GRADING/DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING PORTIONS OF LOTS 41 THRU 46, BLOCK 5, ORIGINAL TOWNSITE OF WESTLAND, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO ARE CONTAINEDS HEREON:

1. VICINITY MAP 2. FEMA FLOODMAP 3. DRAINAGE CALCULATIONS

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS 1.84 ACRES AND IS LOCATED AT THE SOUTHWEST CORNER OF CENTRAL AVENUE SW AND 86TH ST. SW. THE EXISTING LAY OF THE LAND IS FROM NORTHWEST TO SOUTHEAST. ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL 0328D, DATED SEPTEMBER 20,1996, THIS SITE IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE, IT DOES CONTRIBUTE TO DOWNSTREAM FLOODING WITHIN BRIDGE BLVD. SW, WHICH IS BEING ELIMINATED BY THE BRIDGE BLVD. STORM SEWER IMPROVEMENTS.

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING/DRAINAGE PLAN, THE PROPOSED PROJECT WILL CONSIST OF 3333 SQ. FT. OF BUILDING, 997 SQ. FT. OF CAR WASH, 6480 SQ.FT. OF CANOPY AREA, ALONG WITH PAVED PARKING AND LANDSCAPING. THE DEVELOPED RUN-OFF WILL BE ROUTED TO THE FAR SOUTHEAST DRIVEPAD, WHICH THEN WILL ENTER A PROPOSED V- SHAPED BAR DITCH, WHICH WILL ROUTE THE RUN-OFF TO THE INTERSECTION OF 86TH ST. AND BRIDGE BLVD. (FREE DISCHARGE ALLOWED PER STEVE BOBERG CIP HYDROLOGY ENGINEER). THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 100-YEAR; 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRES AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL VOLUME II, DESIGN CRITERIA DATED 1997, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DICHARGE AND VOLUME OF RUN-OFF GENERATED.

DOWNSTREAM CAPACITY

PER THE MASTER DRAINAGE PLAN FOR THE BRIDGE BLVD. IMPROVEMENTS, FREE DISCHARGE IS ALLOWED FROM THIS SITE (PHONE CONVERSATION WITH STEVE BOBERG CIP HYDROLOGY ENGINEER)

ROBERTS OIL AREA =1.84ac.
PROJECT
ZONE1
PRECIPITATION: 360= 2.20in.
1440= 2.66in.
10da= 3.67in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:
TREATMENT A	0.44in.	1.29 cfs/ac.
TREATMENT B	0.67in.	2.03 cfs/ac.
TREATMENT C	0.99in.	2.87 cfs/ac.
TREATMENT D	1.97in.	4.37 cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS: AREA
TREATMENT A	0ac.	0ac.
TREATMENT B	0ac.	0ac.
TREATMENT C	1.84ac.	0.461ac.
TREATMENT D	0ac.	1.374ac.

EXISTING EXCESS PRECIPITATION:

Weighted E =(0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(1.84)+(1.97)
= 0.99
V100-360 = (0.99)x(1.84)/12 = 0.1514ac-f= 6597 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(1.84)+(4.37)x(0.00) = 5.28cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(0.46)+(1.97)x(1.37) / 1.84ac.
= 1.72
V100-360 = (1.72)x(1.84)/ 12.0= 0.2636ac-f= 11483 cf

V100-1440 = (0.26+1.37)x (2.66- 2.20)/12 = 0.3162ac-f= 13777cf

V100-10day = (0.26+1.37)x (3.67- 2.20)/12 = 0.4319ac-f= 18814cf

V100-10 YEAR = 4.87 CFS

PROPOSED PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(0.46)+(4.37)x(1.37) = 7.31cfs

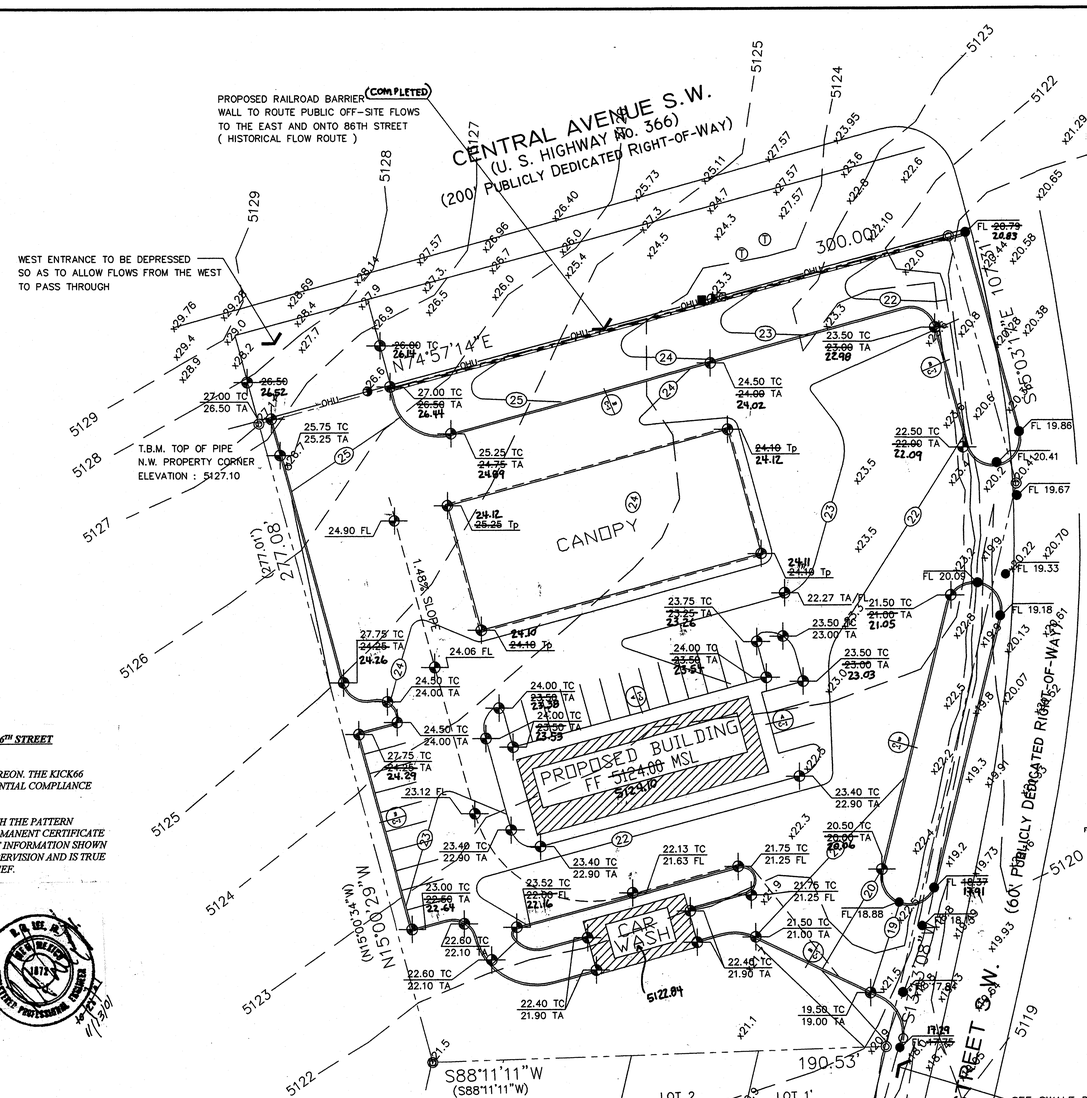
INCREASE 7.31 CFS - 5.28 CFS = 2.03 CFS

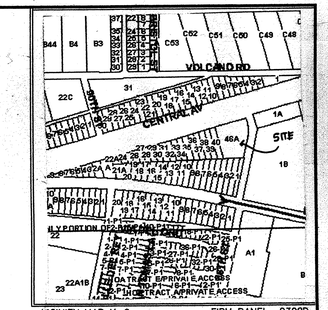
ENGINEER CERTIFICATION FOR KICK 66 @ CENTRAL & 86TH STREET
8600 CENTRAL S.W.

AS INDICATED BY THE AS-BUILT INFORMATION SHOWN HEREON. THE KICK66 GAS STATION HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN DATED 9/18/2001 :

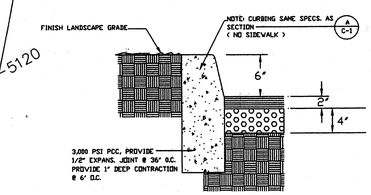
THE SITE DRAINAGE WILL FUNCTION IN ACCORDANCE WITH THE PATTERN ESTABLISHED BY THE APPROVED PLAN. THEREFORE A PERMANENT CERTIFICATE OF OCCUPANCY IS HIGHLY RECOMMENDED. THE AS-BUILT INFORMATION SHOWN HEREON WAS OBTAINED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

AS-BUILT DESIGNATION 27.50 TC / ~~27.00 TA~~ / 27.10 TA



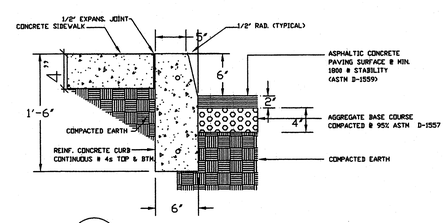


STREET GRADE DESIGN FOR DESIGNED STREET GRADES BY ADVANCED ENGINEERING



B / C-1 TYPICAL CURB NTS

SEE SWALE DETAIL FOR TEMPORARY (COMPLETED) ASPHALT SWALE WITHIN THE EXISTING BAR DITCH ALONG 86TH STREET MATCH INVERT THEN CARRY AT 1.1%



A / C-1 CURB AT CONCRETE WALK NTS

GRADING & DRAINAGE PLAN

Scale 1"=30'-0"

NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specification for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact line locating Services at (505) 260-1990 for locating existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizonal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential use.
6. All work on this project shall be performed in accordance with applicable Federal, State and local laws, rules and regulations concerning construction safty and health.
7. Maintenance of this facilities shall be the responsibility of the owner of the property served.

