
G	1.5	3.6	7.5
H	2.0	4.7	9.7
I	0.7	3.0	5.7
J	3.2	6.9	14.3
K	1.3	3.3	6.9
L	0.7	1.8	3.7
M	1.6	4.1	8.5
N	1.6	3.7	7.6
O	2.6	5.6	11.7
P	2.4	4.9	10.2
Q	4.9	9.5	19.8
R	3.2	6.9	14.4
S	0.6	1.7	3.5
T	3.3	7.5	15.5
U	0.9	2.2	4.6
V	2.2	5.0	10.5
W	0.8	2.0	4.2
X	2.2	5.0	10.5
Y	0.5	1.3	2.7

DESIGN POINT SUMMARY

Design Point	Q _s (c.f.s.)	Q _{max} (c.f.s.)	STRUCTURE
2	15.7	35.6	8' D-10-R SUMP INLET
2A	14.9	31.2	8' D-10-R SUMP INLET
3	13.8	14.8	8' D-10-R SUMP INLET
3A	12.1	25.2	8' D-10-R SUMP INLET
4	15.8	32.8	12' D-10-R SUMP INLET
4A	21.2	44.2	12' D-10-R SUMP INLET

ENGINEERING AND SURVEYING INC.

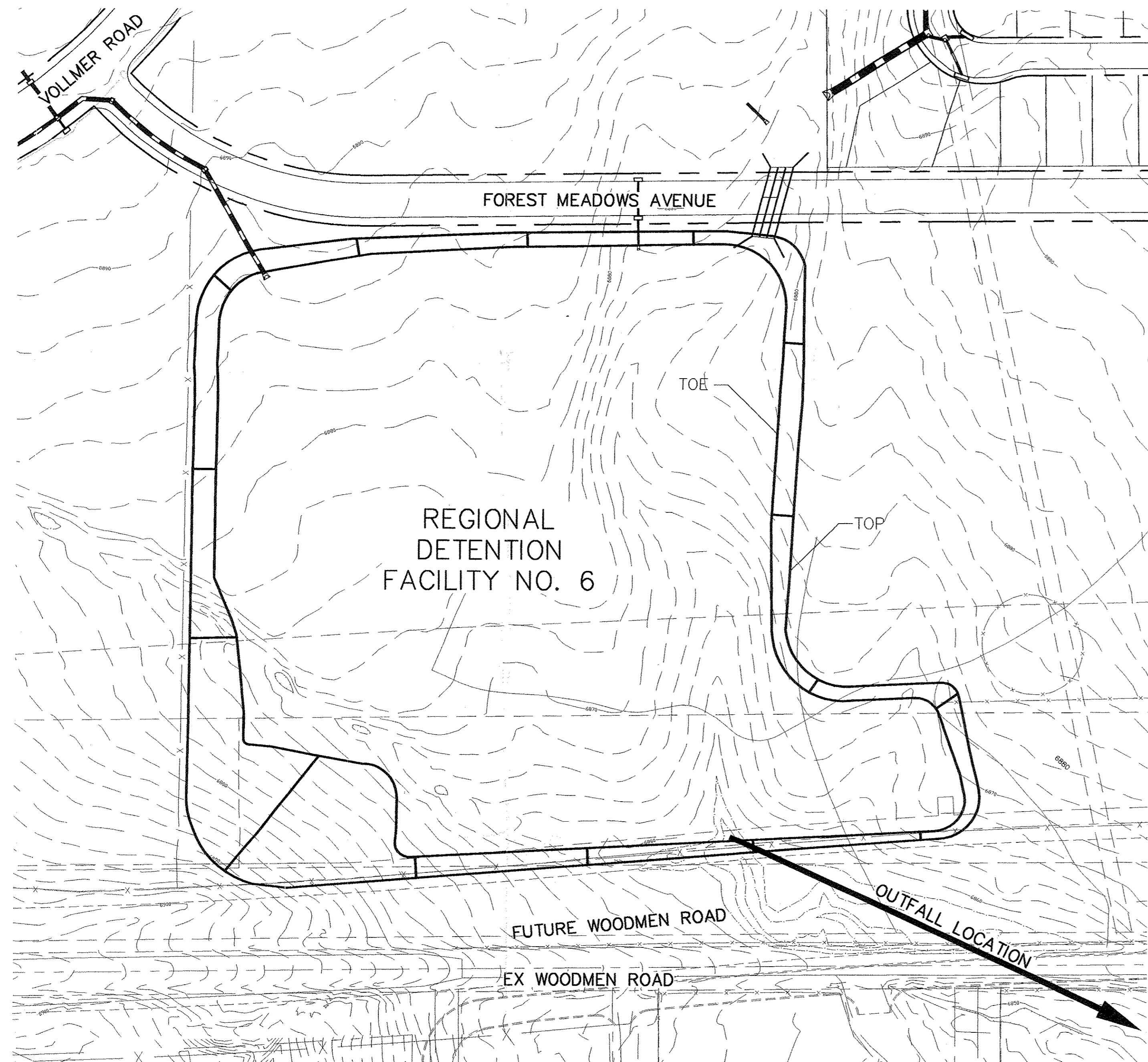
15 NORTH NEVADA AVENUE
COLORADO SPRINGS, CO 80903
(719) 955-5485, FAX (719) 471-4812

