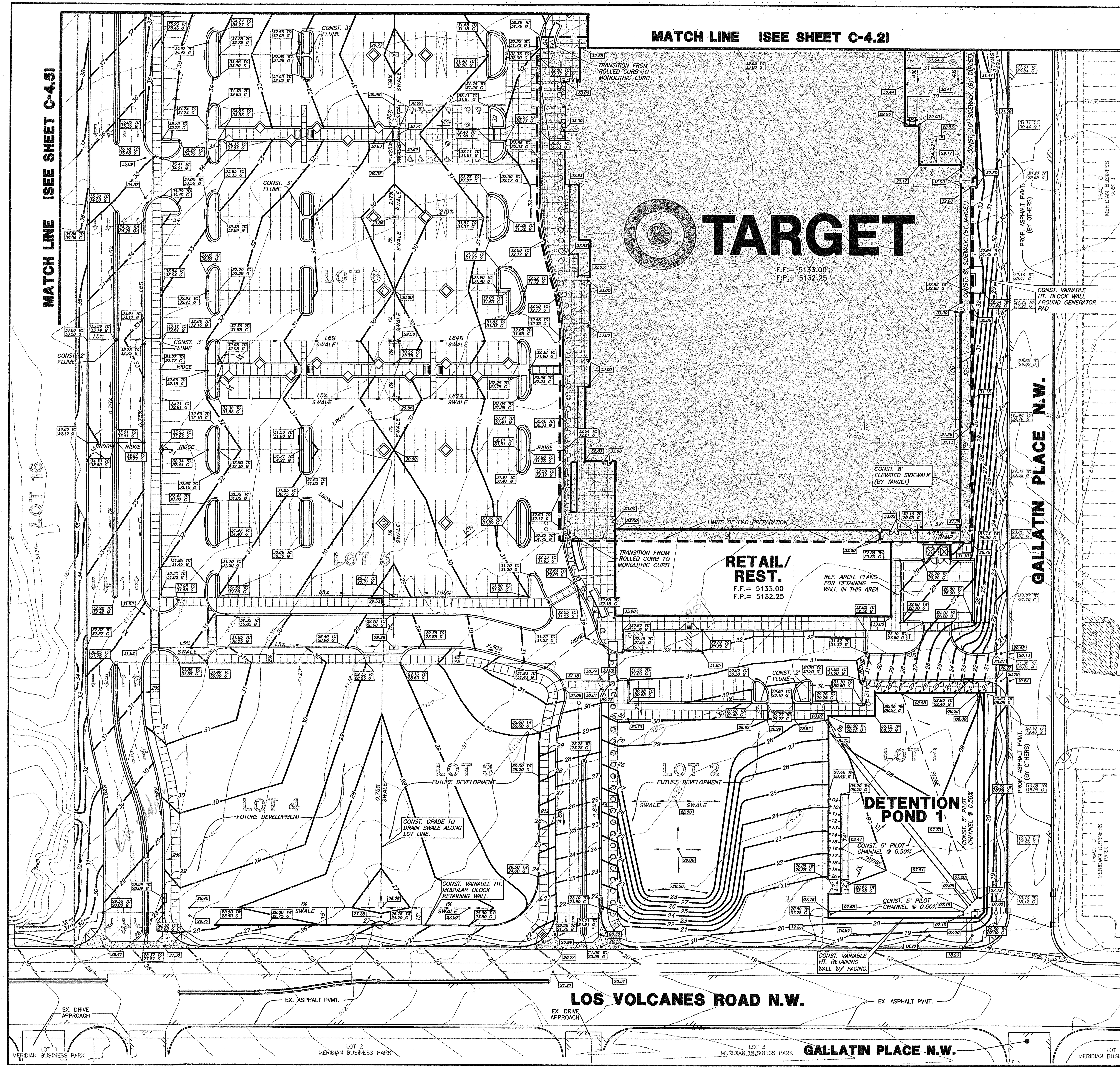

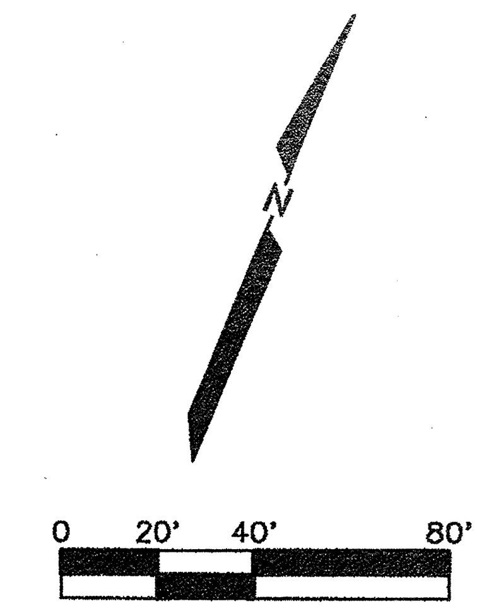

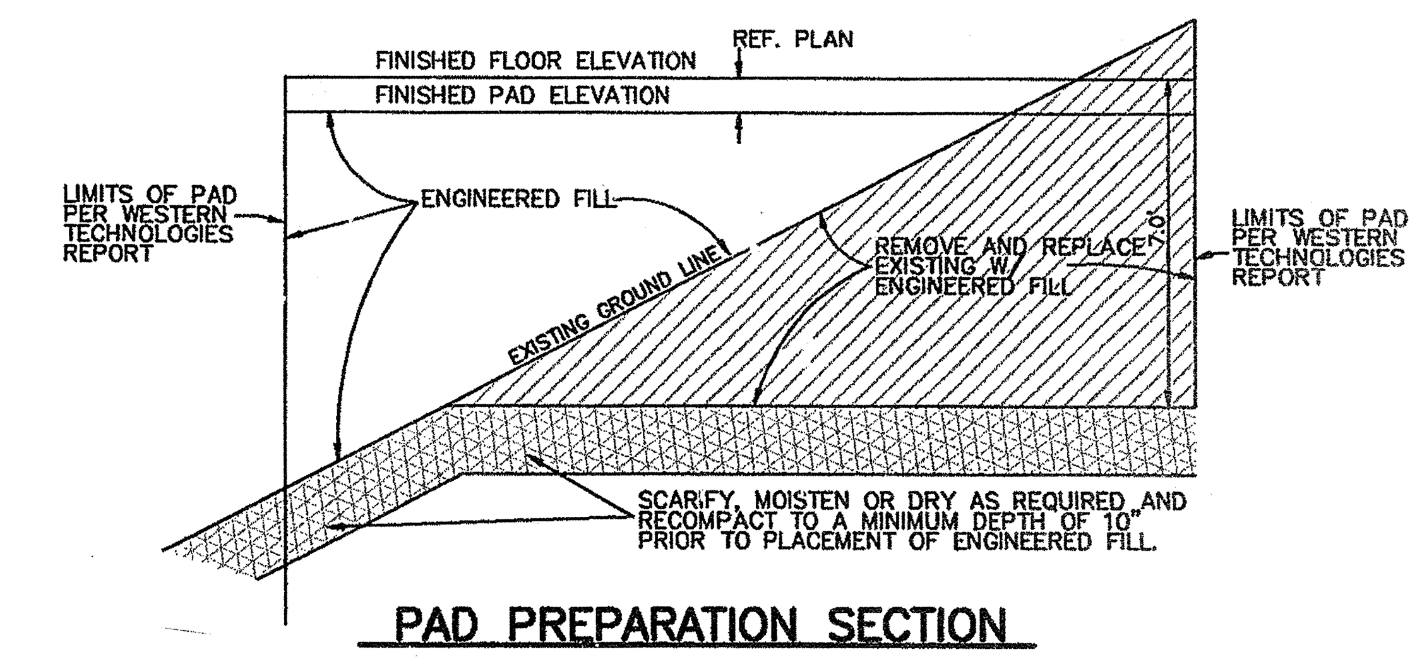

PAD PREPARATION SECTION

N.T.S.

PAD PREPARATION NOTE:

REFER TO WESTERN TECHNOLOGIES, INC. REPORT # 3227JJ212 FOR ADDITIONAL BUILDING PAD PREPARATION NOTES.

GENERAL NOTES

1. CONTRACTOR SHALL REMOVE & STOCK PILE TOPSOIL (4" TO 6" TYP.) PRIOR TO SITE EXCAVATION OR FILL PLACEMENT.
2. ALL AREAS TO RECEIVE FILL SHALL FIRST BE SCARIFIED TO A DEPTH OF 10 INCHES AND RECOMPACTED TO 95% AT ±3% OF OPTIMUM MOISTURE CONTENT PER GEOTECHNICAL REPORT BY WESTERN TECHNOLOGIES, INC., REPORT #3227JJ212.
3. FILL SHALL BE PLACED IN MAXIMUM 10" LOOSE LIFTS.
4. ALL COMPACTION TO BE MONITORED BY OWNER SUPPLIED GEOTECHNICAL CONSULTANT.
5. REF. GEOTECHNICAL REPORT PREPARED BY WESTERN TECHNOLOGIES, INC., REPORT # 3227JJ212 FOR ADDITIONAL EARTHWORK REQUIREMENTS.

LEGEND

- F.H. FIRE HYDRANT
- X SET CHISELED "X" SET
- F.X. CHISELED "X" FOUND
- F.I.R. IRON ROD FOUND (SIZE AS NOTED)
- S.I.R. IRON ROD SET (SIZE AS NOTED)
- PP OVERHEAD UTILITY POLE W/ GUY
- UE UT UNDERGROUND ELECTRIC OR TELEPHONE
- L.P. LIGHT POLE
- SSMH SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- TREE
- 542 EXIST. CONTOUR
- 44 PROP. CONTOUR
- 36 PROP. CONTOUR (BY OTHERS)
- 55.22 PROP. SPOT ELEV.
- 57.50 TC / 57.00 G PROP. TOP OF CURB & GUTTER ELEVATION
- 67.99 TC / 67.49 G PROP. TOP OF CURB & GUTTER ELEVATION (BY OTHERS)
- ACCESSIBLE ROUTE
- LIMITS OF TARGET BLDG. PAD PREPARATION

~55 ac

TARGET (T-2500) – ALBUQUERQUE WEST, NEW MEXICO

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas ★ Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

RECEIVED JUL 16 2008 HYDROLOGY SECTION

TITLE: GRADING PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048	MAP NO. J-9 & J-10	SHEET C-4.1

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

NORTHING:
EASTING:
ELEVATION:

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL

BRYAN M. BURGER NEW MEXICO 16364 LICENSED PROFESSIONAL ENGINEER 7/10/08

REVISIONS

NO.	DATE	REMARKS	BY

DESIGN		
DESIGNED BY BMB	DATE	8/20/07
DRAWN BY CAC	DATE	8/20/07
CHECKED BY BMB	DATE	8/20/07

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MATCH LINE (SEE SHEET C-4.3)

MATCH LINE (SEE SHEET C-4.4)

MATCH LINE (SEE SHEET C-4.5)

MATCH LINE (SEE SHEET C-4.1)

MATCH LINE (SEE SHEET C-4.1)

LOT 12

LOT 14

LOT 11

LOT 13

LOT 7

LOT 6

FUTURE DEVELOPMENT

TOWNE CROSSING AVE. N.W.