DRAINAGE FACILITIES WITHIN CITY R/W

HYDROLOGY APPROVAL _____

DATE:

SYMBOL LEGEND

EXISTING CONTOUR	5102
EXISTING CONTOUR	26
DESIGNED SPOT ELEVATION	27.50 TC / 27.00 TA
PROPERTY LINE	
EASEMENT LINE	
FLOW DIRECTION	
EXISTING SPOT ELEVATION	+85.1
DOWN SPOUT	□
DESIGNED STREET GRADES	FL 19.83

ABBREVIATION LEGEND

TOP OF CON. PAD	-	*TCP*
TOP OF CURB	-	*TC*
TOP OF ASPHALT	-	*TA*
FLOWLINE	-	*FL*
TOP OF WALL	-	*TW*

LEGAL

PLAT OF 46-A BLOCK 5
ORIGINAL TOWNSITE OF WESTLAND
ALBUQUERQUE, BERNALILLLO COUNTY
NEW MEXICO
UPC# 1-009-057-390-050-40301

BENCHMARK

"ACS" 7-K9
THE STATION IS LOCATED 0.14 MILES WEST OF 86TH STREET SW CENTERLINE OF 86TH STREET SW CENTER OF THE MEDIAN ON CENTRAL
ELEVATION: 5137.363
T.B.M. SEE PLAN DRAWING

JOB NO:
DATE: SEPTEMBER 2001
REVISIONS

Sheet Title: GRADING & DRAINAGE PLAN
Drawn By: BJM Checked By:

BJM DEVELOPMENT CONSULTANT
DESIGN - PLANNER
Albuquerque, New Mexico

Project Name: KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUUERQUE, NEW MEXICO

SHEET NO. GD

GRADING/DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING PORTIONS OF LOTS 41 THRU 46, BLOCK 5, ORIGINAL TOWNSITE OF WESTLAND, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO ARE CONTAINEDS HEREON:

1. VICINITY MAP 2. FEMA FLOODMAP 3. DRAINAGE CALCULATIONS

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS 1.84 ACRES AND IS LOCATED AT THE SOUTHWEST CORNER OF CENTRAL AVENUE SW AND 86TH ST. SW. THE EXISTING LAY OF THE LAND IS FROM NORTHWEST TO SOUTHEAST. ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL 0328D, DATED SEPTEMBER 20,1996, THIS SITE IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE, IT DOES CONTRIBUTE TO DOWNSTREAM FLOODING WITHIN BRIDGE BLVD. SW, WHICH IS BEING ELIMINATED BY THE BRIDGE BLVD. STORM SEWER IMPROVEMENTS.

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING/DRAINAGE PLAN, THE PROPOSED PROJECT WILL CONSIST OF 3333 SQ. FT. OF BUILDING, 997 SQ. FT. OF CAR WASH, 6480 SQ.FT. OF CANOPY AREA, ALONG WITH PAVED PARKING AND LANDSCAPING. THE DEVELOPED RUN-OFF WILL BE ROUTED TO THE FAR SOUTHEAST DRIVEPAD, WHICH THEN WILL ENTER A PROPOSED V- SHAPED BAR DITCH, WHICH WILL ROUTE THE RUN-OFF TO THE INTERSECTION OF 86TH ST. AND BRIDGE BLVD. (FREE DISCHARGE ALLOWED PER STEVE BOBERG CIP HYDROLOGY ENGINEER). THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 100-YEAR; 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRES AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL VOLUME II, DESIGN CRITERIA DATED 1997, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DICHARGE AND VOLUME OF RUN-OFF GENERATED.

DOWNSTREAM CAPACITY

PER THE MASTER DRAINAGE PLAN FOR THE BRIDGE BLVD. IMPROVEMENTS, FREE DISCHARGE IS ALLOWED FROM THIS SITE (PHONE CONVERSATION WITH STEVE BOBERG CIP HYDROLOGY ENGINEER)

ROBERTS OIL AREA =1.84ac.
PROJECT
ZONE1
PRECIPITATION: 360= 2.20in.
1440= 2.66in.
10da= 3.67in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:
TREATMENT A	0.44in.	1.29 cfs/ac.
TREATMENT B	0.67in.	2.03 cfs/ac.
TREATMENT C	0.99in.	2.87 cfs/ac.
TREATMENT D	1.97in.	4.37 cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS:	AREA
TREATMENT A	0ac.		0ac.
TREATMENT B	0ac.		0ac.
TREATMENT C	1.84ac.		0.461ac.
TREATMENT D	0ac.		1.374ac.

EXISTING EXCESS PRECIPITATION:

Weighted E =(0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(1.84)+(1.97)x(0.00)/ 1.84ac. = 0.99
V100-360 = (0.99)x(1.84)/12 = 0.1514ac-f= 6597 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(1.84)+(4.37)x(0.00) = 5.28cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(0.46)+(1.97)x(1.37) / 1.84ac. = 1.72
V100-360 = (1.72)x(1.84)/ 12.0= 0.2636ac-f= 11483 cf

V100-1440 = (0.26+1.37)x (2.66- 2.20)/12 = 0.3162ac-f= 13777cf

V100-10day = (0.26+1.37)x (3.67- 2.20)/12 = 0.4319ac-f= 18814cf

V100-10 YEAR = 4.87 CFS

PROPOSED PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(0.46)+(4.37)x(1.37) = 7.31cfs

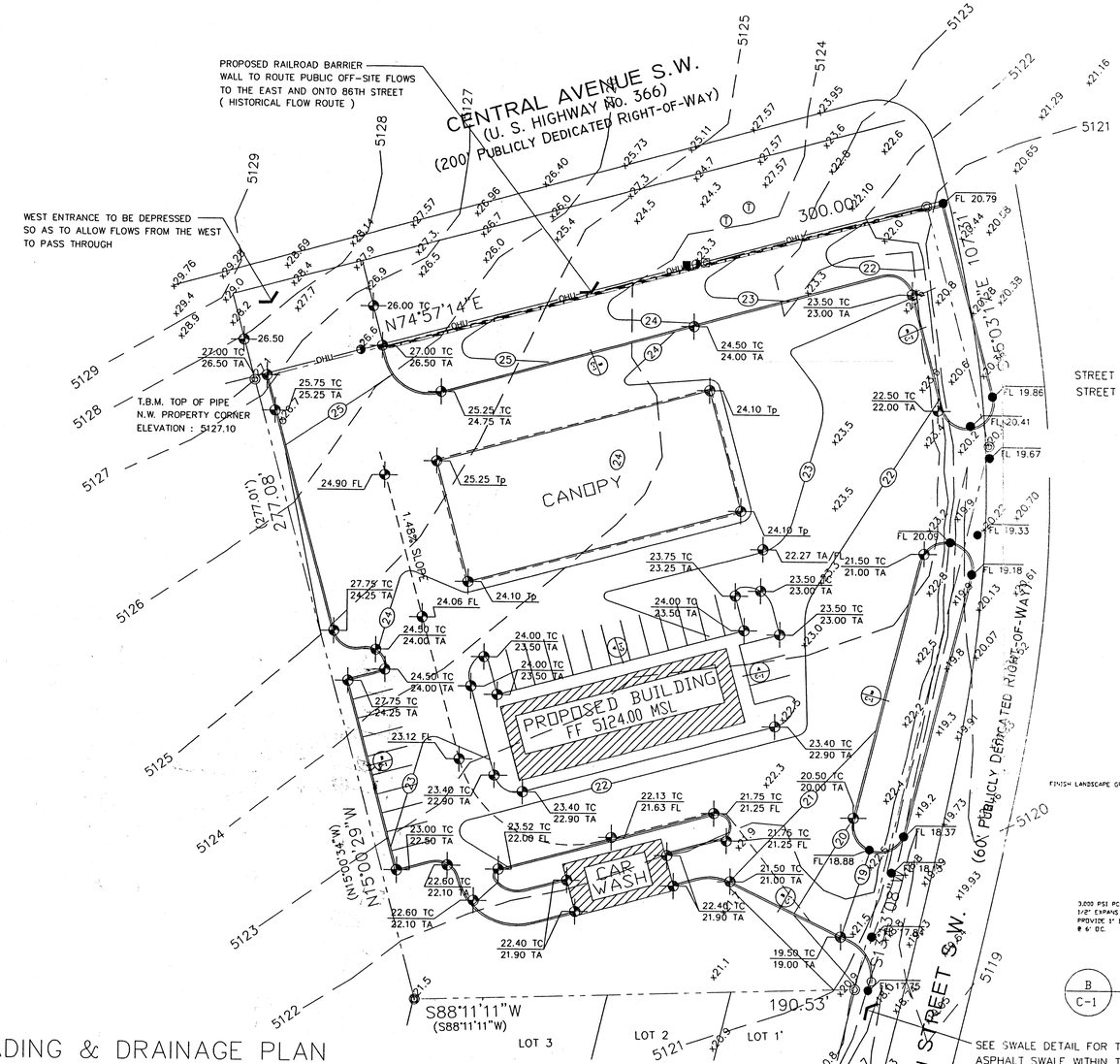
INCREASE 7.31 CFS - 5.28 CFS = 2.03 CFS

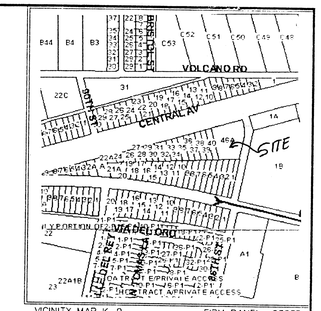
SYMBOL LEGEND

EXISTING CONTOUR	5102
EXISTING CONTOUR	26
DESIGNED SPOT ELEVATION	27.50 TC / 27.00 TA
PROPERTY LINE	
EASEMENT LINE	
FLOW DIRECTION	
EXISTING SPOT ELEVATION	+85.1
DOWN SPOUT	□
DESIGNED STREET GRADES	FL 19.83

