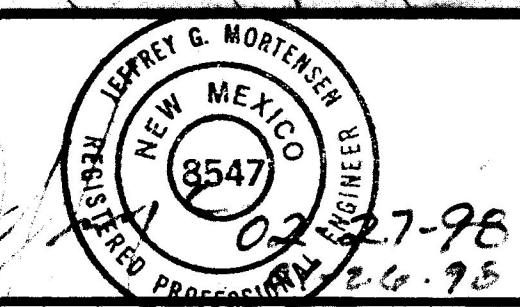




JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS (505) 345-4250

MASTER DRAINAGE PLAN
CLIFF'S AMUSEMENT PARK



DESIGNED BY J.G.M.
DRAWN BY J.M.A.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS	JOB NO.
1	2/90	J.G.M.	DELETE "ZERO DISCHARGE AREA", REVISE PEAK FLOW RATE.	970985
2	1/99	J.G.M.	REVISE SHEET 3 TO ADD RUMPLE CANYON.	
3	1/00	J.G.M.	ADD WATER PLAY ELEMENT & SHEET 4.	
4	11/01	J.G.M.	ADD ROLLER COASTER RIDE	

NOV 20 2001

HYDROLOGY SECTION

11-25-2001 01-21-2000

△ DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE CLIFFS AMUSEMENT PARK DRAINAGE PLAN ARE CONTAINED HEREIN:

1. VICINITY MAP
2. MASTER DRAINAGE PLAN (SHEET 1)
3. GRADING PLAN FOR WATER COASTER RIDE (SHEET 2)
4. GRADING PLAN FOR RELOCATED WAREHOUSES (SHEET 3)
5. CALCULATIONS (SHEET 3)

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED BETWEEN OSUNA ROAD N.E. AND LINCOLN ROAD N.E. JUST WEST OF SAN MATEO BOULEVARD N.E. AT PRESENT, THE SITE IS DEVELOPED AS AN AMUSEMENT PARK.

AS SHOWN BY PANEL 139 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM PUBLISHED BY THE NATIONAL FLOOD INSURANCE PROGRAM FOR BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS, DATED SEPTEMBER 20, 1986, THE SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. OFFSITE FLOWS DO NOT ENTER THE SITE FROM THE DEVELOPED STREET TO THE SOUTH, FROM THE DEVELOPED STREET TO THE NORTH, OR FROM THE DEVELOPED AREAS WEST OF THE SITE. A PREVIOUS PLAN FOR THIS SITE PREPARED BY THIS OFFICE, HYDROLOGY FILE NO. F17/D31A, IDENTIFIED OFFSITE FLOWS ENTERING FROM THE UNDEVELOPED SITES TO THE EAST. THESE SITES ARE NOW FULLY DEVELOPED AND NO LONGER CONTRIBUTE OFFSITE FLOWS.

THE PURPOSE OF THIS MASTER DRAINAGE PLAN IS TWOFOLD. FIRST, TO PRESENT A COMPREHENSIVE PLAN OF THE SITE (SHEET 1). SECOND, TO PRESENT SITE SPECIFIC PLANS ON SHEETS 2 AND 3 FOR PROPOSED IMPROVEMENTS.

