159098

LEGAL DESCRIPTION:

LOT 11 OF UNPLATTED LANDS KNOWN AS "160 ACRE MASTER PLAN".

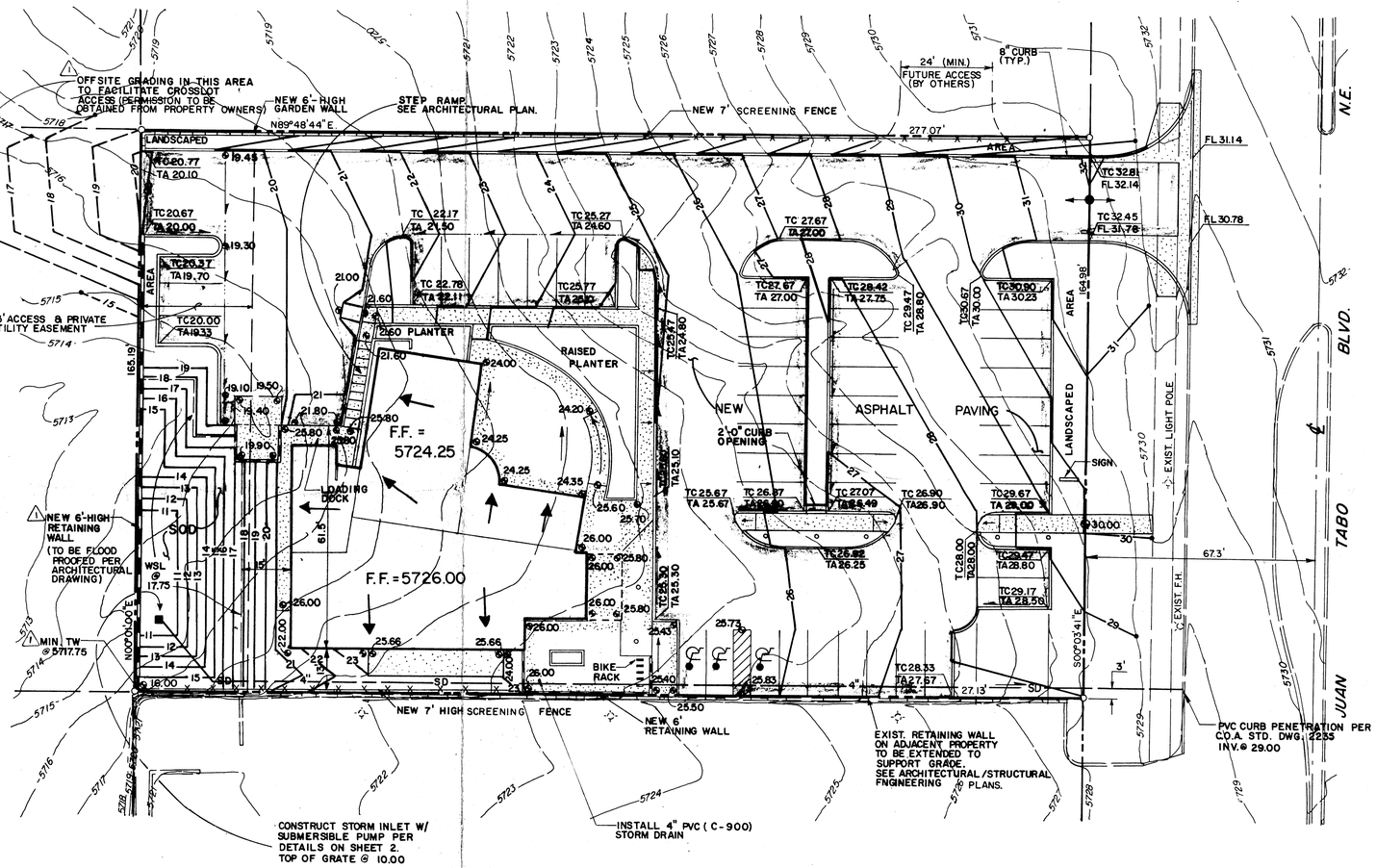
BENCHMARK:

A STANDARD NMSHC BRASS TABLET STAMPED "JT-1A", SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED IN THE SOUTHERLY MEDIAN ON JUAN TABO BLVD. N.E. & MONTGOMERY BLVD. N.E. ELEVATION = 5721.25 FEET (M.S.L.D.)

SCALE: 1" = 20'-0"

LEGEND:

EXISTING SPOT ELEVATION	LIGHT FIXTURE
PROPOSED SPOT ELEVATION	EXIST. LIGHT POLE
5714 EXISTING CONTOUR	EXISTING RETAINING WALL
19 PROPOSED CONTOUR	PROPOSED CONCRETE GARDEN WALL
EXISTING FLOWLINE	PROPERTY LINE
PROPOSED FLOWLINE	EASEMENT LINE
PROPOSED DIRECTION OF RUNOFF	CENTERLINE
PROPOSED ROOF DRAINAGE	PROPOSED RETAINING WALL
PROPOSED ASPHALT	HIGH POINT
PROPOSED CONCRETE	17 FUTURE PROPOSED CONTOUR
TC TOP OF CURB	TW TOP OF WALL ELEVATION
FL FLOWLINE	PROPOSED CHAIN LINK FENCE
FF FINISHED FLOOR ELEVATION	
EXISTING FIRE HYDRANT	



Erosion Control Measures:

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.

Survey Note
Boundary data is based on Replat of Lands of Ferrari-Esquibel-Palmer prepared by Southwest Surveying Co. Filed April 11, 1985. Book C-26, page 192.

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER
5.20.94

⚠ DRAINAGE PLAN

The following items concerning the Double Rainbow Drainage Plan are contained hereon:

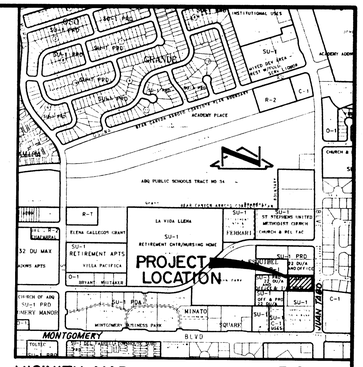
1. Vicinity Map
2. Grading Plan
3. Calculations
4. Pump Details & Calculations

As shown by the Vicinity Map, the site is located on the west side of Juan Tabo boulevard N.E. between Montgomery Boulevard N.E. and Lagrima de Oro N.E. At present, the site is undeveloped. Much of the surrounding area is developed, making this an infill site.

As shown by Panel 18 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated flood hazard zone. Further review of this mapping does not reveal downstream flooding to which this site contributes. At present, the site slopes from east to west onto adjacent undeveloped property. The site is situated down slope from Juan Tabo Boulevard N.E., which is a developed City street.

The Grading Plan shows 1) existing grades indicated by contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown this plan, the proposed improvements consist of the construction of a building along with adjacent paving and landscaping. Due to the fact that the site slopes away from Juan Tabo Boulevard N.E. at an average 5% gradient, it is not possible to obtain gravity drainage back to the street. Because of this, a pond is proposed to contain 100% of the 100-year developed runoff and to drain that pond with a submersible pump. The forced main discharge from the pond will discharge into Juan Tabo Boulevard N.E. Waterproofing of the adjacent walls will be necessary to allow for ponding within 15' of the structures.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, an increase in runoff is generated. The maximum depth of the pond will be approximately 6', thereby requiring fencing of the pond area. The required volume was not calculated using the hydrograph method from the new hydrology criteria, in the event that the submersible pump malfunctions. Therefore, the V_{100} for the site was used so as to determine the volume of the pond. In order to provide erosion control for the pond, this area will be sodded.



VICINITY MAP F-21
SCALE: 1" = 750' (APPROX.)

POND VOLUME (Calculated by the Average End Area Method)

Elev (ft)	Area (ft²)	Vol (cf)	Σ Vol (cf)
10	0		
11	368	184	184
12	550	459	643
13	781	665.5	1,308.5
14	1,015	898	2,206.5
15	1,440	1,227.5	3,434
16	1,823	1,631.5	5,065.5
17	2,167	1,995	7,060.5
18	2,493	2,330	9,390.5
19	2,825	2,659	12,049.5

W.S.L. between 17 & 18
By interpolation 17.75 area of 2411.5 sf
Vol = [(2167 + 2411.5)/2]0.7 = 1716.94 cf
ΣVol = 7,060.5 + 1716.94 = 8,777.43 cf
W.S.L. approximately 17.75

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
3. 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.
4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
6. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.
7. An Excavation/Construction Permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
8. Backfill compaction shall be according to ARTERIAL street use.
9. Maintenance of these facilities shall be the responsibility of the owner of the property served.

CALCULATIONS

Site Characteristics

1. Precipitation Zone = 4
2. $P_{6,100} = P_{360} = 2.90$ in.
3. Total Area (A_T) = 1.05 acres
4. Existing Land Treatment

Treatment	Area (sf/ac)	%
A	40,950 / 0.94	89.5
B	4,790 / 0.11	10.5

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
B	9,900 / 0.23	21.6
D	35,840 / 0.82	78.4

Existing Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(0.80)(0.94) + (1.08)(0.11)]/1.05 = 0.83$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (0.83/12)1.05 = 0.0726$ ac.ft.; 3,170 cf

2. Peak Discharge

$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$
$Q_p = Q_{100} = (2.20)(0.94) + (2.92)(0.11) = 2.4$ cfs

Developed Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(1.08)(0.23) + (2.64)(0.82)]/1.05 = 2.30$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (2.30/12)(1.05) = 0.2011$ ac. ft.; 8,760 cf

2. Peak Discharge

$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$
$Q_p = Q_{100} = (2.92)(0.23) + (5.25)(0.82) = 5.0$ cfs

Comparison

1. $\Delta V_{100} = 8,760 - 3,170 = 5,590$ cf (increase)
2. $\Delta Q_{100} = 5.0 - 2.4 = 2.6$ cfs (increase)

APPROVALS	NAME	DATE
A.C.E. / DESIGN	B Montoya	5/24/94
INSPECTOR		
A.C.E. / FIELD		

RECEIVED MAY 2 3 1994

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

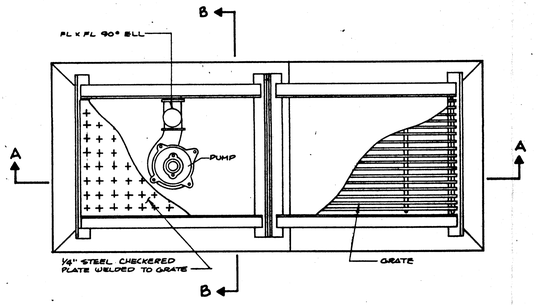
GRADING AND DRAINAGE PLAN

DOUBLE RAINBOW BAKERY & CAFE

DESIGNED BY M.F.D.
DRAWN BY T.P.H.
APPROVED BY J.G.M.

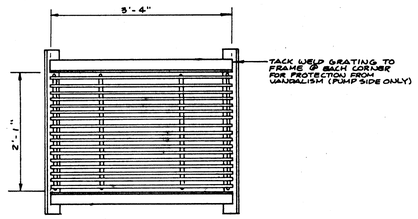
NO.	DATE	BY	REVISIONS
⚠	5/94	M.F.D.	REVISE DRAINAGE PLAN, SHOW EASEMENT, FLOOD PROOFING.