FOREST MEADOWS -- AREA 4

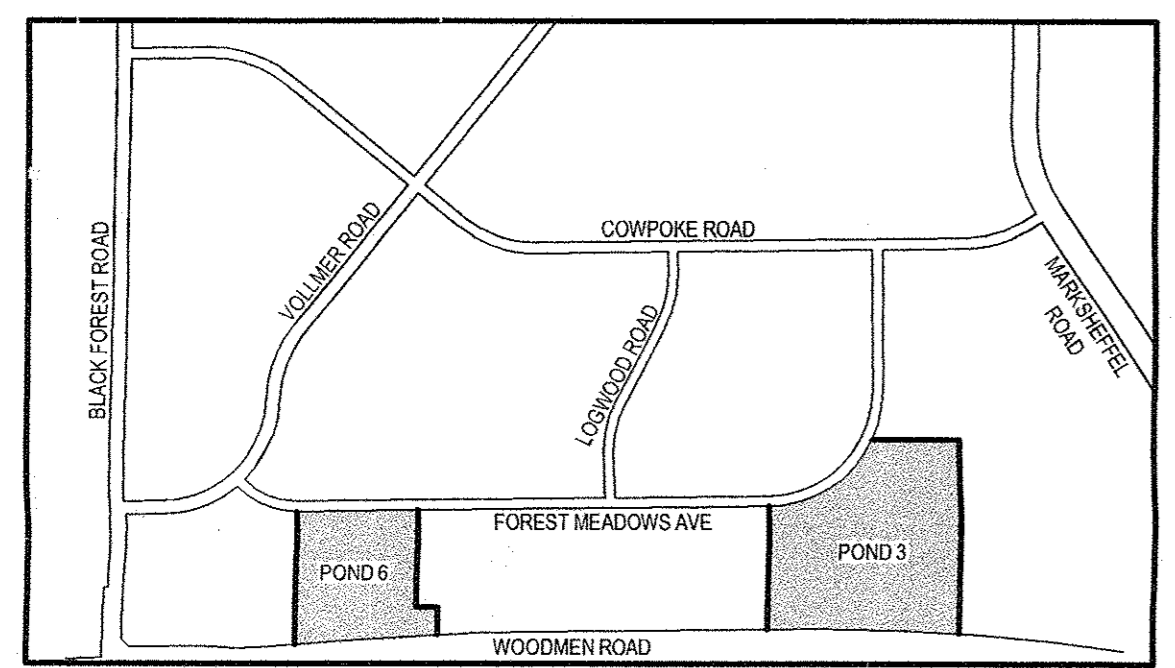
DRAINAGE MAP

PROJECT NO. 08-001	FILE: *\\dwg\Dev. Plan\08001 - Drainage Plan	
DESIGNED BY: BES	SCALE	DATE: 1/5/06
DRAWN BY: BVDP	HORIZ: 1"=100'	SHEET 5 OF 6
CHECKED BY: VAS	VERT: N/A	