AS SHOWN BY SHEET 1 OF THIS SUBMITTAL, THE SITE IS CHARACTERIZED BY THREE DRAINAGE BASINS. ALL THREE DRAINAGE BASINS GENERALLY DRAIN FROM EAST TO WEST. BASIN A, LOCATED AT THE NORTHERN END OF THE SITE, DRAINS DIRECTLY TO OSUNA ROAD N.E. VIA TWO EXISTING DRIVEPADS LOCATED NEAR THE NORTHWEST CORNER OF THE SITE. BASIN B DRAINS TO AN EXISTING DETENTION POND AREA WITHIN THE EXISTING PARKING LOT. THIS AREA IS SERVED BY AN EXISTING PUMP SYSTEM DESIGNED TO PUMP THE STORMWATER RUNOFF FROM BASIN B DIRECTLY INTO THE BACK OF AN EXISTING TYPE C STORM INLET LOCATED ON OSUNA ROAD N.E. THE GRADING AND DRAINAGE PLAN FOR BASINS A AND B WAS PREPARED BY THIS OFFICE IN 1984 (HYDROLOGY FILE F17/D31A) AND UPDATED BY THIS OFFICE IN 1988. BASIN C DRAINS TO AN EXISTING DETENTION POND LOCATED AT THE NORTHWEST CORNER OF THAT BASIN. THIS DETENTION POND OUTLETS CONTROLLED STORMWATER DISCHARGE DIRECTLY TO AN EXISTING DRAINAGE EASEMENT (DOCUMENT NO. 9083575, FILED OCTOBER 29, 1990 IN BOOK 90-17, PP 6734-6743). THIS DRAINAGE EASEMENT IS LOCATED ON THE FRIEDMAN WAREHOUSE SITE (F17/D24) AND IS PARALLEL TO THE SOUTH PROPERTY LINE OF THE PARKING LOT PORTION OF THE SITE, AND FLOWS WEST TO ITS ULTIMATE DISCHARGE POINT WITHIN 125 RIGHT-OF-WAY. THIS EXISTING DRAINAGE EASEMENT WILL ACCEPT OVERFLOW RUNOFF FROM BASIN B IN THE EVENT THAT THE STORMWATER PUMPS FAIL AND THE RETENTION STORAGE OF THE PARKING LOT POND IS EXCEEDED.

THE GRADING PLANS ON SHEETS 2 AND 3 SHOW: 1) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'0" INTERVALS, 2) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS, 3) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 4) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. ALL OF THE IMPROVEMENTS PROPOSED BY THIS PLAN LIE WITHIN BASIN C. BASINS A AND B WILL NOT BE AFFECTED BY THE PROPOSED CONSTRUCTION.

AS SHOWN BY THE PLAN FOR THE PROPOSED WATER COASTER RIDE (SHEET 2), A NEW RIDE WITH ASSOCIATED LANDSCAPING WILL BE CONSTRUCTED IN AN AREA THAT WAS PREVIOUSLY PAVED. THE EXISTING DRAINAGE PATTERNS IN THIS AREA WILL NOT BE ALTERED BY THE PROPOSED CONSTRUCTION.

THE GRADING PLAN ON SHEET 3 SHOWS THE CONSTRUCTION OF WAREHOUSES WHICH WILL BE RELOCATED FROM OTHER AREAS ON SITE. THESE WAREHOUSES ARE TO BE RELOCATED TO AREAS WHICH WERE EITHER PREVIOUSLY PAVED OR ARE CURRENTLY PAVED. THEREFORE THE DEVELOPMENT OF THESE AREAS WILL HAVE NO EFFECT ON THE VOLUME OR PEAK RATE OF RUNOFF GENERATED BY THIS PORTION OF BASIN C. AS WITH THE WATER COASTER RIDE AREA, EXISTING DRAINAGE PATTERNS WILL NOT BE ALTERED BY THE PROPOSED WAREHOUSE RELOCATIONS.

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, THE RUNOFF VOLUME AND PEAK DISCHARGE RATE GENERATED BY BASIN C WILL DECREASE DUE TO THE PROPOSED DEVELOPMENT. THE PROPOSED DEVELOPMENT WILL NOT AFFECT BASINS A OR B. THE CALCULATIONS FOR BASINS A, B, AND C HAVE BEEN PRESENTED IN ORDER TO JUSTIFY THE PROPOSED DEVELOPMENT WITHIN BASIN C, AND IN ORDER TO PROVIDE AN OVERALL MASTER DRAINAGE PLAN FOR THE ENTIRE SITE. CALCULATIONS IN HYDROLOGY FILE F17-D31A, DATED 10/08/84 DEMONSTRATE ALLOWABLE FREE DISCHARGE TO OSUNA ROAD N.E. FROM THIS SITE UP TO 19.2 CFS. AS SHOWN BY THE CALCULATIONS, THE EXISTING SITE DISCHARGES A TOTAL OF 18.1 CFS WHICH IS LESS THAN THE ALLOWABLE.