JOB NO. 921122
DATE 12-1993
SHEET 1 OF 2



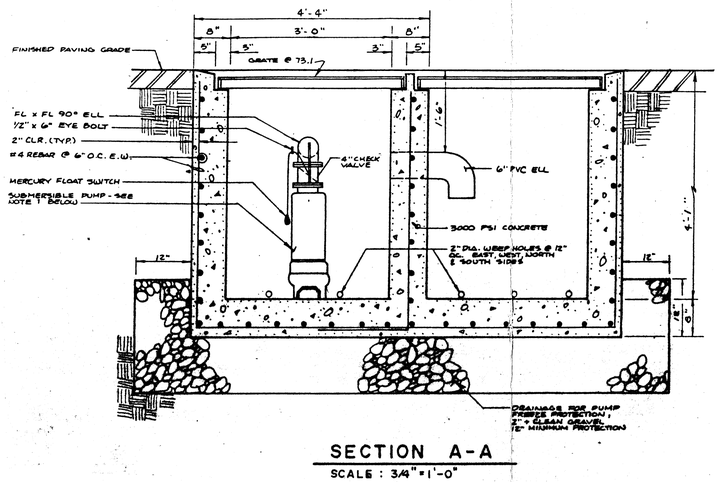
SUMP PIT AND INLET PLAN

SCALE : 3/4" = 1'-0"



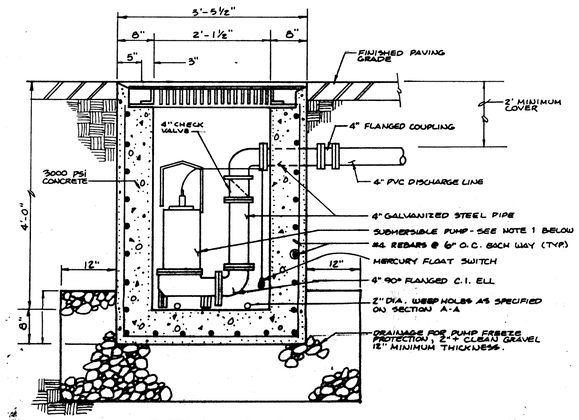
TYPICAL INLET GRATE PLAN

SCALE : 3/4" = 1'-0"



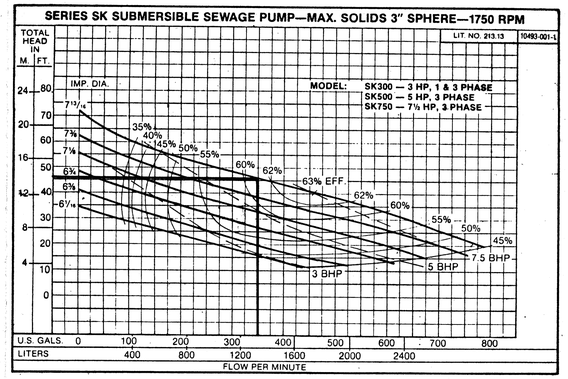
SECTION A-A

SCALE : 3/4" = 1'-0"



SECTION B-B

SCALE : 3/4" = 1'-0"



Pump Calculations

1. Estimated Discharge Rate 350 GPM

2. Head Loss

   A. Elevation 29'-10' = 19'

   B. Friction (4" pipe)
      Type of Pipe: PVC
      Design C Value: 130
      Chart C Value: 100
      Correction Required = 0.62
      $H_F = 0.2083*(100/C)^{1.85}* (q^{1.85}/d^{4.8655})$
      H_F = 6.1 ft/100 ft (6.1/100)305 = 18.61 ft
      Length of Pipe = 305'±

   C. Friction (4" pipe)
      Type of Pipe: Steel
      Design C Value: 100
      Chart C Value: 100
      No Correction Required
      H_F = 24.12 ft/100 ft

      Length of Pipe = 8'±

      Equivalent Length of Pipe
      2 90° Ell @ 11 ft ea For 22 ft
      1 45° Ell @ 5 ft ea For 5 ft
      $H_{F,S}$ = (8+22+5)(24.1/100) = 8.44 ft

   D. Total

      $H_T = H_Z + H_{F,P} + H_{F,S}$ = 19+18.61 +8.44 = 46.05 ft

      Q = 350 GPM (1 cf/7.48 gallons)(1 min/60 sec) = 0.8 cfs

Reference: Cameron Hydraulic Data, 14th Edition Ingersoll-Rand Company, Woodcliff Lake, NM 1970, pp-27, 36 and 48.

Notes:

1. Install one HYDRO-O-MATIC submersible pumps, Model SK500, 7½ HP motor, or approved equal. Pump installation shall include two mercury float switches with controls set for "OFF" and "ON" modes of operation.

2. Refer to Electrical Plans for location of pump control box, installation of electrical cable/conduit and pump/control one-line diagrams.

3. Grating and frame shall be cleaned of all scale, rust and foreign materials and shall be painted with one shop coat of red oxide primer, then 2 finish coats of aluminum paint (AASHO M69).

4. Installation of the mercury float switches shall be at levels providing optimum pumping time without excessive pump cycling.

RECEIVED
MAY 2 3 1994

JEFFREY G. MORTENSEN
NEW MEXICO
8547
REGISTERED PROFESSIONAL ENGINEER
05-20-94

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

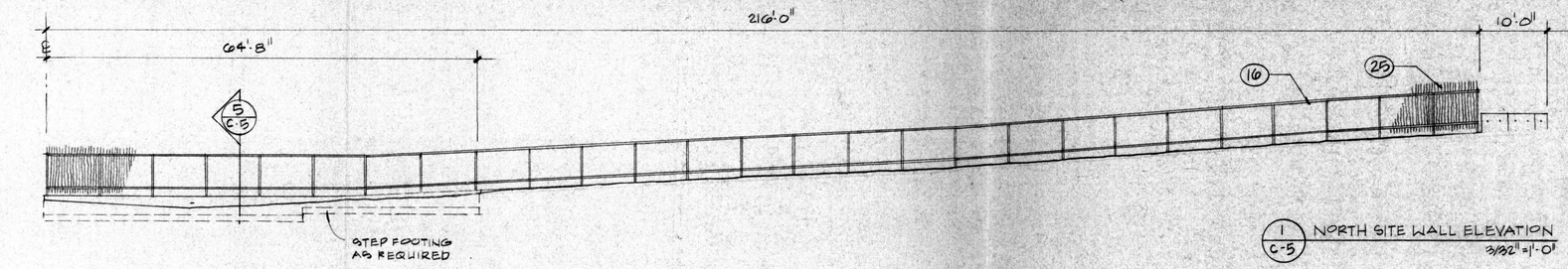
SUBMERSIBLE PUMP DETAILS & SECTIONS

DOUBLE RAINBOW BAKERY & CAFE

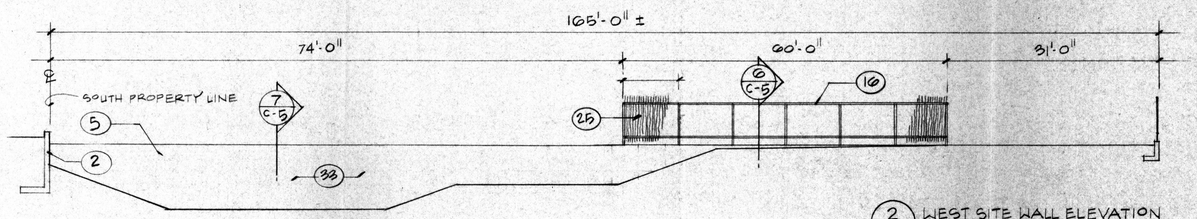
DESIGNED BY M.F.D.
DRAWN BY T.P.H.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS

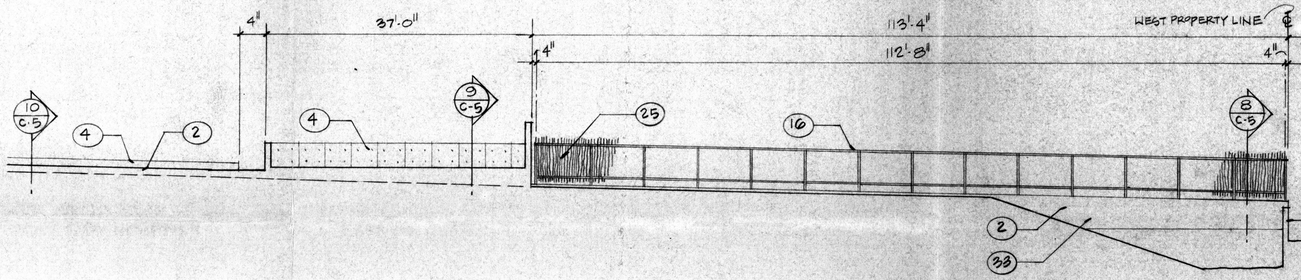
JOB NO. 921122
DATE 12-1993
SHEET 2 OF 2



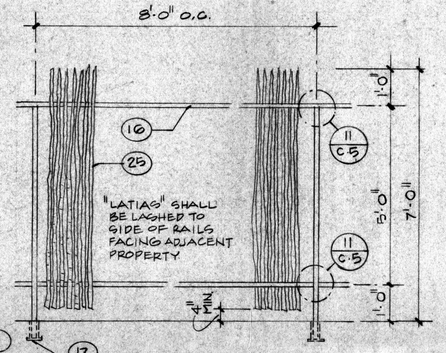
1 C-5 NORTH SITE WALL ELEVATION
3/32"=1'-0"



2 C-5 WEST SITE WALL ELEVATION
3/32"=1'-0"



3 C-5 SOUTH SITE WALL ELEVATION
3/32"=1'-0"



4 C-5 DETAIL @ "COYOTE" FENCE
1/2"=1'-0"

KEYED NOTES

SITE WALLS AND PAVING (* SEE STRUCTURAL DRAWINGS)

1. EXISTING REIN. CONCRETE FOOTING (V.I.F.)
2. EXISTING REIN. CONCRETE RET. WALL (V.I.F.)
3. REIN. CONCRETE FOOTING ("L" FOOTING AT PROPERTY LINE) *
4. REIN. CONCRETE RET. WALL- ARCHITECTURAL WHERE EXPOSED TO VIEW* (SEE ELEVATIONS FOR JOINT AND TIE PATTERN)
5. REIN. CMU WALL* (GROWN TOP COURSE TO DRAIN)
6. 4" REIN. CONC. SLAB ON GRADE* (SEE PLAN FOR JOINT PATTERN) SLIP RESISTANT SURFACE AT RAMP AND STAIR
7. 8" REIN. CONC. SLAB AT TRASH ENCLOSURE APRON
8. 1/2" EXPANSION JOINT OF COMPRESSIBLE FILLER
9. 1/2" TROWELED CONTROL JOINT (SEE DETAIL)
10. PLASTIC CONE SNAP TIE PATTERN
11. CAST-IN-PLACE RUSTICATION JOINT (SEE DETAIL 18/C-4)
12. ASPHALT PAVING
13. COMPACTED FILL
14. CONCRETE CURB (SEE DETAIL)

HANDRAILS / GUARDRAILS / FENCING

15. 1 1/2" O.D. STANDARD STEEL TUBING (PER ANSI AND ADA GUIDELINES)
16. 2" O.D. STANDARD UNTREATED STEEL FENCE RAIL
17. STEEL PIPE SLEEVE WITH MIN. OF 2 ANCHOR STUDS. GROUT SOLID (I.D. MAX. 1/2" LARGER THAN VERTICAL RAIL SUPPORT)
18. SHRINK RESISTANT GROUT
19. 3/8" STEEL ROD STOCK
20. 3/8" STEEL PLATE (3/16" RADIUS AT ALL EXPOSED EDGES)
21. 3/4 X 3/4 X 3/16 STEEL ANGLE FRAME W/ WELDED MITERED CORNERS
22. 4" O.C. STEEL MESH OF 3/16" ROD (WELD TO FRAME AS REQ'D)
23. 3/8" STEEL ROD WALL MOUNTED HANDRAIL SUPPORT
24. MACHINE BOLT AND SPACER
25. 6' "LATIA" SLATS LASHED TO FENCE RAILS WITH BLACK WIRE (CUT TO UNIFORM HEIGHT AFTER INSTALLATION)

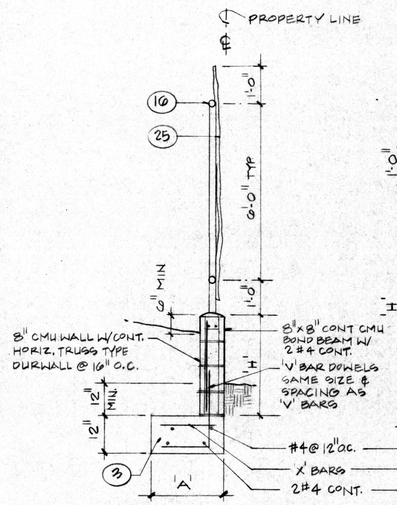
MISC.