ABBREVIATION LEGEND

TOP OF CON. PAD	TCP
TOP OF CURB	TC
TOP OF ASPHALT	TA
FLOWLINE	FL
TOP OF WALL	TW





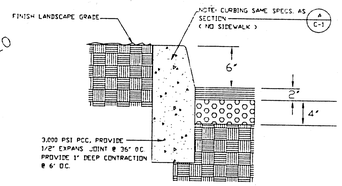
STREET GRADE DESIGN FOR DESIGNED STREET GRADES BY ADVANCED ENGINEERING

RECEIVED SEP 20 2001 HYDROLOGY SECTION

S019 Approved

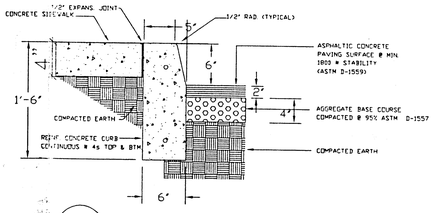
K-9/D21

RECEIVED NOV 13 2001 HYDROLOGY SECTION



B / C-1 TYPICAL CURB NTS

SEE SWALE DETAIL FOR TEMPORARY ASPHALT SWALE WITHIN THE EXISTING BAR DITCH ALONG 86TH STREET MATCH INVERT THEN CARRY AT 1.1%



A / C-1 CURB AT CONCRETE WALK NTS

GRADING & DRAINAGE PLAN

Scale 1" =30'-0"

NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specification for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact line locating Services at (505) 260-1990 for locating existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizonal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential use.
6. All work on this project shall be performed in accordance with applicable Federal, State and local laws, rules and regulations concerning construction safty and health.
7. Maintenance of this facilities shall be the responsibility of the owner of the property served.

DRAINAGE FACILITIES WITHIN CITY R/W

HYDROLOGY APPROVAL _____

DATE:

LEGAL

PLAT OF 46-A BLOCK 5
ORIGINAL TOWNSITE OF WESTLAND
ALBUQUERQUE, BERNALILLO COUNTY
NEW MEXICO
UPC# 1-009-057-390-050-40301

BENCHMARK

"ACS" 7-K9
THE STATION IS LOCATED 0.14 MILES WEST OF 86TH STREET SW CENTERLINE OF 86TH STREET SW CENTER OF THE MEDIAN ON CENTRAL
ELEVATION: 5137.363
T.B.M. SEE PLAN DRAWING

JOB NO.
DATE: SEPTEMBER 2001
REVISIONS

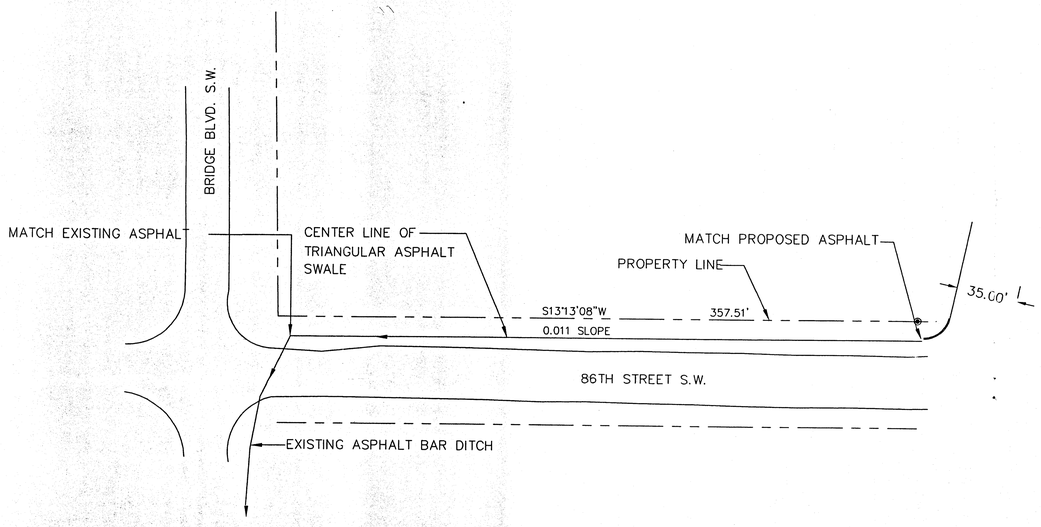
Sheet Title: GRADING & DRAINAGE PLAN
Drawn By: BJM Checked By:

BJM DEVELOPMENT CONSULTANT
DESIGN - PLANNER
Albuquerque, New Mexico

Project Name: KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUERQUE, NEW MEXICO

SHEET NO. GD

SCALE: HORIZ. 1"=40'



TRIANGULAR CHANNEL ANALSIS & DESIGN
OPEN CHANNEL – UNIFORM FLOW

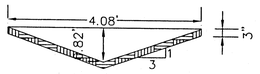
WORK SHEET NAME: KICK 66
COMMENT: CAPACITY FOR V100 100-YEAR RUN-OFF
SOLVE FOR DEPTH

GIVEN INPUT DATE:

LEFT SIDE SLOPE..	3.00:1 (H:V)
RIGHT SIDE SLOPE..	3.00:1 (H:V)
MANNING'S N...	0.014
CHANNEL SLOPE...	0.0112 FT/FT
DISCHARGE...	7.31 CFS

COMPUTED RESULTS:

DEPTH.....	0.68 FT
VELOCITY....	5.28 FPS
FLOW TOP WIDTH...	4.08 FT
CRITICAL DEPTH....	0.82 FT
CRITICAL SLOPE....	0.0041 FT/FT



ASPHALT SWALE SECTION FOR 7.31 CFS
NTS

NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specifications for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact line locating Services for locating existing utilities (260-1990).
4. Prior to constuction, the contractor shall excavate and verify the horizontal and vertical location of all construction. Should a conflict exist, the contractor shall notify the Engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential use.
6. All work on this project shall be performed in accordance with applicable Federal, State and local laws, rules and regulations concerning construction safety and health.
7. Maintenance of this facilities shall be the responsibilty of the owner of the property served.

DRAINAGE FACILITIES WITHIN CITY R/W

HYDROLOGY APPROVAL _____

DATE:

JOB NO:
DATE: SEPTEMBER 2001
REVISIONS

Sheet Title
GRADING & DRAINAGE PLAN
Drawn By: BJM
Checked By: 11/08/01

BJM DEVELOPMENT CONSULTANTS
DESIGN – PLANNER
Albuquerque, New Mexico

Project Name
KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUUERQUE, NEW MEXICO

SHEET NO.
S019

GRADING/DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING PORTIONS OF LOTS 41 THRU 46, BLOCK 5, ORIGINAL TOWNSITE OF WESTLAND, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO ARE CONTAINEDS HEREON:

1. VICINITY MAP 2. FEMA FLOODMAP 3. DRAINAGE CALCULATIONS

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS 1.84 ACRES AND IS LOCATED AT THE SOUTHWEST CORNER OF CENTRAL AVENUE SW AND 86TH ST. SW. THE EXISTING LAY OF THE LAND IS FROM NORTHWEST TO SOUTHEAST. ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL 0328D, DATED SEPTEMBER 20,1996, THIS SITE IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE, IT DOES CONTRIBUTE TO DOWNSTREAM FLOODING WITHIN BRIDGE BLVD. SW, WHICH IS BEING ELIMINATED BY THE BRIDGE BLVD. STORM SEWER IMPROVEMENTS.

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING/DRAINAGE PLAN, THE PROPOSED PROJECT WILL CONSIST OF 3333 SQ. FT. OF BUILDING, 997 SQ. FT. OF CAR WASH, 6480 SQ.FT. OF CANOPY AREA, ALONG WITH PAVED PARKING AND LANDSCAPING. THE DEVELOPED RUN-OFF WILL BE ROUTED TO THE FAR SOUTHEAST DRIVEPAD, WHICH THEN WILL ENTER A PROPOSED V- SHAPED BAR DITCH, WHICH WILL ROUTE THE RUN-OFF TO THE INTERSECTION OF 86TH ST. AND BRIDGE BLVD. (FREE DISCHARGE ALLOWED PER STEVE BOBERG CIP HYDROLOGY ENGINEER). THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 100-YEAR; 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRES AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL VOLUME II, DESIGN CRITERIA DATED 1997, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DICHARGE AND VOLUME OF RUN-OFF GENERATED.

DOWNSTREAM CAPACITY

PER THE MASTER DRAINAGE PLAN FOR THE BRIDGE BLVD. IMPROVEMENTS, FREE DISCHARGE IS ALLOWED FROM THIS SITE (PHONE CONVERSATION WITH STEVE BOBERG CIP HYDROLOGY ENGINEER)

ROBERTS OIL AREA =1.84ac.
PROJECT
ZONE1
PRECIPITATION: 360= 2.20in.
1440= 2.66in.
10da= 3.67in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:
TREATMENT A	0.44in.	1.29 cfs/ac.
TREATMENT B	0.67in.	2.03 cfs/ac.
TREATMENT C	0.99in.	2.87 cfs/ac.
TREATMENT D	1.97in.	4.37 cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS:	AREA
TREATMENT A	0ac.		0ac.
TREATMENT B	0ac.		0ac.
TREATMENT C	1.84ac.		0.461ac.
TREATMENT D	0ac.		1.374ac.