△ DRAINAGE PLAN UPDATE

THIS SUBMITTAL REPRESENTS AN UPDATE TO A PREVIOUSLY APPROVED PLAN. THE DRAINAGE CONCEPT FOR THIS PROJECT REMAINS THE SAME. THE PROPOSED REVISION INVOLVES ONLY BASIN C. THE PROPOSED REVISION IS SUMMARIZED AS FOLLOWS:

1. AN ELEVATED ROLLER COASTER RIDE IS PROPOSED.
2. A SMALL BUILDING ADDITION WILL BE CONSTRUCTED WITHIN THE EXISTING "THEATER" AREA.
3. NO ADDITIONAL IMPERVIOUS AREA WILL BE CREATED.
4. THE SITE WILL CONTINUE TO DRAIN IN A MANNER CONSISTENT WITH THE PREVIOUSLY APPROVED PLANS.
5. ALL WORK SPECIFIED BY PREVIOUS PLANS HAS BEEN COMPLETED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN AND INCLUDED HEREIN AS "RECORD INFORMATION".
6. THIS REVISION IS SUBMITTED IN SUPPORT OF A REQUEST FOR SITE PLAN AMENDMENT. A SEPARATE SUBMITTAL WILL BE REQUIRED TO SUPPORT A SUBSEQUENT REQUEST FOR BUILDING PERMIT APPROVAL.
7. CONSTRUCTING AN ELEVATED RIDE ABOVE AN ALREADY DEVELOPED SITE AND A SMALL BUILDING ADDITION WITHIN AN EXISTING IMPERVIOUS AREA WILL NOT HAVE AN ADVERSE EFFECT ON THE HYDROLOGY OF THE SITE.

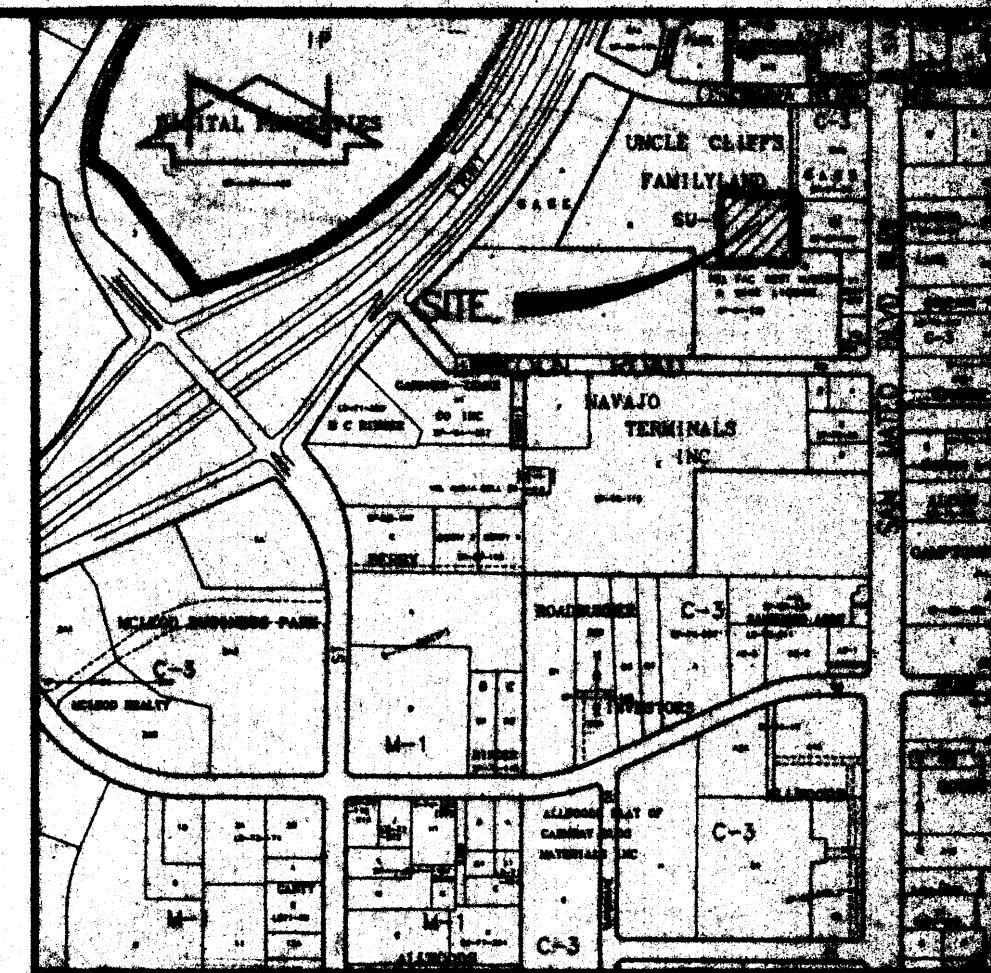
THIS SUBMITTAL IS MADE IN SUPPORT OF A SITE PLAN AMENDMENT FOR THE ENTIRE SITE.