GALLATIN PLACE N.W.

DETENTION POND 2

RETAIL/ REST.
F.F.= 5135.75
F.P.= 5135.00

RETAIL/ REST.
F.F.= 5139.75
F.P.= 5139.00

RETAIL
F.F.= 5134.75
F.P.= 5134.00

RETAIL
F.F.= 5133.75
F.P.= 5133.00

PROP. ASPHALT PVMT. (W/ ROADWAY PLANS)

PROP. ASPHALT PAVEMENT (BY OTHERS)

CONST. 5' PILOT CHANNEL

CONST. 2' FLUME

TRACT C, MERIDIAN BUSINESS PARK II

SWALE

RIDGE

TURN DOWN CURB @ S.W.

0 20' 40' 80'

N

LEGEND

- F.H. FIRE HYDRANT
- X SET CHISELED "X" SET
- F.X. CHISELED "X" FOUND
- F.I.R. IRON ROD FOUND (SIZE AS NOTED)
- S.I.R. IRON ROD SET (SIZE AS NOTED)
- PP OVERHEAD UTILITY POLE W/ GUY
- UE UT UNDERGROUND ELECTRIC OR TELEPHONE
- L.P. LIGHT POLE
- SSMH SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- TREE
- 542 EXIST. CONTOUR
- 44 PROP. CONTOUR
- 36 PROP. CONTOUR (BY OTHERS)
- 55.27 PROP. SPOT ELEV.
- 57.50 TC / 57.00 G PROP. TOP OF CURB & GUTTER ELEVATION
- 67.99 TC / 67.49 G PROP. TOP OF CURB & GUTTER ELEVATION (BY OTHERS)
- ACCESSIBLE ROUTE
- LIMITS OF TARGET BLDG. PAD PREPARATION

REFER TO SHEET C-4.1 FOR GRADING GENERAL NOTES.

TARGET (T-2500) - ALBUQUERQUE WEST, NEW MEXICO

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas *Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: GRADING PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-4.2

RECEIVED
JUL 16 2008
HYDROLOGY SECTION

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

AS BUILT INFORMATION
CONTRACTOR
STAKED BY DATE
INSPECTORS INITIALS BY DATE
FIELD VERIFICATION BY DATE
CORRECTIONS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

SURVEY INFORMATION
FIELD NOTES BY DATE

ENGINEERS' SEAL
BRYAN M. BURGER NEW MEXICO 16384 REGISTERED PROFESSIONAL ENGINEER
7/15/08

NO.	DATE	REVISIONS / REMARKS	DESIGN BY	DESIGNED BY	DRAWN BY	CHECKED BY
				BMB	CAC	BMB
				DATE 8/20/07	DATE 8/20/07	DATE 8/20/07

NORTHING:
EASTING:
ELEVATION:

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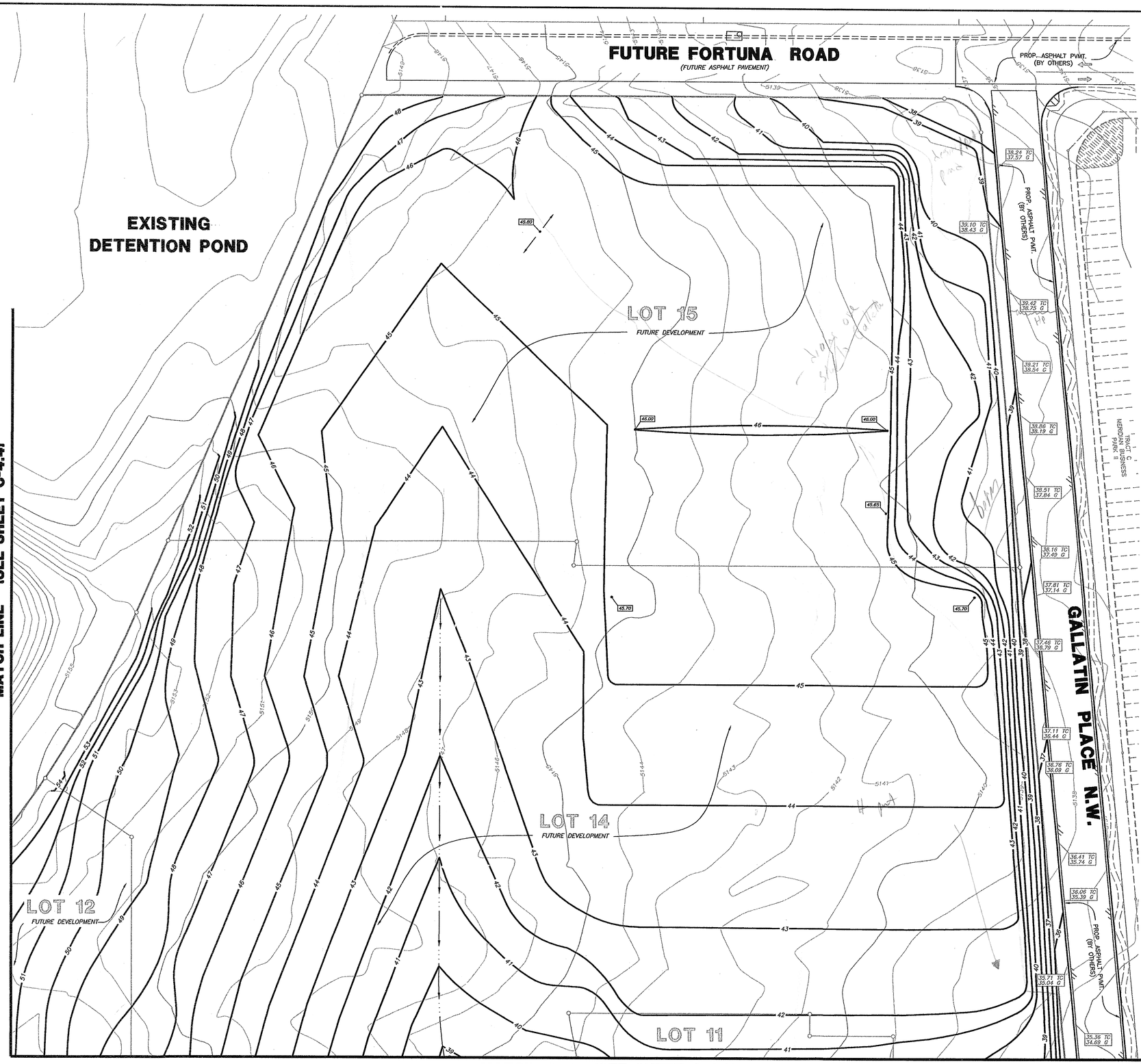

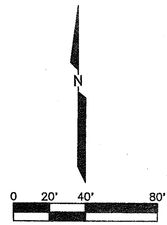

LEGEND

- F.H. FIRE HYDRANT
- X SET CHISELED "X" SET
- F.X. CHISELED "X" FOUND
- F.I.R. IRON ROD FOUND (SIZE AS NOTED)
- S.I.R. IRON ROD SET (SIZE AS NOTED)
- P P OVERHEAD UTILITY POLE W/ GUY
- U/E U/G T UNDERGROUND ELECTRIC OR TELEPHONE
- L.P. LIGHT POLE
- S.S.M.H. SANITARY SEWER MANHOLE
- C.O. SAN. SWR. CLEAN OUT
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- ACCESSIBLE ROUTE

REFER TO SHEET C-4.1 FOR GRADING GENERAL NOTES.

TARGET (T-2500) - ALBUQUERQUE WEST, NEW MEXICO

AS BUILT INFORMATION
CONTRACTOR DATE
STAKED BY DATE
INSPECTION & ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
CORRECTIONS CORRECTED BY DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

NORTHING:
EASTING:
ELEVATION:

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL
BRYAN M. BURGER NEW MEXICO 13554 REGISTERED PROFESSIONAL ENGINEER

REVISIONS

NO.	REMARKS	BY	DATE
	DESIGN	BMB	8/20/07
	DESIGNED BY	BMB	
	DRAWN BY	CAC	DATE 8/20/07
	CHECKED BY	BMB	DATE 8/20/07

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas *Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: GRADING PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-4.3