EXISTING EXCESS PRECIPITATION:

Weighted E =(0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(1.84)+(1.97)x(0.00)/ 1.84ac. = 0.99
V100-360 = (0.99)x(1.84)/12 = 0.1514ac-f= 6597 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(1.84)+(4.37)x(0.00) = 5.28cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(0.46)+(1.97)x(1.37) / 1.84ac. = 1.72
V100-360 = (1.72)x(1.84)/ 12.0= 0.2636ac-f= 11483 cf

V100-1440 = (0.26+1.37)x (2.66- 2.20)/12 = 0.3162ac-f= 13777cf

V100-10day = (0.26+1.37)x (3.67- 2.20)/12 = 0.4319ac-f= 18814cf

V100-10 YEAR = 4.87 CFS

PROPOSED PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(0.46)+(4.37)x(1.37) = 7.31cfs

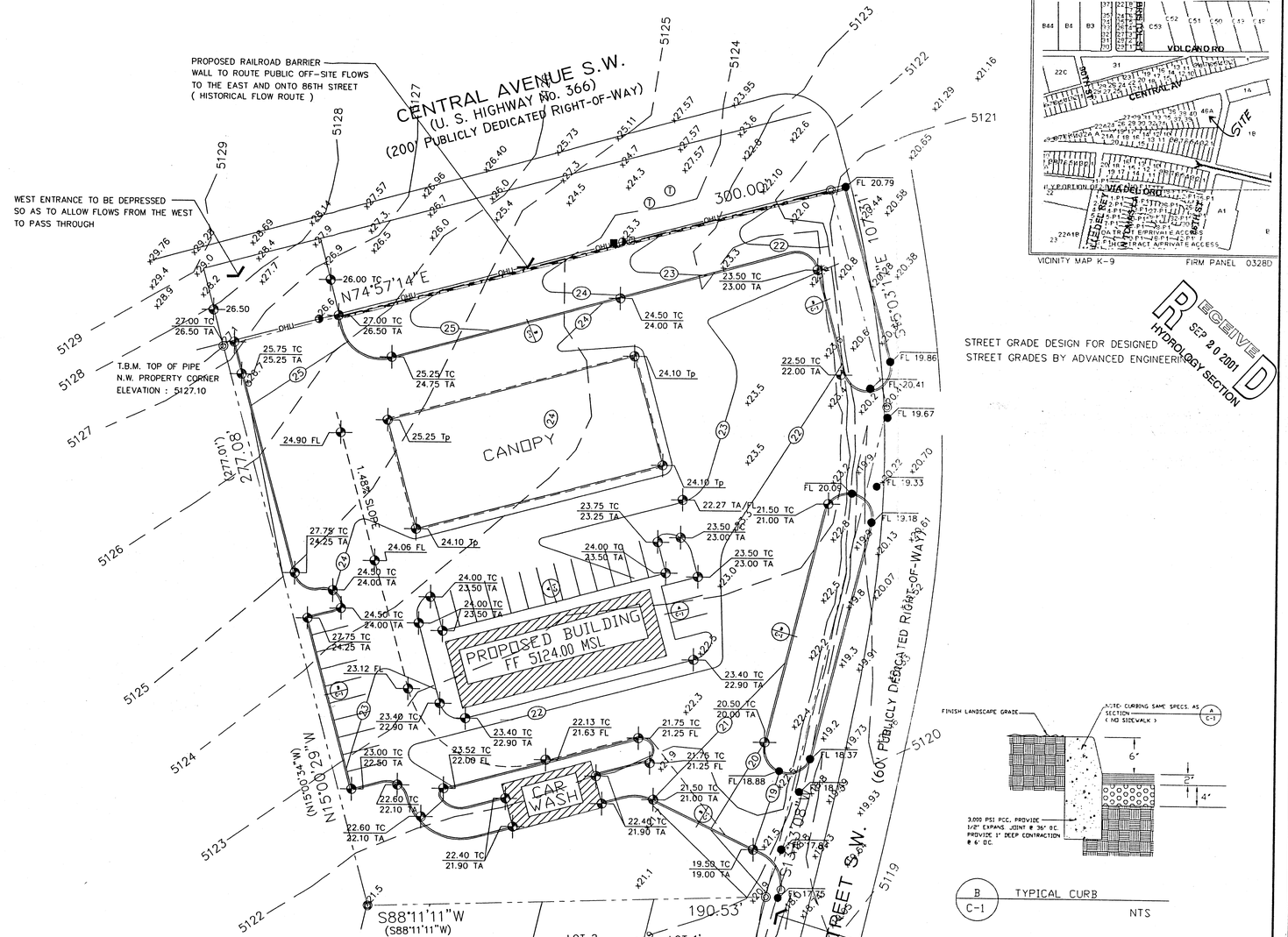
INCREASE 7.31 CFS - 5.28 CFS = 2.03 CFS

SYMBOL LEGEND

EXISTING CONTOUR	5102
EXISTING CONTOUR	26
DESIGNED SPOT ELEVATION	27.50 TC / 27.00 TA
PROPERTY LINE	
EASEMENT LINE	
FLOW DIRECTION	
EXISTING SPOT ELEVATION	+85.1
DOWN SPOUT	□
DESIGNED STREET GRADES	FL 19.83

ABBREVIATION LEGEND

TOP OF CON. PAD	TCP
TOP OF CURB	TC
TOP OF ASPHALT	TA
FLOWLINE	FL
TOP OF WALL	TW

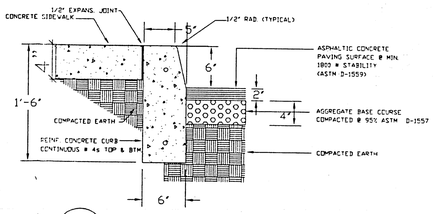


STREET GRADE DESIGN FOR DESIGNED STREET GRADES BY ADVANCED ENGINEERING

RECEIVED SEP 20 2001 HYDROLOGY SECTION

B / C-1 TYPICAL CURB NTS

SEE SWALE DETAIL FOR TEMPORARY ASPHALT SWALE WITHIN THE EXISTING BAR DITCH ALONG 86TH STREET MATCH INVERT THEN CARRY AT 1.1%



A / C-1 CURB AT CONCRETE WALK NTS

GRADING & DRAINAGE PLAN

Scale 1"=30'-0"

NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specification for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact line locating Services at (505) 260-1990 for locating existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizonal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential use.
6. All work on this project shall be performed in accordance with applicable Federal, State and local laws, rules and regulations concerning construction safty and health.
7. Maintenance of this facilities shall be the responsibility of the owner of the property served.

DRAINAGE FACILITIES WITHIN CITY R/W

HYDROLOGY APPROVAL _____

DATE:

LEGAL

PLAT OF 46-A BLOCK 5
ORIGINAL TOWNSITE OF WESTLAND
ALBUQUERQUE, BERNALILLO COUNTY
NEW MEXICO
UPC# 1-009-057-390-050-40301

BENCHMARK

"ACS" 7-K9
THE STATION IS LOCATED 0.14 MILES WEST OF 86TH STREET SW CENTERLINE OF 86TH STREET SW CENTER OF THE MEDIAN ON CENTRAL
ELEVATION: 5137.363
T.B.M. SEE PLAN DRAWING

JOB NO:
DATE: SEPTEMBER 2001
REVISIONS

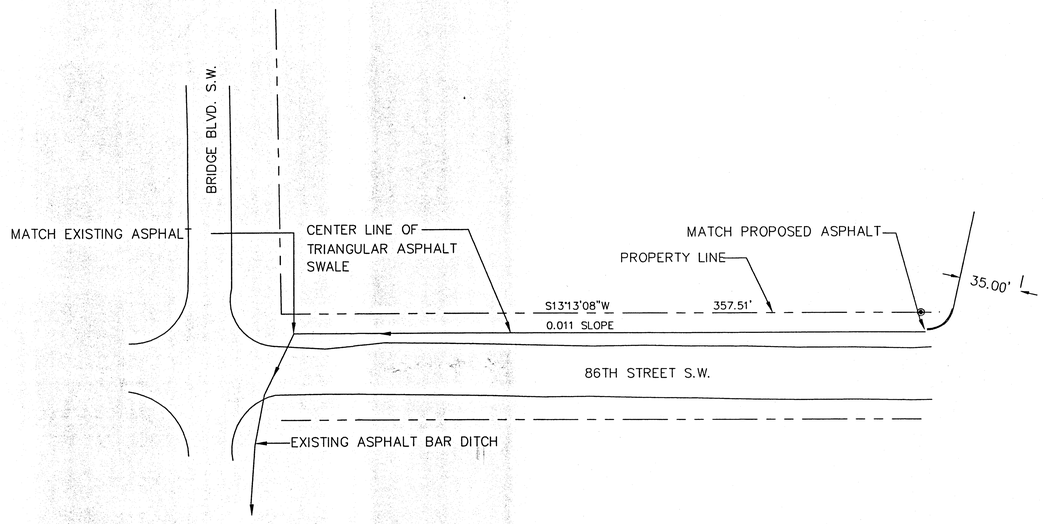
Sheet Title: GRADING & DRAINAGE PLAN
Drawn By: BJM
Checked By:

BJM DEVELOPMENT CONSULTANT
DESIGN - PLANNER
Albuquerque, New Mexico

Project Name: KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUERQUE, NEW MEXICO

SHEET NO
GD

SCALE: HORIZ. 1"=40'



TRIANGULAR CHANNEL ANALSIS & DESIGN
OPEN CHANNEL – UNIFORM FLOW

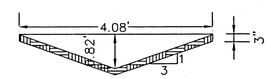
WORK SHEET NAME: KICK 66
COMMENT: CAPACITY FOR V100 100-YEAR RUN-OFF
SOLVE FOR DEPTH

GIVEN INPUT DATE:

LEFT SIDE SLOPE..	3.00:1 (H:V)
RIGHT SIDE SLOPE..	3.00:1 (H:V)
MANNING'S N...	0.014
CHANNEL SLOPE...	0.0112 FT/FT
DISCHARGE...	7.31 CFS

COMPUTED RESULTS:

DEPTH.....	0.68 FT
VELOCITY....	5.28 FPS
FLOW TOP WIDTH...	4.08 FT
CRITICAL DEPTH....	0.82 FT
CRITICAL SLOPE....	0.0041 FT/FT



ASPHALT SWALE SECTION FOR 7.31 CFS
NTS

NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specifications for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact line locating Services for locating existing utilities (260-1990).
4. Prior to constuction, the contractor shall excavate and verify the horizontal and vertical location of all construction. Should a conflict exist, the contractor shall notify the Engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential use.
6. All work on this project shall be performed in accordance with applicable Federal, State and local laws, rules and regulations concerning construction safety and health.
7. Maintenance of this facilities shall be the responsibilty of the owner of the property served.