26. 4" O.D. STEEL PIPE FILLED SOLID W/ CONC.
27. 1 1/2" O.D. PAINTED STEEL BIKE RACK LOOP AND H.C. SIGN LOOP
28. 4 X 4 X 1/4 STEEL ANGLE W/ ANCHORS, CAST-IN-PLACE
29. DOCK BUMPER
30. WALKWAY LIGHT CAST IN CONC. WALL OR BOLLARD
31. CAST-IN-PLACE CONCRETE BOLLARD
32. WELD AS REQUIRED
33. "THORO SEAL" CEMENTIOS WATERPROOF MEMBRANE @ EXPOSED RETAINING WALLS AROUND DETENTION POND. APPLY TO WALLS AND FOOTINGS.

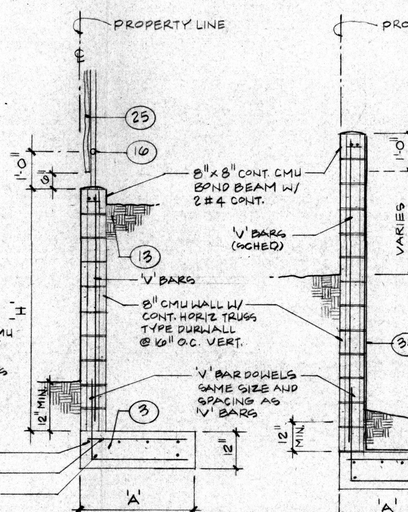
SITE WALL REIN. SCHEDULES

8" CONC. PROPERTY LINE RET. WALL			
'H' MAX	'A'	'V' BARS	'X' BARS
≤ 4'-0"	2'-0"	#4@16"	#3@16"
6'-0"	3'-4"	#4@16"	#4@16"
8'-0"	4'-8"	#5@12"	#5@12"

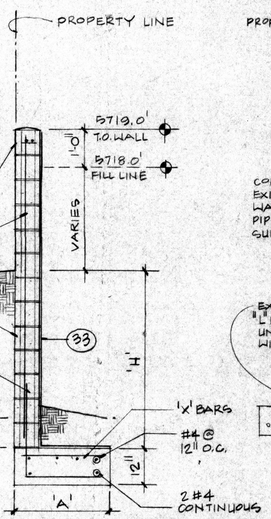
8" CMU PROPERTY LINE RET. WALL			
'H' MAX.	'A'	'V' BARS	'X' BARS
≤ 4'-0"	2'-0"	#4@24"	#3@16"
6'-0"	3'-4"	#5@16"	#4@16"
8'-0"	4'-8"	#6@8"	#5@12"



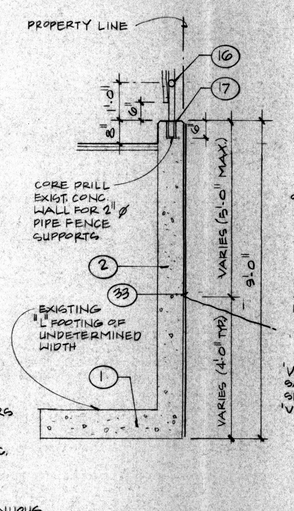
5 C-5 SECTION @ NORTH FENCE
1/2"=1'-0"



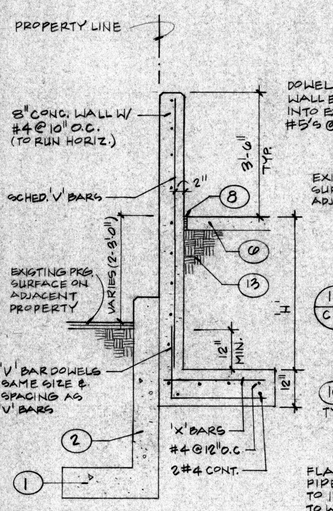
6 C-5 SECTION @ LOWER PKG.
1/2"=1'-0"



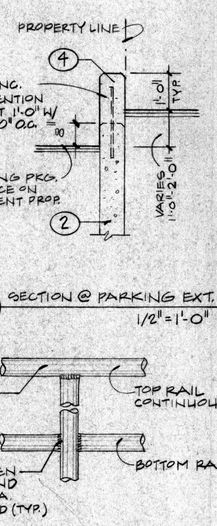
7 C-5 SECTION @ WEST POND WALL
1/2"=1'-0"



8 C-5 SECTION @ EXIST. RET. WALL
1/2"=1'-0"

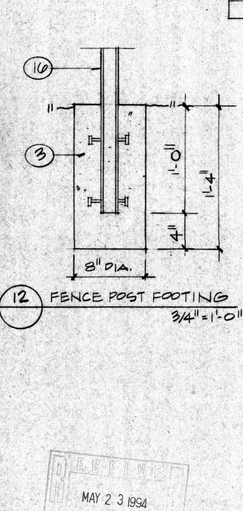


9 C-5 SECTION @ RET./GUARD WALL
1/2"=1'-0"



10 C-5 SECTION @ PARKING EXT.
1/2"=1'-0"

11 C-5 DETAIL @ FENCE JOINTS
1 1/2"=1'-0"



12 C-5 FENCE POST FOOTING
3/4"=1'-0"

STATE OF NEW MEXICO
EDWARD FITZGERALD
No. 1184
4.19.94
REGISTERED ARCHITECT

RECEIVED
MAY 23 1994
PLANNING DIVISION

DOUBLE RAINBOW
Bakery & Cafe
Juan Tabo NE
Albuquerque / New Mexico

Drawn By K.K. Date 4.19.94

Edward Fitzgerald/ Architect
2328 Laird Avenue NE
Albuquerque, New Mexico
87112
505.268.9085

C-5 OF

Drawing SITE WALL ELEV./DETAILS

Revisions

J59098

LEGAL DESCRIPTION:

LOT 11 OF UNPLATTED LANDS KNOWN AS "160 ACRE MASTER PLAN".

BENCHMARK:

A STANDARD NHSHC BRASS TABLET STAMPED "JT-1A", SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED IN THE SOUTHERLY MEDIAN ON JUAN TABO BLVD. N.E. & MONTGOMERY BLVD. N.E.,
ELEVATION = 5721.25 FEET(M.S.L.D)

SCALE: 1" = 20'-0"

LEGEND:

EXISTING SPOT ELEVATION	LIGHT FIXTURE
PROPOSED SPOT ELEVATION	EXIST. LIGHT POLE
5714 EXISTING CONTOUR	EXISTING RETAINING WALL
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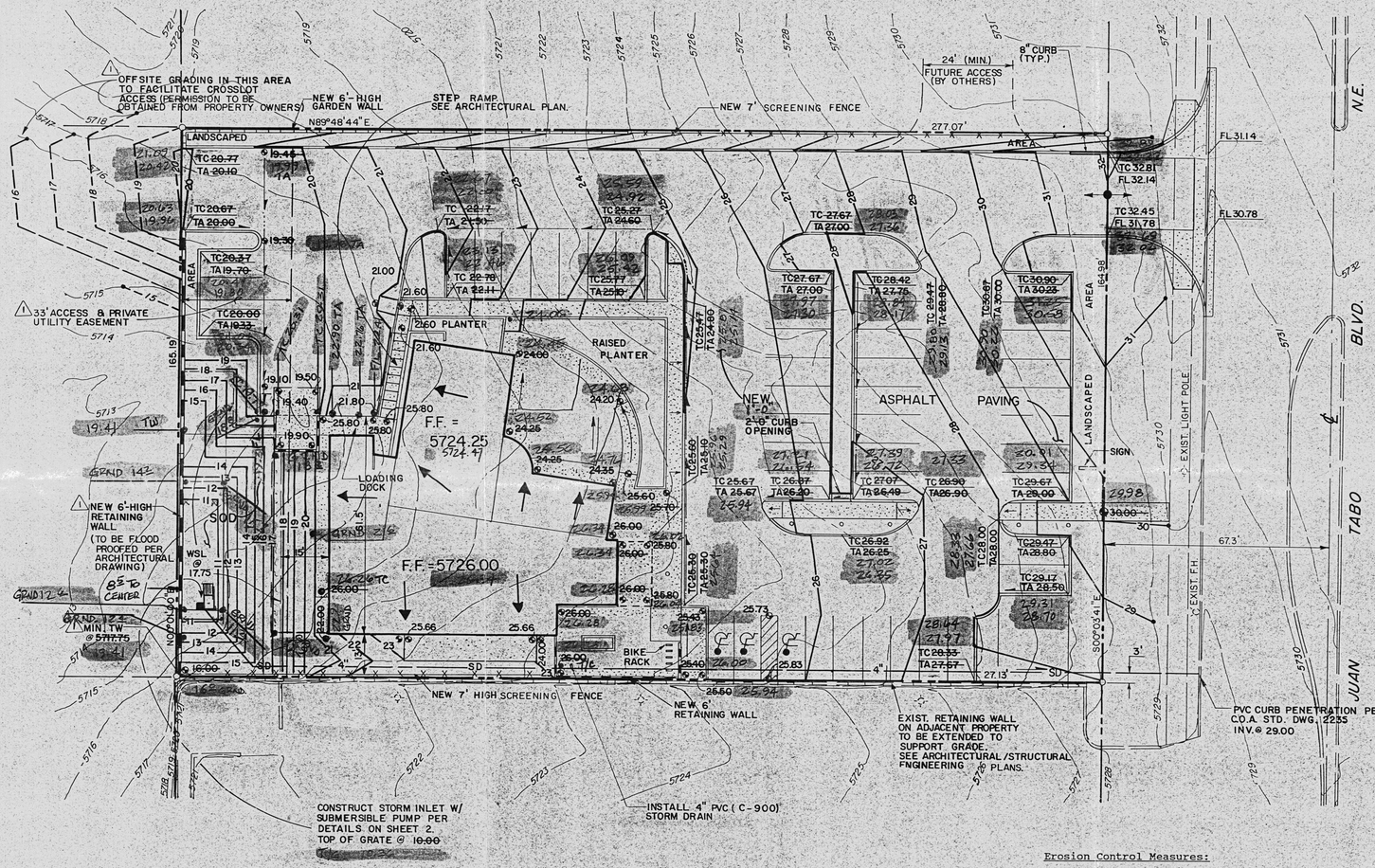
FF FINISHED FLOOR ELEVATION	
EXISTING FIRE HYDRANT	



ASBUILT LEGEND

ELEV. ASBUILT ELEV.

NOTE: TBM FOR ASBUILT IS INFORMATION SHOWN ON ASBUILT P&P SHEET FOR PUBLIC IMPROVEMENTS PROVIDED BY JMA, REF: SHEET 1 OF 2 PROJECT No. 4890.90

I, BERNARD W. SEITZ, JR., A REGISTERED PROFESSIONAL SURVEYOR IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE ASBUILT ELEVATIONS SHOWN HEREON ARE BASED ON AN ACTUAL SURVEY PERFORMED JANUARY 14, 1995. THIS SURVEY MEETS THE MINIMUM REQUIREMENTS FOR LAND SURVEYS IN THE STATE OF NEW MEXICO ON THIS DATE.

BERNARD W. SEITZ, JR. NMPS NO. 9478 — 01-14-95 DATE

BERNARD W. SEITZ JR. NEW MEXICO 9478 REGISTERED PROFESSIONAL SURVEYOR

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

5-20-94

Erosion Control Measures:

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.