RECEIVED JUL 16 2008 HYDROLOGY SECTION

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

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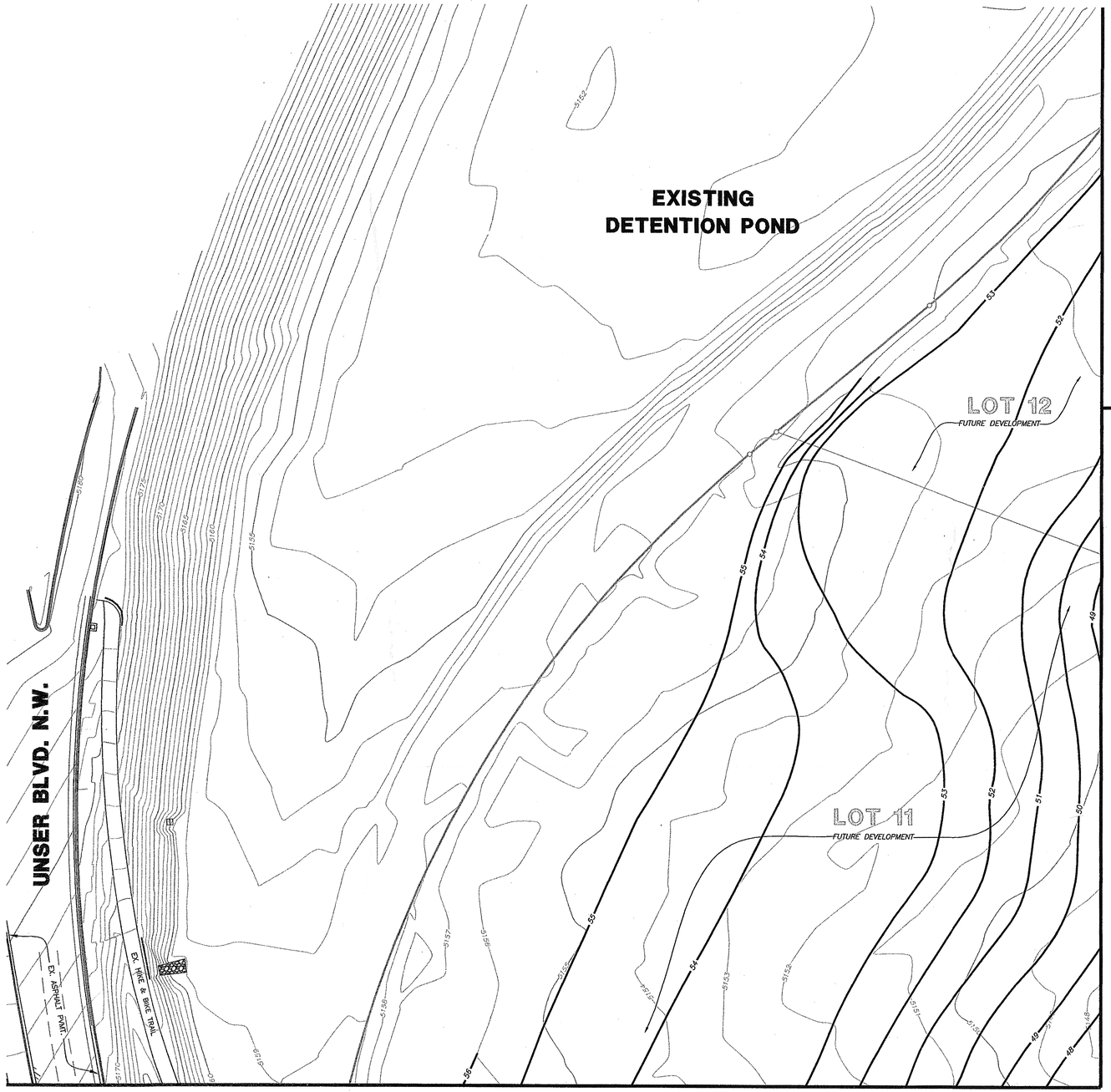

N

0 20' 40' 80'

LEGEND

- F.H. FIRE HYDRANT
- CHISELED "X" SET
- F.X. CHISELED "X" FOUND
- F.I.R. IRON ROD FOUND (SIZE AS NOTED)
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- C.O. SAN. SWR. CLEAN OUT
- G.V. GAS VALVE
- W.V. WATER VALVE
- 912 TREE
- 5142 EXIST. CONTOUR
- 44 PROP. CONTOUR
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- 57.50 TC 57.00 G PROP. TOP OF CURB & GUTTER ELEVATION
- 57.99 TC 57.49 G PROP. TOP OF CURB & GUTTER ELEVATION (BY OTHERS)
- ACCESSIBLE ROUTE

REFER TO SHEET C-4.1 FOR GRADING GENERAL NOTES.

TARGET (T-2500) - ALBUQUERQUE WEST, NEW MEXICO

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas *Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

AS BUILT INFORMATION

CONTRACTOR
STAKED BY DATE
INSPECTORS DATE
FIELD VERIFICATION BY DATE
CORRECTED BY DATE

MICRO-FILM INFORMATION

RECORDED BY DATE
NO.

BENCH MARKS

1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

NORTHING:
EASTING:
ELEVATION:

ENGINEERS SEAL
BRYAN M. BURGER
NEW MEXICO
16654
REGISTERED PROFESSIONAL ENGINEER
7/15/08

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY BMB	DATE 8/20/07
		DRAWN BY CAC	DATE 8/20/07
		CHECKED BY BMB	DATE 8/20/07

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: GRADING PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-4.4

RECEIVED
JUL 16 2008
HYDROLOGY SECTION

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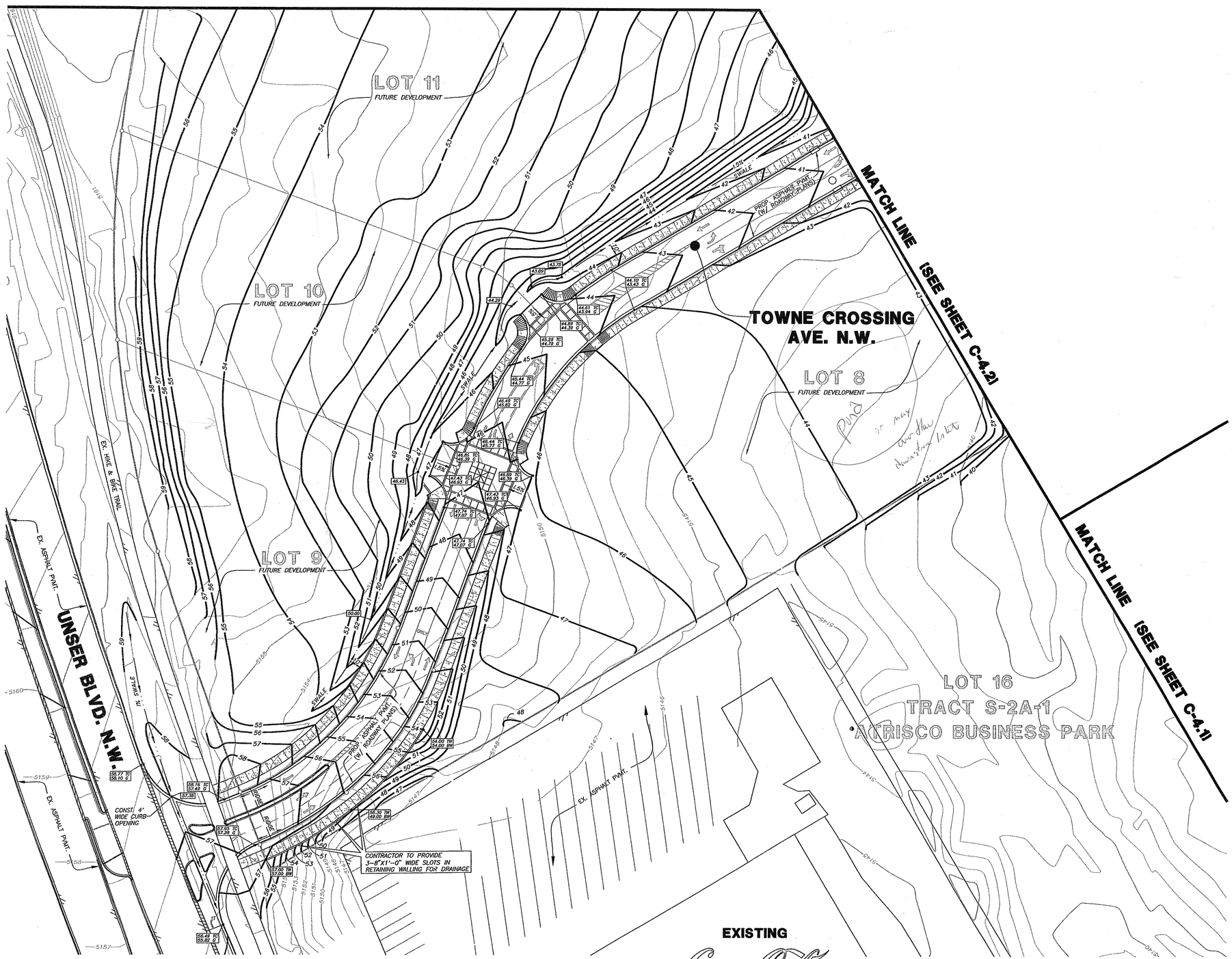

N

0 20' 40' 80'

LEGEND

- F.H. FIRE HYDRANT
- X. SET CHISELED "X" SET
- F.X. CHISELED "X" FOUND
- F.I.R. IRON ROD FOUND (SIZE AS NOTED)
- S.I.R. IRON ROD SET (SIZE AS NOTED)
- PP OVERHEAD UTILITY POLE W/ GUY
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- 55.22 PROP. SPOT ELEV.
- 57.50 TC / 57.00 G PROP. TOP OF CURB & GUTTER ELEVATION
- 57.00 TC / 57.50 G PROP. TOP OF CURB & GUTTER ELEVATION (BY OTHERS)
- ACCESSIBLE ROUTE

REFER TO SHEET C-4.1 FOR GRADING GENERAL NOTES.

TARGET (T-2500) - ALBUQUERQUE WEST, NEW MEXICO

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas*Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: GRADING PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO.	MAP NO.	SHEET
26048	J-9 & J-10	C-4.5

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

AS BUILT INFORMATION
CONTRACTOR
STAKED BY DATE
INSPECTORS NOTED CHANGES BY DATE
FIELD VERIFICATION BY DATE
CORRECTED BY DATE

MICRO-FILM INFORMATION
NORTHING: RECORDED BY DATE
EASTING: NO.
ELEVATION:

ENGINEERS SEAL
BRYAN M. BURGER
NEW MEXICO
16354
PROFESSIONAL ENGINEER
7/15/08

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
DESIGNED BY		BMB	DATE 8/20/07
DRAWN BY		CAC	DATE 8/20/07
CHECKED BY		BMB	DATE 8/20/07

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

JUL 16 2008
HYDROLOGY SECTION

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UNSER BOULEVARD N.W.

LOS VOLCANES ROAD N.W.

TOWNE CROSSING AVENUE N.W.

GALLATIN PLACE N.W.

PORTAL ROAD N.W.

EXISTING
Coca-Cola
OFFICE & DISTRIBUTION CENTER

EXISTING DETENTION POND

EXISTING DETENTION POND

EXISTING DETENTION POND

TARGET

DETENTION POND 1

DETENTION POND 2

FUTURE
FedEx
Freight
SERVICE & DISTRIBUTION CENTER

FUT. RETAIL/ REST.

FUT. RETAIL

RETAIL/ REST.