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 280-1990 (Albuquerque Area), 1-800-321-ALERT(2537) (Statewide), 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.

Erosion Control Measures:

1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
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.



VICINITY MAP

SCALE: 1" = 750'

PROJECT BENCHMARK

THE STATION IS A STANDARD N.M.S.L.C. BRASS TABLET STAMPED "NM-367-1" SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. THE STATION IS LOCATED IN THE MEDIAN ON SAN MATEO BLVD. N.E., JUST NORTH OF OSUNA ROAD N.E. ELEVATION = 5210.60 FEET (M.S.L.D.)

T.B.M.

T.B.M. #1
A MAG. NAIL AND WASHER AS SHOWN ON THE DRAWING.
ELEVATION = 5205.42 FEET (M.S.L.D.)

T.B.M. #2
A MAG. NAIL AND WASHER AS SHOWN ON THE DRAWING.
ELEVATION = 5199.26 FEET (M.S.L.D.)

T.B.M. #3
A MAG. NAIL AND WASHER AS SHOWN ON THE DRAWING.
ELEVATION = 5198.30 FEET (M.S.L.D.)

LEGAL DESCRIPTION

A PORTION OF TRACT X, UNCLE CLIFFS FAMILYLAND.

LEGEND

TC	TOP OF CURB
TA	TOP OF ASPHALT
FL	FLOWLINE
NG	NATURAL GROUND
EA, E/A	EDGE OF ASPHALT
TCO	TOP OF CONCRETE
TSW	TOP OF SIDEWALK
C.O.	SINGLE SANITARY SEWER CLEANOUT
DBL. C.O.	DOUBLE SANITARY SEWER CLEANOUT
TV	TANK YARD
FI	FUEL INLET
TAC	TANK ACCESS COVER
SCP	STEEL GUARD POST
RD	ROOF DRAIN
SCV	SPRINKLER CONTROL VALVE
CL	CENTERLINE
BLDG. O/H	BUILDING OVERHANG
RR TIE	RAILROAD TIE
TRT	TOP OF RAILROAD TIE
WV	WATER VALVE
WL	WATER LINE
O/H ELEC. (4)	OVERHEAD ELECTRIC (NO. OF LINES)
M/C	METER CAN WITH WATER VALVE
P.P.	POWER POLE
L.P.	LIGHT POLE
BR	BOTTOM OF RAMP
TR	TOP OF RAMP
TS	TOP STEP
BSS	BOTTOM STEP
SP	STEEL POLE
H.C.	HEADER CURB
+ 201.45	EXISTING SPOT ELEVATION
○ 207.00	EXISTING SHRUB
○ 204	EXISTING CONIFEROUS TREE
○ 207.00	EXISTING DECIDUOUS TREE
○ 204	EXISTING FLOWLINE
○ 207.00	PROPOSED ELEVATION
○ 204	PROPOSED CONTOUR
○ 204	PROPOSED CONCRETE
○ 204	PROPOSED ASPHALT PAVING
○ 204	PROPOSED FLOWLINE
○ 204	EXISTING DIRECTION OF FLOW
○ 204	ROOF DRAINAGE
○ 204	EXISTING DRAINAGE BASIN BOUNDARY

RECORD DRAWING
THESE IMPROVEMENTS
ARE EXISTING.