Survey Note
Boundary data is based on Replat of Lands of Ferrari-Esquibel-Palmer prepared by Southwest Surveying Co. Filed April 11, 1985. Book C-26, page 192.

DRAINAGE PLAN

The following items concerning the Double Rainbow Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations
4. Pump Details & Calculations

As shown by the Vicinity Map, the site is located on the west side of Juan Tabo boulevard N.E. between Montgomery Boulevard N.E. and Lagrima de Oro N.E. At present, the site is undeveloped. Much of the surrounding area is developed, making this an infill site.

As shown by Panel 18 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated flood hazard zone. Further review of this mapping does not reveal downstream flooding to which this site contributes. At present, the site slopes from east to west onto adjacent undeveloped property. The site is situated down slope from Juan Tabo Boulevard N.E., which is a developed City street.

The Grading Plan shows 1) existing grades indicated by contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown this plan, the proposed improvements consist of the construction of a building along with adjacent paving and landscaping. Due to the fact that the site slopes away from Juan Tabo Boulevard N.E. at an average 5% gradient, it is not possible to obtain gravity drainage back to the street. Because of this, a pond is proposed to contain 100% of the 100-year developed runoff and to drain that pond with a submersible pump. The forced main discharge from the pond will discharge into Juan Tabo Boulevard N.E. Waterproofing of the adjacent walls will be necessary to allow for ponding within 15' of the structures.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, an increase in runoff is generated. The maximum depth of the pond will be approximately 6', thereby requiring fencing of the pond area. The required volume was not calculated using the hydrograph method from the new hydrology criteria, in the event that the submersible pump malfunctions. Therefore, the V_{100} for the site was used so as to determine the volume of the pond. In order to provide erosion control for the pond, this area will be sodded.

CALCULATIONS

Site Characteristics

1. Precipitation Zone = 4
2. $P_{6,100} = P_{360} = 2.90$ in.
3. Total Area (A_T) = 1.05 acres
4. Existing Land Treatment

Treatment	Area (sf/ac)	%
A	40,950 / 0.94	89.5
B	4,790 / 0.11	10.5

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
B	9,900 / 0.23	21.6
D	35,840 / 0.82	78.4

Existing Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(0.80)(0.94) + (1.08)(0.11)]/1.05 = 0.83$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (0.83/12)1.05 = 0.0726$ ac.ft.; 3,170 cf

2. Peak Discharge

$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
$Q_p = Q_{100} = (2.20)(0.94) + (2.92)(0.11) = 2.4$ cfs

Developed Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(1.08)(0.23) + (2.64)(0.82)]/1.05 = 2.30$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (2.30/12)(1.05) = 0.2011$ ac. ft.; 8,760 cf

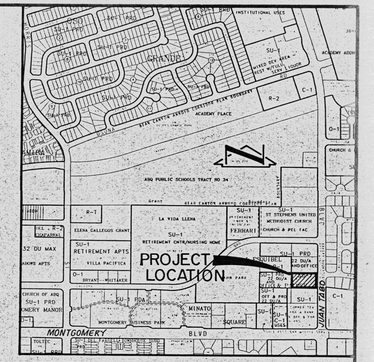
2. Peak Discharge

$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$
$Q_p = Q_{100} = (2.92)(0.23) + (5.25)(0.82) = 5.0$ cfs

Comparison

1. $\Delta V_{100} = 8,760 - 3,170 = 5,590$ cf (increase)
2. $\Delta Q_{100} = 5.0 - 2.4 = 2.6$ cfs (increase)

APPROVALS	NAME	DATE
A.C.E. / DESIGN		
INSPECTOR		
A.C.E. / FIELD		



VICINITY MAP F-21
SCALE: 1" = 750' (APPROX.)

POND VOLUME (Calculated by the Average End Area Method)

Elev (ft)	Area (ft^2)	Vol (cf)	Σ Vol (cf)
10	0		
11	368	184	184
12	550	459	643
13	781	665.5	1,308.5
14	1,015	898	2,206.5
15	1,440	1,227.5	3,434
16	1,823	1,631.5	5,065.5
17	2,167	1,995	7,060.5
18	2,493	2,330	9,390.5
19	2,825	2,659	12,049.5

W.S.L. between 17 & 18
By interpolation 17.75 area of 2411.5 sf
Vol = [(2167 + 2411.5)/2]0.7 = 1716.94 cf
ΣVol = 7,060.5 + 1716.94 = 8,777.43 cf
W.S.L. approximately 17.75

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
3. 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.
4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only a preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
6. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.
7. An Excavation/Construction Permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
8. Backfill compaction shall be according to ARTERIAL street use.
9. Maintenance of these facilities shall be the responsibility of the owner of the property served.

C-1

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

GRADING AND DRAINAGE PLAN

DOUBLE RAINBOW BAKERY & CAFE

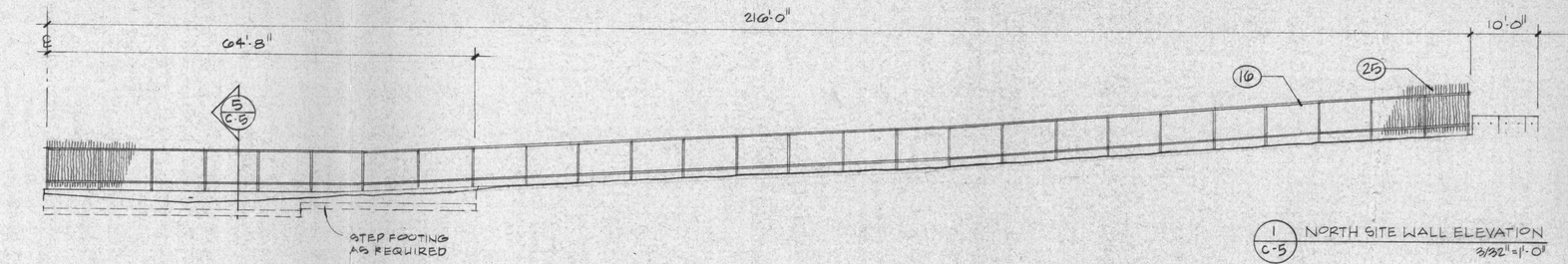
DESIGNED BY M.F.D.
DRAWN BY T.P.H.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS
1	5/94	M.F.D.	REVISE DRAINAGE PLAN, SHOW EASEMENT, FLOOD PROOFING

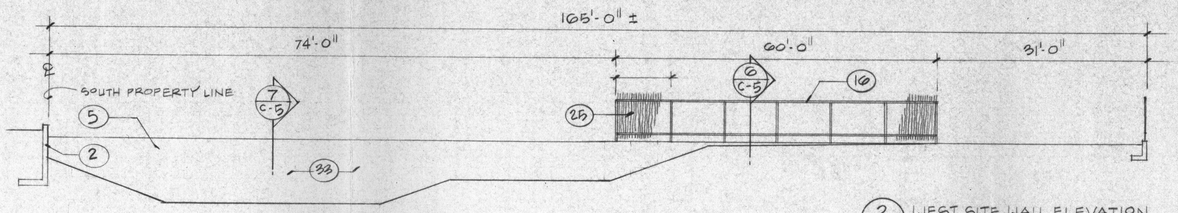
JOB NO. 921122
DATE 12-1993
SHEET 1 OF 2

JAN 30 1995

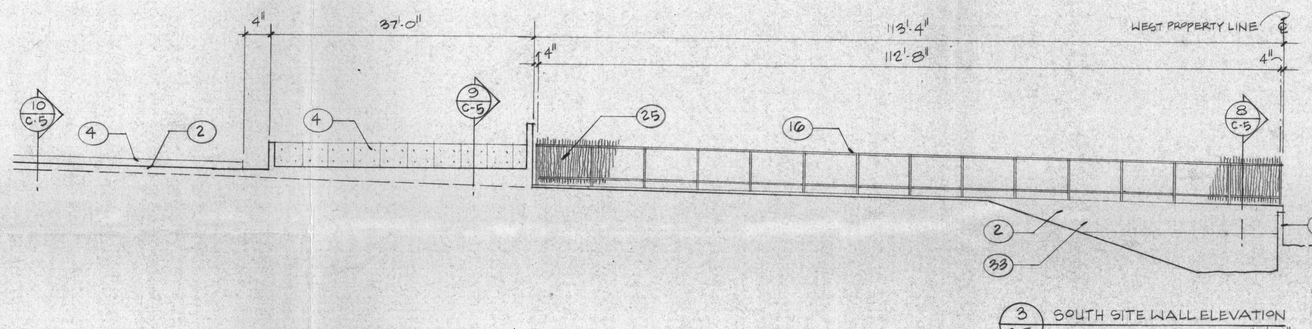
Z9A-Z609

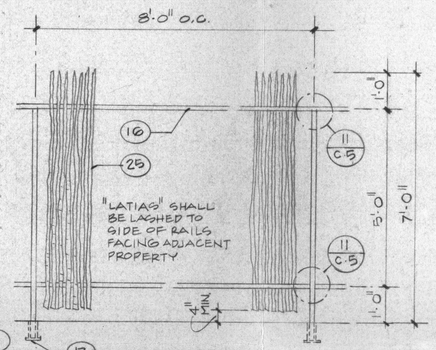


1 C-5 NORTH SITE WALL ELEVATION
3/32"=1'-0"



2 C-5 WEST SITE WALL ELEVATION
3/32"=1'-0"





KEYED NOTES

SITE WALLS AND PAVING (* SEE STRUCTURAL DRAWINGS)

1. EXISTING REIN. CONCRETE FOOTING (V.I.F.)
2. EXISTING REIN. CONCRETE RET. WALL (V.I.F.)
3. REIN. CONCRETE FOOTING ("L" FOOTING AT PROPERTY LINE) *
4. REIN. CONCRETE RET. WALL- ARCHITECTURAL WHERE EXPOSED TO VIEW* (SEE ELEVATIONS FOR JOINT AND TIE PATTERN)
5. REIN. CMU WALL* (CROWN TOP COURSE TO DRAIN)
6. 4" REIN. CONC. SLAB ON GRADE* (SEE PLAN FOR JOINT PATTERN) SLIP RESISTANT SURFACE AT RAMP AND STAIR
7. 6" REIN. CONC. SLAB AT TRASH ENCLOSURE APRON
8. 1/2" EXPANSION JOINT OF COMPRESSIBLE FILLER
9. 1/2" TROWELED CONTROL JOINT (SEE DETAIL)
10. PLASTIC CONE SNAP TIE PATTERN
11. CAST-IN-PLACE RUSTICATION JOINT (SEE DETAIL 18/C-4)
12. ASPHALT PAVING
13. COMPACTED FILL
14. CONCRETE CURB (SEE DETAIL)

HANDRAILS / GUARDRAILS / FENCING

15. 1 1/2" O.D. STANDARD STEEL TUBING (PER ANSI AND ADA GUIDELINES)
16. 2" O.D. STANDARD UNTREATED STEEL FENCE RAIL
17. STEEL PIPE SLEEVE WITH MIN. OF 2 ANCHOR STUDS. GROUT SOLID (I.D. MAX. 1/2" LARGER THAN VERTICAL RAIL SUPPORT)
18. SHRINK RESISTANT GROUT
19. 3/8" STEEL ROD STOCK
20. 3/8" STEEL PLATE (3/16" RADIUS AT ALL EXPOSED EDGES)
21. 3/4 X 3/4 X 3/16 STEEL ANGLE FRAME W/ WELDED MITERED CORNERS
22. 4" O.C. STEEL MESH OF 3/16" ROD (WELD TO FRAME AS REQ'D)
23. 3/8" STEEL ROD WALL MOUNTED HANDRAIL SUPPORT
24. MACHINE BOLT AND SPACER
25. 6" "LATIA" SLATS LASHED TO FENCE RAILS WITH BLACK WIRE (CUT TO UNIFORM HEIGHT AFTER INSTALLATION)

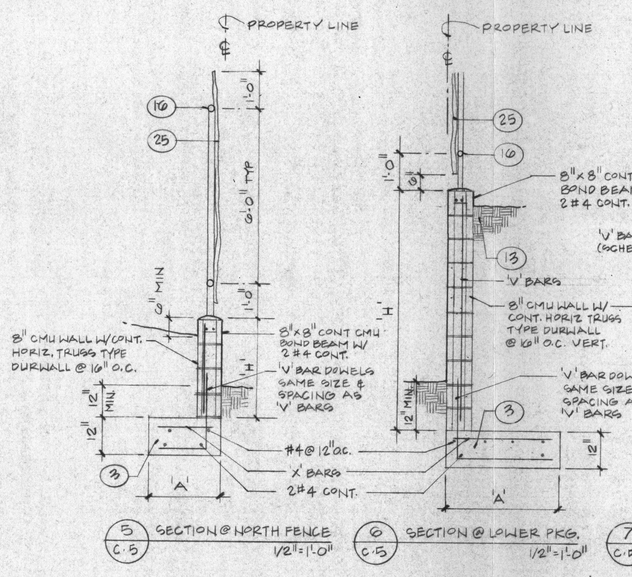
MISC.