RETAIL

FUTURE DEVELOPMENT

0 50' 100' 200'

LEGEND

- EXIST. CONTOUR
- PROP. CONTOUR
- PROP. DRAINAGE DIVIDE
- D 7.91 / 0.67 — DRAINAGE AREA NO. Q_{100} (CFS) AREA (ACRES)
- EXIST. STORM
- EXIST. STORM (BY OTHERS)
- PROP. STORM
- FUTURE STORM
- DIRECTION OF FLOW

TARGET (T-2500) –
ALBUQUERQUE WEST, NEW MEXICO

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

BENCH MARKS

1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

NORTHING:
EASTING:
ELEVATION:

AS BUILT INFORMATION

CONTRACTOR

WORK DONE BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
AS-BUILT VERIFICATION BY — DATE
COMPILED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

ENGINEERS SEAL

BRYAN M. BURGER
NEW MEXICO
16354
REGISTERED PROFESSIONAL ENGINEER
7/15/08

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	BMB
		DESIGNED BY	BMB
		DRAWN BY	CAC
		CHECKED BY	BMB
		DATE	8/20/07
		DATE	8/20/07
		DATE	8/20/07

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

RECEIVED
JUL 16 2008
HYDROLOGY SECTION

TITLE: DRAINAGE AREA MAP
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-5.1

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

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PROPOSED HYDRAULIC DATA SYSTEM A

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
A1	0.06	0.86	4.70	0.24	SHEET FLOW TO FUTURE SINGLE C INLET
A2	0.30	0.86	4.70	1.21	SHEET FLOW TO FUTURE SINGLE C INLET
A3	0.89	0.86	4.70	3.60	SHEET FLOW TO FUTURE SINGLE C INLET
A4	0.02	0.86	4.70	0.08	SHEET FLOW TO FUTURE SINGLE D INLET
A5	0.88	0.86	4.70	3.56	SHEET FLOW TO FUTURE SINGLE C INLET
A6	2.17	0.86	4.70	8.77	SHEET FLOW TO DOUBLE D INLET
A7	0.06	0.43	4.70	0.12	SHEET FLOW TO FUTURE SINGLE C INLET
A8	0.40	0.86	4.70	1.62	SHEET FLOW TO FUTURE SINGLE C INLET
A9	0.33	0.86	4.70	1.33	SHEET FLOW TO FUTURE SINGLE C INLET
A10	0.53	0.86	4.70	2.14	SHEET FLOW TO ROOF DRAINS
A11	1.17	0.86	4.70	4.73	SHEET FLOW TO ROOF DRAINS
A12	0.69	0.86	4.70	2.79	SHEET FLOW TO ROOF DRAINS
A13	1.28	0.86	4.70	5.17	SHEET FLOW TO DOUBLE C INLET
A14	0.32	0.86	4.70	1.29	DETENTION POND
A15	0.45	0.86	4.70	1.82	SHEET FLOW TO FUTURE SINGLE C INLET
TOTAL	9.55	–	–	38.47	–

PROPOSED HYDRAULIC DATA SYSTEM B

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
B1	0.21	0.43	4.70	0.42	SHEET FLOW TO DOUBLE D INLET
B2	1.40	0.86	4.70	5.66	SHEET FLOW TO DOUBLE D INLET
B3	0.03	0.86	4.70	0.12	SHEET FLOW TO FUTURE SINGLE D INLET
B4	0.20	0.43	4.70	0.40	SHEET FLOW TO FUTURE SINGLE C INLET
B5	0.81	0.86	4.70	3.27	SHEET FLOW TO FUTURE SINGLE C INLET
B6	0.04	0.86	4.70	0.16	SHEET FLOW TO FUTURE SINGLE D INLET
B7	0.20	0.43	4.70	0.40	SHEET FLOW TO FUTURE SINGLE C INLET
B8	0.57	0.86	4.70	2.30	SHEET FLOW TO FUTURE SINGLE C INLET
B9	0.33	0.43	4.70	0.67	SHEET FLOW TO FUTURE SINGLE C INLET
B10	0.64	0.86	4.70	2.59	SHEET FLOW TO FUTURE SINGLE C INLET
B11	0.17	0.43	4.70	0.34	SHEET FLOW TO FUTURE SINGLE C INLET
B12	0.14	0.86	4.70	0.57	SHEET FLOW TO FUTURE SINGLE C INLET
B13	0.13	0.43	4.70	0.26	SHEET FLOW TO FUTURE SINGLE C INLET
B14	0.15	0.86	4.70	0.61	SHEET FLOW TO FUTURE SINGLE C INLET
B15	0.13	0.43	4.70	0.26	SHEET FLOW TO DOUBLE C INLET
B16	1.61	0.86	4.70	6.51	SHEET FLOW TO DOUBLE C INLET
B17	2.02	0.86	4.70	8.16	SHEET FLOW TO DOUBLE C INLET
B18	1.18	0.86	4.70	4.77	SHEET FLOW TO DOUBLE C INLET
B19	0.17	0.86	4.70	0.69	SHEET FLOW TO FUTURE SINGLE C INLET
B20	0.67	0.86	4.70	2.71	SHEET FLOW TO FUTURE SINGLE C INLET
B21	0.23	0.86	4.70	0.93	SHEET FLOW TO FUTURE SINGLE C INLET
B22	0.03	0.43	4.70	0.06	SHEET FLOW TO FUTURE AREA DRAIN
B23	0.03	0.43	4.70	0.06	SHEET FLOW TO FUTURE SINGLE D INLET
B24	1.01	0.86	4.70	4.08	SHEET FLOW TO FUTURE SINGLE D INLET
B25	1.69	0.86	4.70	6.83	SHEET FLOW TO DOUBLE C INLET
B26	0.74	0.86	4.70	2.99	SHEET FLOW TO SINGLE C INLET
TOTAL	14.53	–	–	55.82	–

PROPOSED HYDRAULIC DATA SYSTEM C

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
C1	0.50	0.43	4.70	1.01	SHEET FLOW TO FUTURE DROP INLET
C2	0.28	0.43	4.70	0.57	SHEET FLOW TO FUTURE DROP INLET
C3	0.09	0.43	4.70	0.18	SHEET FLOW TO FUTURE SINGLE C INLET
C4	0.28	0.86	4.70	1.13	SHEET FLOW TO FUTURE SINGLE C INLET
C5	0.10	0.43	4.70	0.20	SHEET FLOW TO FUTURE SINGLE C INLET
C6	0.22	0.86	4.70	0.89	SHEET FLOW TO FUTURE SINGLE C INLET
C7	0.18	0.86	4.70	0.73	SHEET FLOW TO FUTURE SINGLE C INLET
C8	0.15	0.86	4.70	0.61	SHEET FLOW TO FUTURE SINGLE C INLET
C9	0.10	0.86	4.70	0.40	SHEET FLOW TO FUTURE SINGLE C INLET
C10	0.26	0.86	4.70	1.05	SHEET FLOW TO FUTURE SINGLE C INLET
C11	0.14	0.43	4.70	0.28	SHEET FLOW TO FUTURE SINGLE C INLET
C12	0.42	0.86	4.70	1.70	SHEET FLOW TO FUTURE SINGLE C INLET
C13	0.02	0.86	4.70	0.08	SHEET FLOW TO FUTURE SINGLE D INLET
C14	0.20	0.43	4.70	0.40	SHEET FLOW TO FUTURE SINGLE C INLET
C15	0.93	0.86	4.70	3.76	SHEET FLOW TO FUTURE SINGLE C INLET
C16	0.19	0.86	4.70	0.77	SHEET FLOW TO FUTURE SINGLE D INLET
C17	0.11	0.86	4.70	0.44	SHEET FLOW TO FUTURE SINGLE C INLET
C18	0.15	0.86	4.70	0.61	SHEET FLOW TO FUTURE SINGLE D INLET
C19	0.16	0.86	4.70	0.65	SHEET FLOW TO FUTURE SINGLE D INLET
C20	0.26	0.86	4.70	1.05	SHEET FLOW TO SINGLE C INLET IN TOWN CROSSING AVENUE
C21	0.24	0.86	4.70	0.97	SHEET FLOW TO SINGLE C INLET IN TOWN CROSSING AVENUE
C22	0.10	0.86	4.70	0.40	SHEET FLOW TO FUTURE SINGLE C INLET
C23	0.62	0.86	4.70	2.50	SHEET FLOW TO SINGLE C INLET
C24	0.65	0.86	4.70	2.63	SHEET FLOW TO SINGLE C INLET
C25	0.74	0.86	4.70	2.99	SHEET FLOW TO FUTURE SINGLE C INLET
C26	1.23	0.86	4.70	4.97	SHEET FLOW TO FUTURE SINGLE C INLET
C27	0.59	0.86	4.70	2.38	SHEET FLOW TO SINGLE C INLET IN TOWN CROSSING AVENUE
C28	0.43	0.86	4.70	1.74	FUTURE ROOF / AREA DRAINS
TOTAL	9.34	–	–	35.09	–

PROPOSED HYDRAULIC DATA SYSTEM D

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
D1	0.90	0.86	4.70	3.64	SHEET FLOW TO FUTURE DOUBLE C INLET
D2	0.14	0.86	4.70	0.57	SHEET FLOW TO FUTURE SINGLE C INLET
D3	0.24	0.86	4.70	0.97	SHEET FLOW TO SINGLE C INLET
D4	0.39	0.86	4.70	1.58	SHEET FLOW TO SINGLE D INLET
D5	1.90	0.86	4.70	7.68	SHEET FLOW TO DOUBLE D INLET
D6	1.36	0.86	4.70	5.50	SHEET FLOW TO DOUBLE D INLET
D7	0.88	0.43	4.70	1.78	SHEET FLOW FROM OFF-SITE TO DOUBLE D INLET
D8	1.65	0.86	4.70	6.67	SHEET FLOW TO DOUBLE D INLET
D9	0.86	0.43	4.70	1.74	SHEET FLOW FROM OFF-SITE TO DOUBLE D INLET
D10	0.94	0.86	4.70	3.80	SHEET FLOW TO DOUBLE D INLET
D11	0.61	0.86	4.70	2.47	SHEET FLOW TO DOUBLE D INLET
D12	0.26	0.43	4.70	0.53	SHEET FLOW FROM OFF-SITE TO DOUBLE D INLET
D13	0.76	0.86	4.70	3.07	SHEET FLOW TO DOUBLE D INLET
D14	1.17	0.86	4.70	4.73	SHEET FLOW TO DOUBLE C INLET
TOTAL	12.06	–	–	44.73	–

PROPOSED HYDRAULIC DATA SYSTEM E

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
E1	0.08	0.43	4.70	0.16	SHEET FLOW FROM OFF-SITE TO SINGLE C INLET
E2	0.32	0.86	4.70	1.29	SHEET FLOW TO SINGLE C INLET
E3	0.34	0.86	4.70	1.37	SHEET FLOW TO SINGLE C INLET
E4	1.36	0.86	4.70	5.50	SHEET FLOW TO DOUBLE D INLET
E5	0.36	0.86	4.70	1.45	SHEET FLOW TO SINGLE C INLET
E6	1.38	0.86	4.70	5.50	SHEET FLOW TO FUTURE DOUBLE C INLET
TOTAL	3.84	–	–	15.27	–