RECEIVED
NOV 20 2001
HYDROLOGY SECTION

01-21-2000
11-20-2001
01-27-98
01-27-99



JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE 12 NEW MEXICO 87109
ENGINEERS C SURVEYORS (505) 345-4250

GRADING AND DRAINAGE PLAN WATER COASTER RIDE CLIFFS AMUSEMENT PARK

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M.	02/98	G.M.	DELETE "ZERO DISCHARGE AREA" REVISE CALCULATIONS	970985
J.Y.R.	11/99	J.G.M.	NO CHANGES THIS SHEET.	DATE 01-1998
J.G.M.	11/01	J.G.M.	RECORD DRAWING.	SHEET 2 OF 4
J.G.M.	11/01	J.G.M.	DRAINAGE PLAN FOR ROLLER COASTER	

△ CALCULATIONS

SITE CHARACTERISTICS

- Precipitation Zone = 2
- $P_{6,100} = P_{360} = 2.35$ in.
- Total Area (A_T) = 649,290 sf/14.9 ac
- Existing Land Treatment

Treatment	Area (sf/ac)	%
A. Basin A	186,450/4.28	100
B. Basin B	43,500/1.00	23
D. Basin D	142,950/3.28	77

5. Developed Land Treatment

Treatment	Area (sf/ac)	%
A. Basin A	No Change	
B. Basin B	No Change	
C. Basin C	251,920/5.78	100
B. Basin B	30,330/0.70	12
D. Basin D	221,590/5.09	88

Existing Condition

A. Basin A

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.78)(1.00) + (2.12)(3.28)] / (4.28) = 1.81 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.81 / 12)(186,450) = 28,100 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = (2.28)(1.00) + (4.70)(3.28) = 17.7 \text{ cfs}$$

B. Basin B

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.78)(0.30) + (2.12)(4.54)] / (4.84) = 2.04 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (2.04 / 12)(210,920) = 35,860 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = (2.28)(0.30) + (4.70)(4.54) = 22.0 \text{ cfs}$$

C. Basin C

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.78)(0.41) + (2.12)(5.37)] / (5.78) = 2.02 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (2.02 / 12)(251,920) = 42,400 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = (2.28)(0.41) + (4.70)(5.37) = 26.2 \text{ cfs}$$

Developed Condition

A. Basin A - No Change

B. Basin B - No Change

C. Basin C

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.78)(0.70) + (2.12)(5.09)] / (5.79) = 1.96 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (1.96 / 12)(251,590) = 41,090 \text{ cf}$$

2. Peak Discharge

$$Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_p = Q_{100} = (2.28)(0.70) + (4.70)(5.09) = 25.5 \text{ cfs}$$

Comparison

A. Basin A - No Change

B. Basin B - No Change

C. Basin C

$$1. \Delta V_{100} = 42,400 - 41,090 = 1,310 \text{ cf (decrease)}$$

$$2. \Delta Q_{100} = 26.2 - 25.5 = 0.7 \text{ cfs (decrease)}$$

Allowable Discharge to Osuna = 19.2 cfs (File F17-D31A)