26. 4" O.D. STEEL PIPE FILLED SOLID W/ CONC.
27. 1 1/2" O.D. PAINTED STEEL BIKE RACK LOOP AND H.C. SIGN LOOP
28. 4 X 4 X 1/4 STEEL ANGLE W/ ANCHORS , CAST-IN-PLACE
29. DOCK BUMPER
30. WALKWAY LIGHT CAST IN CONC. WALL OR BOLLARD
31. CAST-IN-PLACE CONCRETE BOLLARD
32. WELD AS REQUIRED
33. "THOROSEAL" CEMENTIOS WATERPROOF MEMBRANE @ EXPOSED RETAINING WALLS AROUND DETENTION POND. APPLY TO WALLS AND FOOTINGS.

SITE WALL REIN. SCHEDULES

8" CONC. PROPERTY LINE RET. WALL			
'H' MAX	'A'	'V' BARS	'X' BARS
≤ 4'-0"	2'-0"	#4@16"	#3@16"
6'-0"	3'-4"	#4@12"	#4@16"
8'-0"	4'-8"	#5@12"	#5@12"

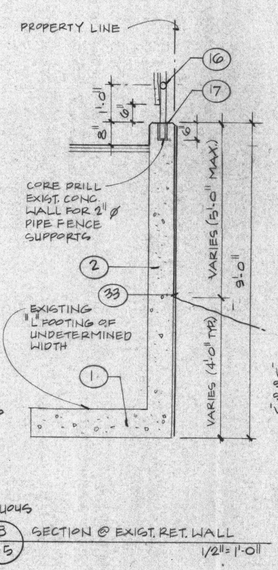
8" CMU PROPERTY LINE RET. WALL			
'H' MAX.	'A'	'V' BARS	'X' BARS
≤ 4'-0"	2'-0"	#4@24"	#3@16"
6'-0"	3'-4"	#5@16"	#4@16"
8'-0"	4'-8"	#6@8"	#5@12"



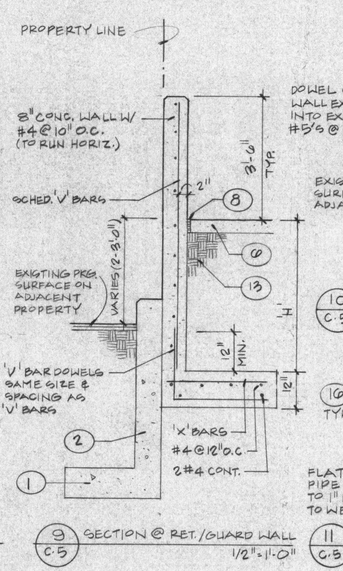
5 C-5 SECTION @ NORTH FENCE
1/2"=1'-0"

6 C-5 SECTION @ LOWER PKG.
1/2"=1'-0"

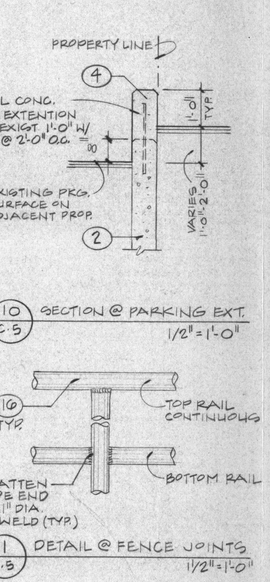
7 C-5 SECTION @ WEST POND WALL
1/2"=1'-0"



8 C-5 SECTION @ EXIST. RET. WALL
1/2"=1'-0"



9 C-5 SECTION @ RET./GUARD WALL
1/2"=1'-0"

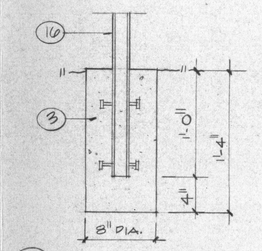


10 C-5 SECTION @ PARKING EXT.
1/2"=1'-0"

11 C-5 DETAIL @ FENCE JOINTS
1 1/2"=1'-0"

3 C-5 SOUTH SITE WALL ELEVATION
3/32"=1'-0"

4 C-5 DETAIL @ "COYOTE" FENCE
1/2"=1'-0"



12 FENCE POST FOOTING
3/4"=1'-0"

STATE OF NEW MEXICO
EDWARD FITZGERALD
No. 1184
4.19.94
REGISTERED ARCHITECT

RECEIVED
MAY 23 1994
HYDROLOGY DIVISION

DOUBLE RAINBOW
Bakery & Cafe
Juan Tabo NE
Albuquerque / New Mexico

Drawn By KK. Date 4.19.94

Edward Fitzgerald/ Architect
2225 Lead Avenue SE
Albuquerque New Mexico
87106
505.268.9055

C-5 OF

Drawing SITE WALL ELEV./ DETAILS

Revisions

159098

LEGAL DESCRIPTION:

LOT 11 OF UNPLATTED LANDS KNOWN AS "160 ACRE MASTER PLAN".

BENCHMARK:

A STANDARD NHSHC BRASS TABLET STAMPED "JT-1A", SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED IN THE SOUTHERLY MEDIAN ON JUAN TABO BLVD. N.E. & MONTGOMERY BLVD. N.E.
ELEVATION = 5721.25 FEET (M.S.L.D.)

SCALE: 1" = 20'-0"

AS-BUILT LEGEND

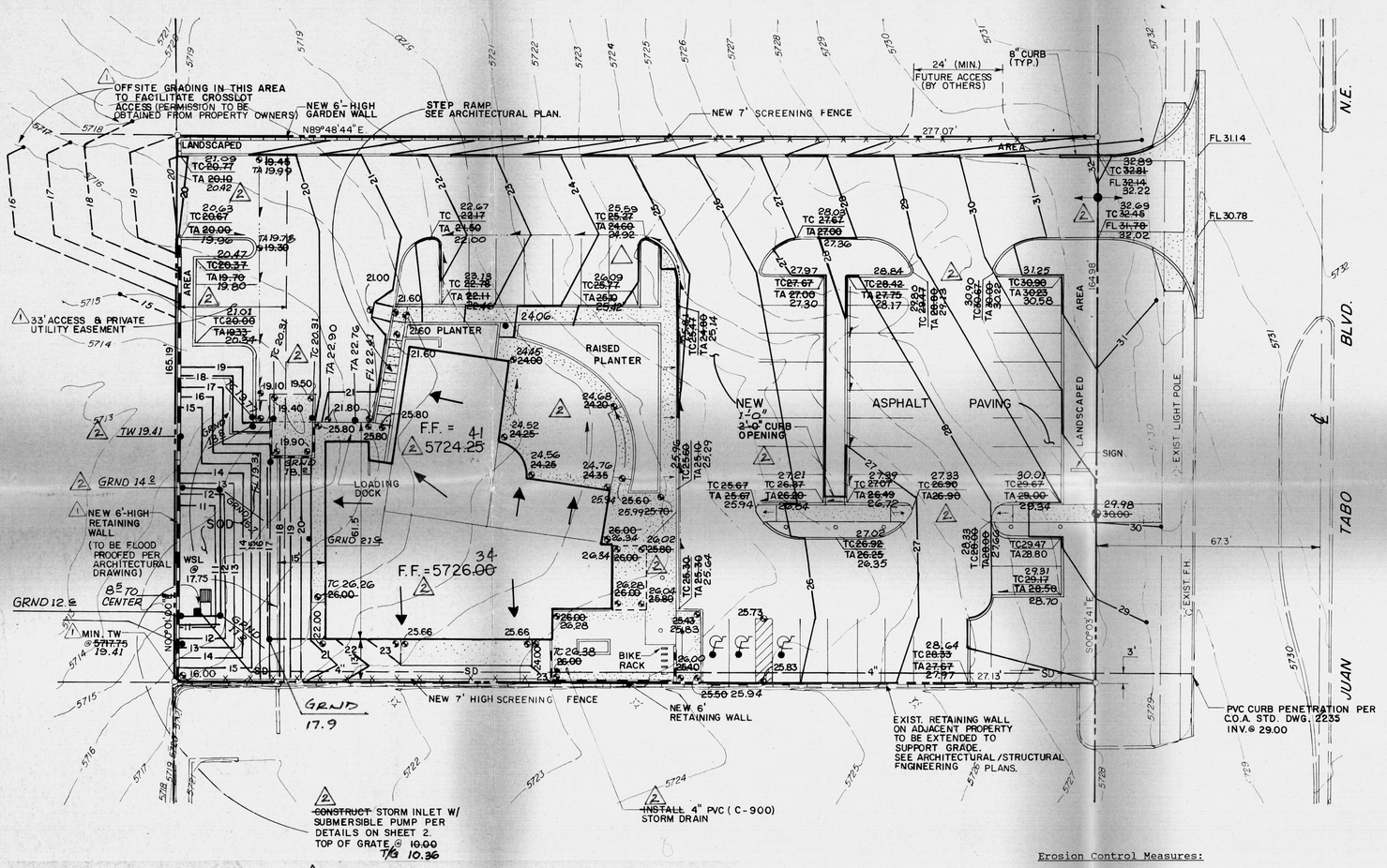
TW 19.41 — AS-BUILT TOP-OF-WALL ELEVATION

GRND 14 ± — AS-BUILT GROUND SHOT

24.45 / 24.00 — AS-BUILT SPOT ELEVATION

LEGEND:

EXISTING SPOT ELEVATION	LIGHT FIXTURE
PROPOSED SPOT ELEVATION	EXIST. LIGHT POLE
5714 EXISTING CONTOUR	EXISTING RETAINING WALL
19 PROPOSED CONTOUR	PROPOSED CONCRETE GARDEN WALL
EXISTING FLOWLINE	PROPERTY LINE
PROPOSED FLOWLINE	EASEMENT LINE
PROPOSED DIRECTION OF RUNOFF	CENTERLINE
PROPOSED ROOF DRAINAGE	PROPOSED RETAINING WALL
PROPOSED ASPHALT	HIGH POINT
PROPOSED CONCRETE	17 FUTURE PROPOSED CONTOUR
TC TOP OF CURB	TW TOP OF WALL ELEVATION
FL FLOWLINE	PROPOSED CHAIN LINK FENCE
FF FINISHED FLOOR ELEVATION	
EXISTING FIRE HYDRANT	



CERTIFICATION

As indicated by the as-built information shown hereon, the Double Rainbow Bakery and Cafe has not been constructed in substantial conformance with the approved Grading and Drainage Plan. The as-built information shown hereon has been collected by Bernard W. Seits, Jr, N.M.P.S. 8478. Close review of the as-built elevations indicates that the majority of the elevations are higher than designed. The average deviation is 0.3 vertical feet. For the most part, this does not present a problem in satisfying the intent of the approved plan. Consequently, the failure of the Contractor to follow the design grades within a closer tolerance will not adversely impact the ability of the parking lot and other paved surfaces to drain in accordance with the approved plan. The detention pond, on the other hand, has been constructed considerably higher than the approved plan even when the 0.3 feet difference is taken into consideration. Because of this, the required pond volume has not been provided at a safe distance from the new building. The top of the retaining wall at the west side of the project has been constructed taller than the minimum elevations specified on the approved plan. Whereby sufficient volume will hence be provided, the ponding limits will be shifted closer than 15 feet to the new building. Until such time as 1) the pond is regraded to conform with the intent of the approved plan, or 2) a certification from the geotechnical engineer that ponding closer than 15 feet will not create an adverse impact on the structure, the Permanent Certificate of Occupancy should be withheld. At this time, I am only prepared to recommend issuance of a Temporary Certificate of Occupancy.