PROPOSED HYDRAULIC DATA SYSTEM F

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
F1	1.45	0.86	4.70	5.86	SHEET FLOW TO DOUBLE C INLET
F2	0.12	0.43	4.70	0.24	SHEET FLOW TO DROP INLET
F3	0.10	0.86	4.70	0.40	SHEET FLOW TO SINGLE D INLET
F4	1.01	0.86	4.70	4.08	SHEET FLOW TO ROOF DRAIN
F5	1.01	0.86	4.70	4.08	SHEET FLOW TO ROOF DRAIN
F6	1.01	0.86	4.70	4.08	SHEET FLOW TO ROOF DRAIN
F7	0.10	0.86	4.70	0.40	SHEET FLOW TO SINGLE C INLET
F8	0.09	0.86	4.70	0.36	SHEET FLOW TO SINGLE C INLET
F9	0.67	0.86	4.70	2.71	DETENTION POND
TOTAL	5.56	–	–	22.21	–

PROPOSED HYDRAULIC DATA SYSTEM G

$Q = C \times I \times A$

D.A. NO.	AREA (acres)	C	I100 (in/hr)	Q100 (cfs)	REMARKS
G1	0.27	0.55	4.70	0.70	SHEET FLOW TO FUTURE FORTUNA ROAD NW
G2	1.01	0.52	4.70	2.47	SHEET FLOW TO GALLATIN PLACE NW
G3	0.06	0.43	4.70	0.12	SHEET FLOW TO GALLATIN PLACE NW
G4	0.26	0.86	4.70	1.05	SHEET FLOW TO TOWN CROSSING AVENUE
G5	0.51	0.86	4.70	2.06	SHEET FLOW TO GALLATIN PLACE NW
G6	0.31	0.43	4.70	0.63	SHEET FLOW TO GALLATIN PLACE NW
G7	0.09	086	4.70	0.36	SHEET FLOW TO GALLATIN PLACE NW
G8	0.05	0.43	4.70	0.10	SHEET FLOW TO GALLATIN PLACE NW
G9	0.27	0.43	4.70	0.55	SHEET FLOW TO LOS VOLCANES ROAD NW
G10	0.09	0.86	4.70	0.36	SHEET FLOW TO LOS VOLCANES ROAD NW
G11	0.16	0.43	4.70	0.32	SHEET FLOW TO LOS VOLCANES ROAD NW
G12	0.17	0.60	4.70	0.48	SHEET FLOW TO LOS VOLCANES ROAD NW
G13	0.08	0.43	4.70	0.16	SHEET FLOW TO COCA COLA FACILITY
TOTAL	3.33	–	–	9.36	–

0.15 to Row → 5.28 cfs

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY: DATE
INSPECTOR'S SIGNATURE BY: DATE
FIELD VERIFICATION BY: DATE
DRAWING CORRECTED BY: DATE
MICRO-FILM INFORMATION
RECORDED BY: DATE
NO.

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10" ELEVATION 5142.79 (NAVD 1929)

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

NORTHING:
EASTING:
ELEVATION:

ENGINEERS SEAL
BRYAN M. BURGER NEW MEXICO 16354 REGISTERED PROFESSIONAL ENGINEER
7/15/08

REVISIONS
NO. DATE REMARKS BY
DESIGNED BY BMB DESIGN DATE 8/20/07
DRAWN BY CAC DATE 8/20/07
CHECKED BY BMB DATE 8/20/07

TARGET (T-2500) – ALBUQUERQUE WEST, NEW MEXICO

LCA Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas*Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: DRAINAGE AREA CALCULATIONS
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

RECEIVED
JUL 16 2008
HYDROLOGY SECTION

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-5.2

MATCH LINE (SEE SHEET C-6.2)

TARGET
FF=5133.00

RETAIL /REST.
FF=5133.00

DETENTION POND 1
LOT 1

EXISTING DETENTION POND

LOT 4 | LOT 3 | LOT 2 | LOT 5 | LOT 6

STA. 0+19.77 LN. 2.5
CONST. DBL. D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP = 5129.77
FL 18" = 5125.77

STA. 0+19.77 LN. 2.4
CONST. DBL. D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP = 5129.36
FL 18" = 5125.36

STA. 0+19.77 LN. 2.3
CONST. DBL. D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP = 5129.56
FL 18" = 5125.56

STA. 0+19.77 LN. 2.2
CONST. DBL. D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP = 5129.56
FL 18" = 5125.56

STA. 1+11.71 LN. 2.1
CONST. DBL. D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2205.
TOP = 5129.21
FL 18" = 5123.71

STA. 1+57.34 LN. 2.1
CONST. DBL. D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP = 5128.36
FL 18" = 5124.36

STA. 0+05.00 LN. 3.2
CONST. DBL. C INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2205.
TOP = 5126.50
FL 18" = 5119.50

CONST. SINGLE D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP = 5128.83
FL 18" = 5126.33

STA. 0+07.26 LN. 3.1
CONST. DBL. C INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2205.
TOP = 5122.90 @ CL
FL 18" = 5117.90

STA. 0+07.76 LN. 3.0=
STA. 0+00 LN. 3.1
CONST. 5' DIA. MANHOLE.
RIM= 5121.60
FL 24" OUT= 5108.04
FL 24" IN= 5116.00
FL 18" IN= 5116.50

STA. 0+00 LN. 2.0
BEGIN 60" RCP @ INSIDE FACE OF WALL.
FL 60"= 5108.07

STA. 0+00 LN. 3.0
BEGIN 24" RCP @ INSIDE FACE OF WALL.
FL 24"= 5108.00

STA 0+06.00 LN. 1.3
CONST. SINGLE D INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2206.
TOP= 5126.75
FL 18"= 5121.25

STA. 0+08.00 LN. 1.2
CONST. DBL. C INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2205.
TOP = 5121.69 @ CL
FL 18" = 5117.69

STA. 0+12.00 LN. 1.0=
STA. 0+00 LN. 1.1
CONST. 5' DIA. MANHOLE
RIM= 5120.50
FL 24" OUT= 5107.04
FL 24" IN= 5115.00
FL 18" IN= 5115.25

STA. 0+06.00 LN. 1.1
END & PLUG 18" RCP.
FL 18"= 5115.27

STA. 0+14.16 LN. 6.0
CONST. 5'x5' WEIR OUTFALL STRUCTURE PER DETAIL SHEET C-8.1.
FL 24" = 5107.00

STA. 0+00 LN. 1.0
BEGIN 24" RCP @ INSIDE FACE OF WALL.
FL 24"= 5107.68

STA: 0+00 LN. 6.0
REMOVE EX. 24" PLUG & CONN. TO EX. 24" RCP.
REF. ROADWAY WIDENING PLANS FOR LOS VOLCANES ROAD N.W.
FL 24" = 51__.00 (VERIFY)

STA 5+79.96 LN. 1.0
CONST. DBL. C INLET PER CITY OF ALBUQUERQUE STANDARD DETAILS DWG. 2205.
TOP= 5128.59
FL 18"= 5124.59

CONST. CONCRETE PILOT CHANNEL.

STA. 5+78.16 LN. 1.0 P.T.
STA. 5+36.60 LN. 1.0 P.C.

STA. 3+86.01 LN. 1.0=
STA. 0+00 LN. 1.3
60'x18" CONN.

STA. 1+94.95 LN. 1.0=
STA. 0+00 LN. 1.2
24'x18" CONN.

STA. 1+98.95 LN. 1.0
END 24", BEGIN 18"

STA. 5+38.36 LN. 3.0
24"x12" CONN.

STA. 4+81.36 LN. 3.0
24"x12" CONN.

STA. 3+10.51 LN. 3.0
24"x12" CONN.

STA. 2+26.23 LN. 3.0
24"x12" CONN.

STA. 2+22.16 LN. 3.0 P.I.
Δ = 07°00'39"

STA. 0+63.19 LN. 3.0=
STA. 0+00 LN. 3.2
24"x18" CONN.

STA. 0+89.18 LN. 2.0
60"x45" BEND

STA. 2+30.56 LN. 2.0
60"x45" BEND

STA. 3+30.55 LN. 2.0=
STA. 0+00 LN. 2.1
60"x18" CONN.

STA. 3+85.00 LN. 2.0
60"x8" CONN.

STA. 4+58.76 LN. 2.0
60"x45" BEND

STA. 6+59.80 LN. 2.0=
STA. 0+00 LN. 2.4
60"x18" CONN.

STA. 6+42.61 LN. 2.0
60"x8" CONN.

STA. 5+51.80 LN. 2.0=
STA. 0+00 LN. 2.3
60"x18" CONN.

STA. 5+01.80 LN. 2.0=
STA. 0+00 LN. 2.2
60"x18" CONN.

STA. 8+00.80 LN. 2.0=
STA. 0+00 LN. 2.5
60"x18" CONN.

STA. 8+08.01 LN. 2.0
45"x8" CONN.

STA. 8+04.80 LN. 2.0
END 60", BEGIN 48"

FL 8"= 5127.00 (×4)
FL 12"= 5127.00
FL 12"= 5127.50
FL 12"= 5126.00

8" PVC @ 1.05%
8" PVC @ 1.30%
8" PVC @ 2%
12" PVC @ 0.23%
12" PVC @ 23%
12" PVC @ 24.33%

CANOPY DRAIN
PLANTER DRAIN
CANOPY / PLANTER DRAIN

PROP. 6" S.A.S.
PROP. 8" S.A.S.
PROP. 12" WTR.
PROP. 8" S.A.S. (BY OTHERS)
PROP. 12" WTR. (BY OTHERS)
PROP. 6" S.A.S.
PROP. 3" W.S.
PROP. 8" REMOTE F.D.C. LINE
PROP. 8" FIRE LINE
PROP. 2" W.S.
PROP. 6" FIRE LINE
PROP. 1" IRR.
PROP. 2-2" W.S.
PROP. 4" S.A.S.
PROP. RETAINING WALL (REF. GRADING PLAN)
PROP. F.H. (BY OTHERS)
PROP. ASPHALT PVMT. (BY OTHERS)
PROP. 24" RCP (BY OTHERS)

FUTURE DEVELOPMENT

20' WTR. ESMT. (BY PLAT)
20'x20' WTR. ESMT. (BY PLAT)
20' DRAINAGE ESMT. (BY PLAT)
20' S.A.S. ESMT. (BY PLAT)
10' P.U.E. (BY PLAT)
40'x20' WTR. ESMT. (BY PLAT)

10' Private Storm Drain Line Easement to serve Tract S-2A-1 granted by plat filed December 23, 1998 in Volume 98-C, Page 363.
10' PRIVATE DRAINAGE ESMT. (BY PLAT)
20' PRIVATE S.A.S. ESMT. (BY PLAT)

REMAINDER OF 22' STORM DRAIN EASEMENT FILED JUNE 30, 1995 IN BOOK 95-15, PAGE 6361

10' SIDEWALK & UTILITY ESMT. (BY PLAT)

EX. 24" RCP
EX. 16" WTR.
EX. 8" S.A.S.
EX. ASPHALT PVMT.
EX. DRIVE APPROACH

LOS VOLCANES ROAD N.W.