Total Discharge to Osuna = 17.7 + 0.4 = 18.1 cfs

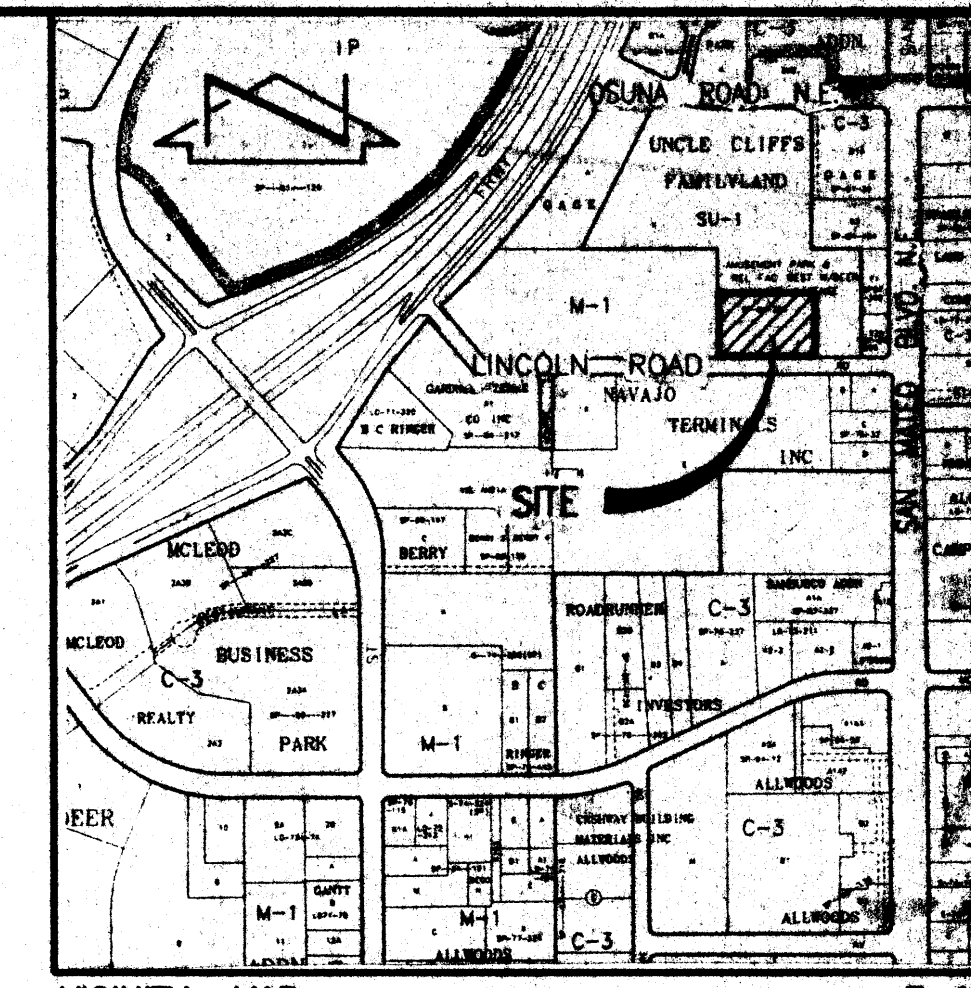
18.1 cfs < 19.2 cfs

Construction Notes:

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- 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.
- 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.
- All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
- 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.
- 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.

Erosion Control Measures:

- The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
- 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.
- The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.



VICINITY MAP

SCALE: 1" = 750'

PROJECT BENCHMARK

THE STATION IS A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "MM-367-1", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. THE STATION IS LOCATED IN THE MEDIAN ON SAN MATEO BLVD. N.E., JUST NORTH OF OSUNA ROAD N.E.
ELEVATION = 5210.60 FEET (M.S.L.D.)

T.B.M.

T.B.M. #4
A MAG NAIL AND WASHER AS SHOWN ON THE DRAWING.
ELEVATION = 5205.25 FEET (M.S.L.D.)

T.B.M. #5
A MAG NAIL AND WASHER AS SHOWN ON THE DRAWING.
ELEVATION = 5199.56 FEET (M.S.L.D.)

T.B.M. #6
A MAG NAIL AND WASHER AS SHOWN ON THE DRAWING.
ELEVATION = 5198.88 FEET (M.S.L.D.)

LEGAL DESCRIPTION

A PORTION OF TRACT X, UNCLE CLIFFS FARM, LAND

LEGEND

TC	TOP OF CURB
TA	TOP OF ASPHALT
FL	FLOWLINE
NG	NATURAL GROUND
EA	EDGE OF ASPHALT
TCO	TOP OF CONCRETE
TSW	TOP OF SIDEWALK
C.O.	SINGLE SANITARY SEWER CLEANOUT
DBL. C.O.	DOUBLE SANITARY SEWER CLEANOUT
TV	TANK VENT
FI	FUEL INLET
TAC	TANK ACCESS COVER
SDP	STEEL GUARD POST
RD	ROOF DRAIN
SCV	SPRINKLER CONTROL VALVE
CL	CENTERLINE
BLDG. OV/H	BUILDING OVERHANG
RR TIE	RAILROAD TIE
TR	TOP OF RAILROAD TIE
WW	WATER VALVE
WL	WATER LINE
O/H ELEC. (4)	OVERHEAD ELECTRIC (NO. OF LINES)
MCV	METER CAN WITH WATER VALVE
P.P.	POWER POLE
BR	BOTTOM OF RAMP
TR	TOP OF RAMP
TS	TOP STEP
BS	BOTTOM STEP
SP	STEEL POLE
H.C.	HEADER CURB
+	EXISTING SPOT ELEVATION
---	EXISTING CONTOUR
○	EXISTING SHRUB
○	EXISTING CONIFEROUS TREE
○	EXISTING DECIDUOUS TREE
---	EXISTING FLOWLINE
---	PROPOSED CONTOUR
●	PROPOSED SPOT ELEVATION
---	PROPOSED FLOWLINE
---	PROPOSED ASPHALT PAVING
---	EXISTING DIRECTION OF FLOW
---	ROOF DRAINAGE
---	EXISTING DRAINAGE BASIN BOUNDARY
---	PROPOSED WALL