DRAINAGE FACILITIES WITHIN CITY R/W

HYDROLOGY APPROVAL _____

DATE:

JOB NO:
DATE: SEPTEMBER 2001
REVISIONS

Sheet Title
GRADING & DRAINAGE PLAN
Drawn By: BJM
Checked By:

BJM DEVELOPMENT CONSULTANTS
DESIGN – PLANNER
Albuquerque, New Mexico

Project Name
KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUUERQUE, NEW MEXICO

SHEET NO.
S019

GRADING/DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING PORTIONS OF LOTS 41 THRU 46, BLOCK 5, ORIGINAL TOWNSITE OF WESTLAND, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO ARE CONTAINEDS HEREON:

1. VICINITY MAP 2. FEMA FLOODMAP 3. DRAINAGE CALCULATIONS

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS 1.84 ACRES AND IS LOCATED AT THE SOUTHWEST CORNER OF CENTRAL AVENUE SW AND 86TH ST. SW. THE EXISTING LAY OF THE LAND IS FROM NORTHWEST TO SOUTHEAST. ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL 0328D, DATED SEPTEMBER 20,1996, THIS SITE IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE, IT DOES CONTRIBUTE TO DOWNSTREAM FLOODING WITHIN BRIDGE BLVD. SW, WHICH IS BEING ELIMINATED BY THE BRIDGE BLVD. STORM SEWER IMPROVEMENTS.

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING/DRAINAGE PLAN, THE PROPOSED PROJECT WILL CONSIST OF 3333 SQ. FT. OF BUILDING, 997 SQ. FT. OF CAR WASH, 6480 SQ.FT. OF CANOPY AREA, ALONG WITH PAVED PARKING AND LANDSCAPING. THE DEVELOPED RUN-OFF WILL BE ROUTED TO THE FAR SOUTHEAST DRIVEPAD, WHICH THEN WILL ENTER A PROPOSED V- SHAPED BAR DITCH, WHICH WILL ROUTE THE RUN-OFF TO THE INTERSECTION OF 86TH ST. AND BRIDGE BLVD. (FREE DISCHARGE ALLOWED PER STEVE BOBERG CIP HYDROLOGY ENGINEER). THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 100-YEAR; 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40-ACRES AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL VOLUME II, DESIGN CRITERIA DATED 1997, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DICHARGE AND VOLUME OF RUN-OFF GENERATED.

DOWNSTREAM CAPACITY

PER THE MASTER DRAINAGE PLAN FOR THE BRIDGE BLVD. IMPROVEMENTS, FREE DISCHARGE IS ALLOWED FROM THIS SITE (PHONE CONVERSATION WITH STEVE BOBERG CIP HYDROLOGY ENGINEER)

ROBERTS OIL AREA =1.84ac.
PROJECT
ZONE1
PRECIPITATION: 360= 2.20in.
1440= 2.66in.
10da= 3.67in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:
TREATMENT A	0.44in.	1.29 cfs/ac.
TREATMENT B	0.67in.	2.03 cfs/ac.
TREATMENT C	0.99in.	2.87 cfs/ac.
TREATMENT D	1.97in.	4.37 cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS:	AREA
TREATMENT A	0ac.		0ac.
TREATMENT B	0ac.		0ac.
TREATMENT C	1.84ac.		0.461ac.
TREATMENT D	0ac.		1.374ac.

EXISTING EXCESS PRECIPITATION:

Weighted E =(0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(1.84)+(1.97)x(0.00)/ 1.84ac.
= 0.99
V100-360 = (0.99)x(1.84)/12 = 0.1514ac-f= 6597 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(1.84)+(4.37)x(0.00) = 5.28cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.44)x(0.00)+ (0.67)x(0.00)+(0.99)x(0.46)+(1.97)x(1.37) / 1.84ac.
= 1.72
V100-360 = (1.72)x(1.84)/ 12.0= 0.2636ac-f= 11483 cf

V100-1440 = (0.26+1.37)x (2.66- 2.20)/12 = 0.3162ac-f= 13777cf

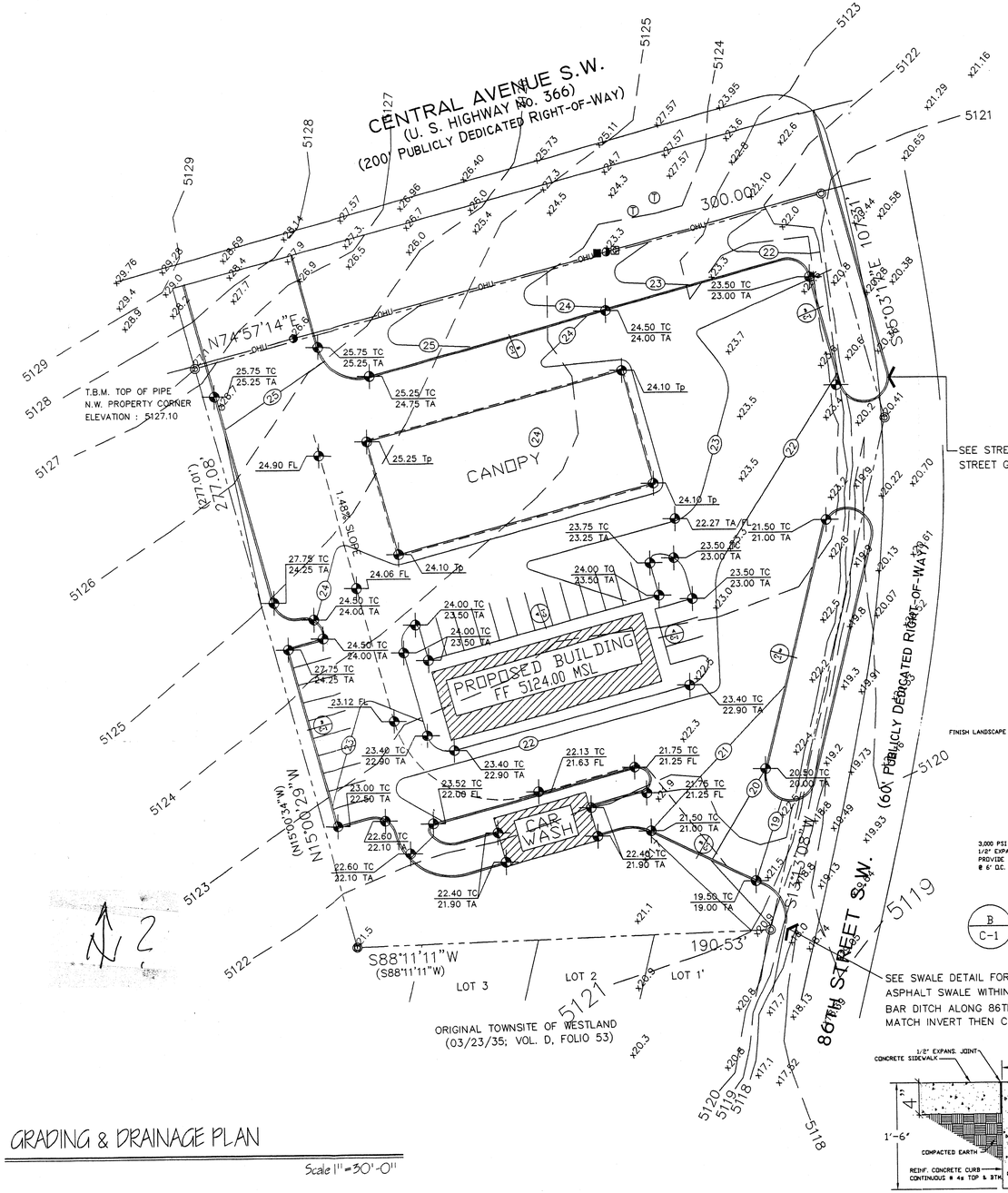
V100-10day = (0.26+1.37)x (3.67- 2.20)/12 = 0.4319ac-f= 18814cf

V100-10 YEAR = 4.87 CFS

PROPOSED PEAK DISCHARGE:

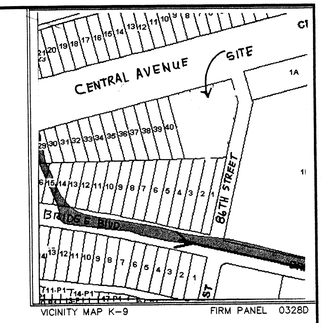
Q100 = (1.29)x(0.00)+ (2.03)x(0.00)+(2.87)x(0.46)+(4.37)x(1.37) = 7.31cfs