GALLATIN PLACE, N.W.

LOT 1 MERIDIAN BUSINESS PARK | LOT 2 MERIDIAN BUSINESS PARK | LOT 3 MERIDIAN BUSINESS PARK | TRACT C MERIDIAN BUSINESS PARK III | LOT 7 MERIDIAN BUSINESS PARK

N

0 20' 40' 80'

GENERAL NOTES

1. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS.
2. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION OF ANY SUCH CROSSING.
3. CONTRACTOR SHALL COORDINATE WITH THE OWNER, ENGINEER, OR HIS REPRESENTATIVE AND CITY REPRESENTATIVE REGARDING ANY DEVIATIONS FROM THESE PLANS.
4. CONTRACTOR SHALL MAINTAIN ONE SET OF RECORD DRAWINGS (AS BUILT) ON SITE WHICH WILL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THIS PROJECT.
5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES IN THE CONSTRUCTION OF THIS PROJECT; ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, SEWER LATERALS, WATER SERVICE, ETC.
6. THE CONTRACTOR SHALL SET UTILITIES TO PROPER LINE AND GRADE PRIOR TO THE PLACING OF PERMANENT PAVEMENT.
7. ALL STORM SEWER PIPE SHALL CONFORM TO CITY SPECIFICATIONS AND SHALL BE MANUFACTURED FROM ONE OF THE FOLLOWING MATERIALS:
   a. CLASS III RCP UNLESS OTHERWISE NOTED — Diameter 18"–60"
   b. Polyvinyl/Chloride (PVC) ASTM D 3034 SDR 35 — Diameter 8"–15"
8. ANY PIPE LOCATED WITHIN THE RIGHT-OF-WAY OR IN AN EASEMENT WILL BE RCP PIPE UNLESS OTHERWISE NOTED.
9. ALL STORM PIPES ARE PRIVATE EXCEPT THOSE SHOWN IN CITY & STATE R.O.W.

STORM SEWER CL CURVE TABLE

CURVE	RADIUS	DELTA	CHORD	LENGTH	BEARING
C1	65.00'	36°38'06"	40.86	41.56'	N 78°16'28" E
C2	200.00'	30°02'41"	103.68	104.88'	S 15°01'15" E
C3	150.00'	29°31'28"	76.44	77.30'	N 74°43'09" W
C4	200.00'	11°07'28"	28.77	38.83'	N 65°33'38" W
C5	400.00'	09°53'40"	68.99	69.08'	S 25°05'46" E

LEGEND

- EXIST. S.S.
- PROP. S.S.
- EXIST. WTR.
- PROP. WTR.
- PROP. STM. SWR.
- EXIST. STM. SEWER
- WATER METER
- GATE VALVE
- EXIST. S.S. M.H.
- PROP. FIRE HYDRANT
- PROP. LIGHT POLE
- F.H. FIRE HYDRANT
- SAWCUT & REMOVE

TARGET (T-2500) – ALBUQUERQUE WEST, NEW MEXICO

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas • Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: DRAINAGE PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-6.1

RECEIVED
JUL 16 2008
HYDROLOGY SECTION

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

ENGINEERS SEAL
BRIAN M. BURGER
NEW MEXICO
16634
PROFESSIONAL ENGINEER
7/15/08

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
INSPECTOR'S AS-BUILT FIELD FINANCE BY — DATE
VERIFICATION BY — DATE
CORRECTIONS COMPLETED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

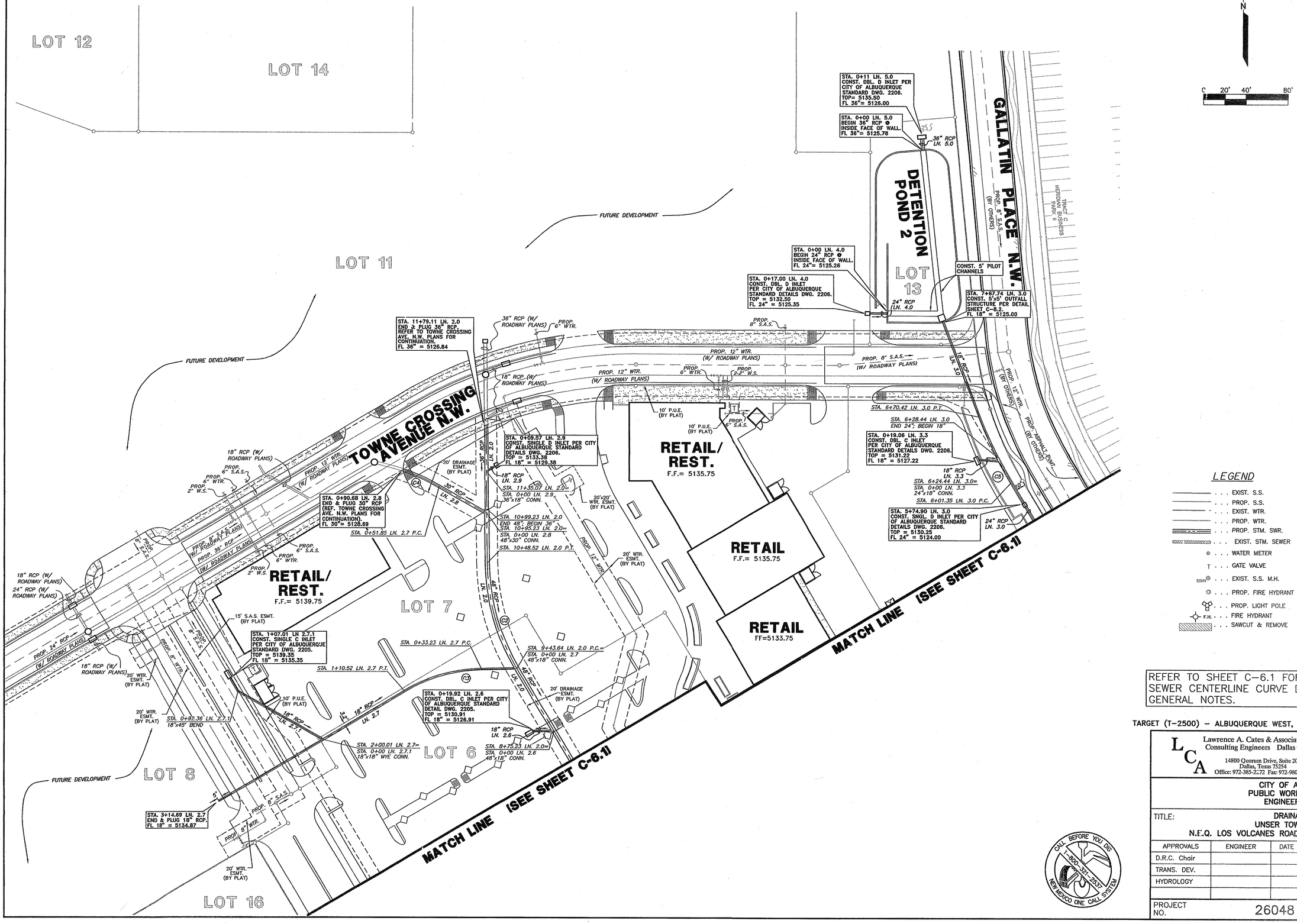
BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)
NORTHING:
EASTING:
ELEVATION:

SURVEY INFORMATION
FIELD NOTES BY — DATE
NO.

NO.	REMARKS	BY	DATE
	REVISIONS DESIGN		
		BMB	8/20/07
		CAC	8/20/07
		BMB	8/20/07

DESIGNED BY BMB
DRAWN BY CAC
CHECKED BY BMB

S:\DWGS\26048\DWG\26048_DRAINAGE.dwg C_1, 7/14/2008 8:10:22 PM, charles



LEGEND

- . . . EXIST. S.S.
- . . . PROP. S.S.
- . . . EXIST. WTR.
- . . . PROP. WTR.
- . . . PROP. STM. SWR.
- . . . EXIST. STM. SEWER
- ⊗ . . . WATER METER
- T . . . GATE VALVE
- SSMH . . . EXIST. S.S. M.H.
- ○ . . . PROP. FIRE HYDRANT
- . . . PROP. LIGHT POLE
- F.H. . . . FIRE HYDRANT
- . . . SAWCUT & REMOVE

REFER TO SHEET C-6.1 FOR STORM SEWER CENTERLINE CURVE DATA & GENERAL NOTES.

TARGET (T-2500) - ALBUQUERQUE WEST, NEW MEXICO

Lawrence A. Cates & Associates, LLP
Consulting Engineers Dallas • Austin
14800 Quorum Drive, Suite 200
Dallas, Texas 75254
Office: 972-385-2272 Fax: 972-980-1627

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

RECEIVED JUL 16 2007 HYDROLOGY SECTION

TITLE: DRAINAGE PLAN
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J-9 & J-10 | SHEET C-6.2

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10" ELEVATION 5142.79 (NAVD 1929)

AS BUILT INFORMATION
CONTRACTOR
STAKING SIGNED BY DATE
INSPECTOR'S SIGNATURE DATE
FIELD VERIFICATION BY DATE
AS BUILTS CORRECTED BY DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

NORTHING:
EASTING:
ELEVATION:

ENGINEERS SEAL
BRYAN M. BURGER NEW MEXICO 18894 REGISTERED PROFESSIONAL ENGINEER

NO.	REMARKS	BY	DATE
	REVISIONS		
	DESIGN	BMB	8/20/07
	DESIGNED BY	BMB	8/20/07
	DRAWN BY	CAC	8/20/07
	CHECKED BY	BMB	8/20/07

100 YEAR DETENTION POND CALCULATIONS - POND NO. 1

1. DRAINAGE SYSTEMS B, C, D, E AND F CONTRIBUTE FLOW TO DETENTION POND NO. 1.

2. TOTAL AREA CONTRIBUTING FLOW TO POND NO. 1:
   SYSTEMS - B + C + D + E + F = 14.53 AC. + 9.34 AC. + 12.06 AC. 3.84 AC. + 5.56 AC. = 45.33 AC.