△ DRAINAGE PLAN

THIS GRADING AND DRAINAGE PLAN HAS BEEN UPDATED TO SHOW A NEW BUMPER CARS BUILDING WITHIN AN EXISTING PAVED PORTION OF CLIFF'S AMUSEMENT PARK. THIS SITE LIES IMMEDIATELY WEST AND ADJACENT TO THE RELOCATED WAREHOUSE BUILDINGS ADDRESSED BY THE PREVIOUS SUBMITTAL DATED 02/27/98. THE MAJORITY OF THE PROJECT DRAINS NORTH INTO THE EXISTING PARK. A SMALL PORTION OF THE PROJECT BETWEEN THE BUILDING AND RAILROAD TRACK IS DIRECTED WEST PARALLEL TO THE RAILROAD TRACK. IT, TOO, DRAINS INTERNAL TO THE SITE. THESE EXISTING DRAINAGE PATTERNS WILL BE HONORED AND MAINTAINED BY THIS PLAN. THIS PLAN WILL MODIFY EXISTING DRAINAGE PATTERNS SLIGHTLY AND WILL MAINTAIN THE SPIRIT AND INTENT OF THE PREVIOUSLY APPROVED PLAN.

THIS PROPOSED PROJECT WILL REMOVE AND REPLACE EXISTING PAVING WITH IMPERVIOUS ROOF AREA, ASPHALT PAVING, AND APPROXIMATELY 460 SQUARE FEET OF LANDSCAPING DESIGNATED AS A "NEW PLANTER". THIS PROPOSED CONSTRUCTION WILL NOT INCREASE THE RUNOFF GENERATED BY THIS PORTION OF THE AMUSEMENT PARK, HENCE CALCULATIONS HAVE NOT BEEN PROVIDED. NONE OF THE RUNOFF GENERATED BY THIS PROJECT SITE DISCHARGES DIRECTLY TO PUBLIC RIGHT-OF-WAY. ALL DRAINAGE WILL REMAIN INTERNAL TO THE AMUSEMENT PARK.

THIS PLAN IS PRESENTED TO SUPPORT REQUESTS FOR BOTH FOUNDATION AND BUILDING PERMIT APPROVALS. THIS PLAN IS CONSISTENT WITH EXISTING CONDITIONS AND THE PREVIOUSLY APPROVED SUBMITTAL TO WHICH THIS IS AN UPDATE.

RECORD DRAWING
THESE IMPROVEMENTS
ARE EXISTING.

GRADING AND DRAINAGE PLAN RELOCATED WAREHOUSES AND BUMPER CARS BUILDING CLIFFS AMUSEMENT PARK



JEFF MORTENSEN & ASSOCIATES, INC.
800-9 MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NM 87109
ENGINEERS & SURVEYORS (505) 345-4290

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M.	02/98	G.M.	DELETE "ZERO DISCHARGE AREA", REVISE CALCULATIONS	970985
S.G.H.	01/99	J.G.M.	ADD BUMPER CARS	
J.G.M.	10/00	J.G.M.	RECORD DRAWING	
DRAWN BY	DATE	BY	REVISIONS	DATE
J.G.M.	01-21-2000	J.G.M.		01-1998
J.G.M.	01-29-99	J.G.M.		01-1998
APPROVED BY	DATE	BY	REVISIONS	SHEET
J.G.M.	01-29-99	J.G.M.		3 OF 4

Plot Date: 01-28-1999
Plot Time: 09:53 am
File Name: 97098460.DWG