Jeffrey G. Mortensen — 01-27-95 Date

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER — 5-20-94

Erosion Control Measures:

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2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.

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The Grading Plan shows 1) existing grades indicated by contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown this plan, the proposed improvements consist of the construction of a building along with adjacent paving and landscaping. Due to the fact that the site slopes away from Juan Tabo Boulevard N.E. at an average 5% gradient, it is not possible to obtain gravity drainage back to the street. Because of this, a pond is proposed to contain 100% of the 100-year developed runoff and to drain that pond with a submersible pump. The forced main discharge from the pond will discharge into Juan Tabo Boulevard N.E. Waterproofing of the adjacent walls will be necessary to allow for ponding within 15' of the structures.

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CALCULATIONS

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B	4,790 / 0.11	10.5

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
B	9,900 / 0.23	21.6
D	35,840 / 0.82	78.4

Existing Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(0.80)(0.94) + (1.08)(0.11)]/1.05 = 0.83$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (0.83/12)1.05 = 0.0726$ ac.ft.; 3,170 cf

2. Peak Discharge

$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$
$Q_p = Q_{100} = (2.20)(0.94) + (2.92)(0.11) = 2.4$ cfs

Developed Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(1.08)(0.23) + (2.64)(0.82)]/1.05 = 2.30$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (2.30/12)(1.05) = 0.2011$ ac. ft.; 8,760 cf

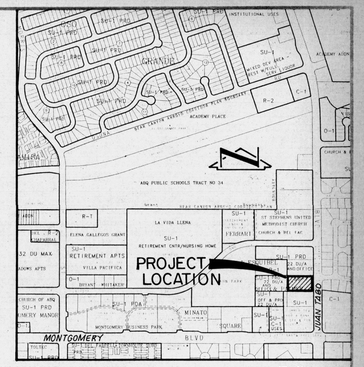
2. Peak Discharge

$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$
$Q_p = Q_{100} = (2.92)(0.23) + (5.25)(0.82) = 5.0$ cfs

Comparison

1. $\Delta V_{100} = 8,760 - 3,170 = 5,590$ cf (increase)
2. $\Delta Q_{100} = 5.0 - 2.4 = 2.6$ cfs (increase)

APPROVALS	NAME	DATE
A.C.E. / DESIGN		
INSPECTOR		
A.C.E. / FIELD		



VICINITY MAP

SCALE: 1" = 750' (APPROX.)

F-21

POND VOLUME (Calculated by the Average End Area Method)

Elev (ft)	Area (ft²)	Vol (cf)	Σ Vol (cf)
10	0		
11	368	184	184
12	550	459	643
13	781	665.5	1,308.5
14	1,015	898	2,206.5
15	1,440	1,227.5	3,434
16	1,823	1,631.5	5,065.5
17	2,167	1,995	7,060.5
18	2,493	2,330	9,390.5
19	2,825	2,659	12,049.5

W.S.L. between 17 & 18
By interpolation 17.75 area of 2411.5 sf
Vol = [(2167 + 2411.5)/2]0.7 = 1716.94 cf
ΣVol = 7,060.5 + 1716.94 = 8,777.43 cf
W.S.L. approximately 17.75

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
3. 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.
4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
6. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.
7. An Excavation/Construction Permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
8. Backfill compaction shall be according to ARTERIAL street use.
9. Maintenance of these facilities shall be the responsibility of the owner of the property served.

JAN 30 1995 HYDROLOGY DIVISION

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

GRADING AND DRAINAGE PLAN

DOUBLE RAINBOW BAKERY & CAFE

DESIGNED BY M.F.D.
DRAWN BY T.P.H.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS
1	5/94	M.F.D.	REVISE DRAINAGE PLAN, SHOW EASEMENT, FLOOD PROOFING
2	01/95	JM	AS-BUILT & CERTIFY

DRAWING NO. 921122
DATE 12-1993
SHEET 1 OF 2

159098

LEGAL DESCRIPTION:

LOT 11 OF UNPLATTED LANDS KNOWN AS "160 ACRE MASTER PLAN".

BENCHMARK:

A STANDARD NHSHC BRASS TABLET STAMPED "JT-14", SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED IN THE SOUTHERLY MEDIAN ON JUAN TABO BLVD. N.E. & MONTGOMERY BLVD. N.E.
ELEVATION = 5721.25 FEET (M.S.L.D.)

SCALE: 1" = 20'-0"

AS-BUILT LEGEND

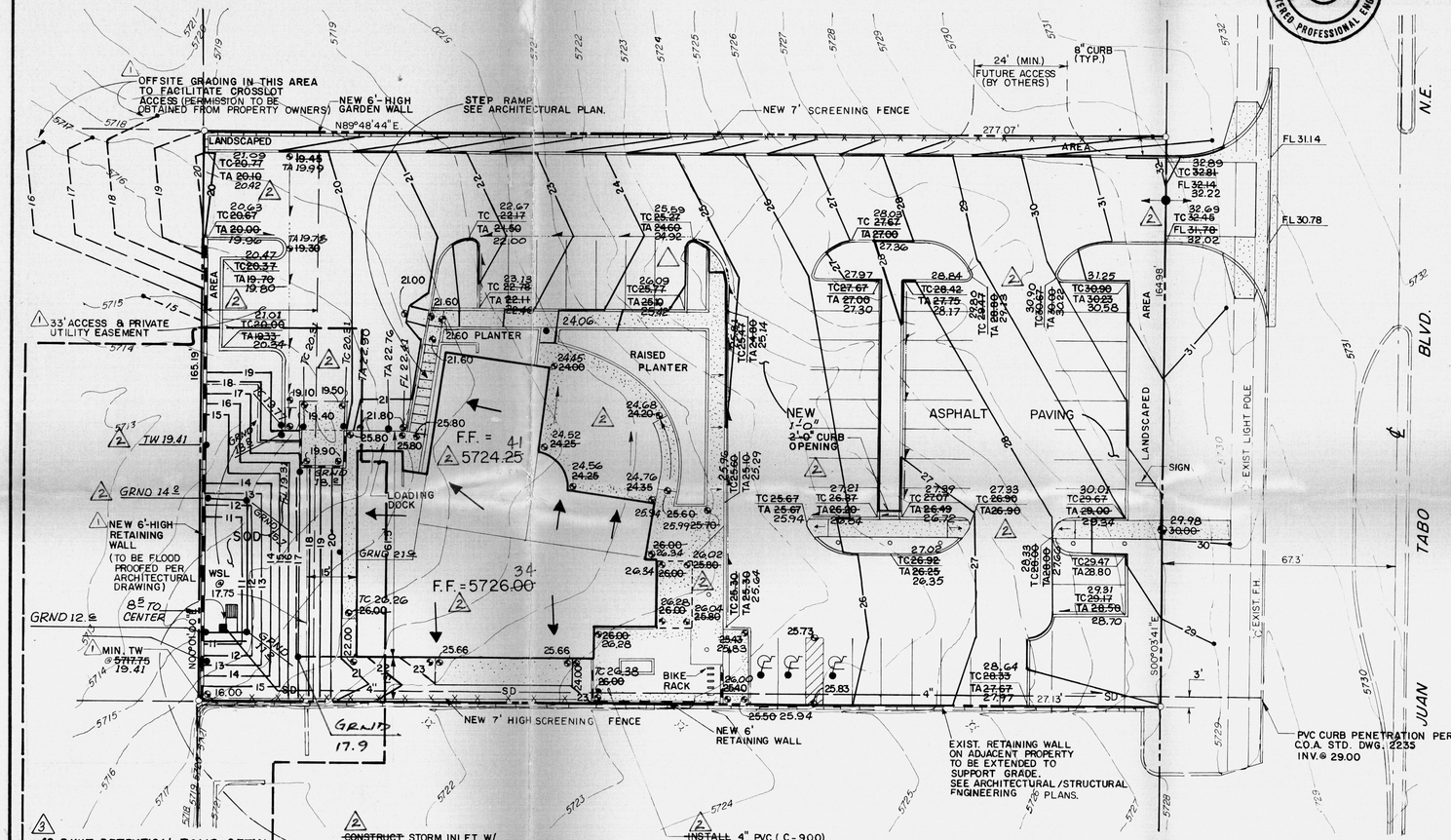
TW 19.41 — AS-BUILT TOP-OF-WALL ELEVATION

GRND 14 — AS-BUILT GROUND SHOT

24.45 / 24.00 — AS-BUILT SPOT ELEVATION

LEGEND:

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- 5714 — EXISTING CONTOUR
- 19 — PROPOSED CONTOUR
- EXISTING FLOWLINE
- PROPOSED FLOWLINE
- PROPOSED DIRECTION OF RUNOFF
- PROPOSED ROOF DRAINAGE
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- TC — TOP OF CURB
- FL — FLOWLINE
- FF — FINISHED FLOOR ELEVATION
- EXISTING FIRE HYDRANT
- LIGHT FIXTURE
- EXIST. LIGHT POLE
- EXISTING RETAINING WALL
- PROPOSED CONCRETE GARDEN WALL
- PROPERTY LINE
- EASEMENT LINE
- CENTERLINE
- PROPOSED RETAINING WALL
- HIGH POINT
- 17 — FUTURE PROPOSED CONTOUR
- TW — TOP OF WALL ELEVATION
- PROPOSED CHAIN LINK FENCE



3 AS-BUILT DETENTION POND DETAIL LOCATED ON SHEET 2 OF 2

3 RECERTIFICATION

As indicated by the as-built information shown hereon, collected by Bernard W. Sietz, Jr., N.M.P.S. 8478, the Double Rainbow Bakery and Cafe detention pond has not been constructed in conformance with the approved Grading and Drainage Plan. The pond has been regraded, however, to conform with the intent of the approved plan. The water surface elevation has been raised from 5717.75 to 5718.88. The setback from the building is 18 feet. The required pond volume has been provided at a safe distance from the new building. Based upon these modifications, issuance of a Permanent Certificate of Occupancy is hereby recommended.

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

Jeffrey G. Mortensen, NMPE 8547 — Date 02-18-95

1 DRAINAGE PLAN

The following items concerning the Double Rainbow Drainage Plan are contained hereon:

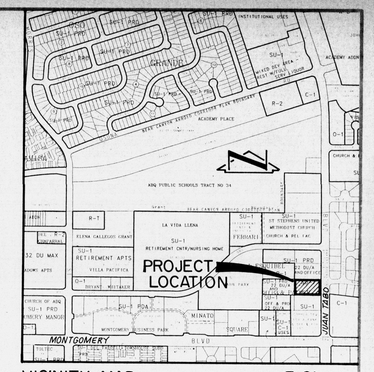
1. Vicinity Map
2. Grading Plan
3. Calculations
4. Pump Details & Calculations

As shown by the Vicinity Map, the site is located on the west side of Juan Tabo boulevard N.E. between Montgomery Boulevard N.E. and Lagrima de Oro N.E. At present, the site is undeveloped. Much of the surrounding area is developed, making this an infill site.