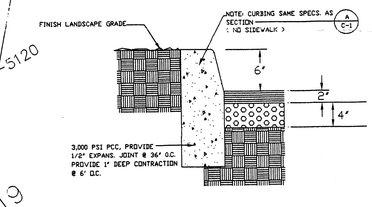
INCREASE 7.31 CFS - 5.28 CFS = 2.03 CFS



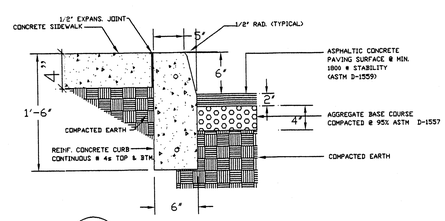
SEE STREET GRADE DESIGN FOR DESIGNED STREET GRADES BY ADVANCED ENGINEERING

SEE SWALE DETAIL FOR TEMPORARY ASPHALT SWALE WITHIN THE EXISTING BAR DITCH ALONG 86TH STREET MATCH INVERT THEN CARRY AT 1.1%





B C-1 TYPICAL CURB NTS



A C-1 CURB AT CONCRETE WALK NTS

GRADING & DRAINAGE PLAN

Scale 1" = 30'-0"

SYMBOL LEGEND

EXISTING CONTOUR	5102
EXISTING CONTOUR	26
DESIGNED SPOT ELEVATION	27.50 TC / 27.00 TA
PROPERTY LINE	
EASEMENT LINE	
FLOW DIRECTION	
EXISTING SPOT ELEVATION	+85.1
DOWN SPOUT	□

ABBREVIATION LEGEND

TOP OF CON. PAD	-	TCP
TOP OF CURB	-	TC
TOP OF ASPHALT	-	TA
FLOWLINE	-	FL
TOP OF WALL	-	TW

NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Standard Specification for Public Works Construction.
3. Two working days prior to any excavation, contractor must contact line locating Services at (505) 260-1990 for locating existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizonal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to residential use.
6. All work on this project shall be performed in accordance with applicable Federal, State and local laws, rules and regulations concerning construction safty and health.

LEGAL

PLAT OF 46-A BLOCK 5
ORIGINAL TOWNSITE OF WESTLAND
ALBUQUERQUE, BERNALILLLO COUNTY
NEW MEXICO
UPC# 1-009-057-390-050-40301

BENCHMARK

"ACS" 7-K9
THE STATION IS LOCATED 0.14 MILES WEST OF 86TH STREET SW CENTERLINE OF 86TH STREET SW CENTER OF THE MEDIAN ON CENTRAL
ELEVATION: 5137.363
T.B.M. SEE PLAN DRAWING

RECEIVED MAY 02 2001 HYDROLOGY SECTION

RECEIVED MAY 02 2001 HYDROLOGY SECTION

RECEIVED MAY 02 2001 HYDROLOGY SECTION

RECEIVED MAY 02 2001 HYDROLOGY SECTION

R. E. LEE, JR. NEW MEXICO 1872 REGISTERED PROFESSIONAL ENGINEER 4/30/01

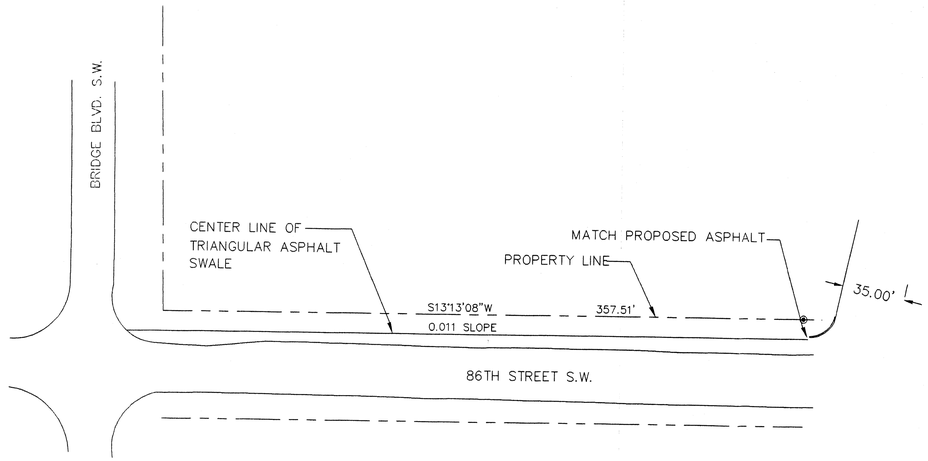
JOB NO:
DATE: MAY 2001
REVISIONS

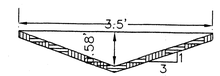
Sheet Title: GRADING & DRAINAGE PLAN
Drawn By: BJM
Checked By:

BJM DEVELOPMENT CONSULTANT
DESIGN - PLANNER
Albuquerque, New Mexico

Project Name: KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUUERQUE, NEW MEXICO

SHEET NO. GD





ASPHALT SWALE SECTION

NTS

SCALE: HORIZ. 1"=40'

RECEIVED
MAY 02 2001
HYDROLOGY SECTION

JOB NO:

DATE: MAY 2001

REVISIONS

Sheet Title
GRADING & DRAINAGE PLAN

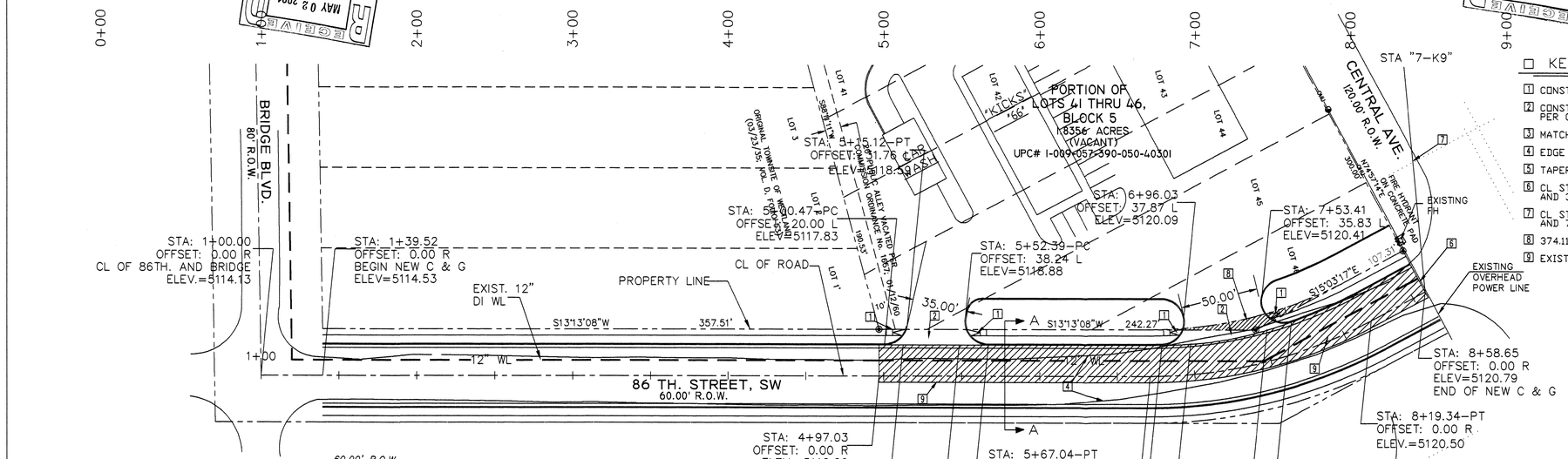
Drawn By: BJM

Checked By:

BJM DEVELOPMENT CONSULTANT
DESIGN — PLANNER
Albuquerque, New Mexico

Project Name
KICK 66 @ 86TH & CENTRAL S.W.
ALBUQUUERQUE, NEW MEXICO

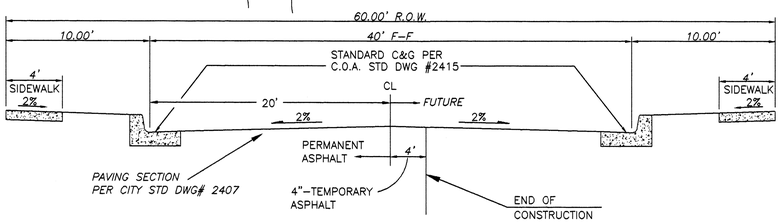
SHEET NO.
GD



KEYED NOTES

1. CONSTRUCT NEW WHEELCHAIR RAMP PER COA STD. DWG. NO 2441.
2. CONSTRUCT NEW PRIVATE ENTRANCE W/CONCRETE VALLEY GUTTER PER COA STD. DWG. NO. 2426
3. MATCH EXISTING PAVEMENT
4. EDGE OF EXISTING ASPHALT
5. TAPER TO THE EXISTING EDGE OF PAVEMENT
6. CL STATIONING TIE POINT TO PROPERTY CORNER IS N 74°56'43" E AND 30.00'.
7. CL STATIONING TIE POINT TO CITY STA "7-K9" IS S 80°52'35" W AND 784.92'.
8. 374.11 SF OF R.O.W. TO BE DEDICATED TO THE CITY OF ALBUQUERQUE
9. EXISTING PAVEMENT TO BE REMOVED AND REPLACED

CURVE TABLE (FACE OF CURB)					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CH. DIRECTION
C1	148.04	300.00	28°16'25"	146.54	N00°55'04"W
C2	133.24	270.00	28°16'25"	131.89	N00°55'04"W
C3	24.82	15.00	94°47'17"	22.08	N41°41'17"E
C4	26.86	15.00	102°36'57"	23.42	N39°36'35"W
C5	26.83	15.00	102°28'01"	23.39	N64°27'09"E
C6	20.30	15.00	77°31'59"	18.78	N25°32'51"W