   SINCE AREAS D7, D9, D12 AND E4 ARE OFFSITE AREAS THAT CONTIBUTE FLOW BUT WILL NOT BE DETAINED THE TOTAL AREA OF DETENTION PROVIDED IN DETENTION POND NO. 1 =

   45.33 AC. - 0.88 AC. - 0.88 AC. - 0.26 AC. -.06 AC. = 43.27 AC.

3. ALLOWABLE RELEASE RATE FOR POND NO. 1 AND POND NO. 2 BASED ON THE APPROVED MASTER DRAINAGE PLAN FOR ATRISCO BUSINESS PARK =

   (43.27 AC. + 9.55 AC.) X 0.1 CFS/AC. = 5.28 CFS

4. VOLUME REQUIRED FOR DETENTION POND NO. 1

13.5% OF RUNOFF IS TYPE B = 43.27 AC. (.135) = 5.84 AC.
86.5% OF RUNOFF IS TYPE D = 43.27 AC. (.865) = 37.43 AC.

BASED ON ZONE 1 EXCESS PRECIPITATION CHART FOR A 100 YEAR 6 HR. EVENT

WEIGHTED E = $(E_BXA_B + E_DXA_D)/(A_B+A_D)$ = (0.67 X 5.84 AC.) + (1.97 X 37.43 AC.) / (5.84 AC. + 37.43 AC.) = 1.794 INCHES

VOLUME = (1.794 INCHES) X (43.27 AC.) / 12 = 6.469 ACRE/FT

VOLUME = 6.469 ACRE/FT. X 43,560 SF./ACRE = **281,750 CF**

5. DETENTION POND VOLUME PROVIDED

CONTOUR	AREA (FT^2)	VOLUME (FT^3)	
5107.0	-	-	
5108.0	13,760	6,875	
5109.0	24,142	18,946	
5110.0	24,217	24,180	
5111.0	24,285	24,251	
5112.0	24,350	24,318	
5113.0	24,413	24,382	
5114.0	24,472	24,443	
5115.0	24,536	24,504	
5116.0	24,593	24,565	
5117.0	24,672	24,633	
5118.0	24,743	24,708	
5119.0	24,791	24,767	
5120.0	24,887	24,829	
5120.5	24,905	12,443	100 YR WSE = 5119.50
		307,841	

6. OUTFALL DESIGN - RECTANGULAR WEIR 5.28 for entire site

Q_{100} ALLOWABLE RELEASE = 5.38 CFS — target including roads

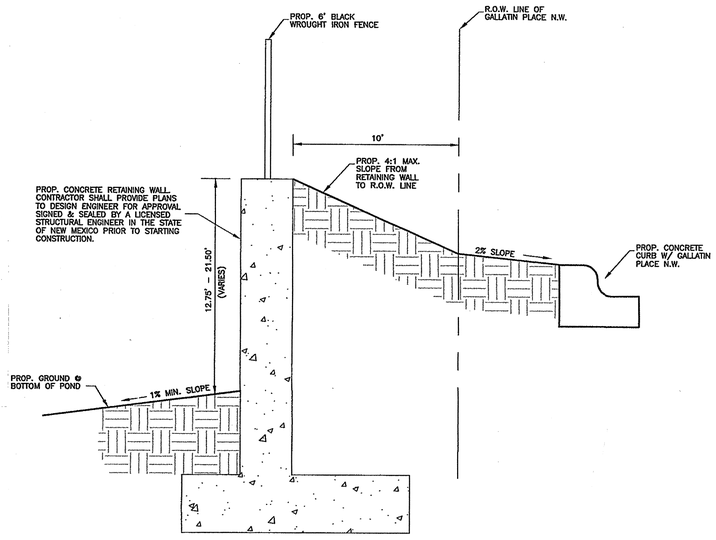
OUTFALL ELEVATION = 5107

MAX. 100 YR. WATER SURFACE = 5119.50

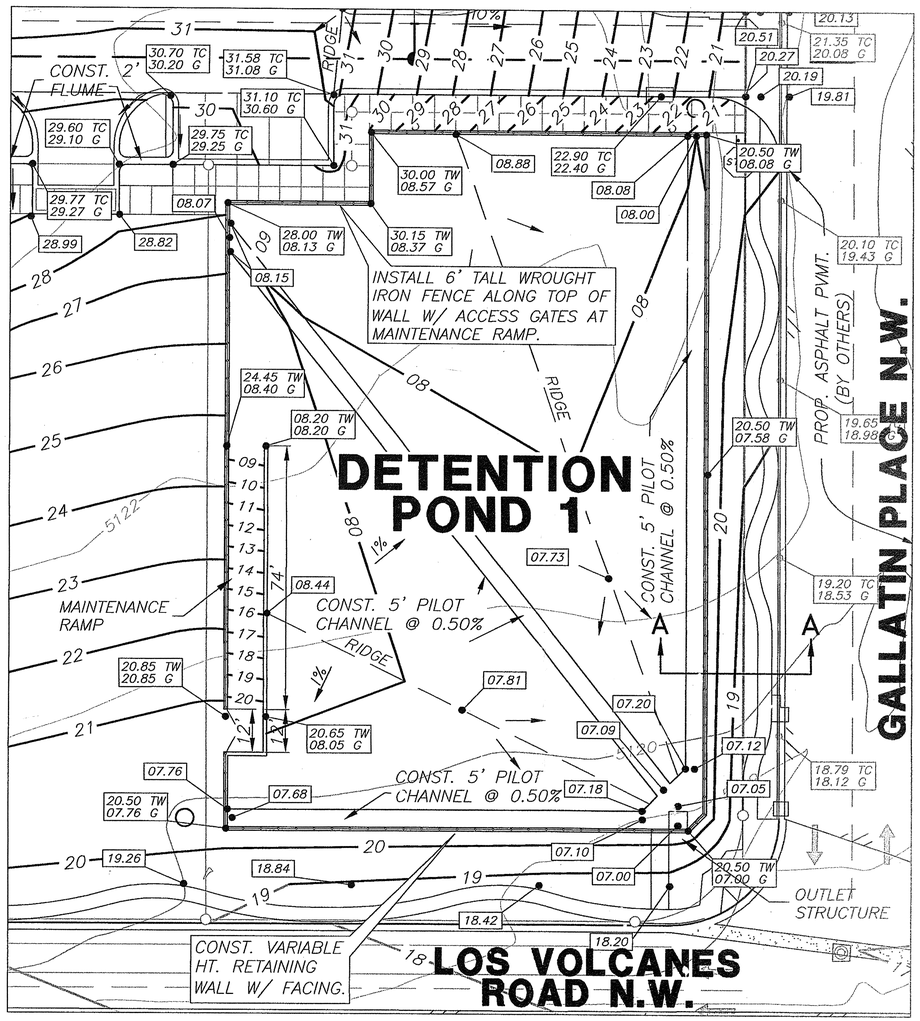
$Q = CLH^{3/2}$ WHERE C = 3.367

Q_{100} =	5.38	CFS
H =	12.50	FEET
L =	$Q/CH^{3/2}$ =	
L =	0.04	FEET
V = Q/A		
V =	11.90	FT/SEC

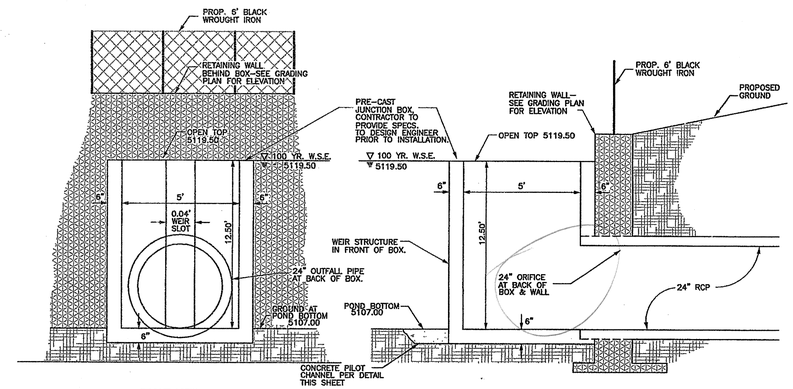
use 4 inches



RETAINING WALL DETAIL SECTION A–A
NTS

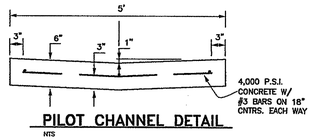


DETENTION POND DETAIL
1"=20'



NOTE: ALL WEIRS ARE SIZED BASED ON A 100 YEAR DESIGN.

DETENTION POND OUTLET STRUCTURE
N.T.S.



PILOT CHANNEL DETAIL
NTS

LEGEND

F.H.	FIRE HYDRANT
X SET	CHISELED "X" SET
F.X.	CHISELED "X" FOUND
F.I.R.	IRON ROD FOUND (SIZE AS NOTED)
S.I.R.	IRON ROD SET (SIZE AS NOTED)
PP	OVERHEAD UTILITY POLE W/ GUY
UE UT	UNDERGROUND ELECTRIC OR TELEPHONE
L.P.	LIGHT POLE
SSMH	SANITARY SEWER MANHOLE
S.O.	SAN. SWR. CLEAN OUT
G.V.	GAS VALVE
W.V.	WATER VALVE
42'	TREE
542	EXIST. CONTOUR
44	PROP. CONTOUR
36	PROP. CONTOUR (BY OTHERS)
55.22	PROP. SPOT ELEV.
57.59 BC / 57.09 G	PROP. TOP OF CURB & GUTTER ELEVATION
57.59 TC / 57.09 G	PROP. TOP OF CURB & GUTTER ELEVATION (BY OTHERS)
	ACCESSIBLE ROUTE

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

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Dallas, Texas 75254
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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: DETENTION POND DETAIL NO. 1
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO. 26048 | MAP NO. J–9 & J–10 | SHEET C–8.1

RECEIVED JUL 16 2008 HYDROLOGY SECTION

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTORS FIELD CHANGE BY — DATE
FINAL VERIFICATION BY — DATE
CORRECTED BY — DATE
MICRO–FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10–K10", ELEVATION 5142.79 (NAVD 1929)
NORTHING:
EASTING:
ELEVATION:

SURVEY INFORMATION
FIELD NOTES — NO. — BY — DATE

ENGINEERS SEAL
BRYAN M. BURGER — NEW MEXICO — 16354 — LICENSED PROFESSIONAL ENGINEER

NO.	REMARKS	BY	DATE
	REVISIONS DESIGN	BMB	8/20/07
	DESIGNED BY	BMB	8/20/07
	DRAWN BY	CAC	8/20/07
	CHECKED BY	BMB	

100 YEAR DETENTION POND CALCULATIONS - POND NO. 2

1. DRAINAGE SYSTEM A CONTRIBUTES FLOW TO DETENTION POND NO. 2.

2. TOTAL AREA CONTRIBUTING FLOW TO POND NO. 2:

   SYSTEM - A = 9.55 AC.