As shown by Panel 18 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated flood hazard zone. Further review of this mapping does not reveal downstream flooding to which this site contributes. At present, the site slopes from east to west onto adjacent undeveloped property. The site is situated down slope from Juan Tabo Boulevard N.E., which is a developed City street.

The Grading Plan shows 1) existing grades indicated by contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown this plan, the proposed improvements consist of the construction of a building along with adjacent paving and landscaping. Due to the fact that the site slopes away from Juan Tabo Boulevard N.E. at an average 5% gradient, it is not possible to obtain gravity drainage back to the street. Because of this, a pond is proposed to contain 100% of the 100-year developed runoff and to drain that pond with a submersible pump. The forced main discharge from the pond will discharge into Juan Tabo Boulevard N.E. Waterproofing of the adjacent walls will be necessary to allow for ponding within 15' of the structures.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, an increase in runoff is generated. The maximum depth of the pond will be approximately 6', thereby requiring fencing of the pond area. The required volume was not calculated using the hydrograph method from the new hydrology criteria, in the event that the submersible pump malfunctions. Therefore, the V_{100} for the site was used so as to determine the volume of the pond. In order to provide erosion control for the pond, this area will be sodded.



VICINITY MAP — F-21

SCALE: 1" = 750' (APPROX.)

POND VOLUME (Calculated by the Average End Area Method)

Elev (ft)	Area (ft²)	Vol (cf)	Σ Vol (cf)
10.4	0		
11	~~368~~ 130 ③	~~39.0~~ ~~184~~ ③	~~184~~ 39.0 ③
12	~~550~~ 275	~~8025~~ ~~459~~	~~643~~ 241.5
13	~~781~~ 585	~~480~~ ~~665.5~~	~~1,308.5~~ 971.5
14	~~1,015~~ 940	~~7625~~ ~~898~~	~~2,206.5~~ 1434
15	~~1,440~~ 1160	~~1050~~ ~~1,227.5~~	~~3,434~~ 2488.5
16	~~1,823~~ 1397	~~1278~~ ~~1,631.5~~	~~5,065.5~~ 3762.5
17	~~2,167~~ 1639	~~1518~~ ~~1,995~~	~~7,060.5~~ 5280.6
18	~~2,493~~ 1876	~~1715~~ ~~2,330~~	~~9,390.5~~ 7038.0
19	~~2,825~~ 2083	~~1979~~ ~~2,659~~	~~12,049.5~~ 9017.6

W.S.L. between 17 & 18 ~~17.75~~ 18.88 ③
By interpolation ~~17.75~~ 18.88 ③
Area of 2411.5 sf
Vol = [(2167 + 2411.5)/2]0.7 = 1716.94 cf
ΣVol = 7,060.5 + 1716.94 = 8,777.43 cf
W.S.L. approximately ~~17.75~~ 18.88 ③

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing utilities.
2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
3. 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.
4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
6. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.
7. An Excavation/Construction Permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
8. Backfill compaction shall be according to ARTERIAL street use.
9. Maintenance of these facilities shall be the responsibility of the owner of the property served.

CALCULATIONS

Site Characteristics

1. Precipitation Zone = 4
2. $P_{6,100} = P_{360} = 2.90$ in.
3. Total Area (A_T) = 1.05 acres
4. Existing Land Treatment

Treatment	Area (sf/ac)	%
A	40,950 / 0.94	89.5
B	4,790 / 0.11	10.5

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
B	9,900 / 0.23	21.6
D	35,840 / 0.82	78.4

Existing Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(0.80)(0.94) + (1.08)(0.11)]/1.05 = 0.83$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (0.83/12)1.05 = 0.0726$ ac.ft.; 3,170 cf

2. Peak Discharge

$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$
$Q_p = Q_{100} = (2.20)(0.94) + (2.92)(0.11) = 2.4$ cfs

Developed Condition

1. Volume

$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$
$E_W = [(1.08)(0.23) + (2.64)(0.82)]/1.05 = 2.30$ in.
$V_{100} = (E_W/12)A_T$
$V_{100} = (2.30/12)(1.05) = 0.2011$ ac. ft.; 8,760 cf

2. Peak Discharge

$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$
$Q_p = Q_{100} = (2.92)(0.23) + (5.25)(0.82) = 5.0$ cfs

Comparison

1. $\Delta V_{100} = 8,760 - 3,170 = 5,590$ cf (increase)
2. $\Delta Q_{100} = 5.0 - 2.4 = 2.6$ cfs (increase)

2 CERTIFICATION

As indicated by the as-built information shown hereon, the Double Rainbow Bakery and Cafe has not been constructed in substantial conformance with the approved Grading and Drainage Plan. The as-built information shown hereon has been collected by Bernard W. Seitz, Jr, N.M.P.S. 8478. Close review of the as-built elevations indicates that the majority of the elevations are higher than designed. The average deviation is 0.3 vertical feet. For the most part, this does not present a problem in satisfying the intent of the approved plan. Consequently, the failure of the Contractor to follow the design grades within a closer tolerance will not adversely impact the ability of the parking lot and other paved surfaces to drain in accordance with the approved plan. The detention pond, on the other hand, has been constructed considerably higher than the approved plan even when the 0.3 feet difference is taken into consideration. Because of this, the required pond volume has not been provided at a safe distance from the new building. The top of the retaining wall at the west side of the project has been constructed taller than the minimum elevations specified on the approved plan. Whereby sufficient volume will hence be provided, the ponding limits will be shifted closer than 15 feet to the new building. Until such time as 1) the pond is regraded to conform with the intent of the approved plan, or 2) a certification from the geotechnical engineer that ponding closer than 15 feet will not create an adverse impact on the structure, the Permanent Certificate of Occupancy should be withheld. At this time, I am only prepared to recommend issuance of a Temporary Certificate of Occupancy.

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

Jeffrey G. Mortensen, NMPE 8547 — Date 01-27-95

Erosion Control Measures:

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
2. The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.

Survey Note
Boundary data is based on Replat of Lands of Ferrari-Esquibel-Palmer prepared by Southwest Surveying Co. Filed April 11, 1985. Book C-26, page 192.

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

APPROVALS	NAME	DATE
A.C.E. / DESIGN		
INSPECTOR		
A.C.E. / FIELD		

RECEIVED FEB 21 1995 HYDROLOGY DIVISION

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

GRADING AND DRAINAGE PLAN

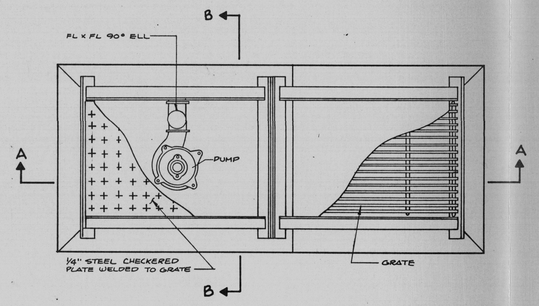
DOUBLE RAINBOW BAKERY & CAFE

DESIGNED BY M.F.D. — DRAWN BY T.P.H. — APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS
1	5/94	M.F.D.	REVISE DRAINAGE PLAN, SHOW EASEMENT, FLOOD PROOFING
2	01/95	JM	AS-BUILT & CERTIFY
3	2/95	SCK	AS-BUILT AND RECERTIFY

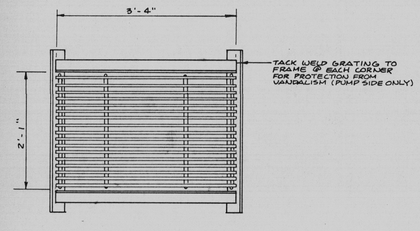
JOB NO. 921122
DATE 12-1993
SHEET 1 OF 2

159098



SUMP PIT AND INLET PLAN

SCALE : 3/4" = 1'-0"



TYPICAL INLET GRATE PLAN

SCALE : 3/4" = 1'-0"

3 RECERTIFICATION

As indicated by the as-built information shown hereon, collected by Bernard W. Sietz, Jr., N.M.P.S. 8478, the Double Rainbow Bakery and Cafe detention pond has not been constructed in conformance with the approved Grading and Drainage Plan. The pond has been regraded, however, to conform with the intent of the approved plan. The water surface elevation has been raised from 5717.75 to 5718.88. The setback from the building is 18 feet. The required pond volume has been provided at a safe distance from the new building. Based upon these modifications, issuance of a Permanent Certificate of Occupancy is hereby recommended.

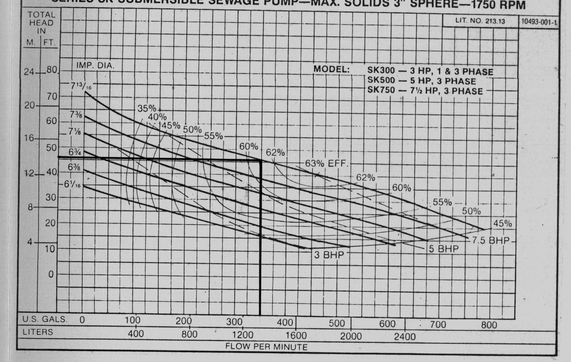
Jeffrey G. Mortensen, NMPE 8547 — Date 02-18-95

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

SECTION 200
DIMENSIONAL DRAWINGS
& PERFORMANCE DATA

HYDROMATIC
PUMPS

SERIES SK SUBMERSIBLE SEWAGE PUMP—MAX. SOLIDS 3" SPHERE—1750 RPM



Pump Calculations

1. Estimated Discharge Rate 350 GPM

2. Head Loss

   A. Elevation 29'-10' = 19'

   B. Friction (4" pipe)
   Type of Pipe: PVC
   Design C Value: 130
   Chart C Value: 100
   Correction Required = 0.62
   $H_F = 0.2083*(100/C)^{1.85}* (q^{1.85}/d^{4.8655})$
   H_F = 6.1 ft/100 ft (6.1/100)305 = 18.61 ft
   Length of Pipe = 305'±

   C. Friction (4" pipe)
   Type of Pipe: Steel
   Design C Value: 100
   Chart C Value: 100
   No Correction Required
   H_F = 24.12 ft/100 ft

   Length of Pipe = 8'±

   Equivalent Length of Pipe
   2 90° Ell @ 11 ft ea For 22 ft
   1 45° Ell @ 5 ft ea For 5 ft
   $H_{F,S}$ = (8+22+5)(24.1/100) = 8.44 ft

   D. Total

   $H_T = H_Z + H_{F,P} + H_{F,S}$ = 19+18.61 +8.44 = 46.05 ft

   Q = 350 GPM (1 cf/7.48 gallons)(1 min/60 sec) = 0.8 cfs

Reference: Cameron Hydraulic Data, 14th Edition Ingersoll-Rand Company, Woodcliff Lake, NM 1970, pp-27, 36 and 48.

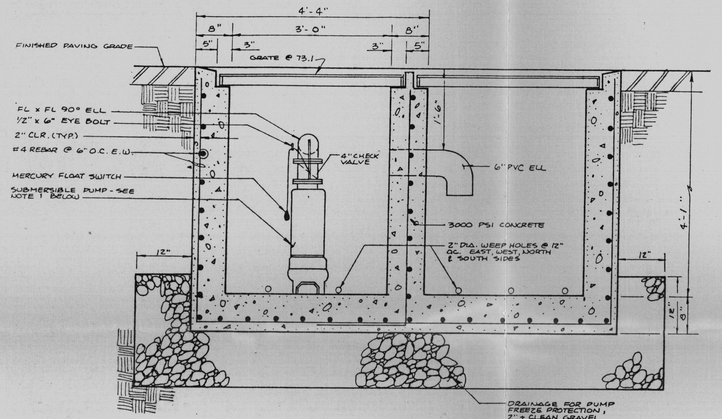
Notes:

1. Install one HYDRO-O-MATIC submersible pumps, Model SK500, 7½ HP motor, or approved equal. Pump installation shall include two mercury float switches with controls set for "OFF" and "ON" modes of operation.