D5

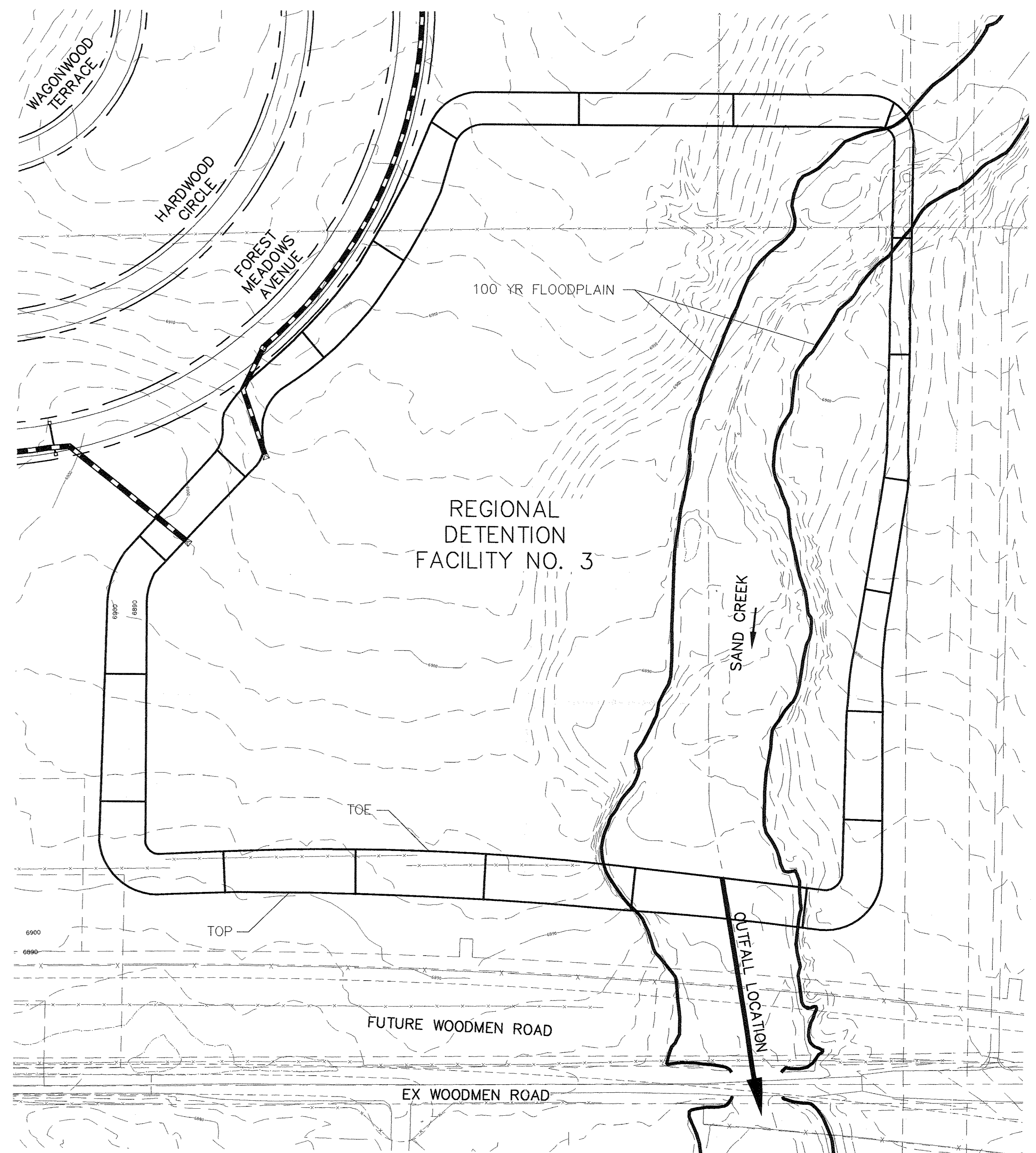


POND NO. 6 (100 YEAR)
 REQUIRED STORAGE VOLUME 87 AC-FT
 REQ'D WATER QUALITY CAPTURE VOLUME 17 AC-FT
 Q100 INFLOW 1811 CFS
 Q100 OUTFLOW 70 CFS

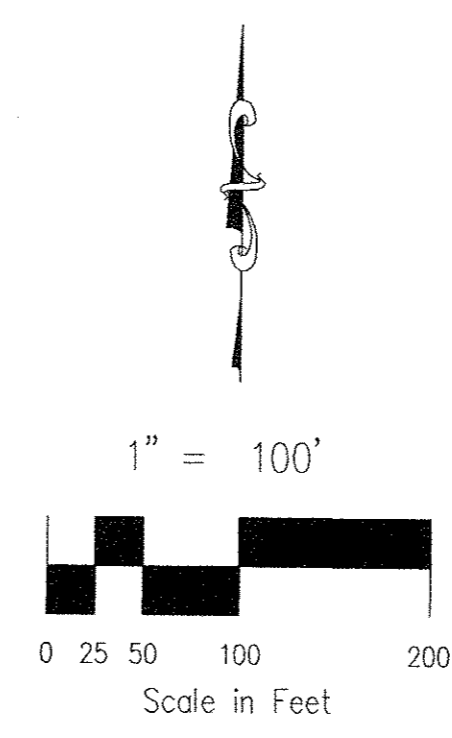


KEY MAP
 SCALE: NTS

NOTES:
 1. THESE ARE HIGHLY CONCEPTUAL SKETCHES OF THE FUTURE REGIONAL DETENTION POND FACILITIES. THE FINAL DESIGN CONSTRUCTION DOCUMENTS SHALL HAVE DETAILED GRADING AND STRUCTURE INFORMATION.
 2. REFER TO "POND CALCULATIONS" FOR ADDITIONAL HYDROLOGIC AND HYDRAULIC POND COMPUTATIONS/INFORMATION.



POND NO. 3 (100 YEAR)
 REQUIRED STORAGE VOLUME 209 AC-FT
 REQ'D WATER QUALITY CAPTURE VOLUME 28 AC-FT
 Q100 INFLOW 3207 CFS
 Q100 OUTFLOW 2240 CFS



ENGINEERING AND SURVEYING INC. 15 NORTH NEVADA AVENUE COLORADO SPRINGS, CO 80903 (719) 955-5485, FAX (719) 471-4812		FOREST MEADOWS -- POND NO.'S 3 & 6		
		DRAINAGE MAP		
PROJECT NO. 08-001	FILE: *\\dwg\Dev. Plan\08001 -- Drainage Plan	DESIGNED BY: BES	SCALE	DATE: 1/5/06
DRAWN BY: BVDP	HORIZ: 1"=100'	CHECKED BY: VAS	VERT: N/A	
			SHEET 6 OF 6	D6