3. ALLOWABLE RELEASE RATE FOR POND NO. 1 AND POND NO. 2 BASED ON THE APPROVED MASTER DRAINAGE PLAN FOR ATRISCO BUSINESS PARK =

   (43.27 AC. + 9.55 AC.) X 0.1 CFS/AC. = 5.28 CFS
   RELEASE RATE FOR POND NO. 2 = 2 CFS SINCE POND NO. 2 WILL DRAIN INTO POND NO. 1

4. VOLUME REQUIRED FOR DETENTION POND NO. 2

13.5% OF RUNOFF IS TYPE B = 9.55 AC. (.135) = 1.29 AC.
86.5% OF RUNOFF IS TYPE D = 9.55 AC. (.865) = 8.26 AC.

BASED ON ZONE 1 EXCESS PRECIPITATION CHART FOR A 100 YEAR 6 HR. EVENT

WEIGHTED E = $(E_BXA_B + E_DXA_D)/(A_B+A_D)$ = (0.67 X 1.29 AC.) + (1.97 X 8.26 AC.) / (1.29 AC. + 8.26 AC.) = 1.794 INCHES

VOLUME = (1.794 INCHES) X (9.55 AC.) / 12 = 1.428 ACRE/FT

VOLUME = 1.428 ACRE/FT. X 43,560 SF./ACRE = **62,204 CF**

5. DETENTION POND VOLUME PROVIDED

CONTOUR	AREA (FT^2)	VOLUME (FT^3)	
5125.0	-	-	
5126.0	10,036	5,018	
5127.0	10,820	10,428	
5128.0	10,901	10,861	
5129.0	10,981	10,941	
5130.0	11,061	11,021	
5131.0	11,141	11,101	
5132.0	11,221	11,181	
5133.0	11,301	11,261	
5133.75	11,361	8,498	100 YR WSE = 5131.25
		90,310	

6. OUTFALL DESIGN - RECTANGULAR WEIR

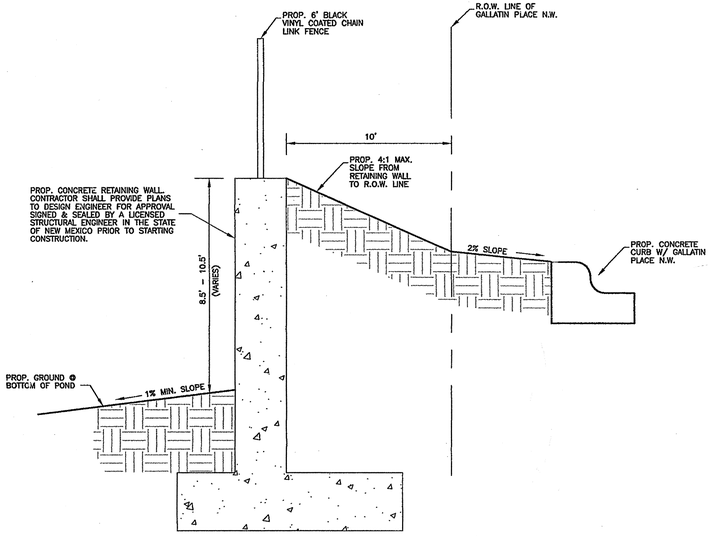
Q_{100} ALLOWABLE RELEASE = 2.00 CFS

OUTFALL ELEVATION = 5125

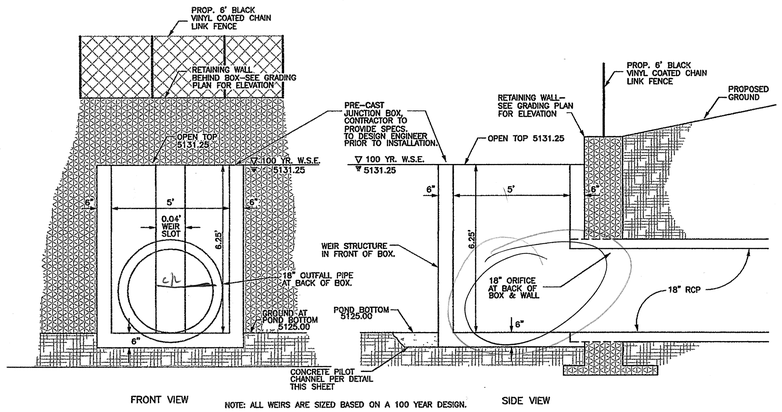
MAX. 100 YR. WATER SURFACE = 5131.25

$Q = CLH^{3/2}$ WHERE C = 3.367

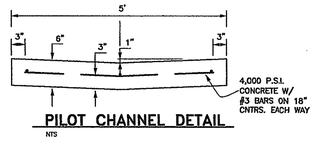
Q_{100} =	2.00	CFS
H =	6.25	FEET
L =	$Q/CH^{3/2}$ = **0.04**	FEET
V = Q/A		
V =	8.42	FT/SEC



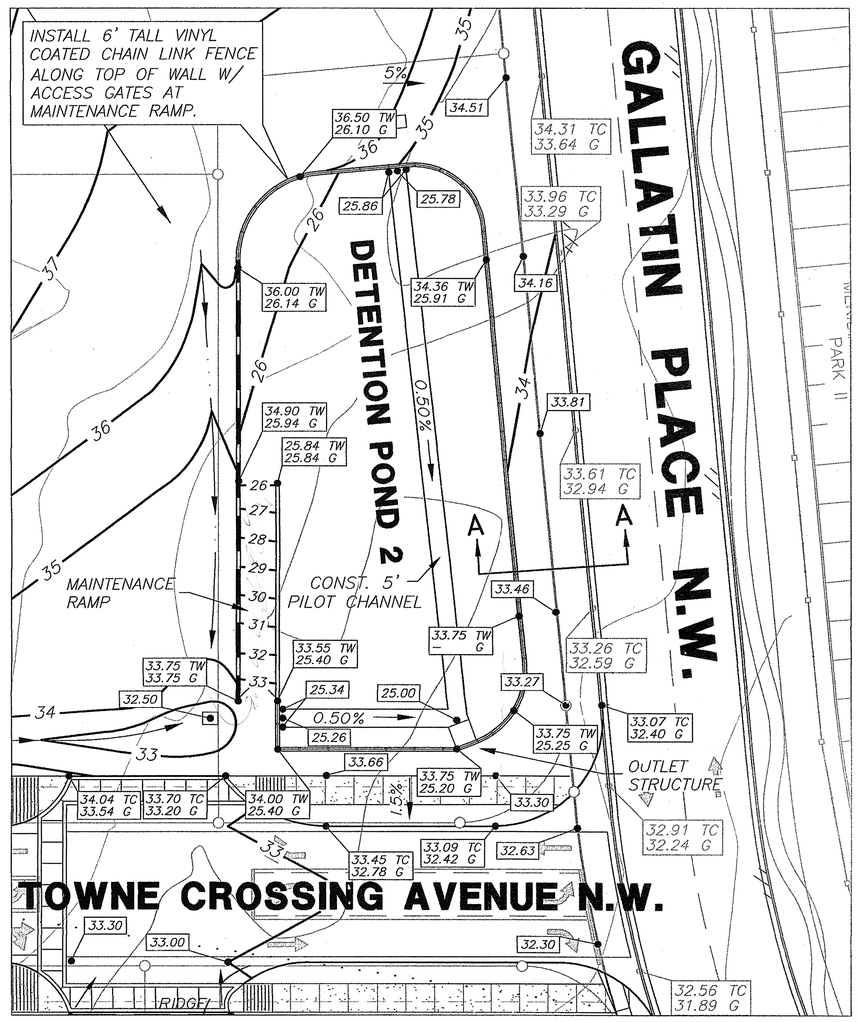
RETAINING WALL DETAIL SECTION A-A
NTS



DETENTION POND OUTLET STRUCTURE
N.T.S.



PILOT CHANNEL DETAIL
NTS



DETENTION POND DETAIL
1"=20'

33.2 / 55 = 1.279 = erosion protection

LEGEND

F.H.	FIRE HYDRANT
X SET	CHISELED "X" SET
F.X.	CHISELED "X" FOUND
F.I.R.	IRON ROD FOUND (SIZE AS NOTED)
S.I.R.	IRON ROD SET (SIZE AS NOTED)
PP	OVERHEAD UTILITY POLE W/ GUY
UE UT	UNDERGROUND ELECTRIC OR TELEPHONE
L.P.	LIGHT POLE
SSMH	SANITARY SEWER MANHOLE
C.O.	SAN. SWR. CLEAN OUT
G.V.	GAS VALVE
W.V.	WATER VALVE
	TREE
542	EXIST. CONTOUR
44	PROP. CONTOUR
36	PROP. CONTOUR (BY OTHERS)
55.22	PROP. SPOT ELEV.
37.50 TC 37.00 G	PROP. TOP OF CURB & GUTTER ELEVATION
67.99 TC 67.49 G	PROP. TOP OF CURB & GUTTER ELEVATION (BY OTHERS)
	ACCESSIBLE ROUTE

TARGET (T-2500) - ALBUQUERQUE WEST, NEW MEXICO

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: DETENTION POND DETAIL NO. 2
UNSER TOWNE CROSSING
N.E.Q. LOS VOLCANES ROAD N.W. AND UNSER BLVD. N.W.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			TRAF. OPER.		

PROJECT NO.	26048	MAP NO.	J-9 & J-10	SHEET	C-8.2

CALL BEFORE YOU DIG 1-800-321-2537 NEW MEXICO ONE CALL SYSTEM

RECEIVED JUL 16 2008 HYDROLOGY SECTION

AS BUILT INFORMATION
CONTRACTOR
STAKED BY DATE
INSPECTOR'S PERFORMANCE BY DATE
FIELD VERIFICATION BY DATE
AS BUILT CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
1. VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-K10", ELEVATION 5142.79 (NAVD 1929)

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

NORTHING:
EASTING:
ELEVATION:

ENGINEERS SEAL
BRYAN M. BURGER NEW MEXICO 18354 PROFESSIONAL ENGINEER
7/15/08

NO.	REMARKS	BY	DATE
	REVISIONS DESIGN	BMB	8/20/07
		CAC	8/20/07
		BMB	8/20/07

DESIGNED BY
DRAWN BY
CHECKED BY
DATE