2. Refer to Electrical Plans for location of pump control box, installation of electrical cable/conduit and pump/control one-line diagrams.

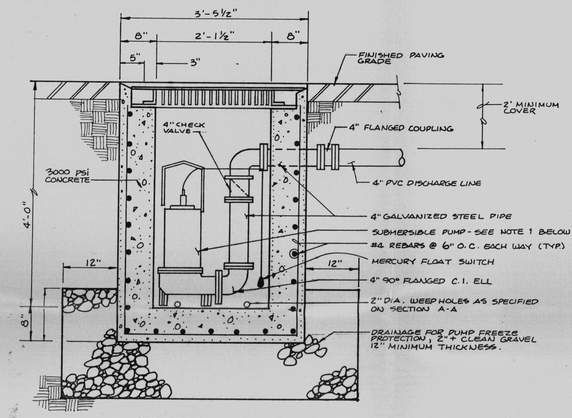
3. Grating and frame shall be cleaned of all scale, rust and foreign materials and shall be painted with one shop coat of red oxide primer, then 2 finish coats of aluminum paint (AASHO M69).

4. Installation of the mercury float switches shall be at levels providing optimum pumping time without excessive pump cycling.



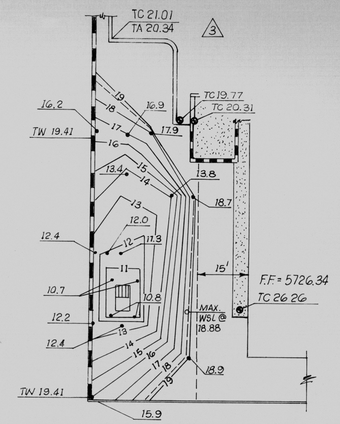
SECTION A-A

SCALE : 3/4" = 1'-0"



SECTION B-B

SCALE : 3/4" = 1'-0"



AS-BUILT DETENTION POND DETAIL

SCALE; 1"=20'

LEGEND

- 16.9 — AS-BUILT GROUND ELEVATIONS
- TC 19.85 — AS-BUILT SPOT ELEVATIONS
- —— AS-BUILT CONTOURS
- -·-·- AS-BUILT MAXIMUM WSL
- CONCRETE
- RETAINING WALL

2 RECORD DRAWING

RECEIVED FEB 21 1995 HYDROLOGY DIVISION

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

02-20-95 01-27-95

JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

SUBMERSIBLE PUMP DETAILS & SECTIONS

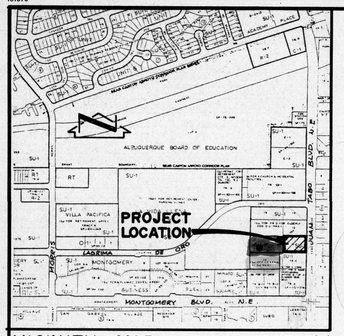
DOUBLE RAINBOW BAKERY & CAFE

DESIGNED BY M.F.D.
DRAWN BY T.P.H.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS
2	1-27-95	J.M.	RECORD DRAWING
3	2/95	SCK	AS-BUILT AND RECERTIFY

JOB NO. 921122
DATE 12-1993
SHEET 2 OF 2

151070



VICINITY MAP F-21

SCALE : 1" = 800' (APPROX.)

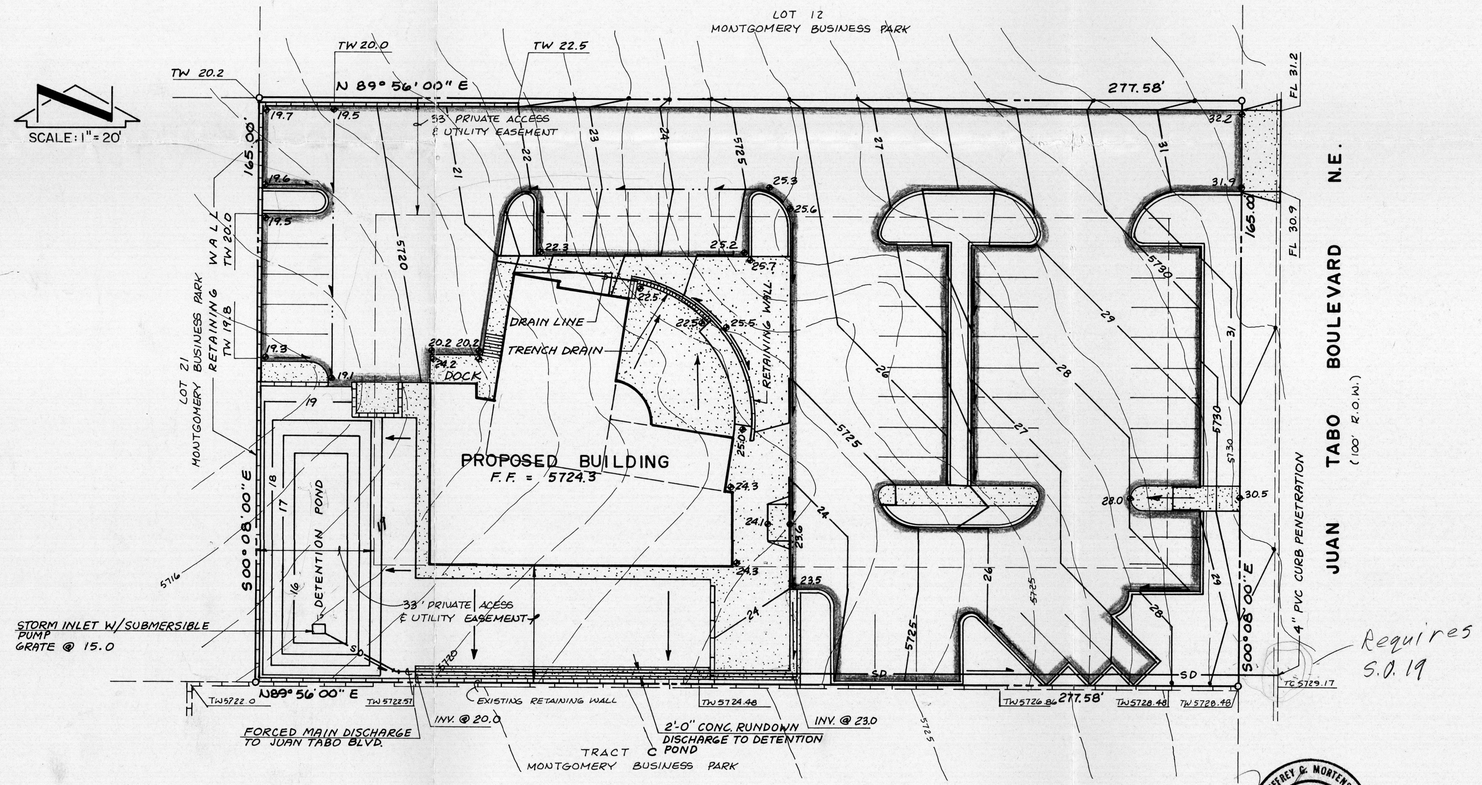
PROJECT BENCHMARK

A STANDARD NMSHC BRASS TABLET STAMPED, JT-1A, SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND & LOCATED IN THE SOUTHERLY MEDIAN ON JUAN TABO BLVD., N.E. & MONTGOMERY BLVD. N.E.
ELEVATION = 5721.25 FEET (M.S.L.D.)

LEGEND

- 5725 — EXIST. CONTOUR
- 5725 — PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED FLOWLINE
- PROPOSED DIRECTION OF RUNOFF
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- TC TOP OF CURB
- FL FLOWLINE
- TW TOP OF WALL

SCALE: 1" = 20'



F21-60+

DRAINAGE PLAN

The following items concerning the Double Rainbow Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located on the west side of Juan Tabo Boulevard N.E. between Montgomery Boulevard N.E. and Lagrima de Oro N.E. At present, the site is undeveloped. Much of the surrounding area is developed, making this an infill site.

As shown by Panel 18 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated flood hazard zone. Further review of this mapping does not reveal downstream flooding to which this site contributes. At present, the site slopes from east to west onto adjacent undeveloped property. The site is situated down slope from Juan Tabo Boulevard N.E., which is a developed City street.

The Grading Plan shows 1) existing grades indicated by contours at 1'0" intervals, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown this plan, the proposed improvements consist of the construction of a building along with adjacent paving and landscaping. Due to the fact that the site slopes away from Juan Tabo Boulevard N.E. at an average 5% gradient, it is not possible to obtain gravity drainage back to the street. Because of this, a pond is proposed to contain 100% of the 100-year developed runoff and to drain that pond with a submersible pump. The forced main discharge from the pond will discharge into Juan Tabo Boulevard N.E. Waterproofing of the adjacent walls will be necessary to allow for ponding within 15' of the structures.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to calculate the peak rate of discharge, while the SCS Method has been used to compute the volume of runoff generated. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, combined with the Mayor's Emergency Rule dated January 14, 1986. As shown by these calculations, the proposed improvements will result in a net increase in runoff generated by this site. The pond volume has been calculated using the Average End Area Method. As shown by the volume computation, the pond has adequate capacity to hold the 100-year developed runoff volume without credit for the mechanical discharge of the runoff. The maximum depth of pond will be approximately 4', thereby requiring fencing of the pond area.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 22: EtC - Embudo - Tijeras Complex
Hydrologic Soil Group: B
Existing Pervious CN = 61 (DPM Plate 22.2 C-2
Pasture or Range Land: good condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2
Open Space: good condition)

Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.51$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = CiA$

Where C varies
$i = P_6(6.84)T_c^{-0.51} = 5.31$in/hr
$P_6 = 2.51$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

SCS Method

Volume: $V = 3630(DRO)A$

Where DRO = Direct runoff in inches
A = area, acres

Existing Condition

$A_{total} = 46{,}080$ sf $= 1.06$ Ac
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100} = CiA = 2.3$ cfs
% impervious =-0-%
Composite CN = 61 (DPM Plate 22.2 C-3)
DRO = 0.2 in (DPM Plate 22.2 C-4)
$V_{100} = 3630$ (DRO)A = 770 cf

Developed Condition

$A_{total} = 46{,}080$ sf $= 1.06$ Ac
Roof area = 4,820 sf (10%)
Paved area = 30,090 sf (65%)
Landscaped area = 11,170 sf (25%)
C = 0.77 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100} = CiA = 4.3$ cfs
% impervious = 75 %
Composite CN = 88 (DPM Plate 22.2 C-3)
DRO = 1.4 in (DPM Plate 22.2 C-4)
$V_{100} = 3630$ (DRO)A = 5,390 cf

Comparison

$\Delta Q_{100} = 4.3 - 2.3 = 2.0$ cfs (increase)
$\Delta V_{100} = 5{,}390 - 770 = 4{,}620$ cf (increase)

POND VOLUME

Elev.	Area	Vol.	Σ Vol.
15	0		
		405	405
16	810		
		1055	1460
17	1300		
		1630	3090
18	1960		
		2280	5370
19	2600		

$V_{pond} \approx V_{100}$

93 Hydrology
Zone 4
75% D .75(2.64) = 1.98
25% B .25(1.08) = .27
2.25

Requires S.O. 19

RECEIVED DEC 22 1992 HYDROLOGY DIVISION

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER 12-22-92

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ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

CONCEPTUAL GRADING AND DRAINAGE PLAN

DOUBLE RAINBOW

DESIGNED BY JGM
DRAWN BY SGH/CEN
APPROVED BY JGM

NO.	DATE	BY	REVISIONS

JOB NO. 921121
DATE 12 - 92
SHEET 1 OF 1