SECTION A–A

SEE THIS SHEET FOR SECTION LOCATION

86th STREET S.W.
(EXISTING 60.00' RIGHT OF WAY)
STA: 1+00.00 TO 8+58.65

QUARTER POINTS

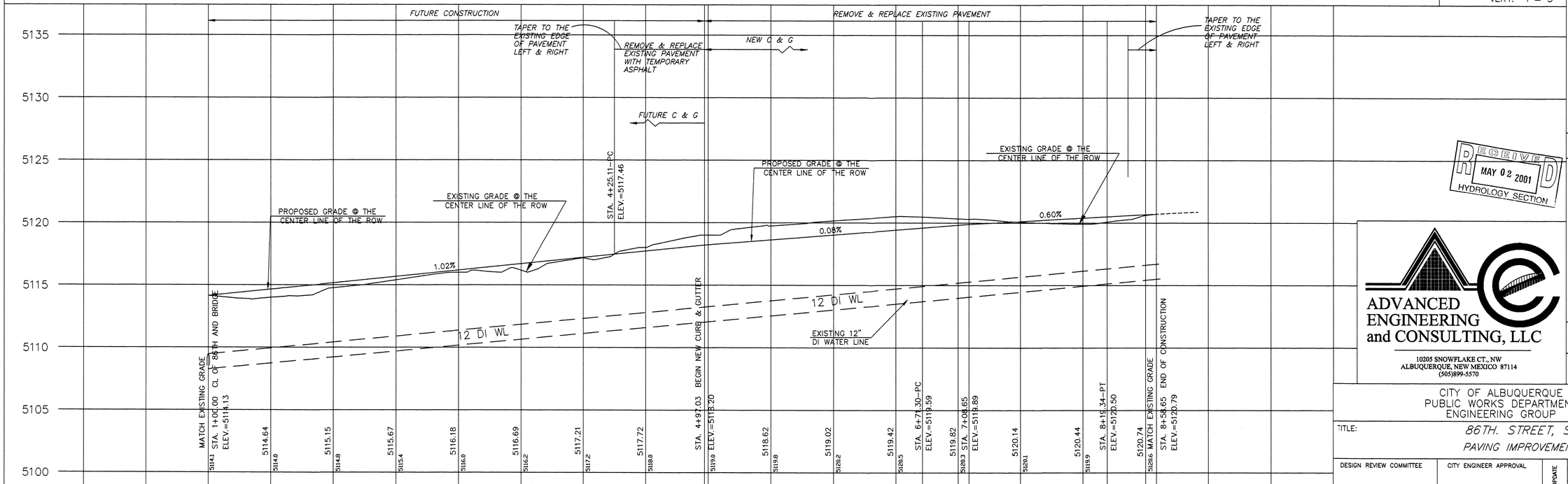
C3	FL	ELEV.
	1	5208.39
	2	5209.00
	3	5209.70

C4	FL	ELEV.
	4	5210.75
	5	5210.00
	6	5210.18

C5	FL	ELEV.
	1	5208.39
	2	5209.00
	3	5209.70

C6	FL	ELEV.
	4	5210.75
	5	5210.00
	6	5210.18

SCALE: HORIZ. 1"=50'
VERT. 1"= 5'



RECEIVED MAY 02 2001 HYDROLOGY SECTION

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
ACS "7-K9"
CENTRAL STATION DATA
NM STATE PLANE COORDINATES
Central Zone
X=355,815.77
Y=1,482,842.09
G-G=0.99967820
Do = -00°16'37"
ELEV=5137.36

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
REVISIONS			

DESIGN		DATE
DESIGNED BY	SB	4-01
DRAWN BY	SB	4-01
CHECKED BY	SB	4-01

ADVANCED ENGINEERING and CONSULTING, LLC
10205 SNOWFLAKE CT., NW
ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: 86TH. STREET, SW
PAVING IMPROVEMENTS

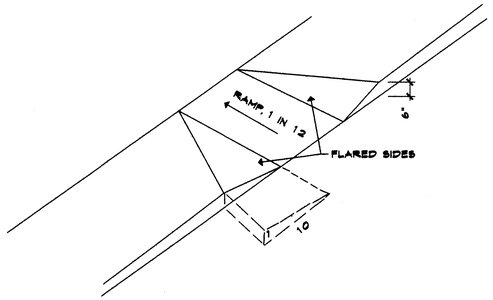
RECEIVED MAY 02 2001 HYDROLOGY SECTION

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

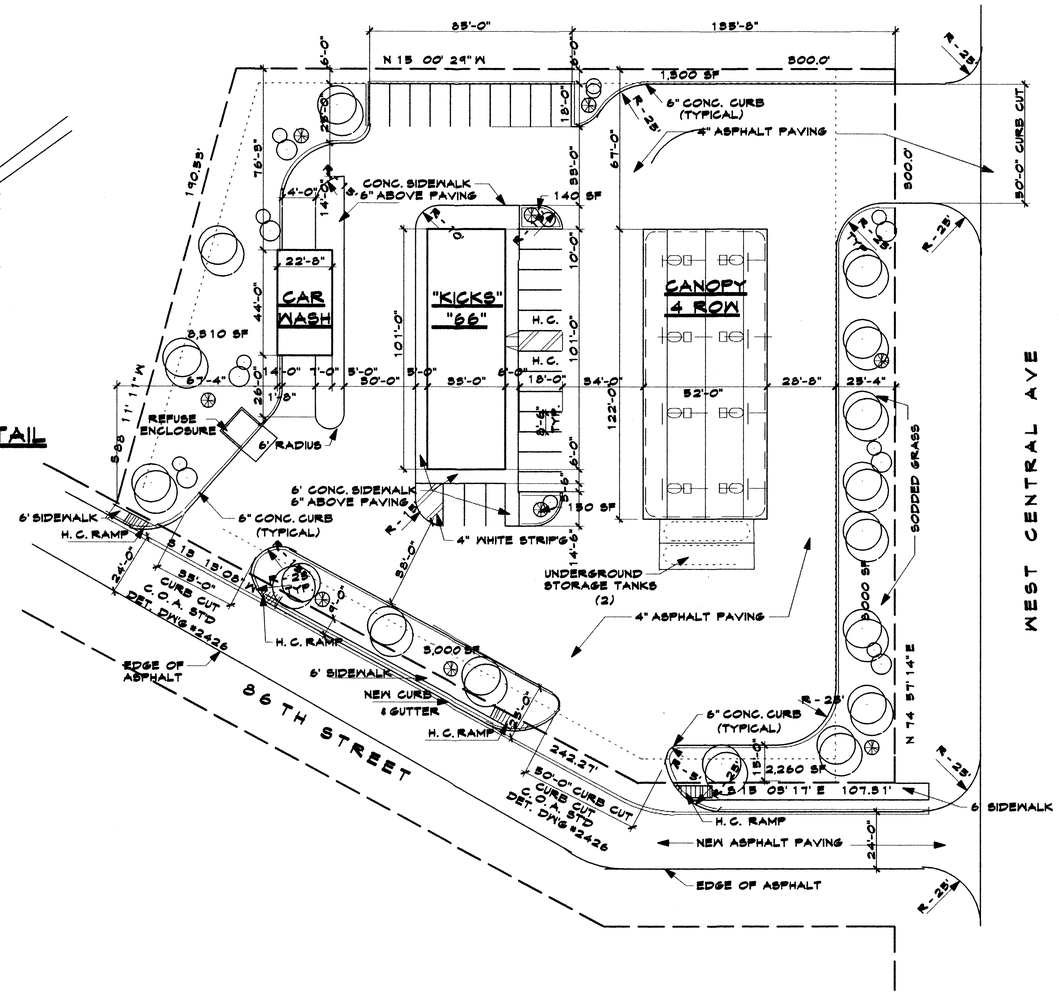
CITY PROJECT NO. | ZONE MAP NO. K-9-Z | SHEET 3 OF 7

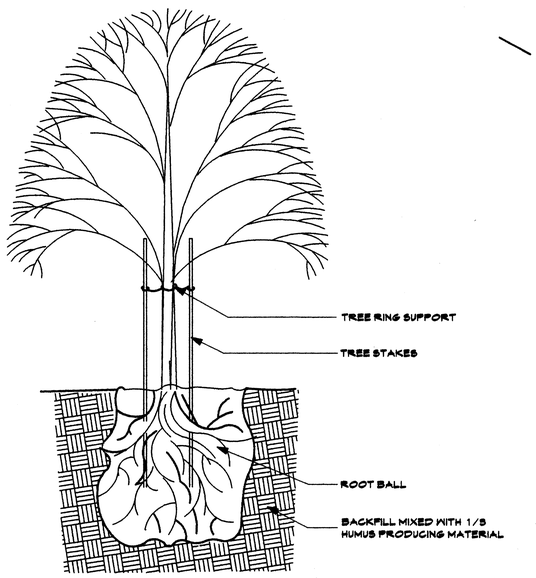
K-9/D21

PROPOSED FACILITY FOR ROBERTS OIL COMPANY



HANDICAPPED RAMP DETAIL





1 TREE PLANTING DETAIL

SCALE: 3/8" = 1'-0"

NOTE: PRILIMINARY SITE PLAN 1" = 30'-0'

AS REQUIRED BY TRANSPORTATION DEVELOPMENT SECTION, A COPY OF THE APPROVED TCL AS_BUILT WILL BE SUBMITTED BY THE DESIGNER OR ACCEPTAABLE REPRESENTATIVE PARTY WHICH INCLUDES A LETTER OF CERTIIFICATION STATING THE SITE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED TCL. VERIFICATION OF TCL ACCEPTABILITY, TO INCLUDE RANDOM FIELD CHECKS, DWILL BE MADE BEFORE A FINAL CERTIFICATE OF OCCUPANCY (C.O.) IS ISSUED. PLEASE CALL THIS OFFICE TO OBTAIN TEMPORARY C.O.

TRAFFIC CIRCULATION LAYOUT APPROVED

Signed 7/25/01 Date

VICINITY MAP

DESIGN DATA:

CONSTRUCTION TYPE; VN
STORE VN
CAR WASH
CANOPY II N

OCCUPANCY GROUP M & S-3

OCCUPANCY LOAD 1799/30 = 60
STORAGE 466/300 = 2

SOIL BEARING 1,500 PSF

WIND PRESSURE 75 MPH

CONCRETE;
SLAB 3,000 PSI
FLATWORK 2,500 PSI

FLOOR AREA;
STORE 3,333 S.F.
CAR WASH 1,012 S.F.
CANOPY 6,344 S.F.

LANDSCAPING

SEE LANDSCAPE SHEET

MODESTO ASH - 2" CALIPHER MIN. 6' IN HEIGHT (FRAXINUS VELUTINA)

CHAMISA - 5 GAL (CHRYSOTHAMNUS NAUSEOSUS)

GOLDEN ASTER - 5 GAL (CHRYSOPSIS VILLOSA)

GROUND COVER - 3/4" GRAVEL 'SANTA FE TAN' AND NATIVE GRASS WERE CALLED FOR ON SITE PLAN

IRRIGATION BY AUTOMATIC DRIP SYSTEM NOZZLES LOCATED AT EVERY PLANT

MAINTENANCE BY OWNER

LEGAL DESCRIPTION:

LOT #46, BLOCK #5, ORGINAL TOWNSHIP, 'WESTLAND'

STATE OF NEW MEXICO JAMES M. MILLER No. 495 REGISTERED ARCHITECT

JOB NO.	0115
DATE	5/01
REVISION	7/25
DRAWN BY	JWM
CHECKED BY	

SHEET TITLE: SITE PLAN & DETAILS

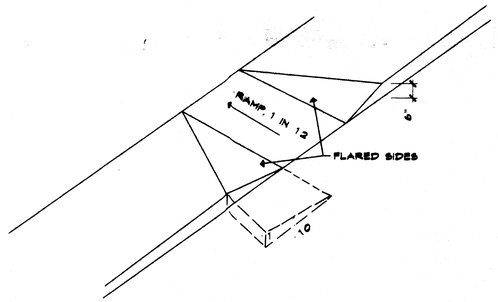
MILLER AND ASOCIATES
ARCHITECTS PLANNERS
2823 RICHMOND N.E.
ALBUQUERQUE, NEW MEXICO 87107

JOB TITLE: PROPOSED FACILITY FOR ROBERTS OIL COMPANY 3600 CENTRAL AVE. S.W.

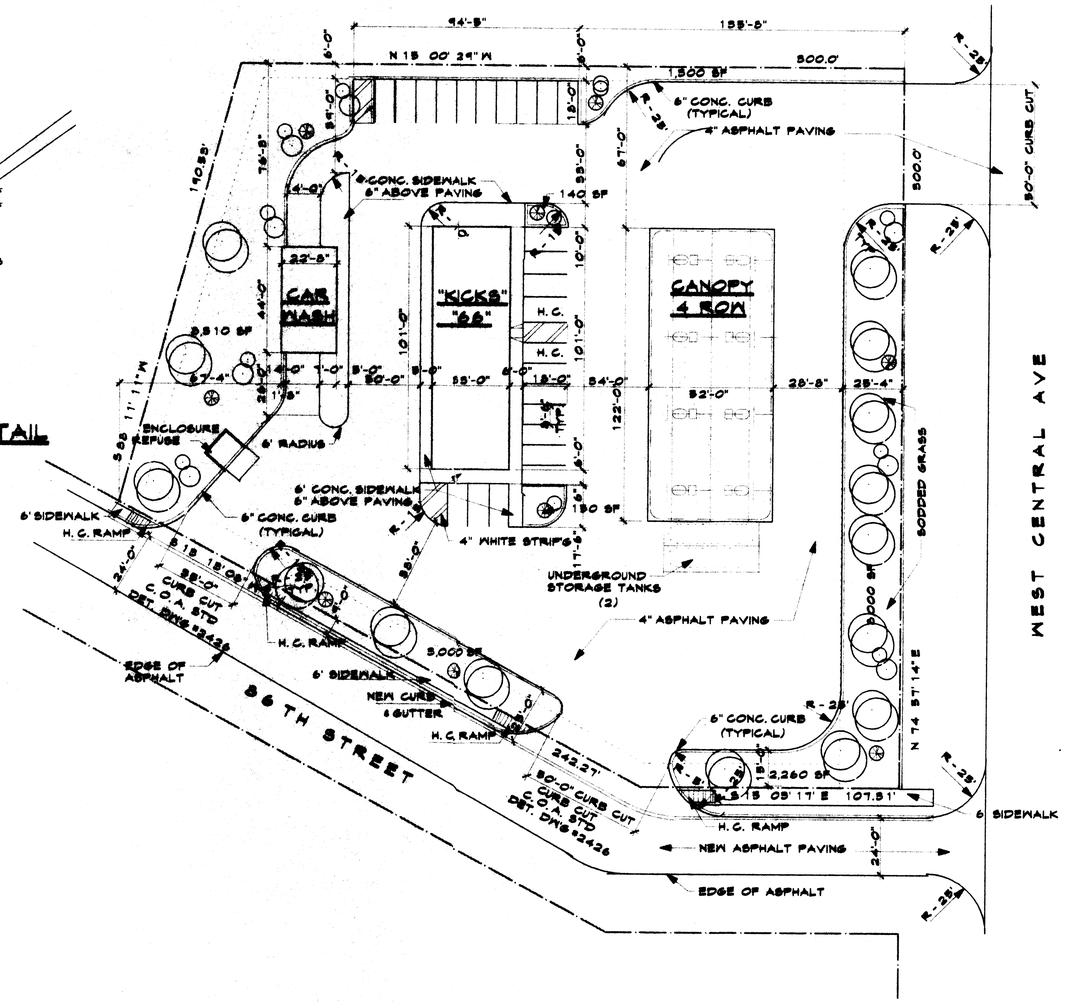
PROPOSED FACILITY FOR ROBERTS OIL COMPANY

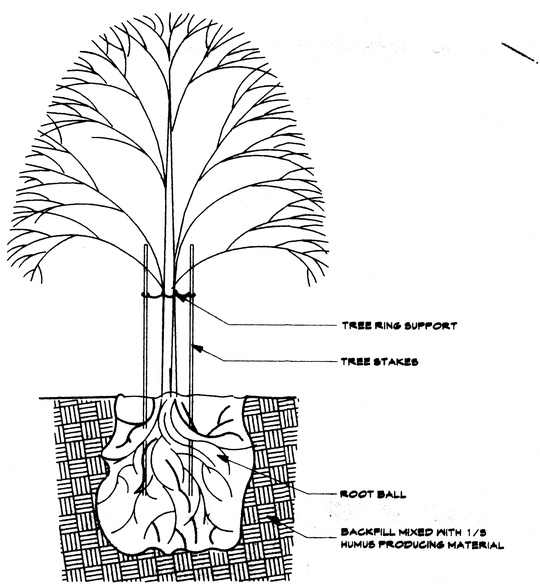
STATE OF NEW MEXICO
JAMES W. MILLER
No. 1395
REGISTERED ARCHITECT

RECEIVED
NOV 02 2001
HYDROLOGY SECTION



HANDICAPPED RAMP DETAIL





1 TREE PLANTING DETAIL

SCALE: 3/8" = 1'-0"

NOTE: PRILIMINARY SITE PLAN 1" = 30'-0'

AS REQUIRED BY TRANSPORTATION DEVELOPMENT SECTION, A COPY OF THE APPROVED TCL AS_BUILT WILL BE SUBMITTED BY THE DESIGNER OR ACCEPTAABLE REPRESENTATIVE PARTY WHICH INCLUDES A LETTER OF CERTIIFICATION STATING THE SITE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED TCL. VERIFICATION OF TCL ACCEPTABILITY, TO INCLUDE RANDOM FIELD CHECKS, DWILL BE MADE BEFORE A FINAL CERTIFICATE OF OCCUPANCY (C.O.) IS ISSUED. PLEASE CALL THIS OFFICE TO OBTAIN TEMPORARY C.O.

VICINITY MAP

DESIGN DATA:

CONSTRUCTION TYPE;
STORE V N
CAR WASH
CANOPY II N

OCCUPANCY GROUP M & S-3

OCCUPANCY LOAD 1799/30 = 60
STORAGE 466/300 = 2

SOIL BEARING 1,500 PSF

WIND PRESSURE 75 MPH

CONCRETE;
SLAB 3,000 PSI
FLATWORK 2,500 PSI

FLOOR AREA;
STORE 3,333 S.F.
CAR WASH 1,012 S.F.
CANOPY 6,344 S.F.

LANDSCAPING

SEE LANDSCAPE SHEET

MODESTO ASH - 2" CALIPHER MIN. 6' IN HEIGHT (FRAXINUS VELUTINA)

CHAMISA - 3 GAL (CHRYSOTHAMNUS NAUSEOSUS)

GOLDEN ASTER - 3 GAL (CHRYSOPSIS VILLOSA)

GROUND COVER - 3/4" GRAVEL 'SANTA FE TAN' AND NATIVE GRASS WERE CALLED FOR ON SITE PLAN

IRRIGATION BY AUTOMATIC DRIP SYSTEM NOZZLES LOCATED AT EVERY PLANT

MAINTENANCE BY OWNER

LEGAL DESCRIPTION:

LOT #46, BLOCK #3, ORGINAL TOWNSHIP, 'WESTLAND'

RECEIVED
NOV 02 2001
HYDROLOGY SECTION

JOB NO.
DATE
REVISION Nov '01
DRAWN BY JLM
CHECKED BY

SHEET TITLE: SITE PLAN & DETAILS

MILLER AND ASOCIATES
ARCHITECTS PLANNERS
2223 RICHMOND N.E.
ALBUQUERQUE, NEW MEXICO 87107

JOB TITLE: PROPOSED FACILITY FOR ROBERTS OIL COMPANY 5600 CENTRAL AVE. S.W.